# AGENDA

## PENINSULA CORRIDOR JOINT POWERS BOARD

Bacciocco Auditorium, 2nd Floor
1250 San Carlos Avenue, San Carlos CA

**February 6, 2020 – Thursday** **(Immediately following the 8:30 am Special Board Meeting or 9:00 am, whichever is later)**

1. Call to Order / Pledge of Allegiance
2. Roll Call
3. Public Comment For Items Not on the Agenda

Comments by each individual speaker shall be limited to two (2) minutes. Items raised that require a response will be deferred for staff reply.

4. Consent Calendar

Members of the Board may request that an item under the Consent Calendar be considered separately

| | | |
|---|---|---|
| a. | Approve Meeting Minutes of January 9, 2020 | MOTION |
| b. | Receive Key Caltrain Performance Statistics | MOTION |
| c. | Receive State and Federal Legislative Update | MOTION |
| d. | Accept Statement of Revenues and Expenditures for December 2019 | MOTION |
| e. | Authorize an Amendment to the Contract with Eide Bailly, LLP for Financial Audit Services | RESOLUTION |
| f. | Diridon Integrated Station Concept Plan – Acceptance of Decision 3 of Concept Layout | MOTION |

*Approved by the Work Program-Legislative-Planning Committee:*

| | | |
|---|---|---|
| *g.* | Adoption of the Caltrain Rail Corridor Use Policy | RESOLUTION |
| *h.* | Caltrain Business Plan - Update Covering December 2019 and January 2020 | INFORMATIONAL |

Note: All items appearing on the agenda are subject to action by the Board. Staff recommendations are subject to change by the Board.

5. Report of the Chair
    a. Board Committee Appointments — MOTION
6. Report of the Executive Director
    a. Peninsula Corridor Electrification Project Monthly Report for December — INFORMATIONAL
    b. Monthly Report on Positive Train Control Project — INFORMATIONAL
7. Report of the Citizens Advisory Committee — INFORMATIONAL
8. Delegation of Authority to the General Manager/CEO to Execute Revenue-Neutral Agreements for Caltrain Special Event Service — RESOLUTION
9. *Report of the Work Program-Legislative–Planning (WPLP) Committee*
    a. Recommend Adoption of Transit-Oriented Development (TOD) Policy — RESOLUTION
10. Correspondence
11. Board Member Requests
12. General Counsel Report
13. Date/Time of Next Regular Meeting: Thursday, March 5, 2020 at 9:00 am, San Mateo County Transit District Administrative Building, 2nd Floor, 1250 San Carlos Avenue, San Carlos, CA
14. Adjourn

## INFORMATION FOR THE PUBLIC

All items appearing on the agenda are subject to action by the Board. Staff recommendations are subject to change by the Board.

If you have questions on the agenda, please contact the JPB Secretary at 650.508.6242. Agendas are available on the Caltrain website at www.caltrain.com. Communications to the Board of Directors can be emailed to board@caltrain.com.

Free translation is available; Para traducción llama al 1.800.660.4287; 如需翻译,请电 1.800.660.4287

### Location, Date and Time of Regular Meetings

Regular meetings are held at the San Mateo County Transit District Administrative Building located at 1250 San Carlos Avenue, San Carlos, one block west of the San Carlos Caltrain Station on El Camino Real, accessible by SamTrans bus Routes ECR, 260, 295 and 398. Additional transit information can be obtained by calling 1.800.660.4287 or 511.

The JPB meets regularly on the first Thursday of the month at 9:00 a.m. The JPB Citizens Advisory Committee meets regularly on the third Wednesday of the month at 5:40 p.m. at the same location. Date, time and place may change as necessary.

### Public Comment

If you wish to address the Board, please fill out a speaker's card located on the agenda table and hand it to the JPB Secretary. If you have anything that you wish distributed to the Board and included for the official record, please hand it to the JPB Secretary, who will distribute the information to the Board members and staff.

Members of the public may address the Board on non-agendized items under the Public Comment item on the agenda. Public testimony by each individual speaker shall be limited to two minutes and items raised that require a response will be deferred for staff reply.

### Accessible Public Meetings/Translation

Written materials in appropriate alternative formats, disability-related modification/accommodation, as well as sign language and foreign language interpreters are available upon request; all requests must be made at least 72 hours in advance of the meeting or hearing. Please direct requests for disability-related modification and/or interpreter services to the Title VI Administrator at San Mateo County Transit District, 1250 San Carlos Avenue, San Carlos, CA 94070-1306; or email titlevi@samtrans.com; or request by phone at 650-622-7864 or TTY 650-508-6448.

### Availability of Public Records

All public records relating to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at 1250 San Carlos Avenue, San Carlos, CA 94070-1306, at the same time that the public records are distributed or made available to the legislative body.

**Peninsula Corridor Joint Powers Board**
**Board of Directors Meeting**
**1250 San Carlos Avenue, San Carlos CA**

**MINUTES OF JANUARY 9, 2020**

**MEMBERS PRESENT:** D. Pine (Chair), J. Bruins, C. Chavez, R. Collins, D. Davis, C. Stone, S. Walton. M. Zmuda

**MEMBERS ABSENT:** C. Brinkman

**STAFF PRESENT**: J. Hartnett, C. Mau, M. Bouchard, A. Chan, J. Funghi, D. Hansel, S. Murphy, G. Martinez, M. Jones, S. Petty, D. Seamans, P. Skinner, C. Boland

1. **CALL TO ORDER / PLEDGE OF ALLEGIANCE**

The meeting was called to order by Vice Chair Pine at 9:06 a.m.

Vice Chair Pine suggested moving item 10a, Adoption of Caltrain Rail Corridor Use Policy to be heard after item 6 (Consent Calendar.) Board members concurred.

2. **SWEARING-IN OF MONIQUE ZMUDA REPRESENTING THE CITY AND COUNTY OF SAN FRANCISCO**

JPB Secretary administered an Oath of Office to Monique Zmuda, representing the San Francisco Mayor's office. Board members welcomed Director Zmuda back to the Board of Directors.

3. **ROLL CALL**

JPB Secretary called the roll and confirmed a quorum. Director Davis arrived at 9:12 a.m. Director Brinkman was absent.

4. **REPORT OF THE NOMINATING COMMITTEE**

a. Election of Officers for 2020

Director Stone announced that the Nominating Committee met and recommended that Director Pine serve as Chair for 2020 and Director Dev Davis serve as Vice Chair for 2020.

Motion/Second: Chavez/Zmuda moved approval of selecting Directors Pine and Davis as Chair and Vice Chair, respectively, for 2020.
Ayes: Bruins, Chavez, Collins, Davis, Stone, Walton, Zmuda, Pine
Noes: None
Absent/Abstain: Brinkman

5. **PUBLIC COMMENT FOR ITEMS NOT ON THE AGENDA**

None.

6. **CONSENT CALENDAR**

Motion/Second: Bruins/Stone approved the Consent Calendar, as follows:
Ayes: Bruins, Chavez, Collins, Davis, Stone, Walton, Zmuda, Pine

Noes: None
Absent/Abstain: Brinkman

a. Approved Special Meeting/Study Session Minutes of November 21, 2019 and Meeting Minutes of December 5, 2019
b. Received Key Caltrain Performance Statistics

Public Comment
Jeff Carter, Millbrae, addressed the board regarding the methodologies used in determining the monthly key Caltrain performance statistics.

b. Received State and Federal Legislative Update
c. Accepted Statement of Revenues and Expenditures for November 2019
d. Approved 2020 Committee Meeting Calendar
f. Adopted Resolution 2020-01, Authorizing Receipt of State Rail Assistance Program Funds for the Peninsula Corridor Electrification Enhancement Project

Public Comment
Roland Lebrun, San Jose, addressed the board regarding the South San Francisco

g. Adopted Resolution 2020-02, Adopting the Peninsula Corridor Joint Powers Board's 2019 Title VI Program
h. Adopted 2020 Legislative Program

7. **REPORT OF THE CHAIR**
a. Resolution of Appreciation for former Chair Gillian Gillett

Chair Pine expressed appreciation for the work of former Chair Gillian Gillett, who stepped down from the Caltrain Board of Directors recently. Board members expressed appreciation to Ms. Gillett.

Motion/Second: Pine/Stone moved approval of Resolution No. 2020-03, Resolution of Appreciation for former Chair, Gillian Gillett.

Ayes: Bruins, Chavez, Collins, Davis, Stone, Walton, Zmuda, Pine
Noes: None
Absent/Abstain: Brinkman

8. **REPORT OF THE EXECUTIVE DIRECTOR**
CEO Hartnett provided the following updates:

o The Special Legal Counsel Services Request for Proposals will be reviewed by the Board's ad hoc committee consisting of Directors Stone, Chavez and Walton who will screen and review proposals. He noted that member agencies would share in the cost equally;

- Received Federal Transit Administration approval to extend the Transit America Services, Inc. contract;
- An organizational study has commenced to be integrated with human resources and internet technology functions of the organization and would conclude in early February;
- Updated the Caltrain Board on placing a three-county measure for dedicated funding on the November ballot;
- Regarding the Governance ad hoc committee, Supervisor Pine would represent San Mateo County, Director Walton for San Francisco and an appointment would be made soon for Santa Clara County will announce its representative soon;
- Discussed "FASTER Bay Area" measure stating that 2/3rd voter approval would be needed.

a. Peninsula Corridor Electrification Project Monthly Report for November

John Funghi, CalMod Chief Officer, provided a monthly update on the electrification project including foundation and pole installations. His report focused on the tunnel modification and the contractor's issues with certain construction elements. He reported on a bus bridge and public outreach that SamTrans has coordinated for the end of February in conjunction to the service interruption. Finally, Mr. Funghi updated the board on the train set completions to date and answered questions of the board.

b. Monthly Report on Positive Train Control System

Michelle Bouchard, Chief Operating Officer, Rail, updated Board members on the major milestones completed to date on the project and implementation on the project with Wabtek. She emphasized that she is constantly in communication with the Federal Railroad Administration (FRA). Mr. Hartnett relayed positive comments received from the FRA regarding Ms. Bouchard's hard work on such a complex project.

9. **REPORT OF THE CITIZENS ADVISORY COMMITTEE**

Brian Shaw, Chair of the Citizens Advisory Committee, highlighted notable items of discussion from the last advisory committee meeting, including welcoming the new representative from Santa Clara County.

10. **REPORT OF THE WORK PROGRAM-LEGISLATIVE–PLANNING (WPLP) COMMITTEE (TAKEN OUT OF ORDER)**

a. Adoption of Caltrain Rail Corridor Use Policy

Melissa Jones, Principal Planner, provided lengthy policy presentation on the draft Use Policy; a document that would be used administratively to make informed decisions on non-railroad uses, such as requests to use the land for development projects, commercial businesses, accessing facilities, pop-up events, farmers markets and utility-related uses. She noted that the overview was presented to the Work Program-Legislative-Planning committee meeting in December 2019.

Ms. Jones responded to Board members comments; Director Bruins inquired whether the revenue generating land uses included utilities and if air space was considered above stations. Ms. Jones responded affirmative in both instances.

Ms. Jones then reviewed four property use zones and illustrated those areas using a mapping process developed to show a capital project overlay which ties into the long-term service vision. She reviewed the methodology that went into the service vision and overlay illustration.

Ms. Jones responded to Director Davis' question regarding the possibility of joint development with neighboring cities in the high developable areas. Ms. Jones stated the draft policy does not address joint developments but could be reviewed in the future on a case by case basis.

Ms. Jones called upon Brian Fitzpatrick, Director of Real Estate and Property Development, who provided overview of how the draft Transit-Oriented Development (TOD) coincides with the draft Use Policy. He provided a preliminary look at potential developable sites in San Mateo, Menlo Park and Redwood City, keeping both draft policies in mind.

Director Walton expressed appreciation for the presentations and would like to take into consideration current uses and have a conversation of how to preserve what exists and perhaps write it into the policy.

Ms. Jones responded to board members' questions. Responding to Director Zmuda regarding current potential uses which are not currently consistent with the draft policy, Ms. Jones stated there was an issue with a bike path in Palo Alto which would need to be reviewed following adoption of the policy.

Continuing, Ms. Jones discussed the administrative piece to the Use Policy and reviewed the allowable uses and the process. She proposed that for uses under five years, staff approval would be needed if compatible with current and future railroad needs using established maps and the administrative guidelines and for uses over five years, staff and Board approval would be required, if the proposed use was compatible with current and future railroad needs, using the same administrative tools contained in the policy. She discussed the next steps in the process and recommended board adoption of the Use Policy. Language in the Resolution was discussed and there was consensus to tighten the language regarding leases exceeding five years. Legal Counsel Cassman recommended an amendment to better provide clarification of the Board's policy. Director Stone requested to be kept abreast of leases under five years as well.

Chair Pine invited public comment.

Public Comment

Jeff Carter, Millbrae, stated right of way development should be judicious and reiterated the need for four tracks, platform and parking lot expansion.

Roland Lebrun, San Jose, recommended SamTrans initiate a first right of refusal for properties adjacent to right of way and a moratorium on real estate transactions.

Adina Levin, Friends of Caltrain, thoughtful approach to the different policies and affordable housing. She supported integrated developments.

Isaiah Powell, San Francisco, discussed benefits of the Florence and Fang community garden in San Francisco.

Eddie Ahn, Brightline, San Francisco, supported the previous speakers' comments. He supported a high percentage of units for future below market rate housing.

Teddy Fang, San Francisco, Asian League Foundation, discussed benefits of the Florence and Fang community garden in San Francisco and felt the site should not be contained in the TOD policy as a potential site.

Uncle Wen, San Francisco, using a translator, discussed the benefits of a community garden.

Drew, San Mateo, provided commentary on several potential development sites contained in the staff presentation.

Board members expressed appreciation to staff and provided concluding comments on the draft policy. Consensus was received to include conceptual language regarding air rights and grade separations in the next version of the draft policy to be reviewed at the nest Work Program-Legislative-Planning Committee meeting.
No action was taken on the item.

11. **CORRESPONDENCE**
Correspondence was included in the Board's reading folders and on line.

12. **BOARD MEMBER REQUESTS**
None.

13. **GENERAL COUNSEL REPORT**
None.

14. **DATE/TIME OF NEXT REGULAR MEETING: THURSDAY, FEBRUARY 6, 2020 AT 9:00 A.M. SAN MATEO COUNTY TRANSIT DISTRICT ADMINISTRATIVE BUILDING, 2ND FLOOR, 1250 SAN CARLOS AVENUE, SAN CARLOS, CA**

15. **ADJOURN**
The meeting adjourned at 11:32 a.m.

An audio/video recording of this meeting is available online at www.caltrain.com. Questions may be referred to the Board Secretary's office by phone at 650.508.6279 or by email to board@caltrain.com.

**AGENDA ITEM #4(b)**
**FEBRUARY 6, 2020**

**PENINSULA CORRIDOR JOINT POWERS BOARD**
**STAFF REPORT**

TO: Joint Powers Board

THROUGH: Jim Hartnett
Executive Director

FROM: Michelle Bouchard
Chief Operating Officer, Rail

SUBJECT: **KEY CALTRAIN PERFORMANCE STATISTICS – DECEMBER 2019**

## ACTION

Staff Coordinating Council recommends that the Board receive the Performance Statistics Report for December 2019.

## SIGNIFICANCE

Staff will provide monthly updates to Key Caltrain Performance Statistics, Caltrain Shuttle Ridership, Caltrain Promotions, Special Event Updates, Digital Metrics, Social Media Analytics and News Report Coverage.

## BUDGET IMPACT

There is no budget impact.

## MONTHLY UPDATE

In December 2019, Caltrain's Average Weekday Ridership (AWR) increased by 3.8 percent to 62,480 from December 2018 AWR of 60,202. The total number of passengers who rode Caltrain in December 2019 increased by 7.6 percent to 1,428,363 from 1,327,082 December 2018 ridership.

This month ticket sales increased from December 2018 for:

- One Way tickets: 12.1 percent
- ED One Way tickets: 9.8 percent
- Day Passes: 8.0 percent
- ED Day Passes: 2.6 percent

This month ticket sales decreased from December 2018 for:

- Monthly Passes: 5.9 percent
- ED Monthly Passes: 6.5 percent

Caltrain Mobile Ticketing accounted for approximately 5.7 percent (81,756 rides) of December 2019 rides and 6.7 percent ($579,978) of December 2019 Monthly Ticket Sales Revenue. The number of Eligible Go Pass Employees increased 11.7 percent to

91,210 from 81,683 from December 2018. The number of participating Go Pass Companies increased to 135 from 132 from December 2018. Total Farebox Revenue increased by 6.6 percent to $7,860,477 from $7,370,371 in December 2018.

On-time performance (OTP) for December 2019 was 92.5 percent compared to 92.2 percent OTP for December 2018. In December 2019, there were 860 minutes of delay due to mechanical issues compared to 343 minutes in December 2018.

Looking at customer service statistics, there were 6.9 complaints per 100,000 passengers in December 2019 compared with 6.9 in December 2018.

Shuttle ridership for December 2019 decreased 0.9 percent from December 2018. For station shuttles:

- Millbrae-Broadway shuttle: 166 average daily riders
- Weekend Tamien-San Jose shuttle: 19 average daily riders

When the Marguerite shuttle ridership is removed, the impact to ridership was an increase of 2.3 percent. Due to ongoing service issues with the Shuttle Contractor (MV Transportation) as a result of staffing shortage, there were a total of 376 DNOs (Did Not Operate) trips for Caltrain shuttles in December 2019. Although DNOs have decreased in recent months for Caltrain, there are still service loses beyond previously implemented service reductions and suspensions to match available operator counts. The Menlo Park Midday Shuttle, one of the two Twin Dolphin and one of the two Belle Haven vehicles remain temporarily discontinued.

**Table A**
**December 2019**

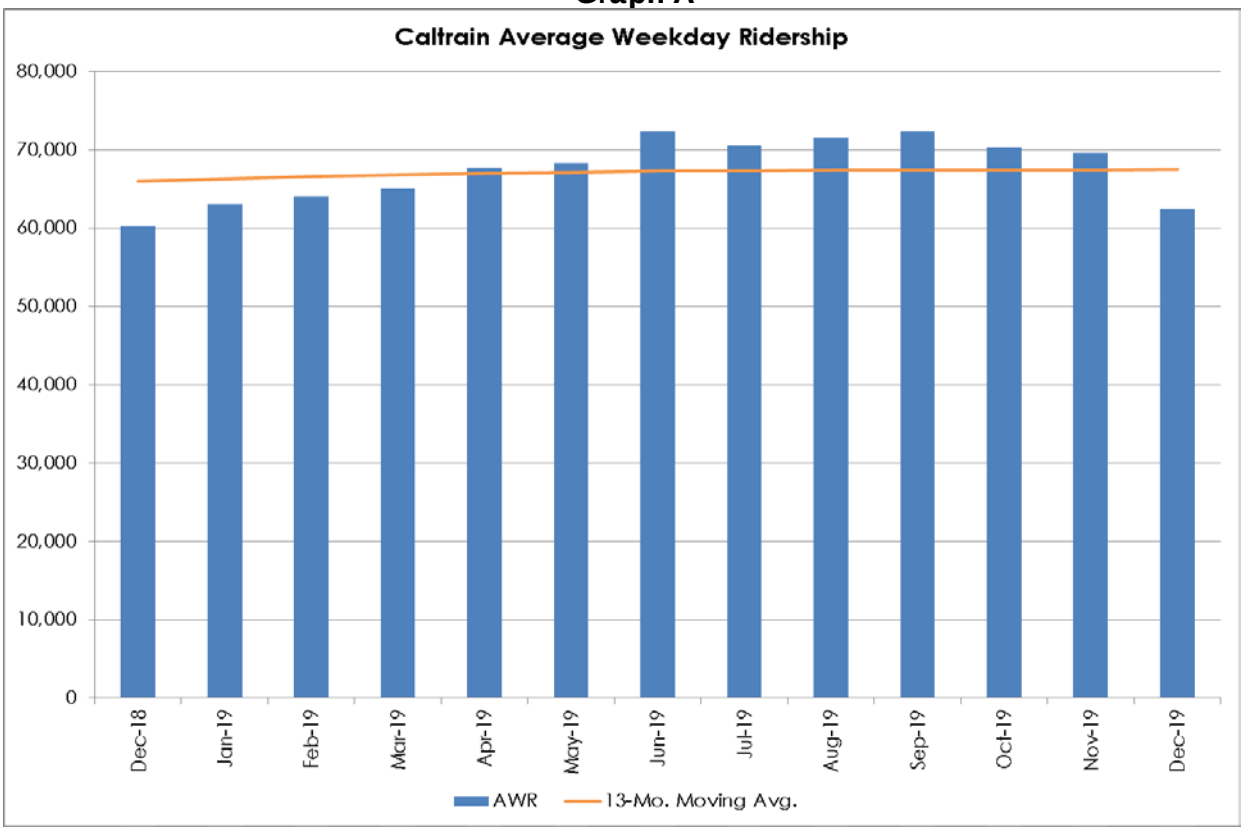
| | FY2019 | FY2020 | % Change |
|---|---|---|---|
| Total Ridership | 1,327,082* | 1,428,363 | 7.6% |
| Average Weekday Ridership | 60,202* | 62,480 | 3.8% |
| Total Farebox Revenue | $ 7,370,371 | $ 7,860,477 | 6.6% |
| On-time Performance | 92.2% | 92.5% | 0.3% |
| Average Weekday Caltrain Shuttle Ridership | 6,682 | 6,622 | -0.9% |

**Fiscal Year to Date**

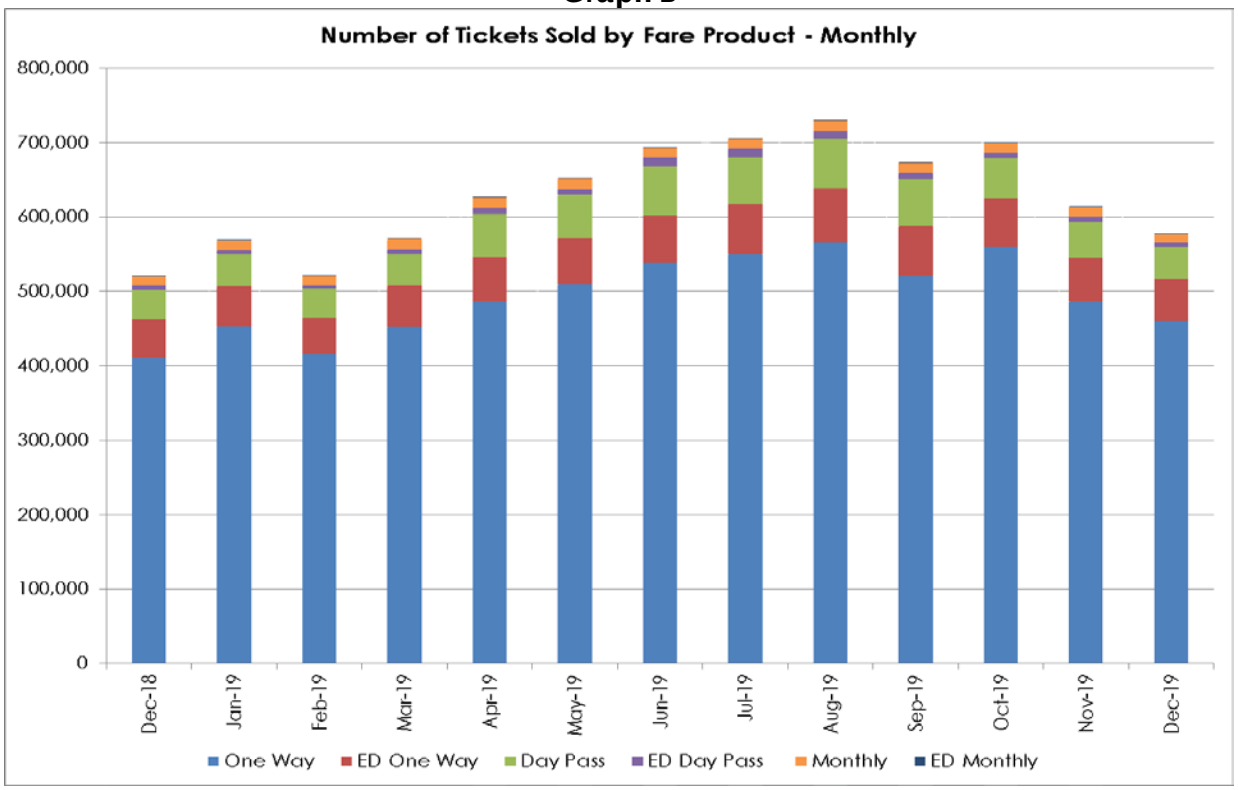
| | FY2019 | FY2020 | % Change |
|---|---|---|---|
| Total Ridership | 9,260,328* | 9,588,331* | 3.5% |
| Average Weekday Ridership | 67,568* | 69,481* | 2.8% |
| Total Farebox Revenue | $ 51,084,660 | $ 53,194,550 | 4.1% |
| On-time Performance | 92.9% | 93.3% | 0.5% |
| Average Weekday Caltrain Shuttle Ridership | 8,155 | 8,500 | 4.2% |

** = Items revised due to calibration to the ridership model*

**Graph A**

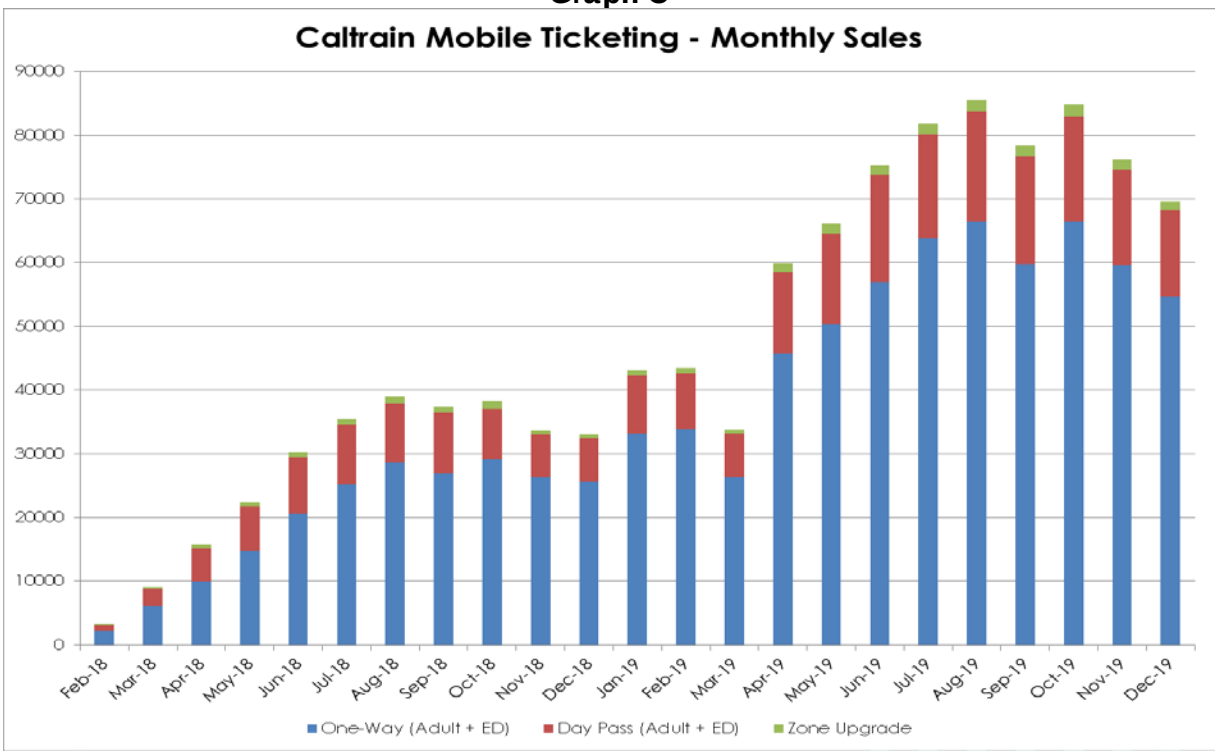



**Graph B**

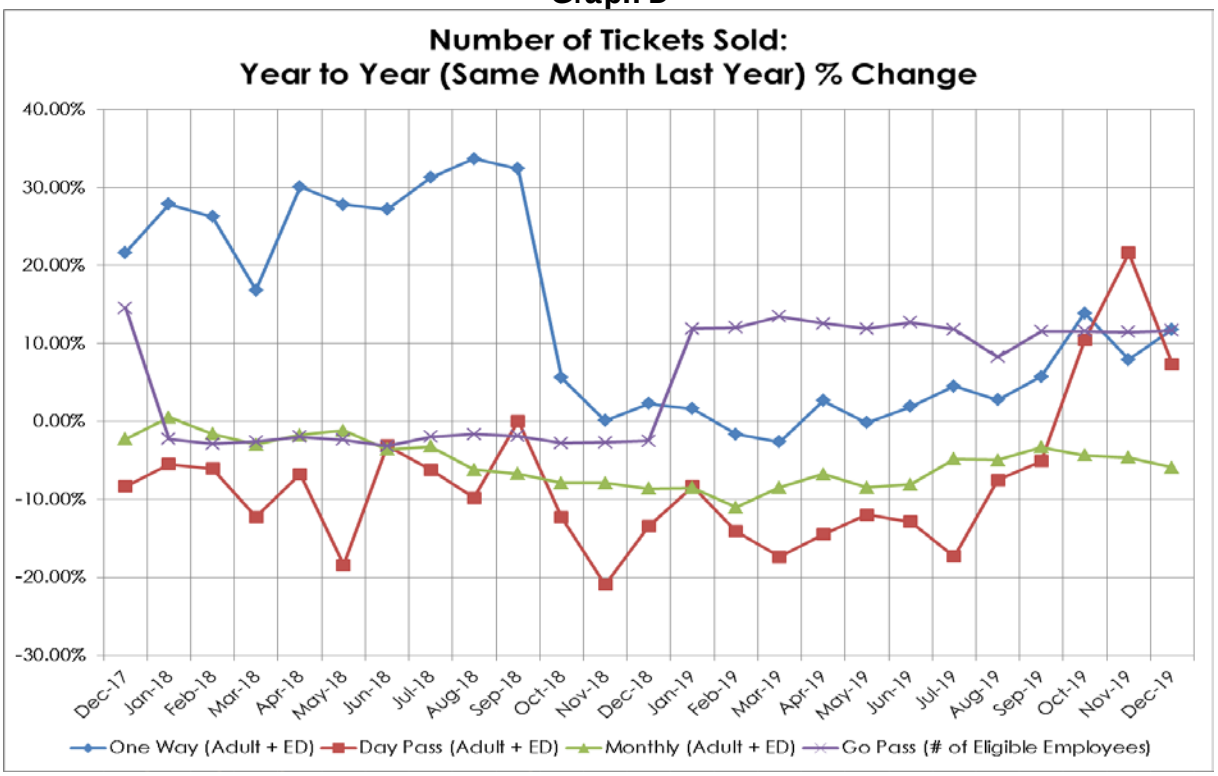



**Go Passes tracked by Monthly Number of Eligible Employees (not by Sales)*

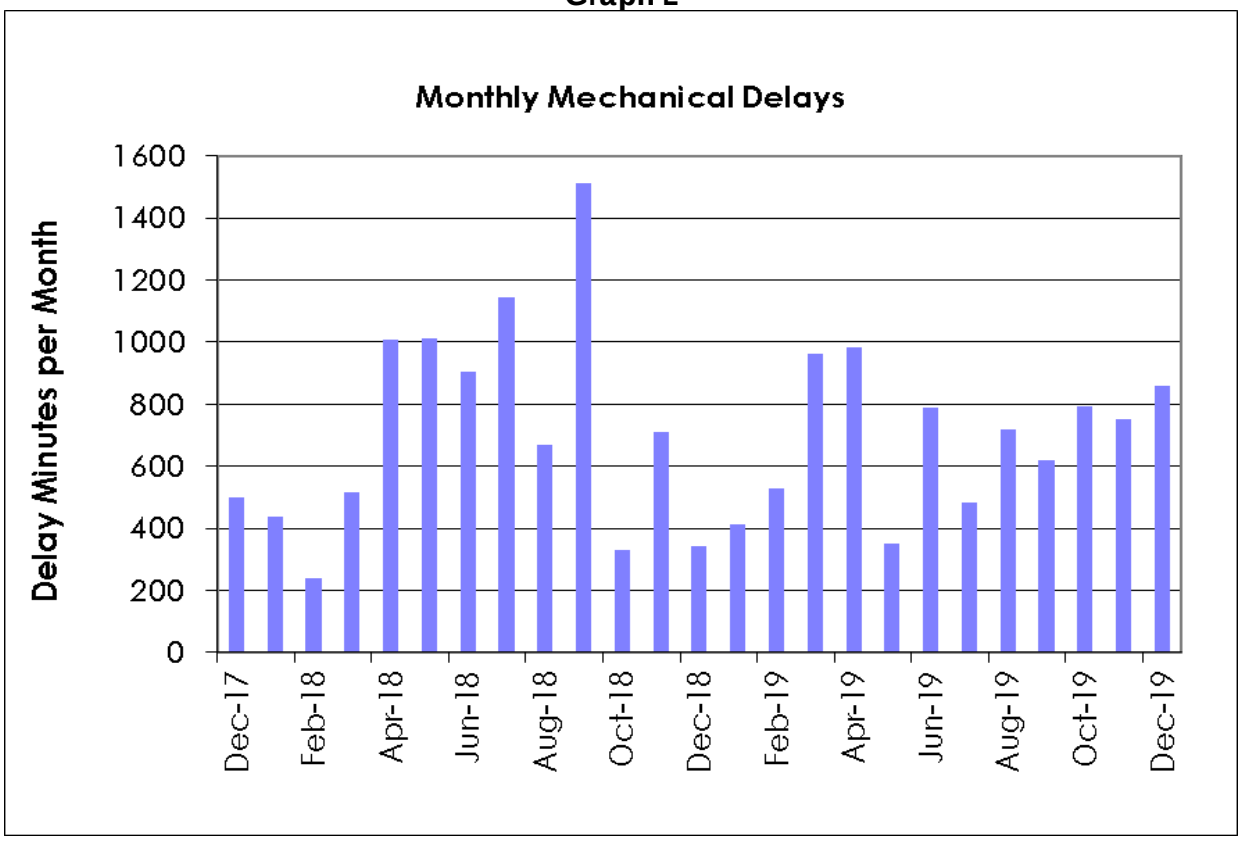
**Graph C**



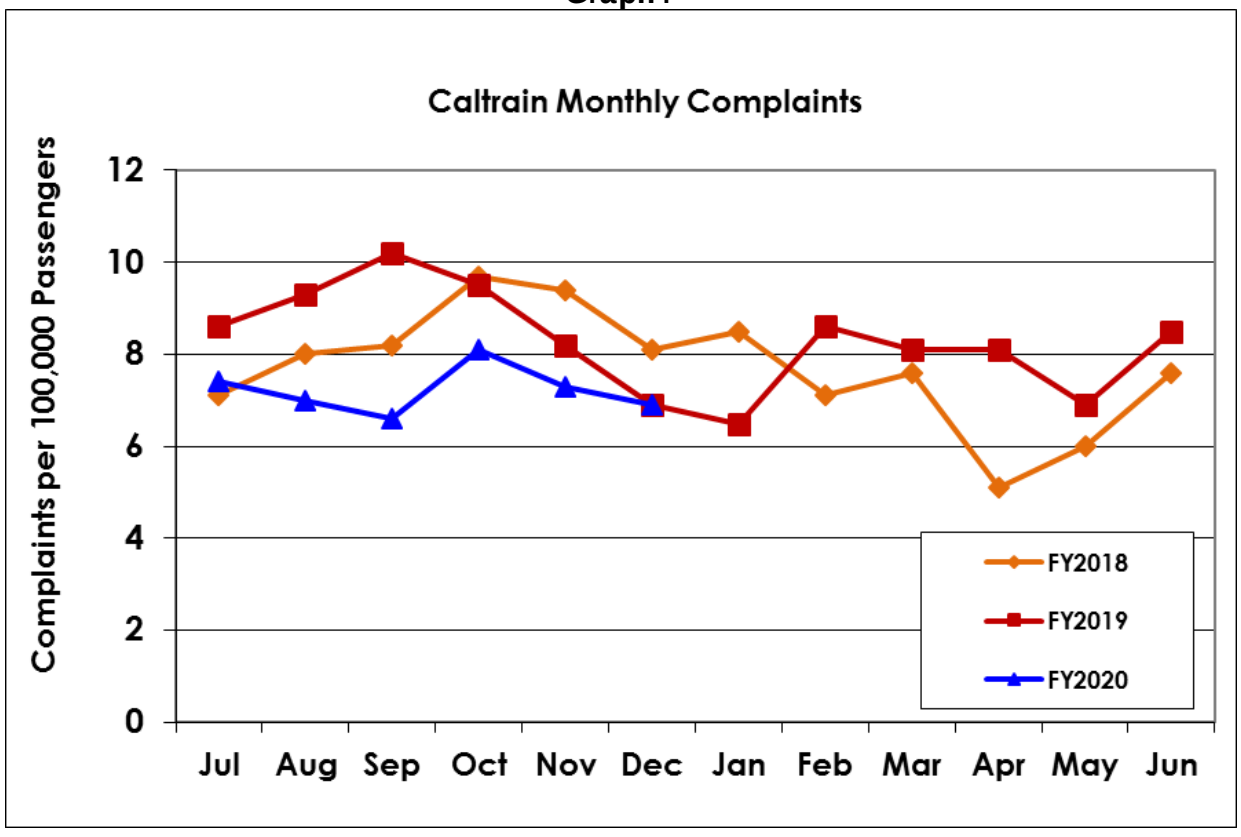

**Graph D**



**Graph E**




**Graph F**



**Caltrain Promotions – December 2019**

**Holiday Train –** Caltrain's 2019 Holiday Train rolled down the Peninsula on Saturday, December 7, and Sunday, December 8 bringing holiday cheer to Bay Area communities. The glittering show train, decorated with more than 70,000 lights, brought thousands of holiday revelers out to selected stations to see costumed characters and holiday carolers. All toy and monetary donations were collected by the Salvation Army to benefit local children in need. Caltrain also made a donation to the U.S. Marine Corps Reserve's Toys for Tots program. The event was promoted using both internal and paid communications. Paid promotions included 30-second Comcast Spotlight TV commercials covering San Mateo, San Francisco and parts of Santa Clara Counties, geo-targeted YouTube pre-roll videos, print ads in local papers covering all three counties, e-mail blasts, and sponsored Facebook ads on the Mercury News feed. Internal communications included organic social media ads, a dedicated page on the Caltrain website, news releases and VMS/Conductor announcements. Posters were displayed at local businesses throughout the county. More than 1,100 toys were collected for both nights.

**Redbox Bowl at Levi's Stadium –** The Redbox Bowl was held at Levi's Stadium on Monday, December 30. This year's matchup included the California Bears taking on Illinois. No extra pre- or post-game service was provided. Communication efforts included information listed on Caltrain's special events webpage, social media messaging from both Caltrain and Cal Football. Total ridership alighting and boarding at Mountain View station was 765, a 6 percent decrease compared to 2018.

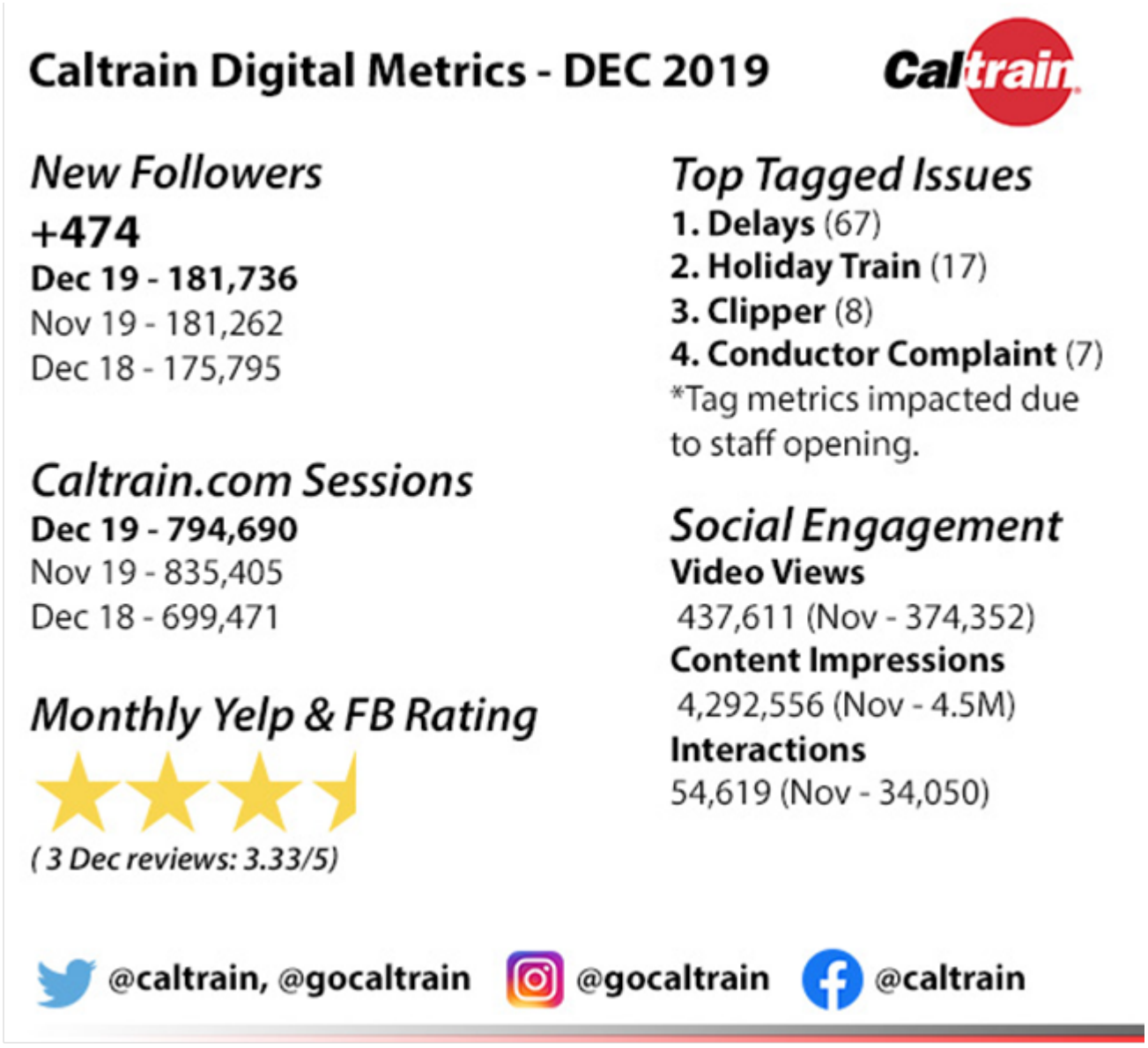
**New Year's Eve –** Caltrain operated two pre-firework special trains and five additional post-fireworks special trains through San Francisco. The communications plan included information on the Caltrain special event webpage, a news release, social media messaging and VMS/Conductor announcements. News media outlets heavily urged New Year's Eve revelers to use public transportation in order to avoid traffic. Total ridership alighting and boarding at San Francisco station was 7,779, a decrease of 29 percent. Post-fireworks service carried 4,443 riders, which represents a 25 percent decrease compared to 2018 ridership.

**On-going**

**49ers At Levi's® Stadium –** In December, the 49ers hosted two games against Atlanta and Los Angeles. Total ridership alighting and boarding for the two games was 2,848. Pre- and regular season total additional ridership alighting and boarding at Mountain View station was 17,466, a 9 percent increase compared to 2018 as the 49ers head into the playoffs in January.

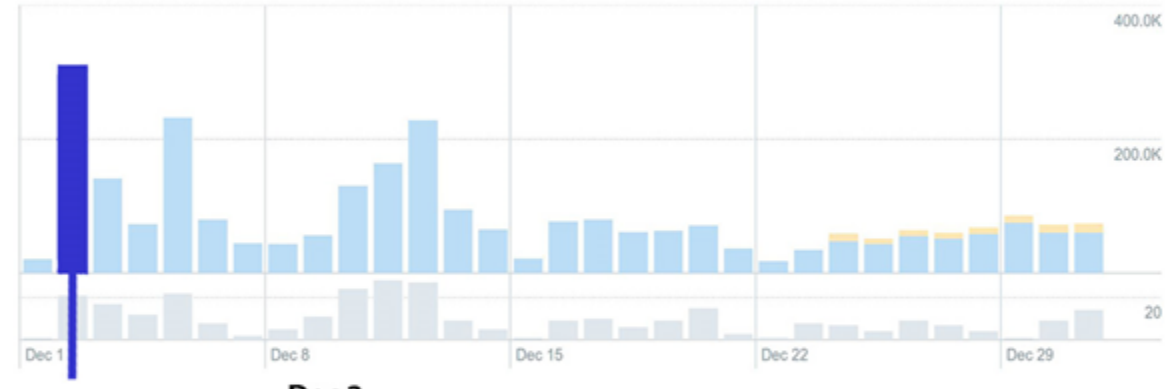
**San Jose Sharks at SAP Center –** For the month of December there were eight home games played. Promotions include sponsored Facebook engagement ads through the end of March. Caltrain carried an additional 1,542 customers. The total year-to-date post-game additional rider

count was 5,753, which represents a 4 percent increase compared to the same number of games played in the 2018 season.



## Twitter Impression Spikes
## Dec, 2019

Your Tweets earned **2.7M impressions** over this **31 day** period




**Dec 2**
305 Ped Strike/Relay Fault
1265 Incident Delay Mins
237 M o E Delay Mins
1735 Total Delay Mins

Impressions of Tweets
Paid Impressions
Tweets Sent

Impressions sometimes appear the day after an incident as Twitter users view the post the next day.

### Caltrain News Coverage Report – December 2019


Total # of articles: 115 (compared to 90 in November)


Prepared by: Patrice Givens, Administrative Analyst II 650.508.6347
James Namba, Marketing Specialist 650.508.7924
Jeremy Lipps, Social Media Officer 650.622.7845

**AGENDA ITEM #4 (c)**
**FEBRUARY 6, 2020**

**PENINSULA CORRIDOR JOINT POWERS BOARD**
**STAFF REPORT**

TO: Joint Powers Board

THROUGH: Jim Hartnett
Executive Director

FROM: Seamus Murphy
Chief Communications Officer

SUBJECT: **STATE AND FEDERAL LEGISLATIVE UPDATE**

## ACTION

Staff Coordinating Council recommends the Board receives the attached memos. Staff will provide regular updates to the Board in accordance with Legislative Program.

## SIGNIFICANCE

The 2020 Legislative Program establishes the principles that will guide the legislative and regulatory advocacy efforts. Based on those principles, staff coordinates closely with our Federal and State advocates on a wide variety of issues that are considered in Congress and the State legislature. The attached reports highlight the recent issues and actions that are relevant to the Board.

Prepared By: Casey Fromson, Government and Community Affairs Director 650-508-6493

SHAW/YODER/ANTWIH, inc.
LEGISLATIVE ADVOCACY • ASSOCIATION MANAGEMENT

EDELSTEIN GILBERT ROBSON & SMITH LLC

January 10, 2020

TO: Peninsula Corridor Joint Powers Board Members

FROM: Mike Robson and Trent Smith, Edelstein Gilbert Robson & Smith, LLC
Joshua W. Shaw and Matt Robinson, Shaw / Yoder / Antwih, Inc.

RE: **STATE LEGISLATIVE UPDATE – January 2020**

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## Overview

The Legislature returned to Sacramento on January 6, marking the end of interim recess and the beginning of the second year of session. Legislators will begin introducing new bills and moving their two-year bills. The bill introduction deadline is February 21.

The two-year bills that did not make it out of their first house last year will need to pass out and be transmitted to their second house by January 31, meaning they will move quickly. The two-year bills that made it into the second house before the first year of session closed will follow the normal legislative calendar for passage.

## 2020-21 Budget

The Governor released the 2020-21 budget this morning. The $222.2 billion budget projects a $5.6 billion surplus and total reserves of $21 billion.

To reach the state's climate goals, the Governor introduced the Climate Catalyst Fund, which will be administered by Infrastructure and Economic Development Bank (IBank).

One billion dollars of general funds will be used for low-carbon transportation, sustainable agriculture, and waste diversion through low-interest loans.

The Governor's budget summary, totaling 353 pages, discusses the importance of maintaining and repairing California's roads while investing in alternative modes of transportation.

For transportation, the 2020-21 budget uses $5.4 billion of revenue generated from SB 1. Of this amount, $3.5 billion is dedicated to road projects, rehabilitation and maintenance, The remaining $1.9 billion must be used for transit, multimodal projects and other transportation priorities.

## Legislation

**AB 145 (Frazier) High Speed Rail Confirmation of Board Members.** This bill, by the Chair of the Assembly Transportation Committee, was introduced last year with a lot of media attention. It is a byproduct of Assemblymember Frazier's displeasure with management of High Speed Rail and came on the heels of an informational hearing he held in January of 2019. This bill would require that the five voting members of the High Speed Rail Authority appointed by the Governor be subject to Senate confirmation.

It is set for hearing in the Assembly Transportation Committee on January 13.

**AB 315 (C. Garcia) – Government Lobbying Associations.** This bill limits how associations funded by local governments/special districts can use their funds. Specifically, the bill would prevent local agency associations from using funds for activities that are not lobbying or strictly educational activities. Further, the bill would require that an association publicly disclose the amount of money spent on these activities and prohibits an association from incurring travel-related expenses except for the association to hold an annual conference or send its members to attend educational activities. The bill will be heard next in the Assembly Local Government Committee.

**AB 1839 (Bonta) - Green New Deal.** Assemblymember Bonta and a group of other Assembly Democrats recently introduced a "findings" bill that declares the Legislature's intent to implement a framework that reduces climate change impacts while protecting public health and overcoming systemic racial injustice.

It is important to note that the bill contains findings relating to transportation. The bill declares the goal of increasing accessibility and mobility between communities through affordable and carbon free transportation projects. Along with affordable housing, accessible and carbon-free transportation is high on the list of priorities for Democrats this session.

**SB 50 (Wiener) – Affordable Housing around Public Transit.** SB 50 was recently amended to address local government concerns. Specifically, cities can opt out of some SB 50 provisions if they develop a plan that will produce the same amount of housing units as SB 50 would require of the region. The amendments would potentially allow cities to grow multi-family housing options in parts of the city while maintaining neighborhoods with primarily single-family homes.

The amendments would push implementation until 2023.

The bill still allows for more dense housing near transit and encourages more multifamily and denser housing across the state.

Senator Portantino, who stalled the bill in the Senate Appropriations Committee last year, was reportedly unimpressed with the amendments likely due to continued opposition from local governments.

It has been rereferred to the Senate Appropriations Committee.

## High Speed Rail

As we have previously reported, there is a growing skepticism in the Legislature regarding the management of High Speed Rail funding and project progress. In response, there is an increasing interest in exploring other projects that could perhaps be a better use of the funding originally allocated for the electrification of segments in the Central Valley.

We expect more discussions on this matter this session.

## Status of State Grant Opportunities

We have included in this report a list of major competitive grant programs administered by the State from which transit and rail projects are eligible/can be funded.

### Transit and Intercity Rail Capital Program (TIRCP)

The TIRCP was created to fund capital improvements to modernize California's intercity rail, bus, ferry, and rail transit systems to reduce emissions, expand and improve transit service and ridership, integrate rail services and improve transit safety. Funds available are estimated at $450-500 million for Cycle 4 but could change on auction proceeds and changing cash flow requirements of already awarded projects.

Important Dates:
January 2020 – Applications Due
April 2020 – CalSTA Award Announcement

### Solutions for Congested Corridors Program (SCCP)

The SCCP provides funding to achieve a balanced set of transportation, environmental, and community access improvements to reduce congestion throughout the state. The program makes $250 million available annually (programmed in 2-year increments) for projects that implement specific transportation performance improvements.

Important Dates:
October 2019 – Guidelines Adopted
January 2020 – Applications Due
June 2020 – Program Adoption

### Local Partnership Program (LPP)

The LPP is intended to provide local and regional transportation agencies that have passed sales tax measures, developer fees, or other imposed transportation fees with a continuous appropriation of $200 million annually from the Road Maintenance and Rehabilitation Account to fund road maintenance and rehabilitation, sound walls, and other transportation improvement projects. The Competitive program is funded at $100 million annually.

Important Dates:
October 2019 – Guidelines Adopted
January 2020 – Applications Due
June 2020 – Program Adoption

**Trade Corridor Enhancement Program (TCEP)**
The TCEP provides funding for infrastructure improvements on federally designated Trade Corridors of National and Regional Significance, on the Primary Freight Network as identified in California Freight Mobility Plan, and along other corridors that have a high volume of freight movement. There is approximately $300 million provided per year (programmed in 2-year increments) for the competitive program.

Important Dates:
January 2020 – Guidelines Adopted
March 2020 – Applications Due
June 2020 – Program Adoption

## Grade Separation Funding

Below is a list of the funding sources that we are aware of and/or that have been used to fund grade separations in the recent years. The funding sources below are managed across various state agencies and departments, including the Public Utilities Commission (PUC), the California State Transportation Agency (CalSTA), the California Transportation Commission (CTC), and Caltrans.

**PUC Section 190 Grade Separation Program** – The Program is a state funding program to grade separate crossings between roadways and railroad tracks and provides approximately $15 million annually, transferred from Caltrans. Agencies apply to the PUC for project funding.

**State Transportation Improvement Program –** The STIP, managed by Caltrans and programmed by the CTC, is primarily used to fund highway expansion projects throughout the state, but also supports grade separations. The STIP is programmed every two years (currently the 2018 STIP added $2.2 billion in new funding). Local agencies receive a share of STIP funding, as does the State. The STIP is funded with gasoline excise tax revenues.

**Transit and Intercity Rail Capital Program –** The TIRCP is managed by CalSTA and is available to fund rail and transit projects that reduce greenhouse gas emissions. The program receives funding from Cap and Trade and the recently created Transportation Improvement Fee to the tune of approximately $500 million per year. The TIRCP is programmed over 5 years, with the most recent cycle beginning in May 2018. Caltrain received $160 million for the CalMod project.

**Proposition 1A –** This $9.9 billion Bond Act is the primary funding source for the high-speed rail project and has been used to fund a very limited number of grade separation projects in the past, including in the City of San Mateo.

# Caltrain
# State Legislative Matrix 1/22/2020

| Bill Number (Author) | Summary | Location | Position |
|---|---|---|---|
| **AB 11 (Chiu D)**<br><br>Community Redevelopment Law of 2019. | (1)The California Constitution, with respect to any taxes levied on taxable property in a redevelopment project established under the Community Redevelopment Law, as it then read or may be amended, authorizes the Legislature to provide for the division of those taxes under a redevelopment plan between the taxing agencies and the redevelopment agency, as provided. This bill, the Community Redevelopment Law of 2019, would authorize a city or county, or two or more cities acting jointly, to propose the formation of an affordable housing and infrastructure agency by adoption of a resolution of intention that meets specified requirements, including that the resolution of intention include a passthrough provision and an override passthrough provision, as defined. The bill would require the city or county to submit that resolution to each affected taxing entity and would authorize an entity that receives that resolution to elect to not receive a passthrough payment, as provided. The bill would require the city or county that adopted that resolution to hold a public hearing on the proposal to consider all written and oral objections to the formation, as well as any recommendations of the affected taxing entities, and would authorize that city or county to adopt a resolution of formation at the conclusion of that hearing. The bill would then require that city or county to submit the resolution of intention to the Strategic Growth Council for a determination as to whether the agency would promote statewide greenhouse gas reduction goals. The bill would require the council to approve formation of the agency if it determines that formation of the agency both (1) would not result in a state fiscal impact, determined as specified by the Controller, that exceeds a specified amount and (2) would promote statewide greenhouse gas reduction goals. The bill would deem an agency to be in existence as of the date of the council's approval. The bill would require the council to establish a program to provide technical assistance to a city or county desiring to form an agency pursuant to these provisions. This bill contains other related provisions and other existing laws.<br><br>Amended: 4/11/2019 | 2 year Bill | Watch |
| **AB 145 (Frazier D)**<br><br>High-Speed Rail Authority: Senate confirmation. | Existing law creates the High-Speed Rail Authority with specified powers and duties relative to development and implementation of a high-speed train system. The authority is composed of 11 members, including 5 voting members appointed by the Governor, 4 voting members appointed by the Legislature, and 2 nonvoting legislative members. This bill would provide that the members of the authority appointed by the Governor are subject to appointment with the advice and consent of the Senate.<br><br>Introduced: 12/13/2018 | 2 Year Bill | Watch Closely |
| **AB 553 (Melendez R)**<br><br>High-speed rail bonds: housing. | The California High-Speed Rail Act creates the High-Speed Rail Authority to develop and implement a high-speed rail system in the state. The Safe, Reliable High-Speed Passenger Train Bond Act for the 21st Century, approved by the voters as Proposition 1A at the November 4, 2008, general election, provides for the issuance of $9 billion in general obligation bonds for high-speed rail purposes and $950 million for other related rail purposes. Article XVI of the California Constitution requires measures authorizing general obligation bonds to specify the single object or | 2 Year Bill | Watch Closely |

| | | | |
|---|---|---|---|
| | work to be funded by the bonds and further requires a bond act to be approved by a 2/3 vote of each house of the Legislature and a majority of the voters. This bill would provide that no further bonds shall be sold for high-speed rail purposes pursuant to the Safe, Reliable High-Speed Passenger Train Bond Act for the 21st Century, except as specifically provided with respect to an existing appropriation for high-speed rail purposes for early improvement projects in the Phase I blended system. The bill, subject to the above exception, would require redirection of the unspent proceeds received from outstanding bonds issued and sold for other high-speed rail purposes before the effective date of these provisions, upon appropriation, for use in retiring the debt incurred from the issuance and sale of those outstanding bonds. The bill, subject to the above exception, would also require the net proceeds of other bonds subsequently issued and sold under the high-speed rail portion of the bond act to be made available, upon appropriation, to the Department of Housing and Community Development's Multifamily Housing Program. The bill would make no changes to the authorization under the bond act for issuance of $950 million for rail purposes other than high-speed rail. These provisions would become effective only upon approval by the voters at the next statewide general election.This bill contains other related provisions.<br><br>Amended: 3/13/2019 | | |
| **ACA 1 (Aguiar-Curry D)**<br><br>Local government financing: affordable housing and public infrastructure: voter approval. | (1)The California Constitution prohibits the ad valorem tax rate on real property from exceeding 1% of the full cash value of the property, subject to certain exceptions.This measure would create an additional exception to the 1% limit that would authorize a city, county, city and county, or special district to levy an ad valorem tax to service bonded indebtedness incurred to fund the construction, reconstruction, rehabilitation, or replacement of public infrastructure, affordable housing, or permanent supportive housing, or the acquisition or lease of real property for those purposes, if the proposition proposing that tax is approved by 55% of the voters of the city, county, or city and county, as applicable, and the proposition includes specified accountability requirements. The measure would specify that these provisions apply to any city, county, city and county, or special district measure imposing an ad valorem tax to pay the interest and redemption charges on bonded indebtedness for these purposes that is submitted at the same election as this measure.This bill contains other related provisions and other existing laws.<br><br>Amended: 3/18/2019 | 2 Year Bill | Support |
| **SB 4 (McGuire D)**<br><br>Housing. | (1)The Planning and Zoning Law requires a city or county to adopt a general plan for land use development within its boundaries that includes, among other things, a housing element. Existing law requires an attached housing development to be a permitted use, not subject to a conditional use permit, on any parcel zoned for multifamily housing if at least certain percentages of the units are available at affordable housing costs to very low income, lower income, and moderate-income households for at least 30 years and if the project meets specified conditions relating to location and being subject to a discretionary decision other than a conditional use permit. Existing law provides for various incentives intended to facilitate and expedite the construction of affordable housing.This bill would authorize a development proponent of a neighborhood multifamily project or eligible transit-oriented development (TOD) project located on an eligible parcel to submit an application for a streamlined, ministerial approval process that is not subject to a conditional use permit. The bill would define a "neighborhood multifamily project" to mean a project to construct a multifamily unit of up to 2 residential dwelling units in a nonurban community, as defined, or up to 4 residential dwelling units in an urban community, as defined, that meets local height, setback, and | 2 year Bill | Watch |

| | | | |
|---|---|---|---|
| | lot coverage zoning requirements as they existed on July 1, 2019. The bill would define an "eligible TOD project" as a project located in an urban community, as defined, that meets specified height requirements, is located within 1/2 mile of an existing or planned transit station parcel or entrance, and meets other floor area ratio, density, parking, and zoning requirements. The bill also requires an eligible TOD project development proponent to develop a plan that ensures transit accessibility to the residents of the development in coordination with the applicable local transit agency. The bill would require specified TOD projects to comply with specified affordability, prevailing wage, and skilled and trained workforce requirements. The bill would also define "eligible parcel" to mean a parcel located within a city or county that has unmet regional housing needs and has produced fewer housing units than jobs over a specified period; is zoned to allow residential use and qualifies as an infill site; is not located within a historic district, coastal zone, very high fire hazard severity zone, or a flood plain; the development would not require the demolition of specified types of affordable housing; the parcel is not eligible for development under existing specified transit-oriented development authorizations; and the parcel in question has been fully reassessed on or after January 1, 2021, to reflect its full cash value, following a change in ownership.This bill contains other related provisions and other existing laws.<br><br>Amended: 4/10/2019 | | |
| **SB 43 (Allen D)**<br><br>Carbon intensity and pricing: retail products. | The California Global Warming Solutions Act of 2006 designates the State Air Resources Board as the state agency charged with monitoring and regulating sources of emissions of greenhouse gases. The state board is required to approve a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions level in 1990 to be achieved by 2020 and to ensure that statewide greenhouse gas emissions are reduced to at least 40% below the 1990 level by 2030.This bill would require the state board, no later than January 1, 2022, to submit a report to the Legislature on the findings from a study, as specified, to determine the feasibility and practicality of assessing the carbon intensity of all retail products subject to the tax imposed pursuant to the Sales and Use Tax Law, so that the total carbon equivalent emissions associated with such retail products can be quantified.This bill contains other existing laws.<br><br>Amended: 7/1/2019 | 2 year Bill | Watch |
| **SB 50 (Wiener D)**<br><br>Planning and zoning: housing development: streamlined approval: incentives. | (1)Existing law authorizes a development proponent to submit an application for a multifamily housing development that satisfies specified planning objective standards to be subject to a streamlined, ministerial approval process, as provided, and not subject to a conditional use permit.This bill would authorize a development proponent of a neighborhood multifamily project located on an eligible parcel to submit an application for a streamlined, ministerial approval process that is not subject to a conditional use permit. The bill would define a "neighborhood multifamily project" to mean a project to construct a multifamily structure on vacant land, or to convert an existing structure that does not require substantial exterior alteration into a multifamily structure, consisting of up to 4 residential dwelling units and that meets local height, setback, and lot coverage zoning requirements as they existed on July 1, 2019. The bill would also define "eligible parcel" to mean a parcel that meets specified requirements, including requirements relating to the location of the parcel and restricting the demolition of certain housing development that may already exist on the site.This bill contains other related provisions and other existing laws.<br><br>Amended: 1/6/2020 | 2 Year Biill | Watch |

| | | | |
|---|---|---|---|
| **SB 146 (Beall D)**<br><br>Peninsula Rail Transit District. | Existing law, operative under certain conditions, redesignates the Peninsula Corridor Study Joint Powers Board as the Peninsula Rail Transit District, comprised of 9 members appointed from various governing bodies situated in the City and County of San Francisco and the Counties of San Mateo and Santa Clara, with specified powers.This bill would repeal the provisions relating to the Peninsula Rail Transit District.<br><br>Introduced: 1/18/2019 | 2 year Bill | Watch Closely |
| **SB 147 (Beall D)**<br><br>High-Speed Rail Authority. | The California High-Speed Rail Act creates the High-Speed Rail Authority to develop and implement a high-speed train system in the state, with specified powers and duties. Existing law authorizes the authority, among other things, to keep the public informed of its activities.This bill would revise that provision to instead authorize the authority to keep the public informed through activities, including, but not limited to, community outreach events, public information workshops, and newsletters posted on the authority's internet website.<br><br>Introduced: 1/18/2019 | 2 year Bill | Watch Closely |
| **SB 278 (Beall D)**<br><br>Metropolitan Transportation Commission. | The Metropolitan Transportation Commission Act creates the Metropolitan Transportation Commission as a local area planning agency to provide comprehensive regional transportation planning for the region comprised of the 9 San Francisco Bay area counties. The act requires the commission to continue to actively, on behalf of the entire region, seek to assist in the development of adequate funding sources to develop, construct, and support transportation projects that it determines are essential.This bill would also require the commission to determine that those transportation projects are a priority for the region.This bill contains other related provisions and other existing laws.<br><br>Amended: 3/28/2019 | 2 Year Bill | Watch |
| **SB 279 (Galgiani D)**<br><br>High-Speed Rail Authority: supplemental business plan. | The California High-Speed Rail Act creates the High-Speed Rail Authority to develop and implement a high-speed rail system in the state. The Safe, Reliable High-Speed Passenger Train Bond Act for the 21st Century, approved by the voters as Proposition 1A at the November 4, 2008, general election, provides for the issuance of $9 billion in general obligation bonds for high-speed rail purposes and $950 million for other related rail purposes. Existing law requires the authority to prepare, publish, adopt, and submit to the Legislature a business plan containing specified elements, by May 1, 2014, and every 2 years thereafter.This bill would require the authority to develop and adopt a supplemental business plan for the estimated cost of completing the section of the high-speed rail system located between the City of Merced and the northern end of the initial operating segment in the County of Madera on or before February 1, 2020, and submit the supplemental business plan to the Director of Finance, a specified peer review group, and certain legislative committees.<br><br>Amended: 3/27/2019 | 2 year Bill | Watch Closely |

**Total Measures: 11**

Holland & Knight

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**Caltrain**
**As of January 15, 2020 Federal Transportation Report**

## FY 2020 Spending Bills Signed Into Law

Before departing for the holidays, on December 20, 2019, President Donald Trump signed two spending packages – domestic and national security – totaling $1.4 trillion to fund the government through September 30, 2020, and avert a shutdown. The bills included all 12 annual appropriations bills for FY 2020.

The Transportation, Housing and Urban Development (THUD) bill included $24.8 billion in discretionary funding for DOT (additional details at the end of the report):

- $1 billion for BUILD grants
- $46.4 billion for highways, plus $2.2 billion from the general fund for infrastructure programs
- $200 million for Federal-State Partnership for State of Good Repair grants
- $325 million for FRA Consolidated Rail Infrastructure and Safety Improvements grants
- $10.15 billion for transit formula grants, and $510 million from the general fund for infrastructure grants
- $1.98 billion for Capital Investment Grants, including $300 million for Core Capacity which will provide $100 million for the Peninsula Corridor Electrification Project

## Trump Administration to Release NEPA Changes

On January 9, the Trump administration proposed new rules to modify the National Environmental Policy Act (NEPA), a law requiring environmental reviews for projects such as highways and pipelines. Comments are due on March 10. The changes would update how federal agencies implement the law, which has been criticized by the President for obstructing the development of new and existing projects. Holland & Knight participate on a call with the White House to discuss this new rule. The White House expects Congress to consider this rule as they write infrastructure bills. The changes to NEPA are intended to streamline projects, and allow efficient and expedited project delivery and reduce paperwork. There will be a two year limit for environmental impact statements and one year for environmental review.

## DOT Issues Deregulation Rule

On December 5, 2019, the Department of Transportation (DOT) announced a series of changes issued in a final rule, that will impact how DOT approaches rulemaking, guidance, and enforcement practices. One of the primary objectives of the rule is to eliminate two regulations for every new regulatory action, and to develop the Regulatory Reform Task Force. According to

a press release from DOT Secretary Elaine Chao, the department saved $3.68 billion in regulatory costs due to deregulation under the Trump administration. According to Secretary Chao, "At its peak, DOT was issuing 23 deregulatory actions for every new significant regulatory action." The rule clarifies that the DOT's guidance documents do not impose legal obligations and shall not be used as a basis for enforcement. It also ensures due process protections for potential subjects of enforcement actions, including open and fair investigations and proceedings.

**FRA Launches Public Web Portal to Report Blocked Rail Crossings**

On December 20, 2019, the Federal Railroad Administration (FRA) added a new blocked crossing incident report to its website and app where the public can post information about trains blocking crossings for long periods of time. This comes after excessive complaints to the agency and congressional offices, claiming delays can last for hours up to half a day. The new portal allows users to report the date, time, location and duration of blocked crossings. In addition to encouraging railroads into taking action to limit the duration of blocked crossings, the data FRA collects can be used to support problems when municipalities and transportation agencies seek federal funds for grade separations.

**DOT Announces Safety Enhancements for Highway-Rail Grade Crossings**

On December 2, 2019, DOT Secretary Elaine Chao announced publication of a proposed rule to improve safety at public highway-rail grade crossings nationwide. The proposed rule would require all states to develop and implement a new or updated highway-rail grade crossing action plan no later than one year after the effective date of the final rule. These action plans will enable states to prioritize infrastructure and equipment investments at railway crossings using a variety of resources, including federal formula funds and grants. In a press release, Secretary Chao said "The Department is committed to supporting infrastructure improvements, new communications tools, and working to change driver behavior so that highway-rail grade crossings are safe environments for all transportation users." Since 2017, the Federal Highway Administration (FHWA) has distributed more than $900 million in formula funds to States for grade crossing improvements through the Section 130 program. Additionally, the Administration has awarded $324 million in discretionary grant funds to 43 projects that include grade crossing improvements and trespass prevention elements, with more than 500 grade crossings in 26 states to be improved as a result of these investments.

## Grants

**Grant Opportunity: INFRA (formerly FASTLANE)**
On January 13, DOT announced $906 million available for INFRA grants. Deadline is February 25. DOT will award INFRA grants to large and small projects. INFRA grant must be at least $25 million for a large project (project cost at least $100 million), and at least $5 million for small projects. 10 percent of the awards will be reserved for small projects.

Eligible INFRA project costs may include: "reconstruction, rehabilitation, acquisition of property (including land related to the project and improvements to the land), environmental mitigation, construction contingencies, equipment acquisition, and operational improvements directly related

to system performance." DOT is "focused on projects in which the local sponsor is significantly invested and is positioned to proceed rapidly to construction."

**Grant Opportunity: BUILD**

DOT has announced that they will publish the FY 2020 BUILD Notice of Funding Opportunity (NOFO) by February 18, 2020.

**What to Watch in Congress**

Here is a snapshot of important dates for Congress this year:

| Date | What to Watch |
|---|---|
| Feb. 4 | • State of the Union address |
| March 15 | • Key authorities under the Foreign Intelligence Surveillance Act expire |
| April 17 | • Chemical Facility Anti-Terrorism Standards program expires |
| May 22 | • Several federal health programs expire, including:<br>  • Temporary Assistance for Needy Families program<br>  • Community health programs<br>  • Medicare programs |
| Aug. 3 – Sept. 4 | • House summer recess |
| Aug. 10 – Sept. 4 | • Senate summer recess |
| Sept. 30 | • Fiscal 2020 funding expires along with:<br>  • Surface transportation authorization (FAST Act)<br>  • National Flood Insurance Program<br>  • Immigration programs (including E-Verify and EB-5 regional investor visas)<br>  • VA and Labor Dept. health care, housing, and homelessness authorities |
| Oct. 5 – Nov. 13 | • House election recess |
| Oct. 12 – Nov. 6 | • Senate election recess |
| Nov. 3 | • Election Day |
| Dec. 10 | • Target House adjournment |
| Dec. 18 | • Target Senate adjournment |
| Dec. 31 | • Tax breaks and credits expire |

Sources: Homeland Security Rule: RIN 1601-AA80; FAST Act (Public Law 114-94); fiscal 2020 spending measure (Public Law 116-94)



Bloomberg Government

# TRANSPORTATION
# FY 2020 FEDERAL FUNDING

| | FY 2019 Enacted | FY 2020 President's Request | FY 2020 House | FY 2020 Senate | FY 2020 Omnibus |
|---|---|---|---|---|---|
| **Department of Transportation** | | | | | |
| **BUILD** | $900 M | $1 B | $1 B | $1 B | $1 B |
| • Planning Grants | $15 M | $0 | $15 M | $15 M | $15 M |
| **Federal Aviation Administration (FAA)** | $17.451 B | $17.86 B | $17.105 B | $17.68 B | $17.6 B |
| • Airport Improvement Program (AIP) | $3.85 B | $3.35 B | $3.85 B | $3.8 B | $3.567 B |
| **Federal-Aid Highways** (FAST Act levels) | $42.355 B | $43.365 B | $43.365 B | $43.365 B | $43.365 B |
| • **Highway Infrastructure** (funded from General Fund vs. HTF) | $3.25 B | $300 M | $1.75 B | $2.7 B | $2.166 B |
| Federal Motor Carrier Safety Grants | $382.8 M | $387.8 M | $388.8 M | $391.1 M | $391.1 M |
| **National Highway Traffic Safety Administration (NHTSA)** | $966 M | $929 M | $1.009 B | $972.317 M | $989 M |
| • Highway Traffic Safety Grants | $610.208 M | $623.017 M | $623.017 M | $623.017 M | $623.017 M |
| **Federal Railroad Administration (FRA)** | $2.873 B | $1.94 B | $3.071 B | $2.92 B | $2.79 B |
| • Amtrak – Northeast Corridor | $650 M | $325.466 M | $700 M | $680 M | $700 M |
| • Amtrak – National Network | $1.29 B | $611 M | $1.29 B | $1.32 B | $1.3 B |
| • Magnetic Levitation Technology Deployment (MAGLEV) Program | $10 M | $0 | $10 M | $0 | $2 M |
| • Federal-State Partnership for State of Good Repair | $400 M | $0 | $350 M | $300 M | $200 M |
| • Consolidated Rail Infrastructure Safety Grants | $255 M | $330 M | $350 M | $255 M | $325 M |
| **Federal Transit Administration (FTA)** | $13.413 B | $12.416 B | $13.47 B | $12.956 B | $12.9 B |
| • Transit Formula Grants (FAST Act levels) | $9.9 B | $0 | $10.15 B | $10.15 B | $10.15 B |
| • Transit Infrastructure (funded from Treasury vs. HTF) | $700 M | $500 M | $752 M | $560 M | $510 M |
| • Capital Investment Grants | $2.552 B | $1.505 B | $2.301 B | $1.978 B | $1.978 B |
| o New Starts with signed FFGAs | | $795.3 M | $795.3 M | $795.3 M | $795.3 M |
| o New Starts with expected FFGAs | | | $702.7 M | $704.7 M | $662.7 |
| o Core Capacity | $635 M | $200 M | $300 M | $300 M | $300 M |
| o Small Starts | $635 M | $0 | $430.7 M | $78 M | $100 M |
| o Project Delivery Pilot Program | $100 M | $0 | $50 M | $100 M | $100 M |

**AGENDA ITEM #4 (d)**
**JANUARY 27, 2020**

**PENINSULA CORRIDOR JOINT POWERS BOARD**
**STAFF REPORT**

TO: Joint Powers Board

THROUGH: Jim Hartnett
Executive Director

FROM: Derek Hansel
Chief Financial Officer

SUBJECT: **STATEMENT OF REVENUES AND EXPENSES FOR THE PERIOD ENDING DECEMBER 31, 2019**

## ACTION

Staff proposes that the Board of Directors accept and enter into the record the Statement of Revenues and Expenses for the month of December 2019.

This staff report provides a brief discussion of significant items and trends on the attached Statement of Revenues and Expenses through December 31, 2019. The statement has been designed to follow the Agency-wide line item rollup as included in the adopted budget. The columns have been designed to provide easy comparison of year-to-date prior to current actuals for the current fiscal year including dollar and percentage variances. In addition, the current forecast of Revenues and Expenses is compared to the Adopted Budget for Fiscal Year 2020.

## SIGNIFICANCE

**Annual Forecast**: The annual forecast was updated based on actual revenue and expense trends through December 2019. The forecast was derived by analyzing trends and reviewing details with cost center managers.

**Forecast Revenues:** Total revenue (page 1, line 17) is forecast $2.3 million higher than budget. This is primarily driven by higher Farebox Revenue (page 1, line 1) which is $3.1 million higher than budget due to adopted fare changes (Go Pass fare increased by 20%, Clipper discount reduced to $0.25, and implementation of the means based fare pilot program). Other Income (page 1, line 5) is higher than budget by $0.4M due to parking citation revenue. This is partially offset by Shuttles (page 1, line 3) due to a reduction in service.

The Use of Reserves (page 1, line 13) is $1.1 million lower than budget primarily due to the increased fare revenue.

**Forecast Expenses:** Total Expense (page 1, line 49) is $0.6 million lower than budget. The variance is primarily due to lower expense trends. Shuttles Services (page 1, line 26) is $0.2 million lower than budget due to a labor shortage of drivers causing a reduction in service. Professional Services (page 1, line 41) is lower than budget by $0.2 million as a result of delays in various planning studies. Facilities & Equipment Maintenance (page 1, line 31) is lower than budget by $0.1 million due to delayed start of various survey work.

**Year to Date Revenues:** As of December year-to-date actual, the Total Revenue

(page 1, line 17) is $4.1 million higher than the prior year. This is primarily driven by Farebox Revenue (page 1, line 1) and JPB Member Agencies Contributions (page 1, line12).

**Year to Date Expenses:** As of December year-to-date actual, the Total Expense (page 1, line 49) is $1.9 million higher than the prior year-to-date actual. This is primarily due to increases in Rail Operator Service (page 1, line 23), in Wages & Benefits (page 1, line 38), in Professional Services (page 1, line 41) and Long Term Debt Expense (page 1, line 47). The increases are partially offset by decreases in Claims, Payments and Reserves (page1, line 30) and Managing Agency Admin OH cost (page 1, line 39).

**Other Information:** Starting in January 2019, the Agency modified the basis of reporting from accrual basis to modified cash basis (only material revenues and expenses are accrued) in monthly financial statements. The change in the accounting basis is not retroactively reflected in the prior year actual. As such, the monthly variance between the prior year and the current year actual may show noticeable variances for some line items on the financial statements.

**BUDGET IMPACT**

There are no budget amendments for the month of December 2019.

**STRATEGIC INITIATIVE**

This item does not achieve a strategic initiative.

| | | |
|---|---|---|
| Prepared By : | Thwe T. Han, Accountant II | 650-508-7912 |
| | Jennifer Ye, Manager, General Ledger | 650-622-7890 |

# PENINSULA CORRIDOR JOINT POWERS BOARD

## STATEMENT OF REVENUE AND EXPENSE

### Fiscal Year 2020

### December 2019

**% OF YEAR ELAPSED** **50.0%**

| | | YEAR TO DATE | | | | | ANNUAL | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PRIOR ACTUAL | CURRENT ACTUAL | $ VARIANCE | % VARIANCE | CURRENT YTD as a % OF BUDGET | APPROVED BUDGET | FORECAST | $ VARIANCE | % BUDGET | |
| | **REVENUE** | | | | | | | | | | |
| | OPERATIONS: | | | | | | | | | | |
| 1 | Farebox Revenue | 51,084,660 | 53,194,550 | 2,109,890 | 4.1% | 50.2% | 106,000,000 | 109,050,000 | 3,050,000 | 2.9% | 1 |
| 2 | Parking Revenue | 2,612,660 | 2,514,161 | (98,499) | (3.8%) | 47.1% | 5,335,000 | 5,335,000 | - | 0.0% | 2 |
| 3 | Shuttles | 1,007,114 | 969,459 | (37,655) | (3.7%) | 38.7% | 2,503,200 | 2,395,314 | (107,886) | (4.3%) | 3 |
| 4 | Rental Income | 1,010,287 | 1,033,177 | 22,890 | 2.3% | 50.1% | 2,060,540 | 2,060,540 | - | 0.0% | 4 |
| 5 | Other Income | 1,305,676 | 1,866,797 | 561,121 | 43.0% | 106.5% | 1,753,450 | 2,153,450 | 400,000 | 22.8% | 5 |
| 6 | | | | | | | | | | | 6 |
| 7 | TOTAL OPERATING REVENUE | 57,020,397 | 59,578,144 | 2,557,746 | 4.5% | 50.6% | 117,652,190 | 120,994,304 | 3,342,114 | 2.8% | 7 |
| 8 | | | | | | | | | | | 8 |
| 9 | CONTRIBUTIONS: | | | | | | | | | | 9 |
| 10 | AB434 Peninsula & TA Shuttle Funding | 913,144 | 1,077,233 | 164,089 | 18.0% | 62.0% | 1,737,950 | 1,737,950 | - | 0.0% | 10 |
| 11 | Operating Grants | 3,285,303 | 2,591,111 | (694,193) | (21.1%) | 48.6% | 5,327,497 | 5,327,497 | - | 0.0% | 11 |
| 12 | JPB Member Agencies | 15,599,000 | 17,689,914 | 2,090,914 | 13.4% | 59.1% | 29,921,971 | 29,921,971 | - | 0.0% | 12 |
| 13 | Use of Reserves | - | - | - | 0.0% | 0.0% | 1,064,614 | - | (1,064,614) | (100.0%) | 13 |
| 14 | | | | | | | | | | 0.0% | 14 |
| 15 | TOTAL CONTRIBUTED REVENUE | 19,797,448 | 21,358,258 | 1,560,810 | 7.9% | 56.1% | 38,052,032 | 36,987,418 | (1,064,614) | (2.8%) | 15 |
| 16 | | | | | | | | | | | 16 |
| 17 | **GRAND TOTAL REVENUE** | **76,817,845** | **80,936,401** | **4,118,556** | 5.4% | 52.0% | **155,704,222** | **157,981,722** | **2,277,500** | 1.5% | 17 |
| 18 | | | | | | | | | | | 18 |
| 19 | | | | | | | | | | | 19 |
| 20 | **EXPENSE** | | | | | | | | | | 20 |
| 21 | | | | | | | | | | | 21 |
| 22 | OPERATING EXPENSE: | | | | | | | | | | 22 |
| 23 | Rail Operator Service | 42,189,891 | 44,178,690 | 1,988,799 | 4.7% | 48.6% | 90,817,696 | 90,817,696 | - | 0.0% | 23 |
| 24 | Positive Train Control | 20,481 | 87,956 | 67,475 | 329.5% | 3.7% | 2,400,000 | 2,400,000 | - | 0.0% | 24 |
| 25 | Security Services | 2,914,060 | 2,789,713 | (124,347) | (4.3%) | 42.6% | 6,544,183 | 6,544,183 | - | 0.0% | 25 |
| 26 | Shuttles Services | 2,145,704 | 2,144,237 | (1,468) | (.1%) | 40.5% | 5,290,100 | 5,061,300 | (228,800) | (4.3%) | 26 |
| 27 | Fuel and Lubricants | 5,668,416 | 5,482,160 | (186,256) | (3.3%) | 49.8% | 11,003,417 | 11,003,417 | - | 0.0% | 27 |
| 28 | Timetables and Tickets | 6,078 | 36,227 | 30,149 | 496.0% | 25.2% | 143,500 | 143,500 | - | 0.0% | 28 |
| 29 | Insurance | 2,107,508 | 2,168,673 | 61,165 | 2.9% | 48.1% | 4,506,064 | 4,506,064 | - | 0.0% | 29 |
| 30 | Claims, Payments, and Reserves | 317,513 | (131,694) | (449,207) | (141.5%) | (13.8%) | 951,794 | 951,794 | - | 0.0% | 30 |
| 31 | Facilities and Equipment Maint | 1,121,807 | 1,103,524 | (18,283) | (1.6%) | 33.0% | 3,339,391 | 3,228,522 | (110,869) | (3.3%) | 31 |
| 32 | Utilities | 990,913 | 987,598 | (3,315) | (.3%) | 46.9% | 2,105,422 | 2,105,422 | - | 0.0% | 32 |
| 33 | Maint & Services-Bldg & Other | 626,661 | 635,141 | 8,480 | 1.4% | 40.5% | 1,567,930 | 1,567,930 | - | 0.0% | 33 |
| 34 | | | | | | | | | | | 34 |
| 35 | TOTAL OPERATING EXPENSE | **58,109,032** | **59,482,224** | **1,373,192** | 2.4% | 46.2% | **128,669,496** | **128,329,828** | **(339,669)** | (.3%) | 35 |
| 36 | | | | | | | | | | | 36 |
| 37 | ADMINISTRATIVE EXPENSE | | | | | | | | | | 37 |
| 38 | Wages and Benefits | 5,615,094 | 6,391,316 | 776,222 | 13.8% | 53.0% | 12,066,711 | 12,066,711 | - | 0.0% | 38 |
| 39 | Managing Agency Admin OH Cost | 3,428,414 | 2,050,435 | (1,377,978) | (40.2%) | 40.2% | 5,098,065 | 5,098,065 | - | 0.0% | 39 |
| 40 | Board of Directors | 5,170 | 7,064 | 1,895 | 36.7% | 48.4% | 14,600 | 14,600 | - | 0.0% | 40 |
| 41 | Professional Services | 1,212,627 | 1,680,307 | 467,680 | 38.6% | 39.3% | 4,275,583 | 4,050,583 | (225,000) | (5.3%) | 41 |
| 42 | Communications and Marketing | 118,955 | 153,707 | 34,752 | 29.2% | 51.0% | 301,500 | 301,500 | - | 0.0% | 42 |
| 43 | Other Office Expenses and Services | 1,055,240 | 1,055,841 | 600 | 0.1% | 40.0% | 2,638,494 | 2,625,494 | (13,000) | (.5%) | 43 |
| 44 | | | | | | | | | | | 44 |
| 45 | TOTAL ADMINISTRATIVE EXPENSE | **11,435,500** | **11,338,671** | **(96,829)** | (.8%) | 46.5% | **24,394,953** | **24,156,953** | **(238,000)** | (1.0%) | 45 |
| 46 | | | | | | | | | | | 46 |
| 47 | Long Term Debt Expense | 735,007 | 1,382,042 | 647,035 | 88.0% | 52.4% | 2,639,773 | 2,639,773 | - | 0.0% | 47 |
| 48 | | | | | | | | | | | 48 |
| 49 | **GRAND TOTAL EXPENSE** | **70,279,539** | **72,202,937.12** | **1,923,398** | 2.7% | 46.4% | **155,704,222** | **155,126,554** | **(577,669)** | (.4%) | 49 |
| 50 | | | | | | | | | | | 50 |
| 51 | **NET SURPLUS / (DEFICIT)** | **6,538,306** | **8,733,464** | **2,195,158** | 33.6% | | **(0)** | **2,855,168** | **2,855,169** | | 51 |

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**PENINSULA CORRIDOR JOINT POWERS BOARD**

**INVESTMENT PORTFOLIO**

**AS OF DECEMBER 31, 2019**

| TYPE OF SECURITY | | MATURITY DATE | INTEREST RATE | PURCHASE PRICE | MARKET RATE |
|---|---|---|---|---|---|
| Local Agency Investment Fund (Unrestricted) | * | Liquid Cash | 2.043% | 40 | 40 |
| County Pool (Restricted) | | Liquid Cash | 1.780% | 620,702 | 620,702 |
| Other (Unrestricted) | | Liquid Cash | 0.000% | 80,566,181 | 80,566,181 |
| Other (Restricted) | ** | Liquid Cash | 0.200% | 25,272,570 | 25,272,570 |
| | | | | $ 106,459,492 | $ 106,459,492 |

| | |
|---|---|
| Interest Earnings for December 19 | $ 13,720.10 |
| Cumulative Earnings FY2020 | $ 158,653.14 |

* The market value of Local Agency Investment Fund (LAIF) is calculated annually and is derived from the fair value factor as reported by LAIF for quarter ending June 30th each year.

** Prepaid Grant funds for Homeland Security, PTMISEA and LCTOP projects, and funds reserved for debt repayment.
The Portfolio and this Investment Report comply with the Investment Policy and the provisions of SB 564 (1995).
The Joint Powers Board has the ability to meet its expenditure requirements for the next six months.

**AGENDA ITEM # 4(e)**
**FEBRUARY 6, 2020**

**PENINSULA CORRIDOR JOINT POWERS BOARD**
**STAFF REPORT**

TO: Joint Powers Board

THROUGH: Jim Hartnett
Executive Director

FROM: Derek Hansel
Chief Financial Officer

SUBJECT: **AUTHORIZE AN AMENDMENT TO THE CONTRACT WITH EIDE BAILLY, LLP FOR FINANCIAL AUDIT SERVICES**

## ACTION

Staff Coordinating Council recommends the Board:

1. Approve an amendment to the contract with the Eide Bailly, LLP (Eide Bailly) to extend the contract term for two years through May 31, 2022 for provision of financial audit services; and increase the firm-fixed price by $141,263 from $329,720 to $470,983.

2. Authorize the Executive Director, or designee, to execute a contract amendment with Eide Bailly in a form approved by legal counsel.

## SIGNIFICANCE

Approval of the above actions will ensure continuation of professional, independent financial audit services as required by the Joint Powers Agreement, the United States Office of Management and Budget, and the Federal Transit Administration.

## BUDGET IMPACT

Funding for financial audit services will be available under approved and projected operating budgets.

## BACKGROUND

In May 2015, Board Resolution No. 2015-24 authorized award of a five-year contract with Vavrinek, Trine, Day & Co., LLP (VTD) to provide financial audit services for a firm-fixed price of $329,720, and supplemental annual audit services for not to exceed a total amount of $200,000. The contract will expire on May 31, 2020.

VTD was merged effective July 22, 2019 with Eide Bailly. The Peninsula Corridor Joint Powers Board (JPB) and Eide Bailly executed a Consent to Assignment and Assumption of Services Agreement, and a first amendment to the Agreement to change the consultant's name.

Staff has determined that a two-year extension of the existing contract will allow time for the Finance division to further assess and streamline accounting processes and internal controls while leveraging the current team of auditors' familiarity and experience with the JPB's accounting and financial reporting processes. An increase of $141,263 from $329,720 to $470,983, in the firm-fixed price, is therefore needed to complete audit services for fiscal years 2020 and 2021.

The performance of Eide Bailly to date has been satisfactory and in accordance with the requirements of the contract. Staff intends to conduct a competitive procurement of audit services, requiring at a minimum, rotation of audit consultant, for services beginning with the fiscal year 2022 audit.

| | |
|---|---|
| Project Manager: Grace Martinez, Director, Accounting | 650.508.6274 |
| Contract Administrator: Shruti Ladani | 650.622.7857 |

**RESOLUTION NO. 2020- ____**

**BOARD OF DIRECTORS, PENINSULA CORRIDOR JOINT POWERS BOARD**
**STATE OF CALIFORNIA**

*** * ***

**AUTHORIZING AN AMENDMENT TO THE CONTRACT WITH EIDE BAILLY, LLP FOR FINANCIAL AUDIT SERVICES TO EXTEND THE CONTRACT TERM FOR TWO YEARS AND INCREASE THE TOTAL CONTRACT AMOUNT BY $141,263**

**WHEREAS**, pursuant to Resolution No. 2015-24, the Board of Directors (Board) of the Peninsula Corridor Joint Powers Board (JPB) awarded a contract for financial audit services to Vavrinek, Trine, Day & Co., LLP (VTD) for a five-year term for a firm-fixed price of $329,720, and supplemental annual audit services for a total not to exceed amount of $200,000, which is set to expire on May 31, 2020;

**WHEREAS,** VTD was merged effective July 22, 2019 with Eide Bailly, LLP (Eide Bailly), and the parties executed a first amendment to the Agreement to change the consultant to Eide Bailly; and

**WHEREAS**, Staff has determined that a two-year extension of the existing contract will allow time for the Finance division to further assess and streamline accounting processes and internal controls while leveraging the current team of auditors' familiarity and experience with the JPB's accounting and financial reporting processes; and

**WHEREAS**, the Executive Director recommends, and the Staff Coordinating Council concurs, that the Board authorize an amendment to the contract with Eide Bailly to extend the contract term from May 31, 2020 to May 31, 2022, and increase the firm-fixed price by $141,263 from $329,720 to $470,983.

**NOW, THEREFORE, BE IT RESOLVED** the Board of Directors (Board) of the

Peninsula Corridor Joint Powers Board authorizes the Executive Director, or his designee, to execute an amendment to the contract with Eide Bailly, in a form approved by legal counsel, to extend the contract term from May 31, 2020 to May 31, 2022, and increase the firm-fixed price by $141,263 from $329,720 to $470,983.

Regularly passed and adopted this 6th day of February, 2020 by the following vote:

AYES:

NOES:

ABSENT:

_____

Chair, Peninsula Corridor Joint Powers Board

ATTEST:

_____

JPB Secretary

**AGENDA ITEM #4(f)**
**FEBRUARY 6, 2020**

**PENINSULA CORRIDOR JOINT POWERS BOARD**
**STAFF REPORT**

TO: Joint Powers Board

THROUGH: Jim Hartnett
Executive Director

FROM: Michelle Bouchard
Chief Operating Officer, Rail

SUBJECT: **ACCEPTANCE OF DECISION 3 OF THE CONCEPT LAYOUT FOR FURTHER DEVELOPMENT AS RECOMMENDED BY THE DIRIDON INTEGRATED STATION CONCEPT PLAN**

## ACTION

Staff Coordinating Council recommends the Board receive the attached San Jose City Council Study Session memo and accept Decision 3 (utilizing existing track approaches into Diridon Station rather than a viaduct along Interstate 280/State Route 87) of the Concept Layout as recommended by the Diridon Integrated Station Concept Plan (Plan), pending approval by the San Jose City Council.

## SIGNIFICANCE

Since September 2018 Caltrain staff have been engaged in co-creating the Plan, which has developed a vision for the future of San Jose Diridon Station in partnership with the Santa Clara Valley Transportation Authority (VTA), the California High Speed Rail Authority (CAHSR) and the City of San Jose (City) (together, the "Partners").

The Plan was developed with the assistance Arcadis/Benthem Crouwel (ABC), a consultant team solicited and managed by the Partners. ABC was tasked with developing three spatial layouts for a future Diridon Station. Spatial layouts were made up of "big moves" including the vertical configuration of the tracks, the location of the station platforms and concourse in addition to the rail alignment to the north and south of the station.

The three spatial layouts and big moves were as follows:

- **San Fernando Street** – At-grade station on San Fernando Street, which is most similar to today's station layout. It utilizes the existing northern and southern track alignment.
- **Santa Clara Street** – Elevated station on Santa Clara Street, which locates the station closer to BART, introduces an optimized northern track alignment and presents the opportunity to relocate the Caltrain Central Equipment and

Maintenance Facility (CEMOF). This layout also provides an option to operate some rail service over a new southern rail alignment on a viaduct over Interstate 280/State Route 87.
- **Stover Street** – Elevated station on Stover Street (between San Fernando Street and Santa Clara Street), which locates the station closer to BART, introduces an optimized northern track alignment and presents the opportunity to relocate CEMOF.

Aside from big moves, the spatial layouts were also made up from a "kit of parts" as they include a variety of station facilities and elements that facilitate access to and from the station and integration with the surrounding community and private development. Such elements include pedestrian, bike, local bus, intercity bus, light rail, taxi/transit network company, private vehicle and parking access.

ABC and the Partners took a "transit first" or "design from the tracks out" approach where rail infrastructure needs were established first to ensure sufficient space was set aside to accommodate future rail service as rail infrastructure is a less flexible, long-lasting and significant investment. ABC coordinated with the Business Plan team to ensure the spatial layouts were reflective of the adopted service vision.

Over the summer, ABC and the Partners weighed tradeoffs and benefits of the three spatial layouts and developed a fourth optimized layout with a combination of favored elements. The optimized layout is responsive to community feedback and attempts to preserve as much adjacent property as possible for development:

- **Elevated Dual Concourse** – Elevated station with platforms south of San Carlos Street and concourses located at Santa Clara Street (to connect with BART) and San Fernando Street. The layout utilizes the existing rail alignment to the north and could utilize either the existing alignment or Interstate 280/State Route 87 alignment to the south. The relocation of CEMOF would be necessary.

After the completion of additional technical work and outreach in the fall, the Partners recommended discontinuing the examination of the Interstate 280/State Route 87 alignment option. It was determined that the viaduct would spread impacts to additional communities while only partially reducing rail traffic on the existing southern corridor. The Partners believe that community concerns relating to safety, noise, vibration, and visual impacts, among others, would be better addressed through tangible improvements to the existing southern corridor.

Thus, the Partners recommended further studying the optimized layout with the use of the existing southern corridor, and officially dubbed this layout the recommended Concept Layout.

In December 2019, Caltrain and City staff looked to their respective Board and Council and received concurrence on the following big moves of the Concept Layout:

- **Decision #1**: Elevated Station Platforms
- **Decision #2**: Station Entrances at Santa Clara Street and San Fernando Street

The decision regarding the following big move was postponed until a San Jose City Council study session could be held on the topic on January 28, 2020 to further discuss the related analysis and findings:

- **Decision #3**: Existing Track Approaches into the Future Station

The decision to utilize the existing track approaches rather than pursue a viaduct along the Interstate 280/State Route 87 alignment returns to the JPB pending San Jose City Council's study session and potential support of Decision 3.

If Decision 3 is approved, the next step to advance the Concept Layout is to continue planning, analysis of rail operations, and conceptual design work on the rail corridor and station facilities. Over the next year, a critical planning focus will be on studying the best options to organize the Partner Agencies and technical expert teams, building a viable financial plan, developing environmental strategies, and designing an implementation path to build and govern the future station. The design and implementation strategy work will be conducted in close coordination with interdependent project efforts happening around the station area.

The Partner Agencies continue to be committed to the partnership set forth by the Cooperative Agreement. The Partners have agreed to jointly contribute and pursue funding for the next phase of study.

**BUDGET IMPACT**

There is no impact on the budget.

**BACKGROUND**

San Jose Diridon Station is a major transit hub located within downtown San Jose, the nation's 10th largest city. It is a historic train depot with not only Caltrain service, but also train service provided by Amtrak, Capitol Corridor Joint Powers Authority (CCJPA), and Altamont Commuter Express (ACE), as well as VTA light rail and bus service. The JPB owns the historic station depot, the Caltrain parking lots, the bus loop area, and the tracks and platforms. As the landowner, the JPB has a vested stake in the planning process not just for potential shaping of the Station itself, but also as it relates to development in the surrounding area.

With the planned addition of Bay Area Rapid Transit (BART) and California High Speed Rail service at the Station, as well as expanded Caltrain, ACE, Capitol Corridor and Amtrak service, the Station is expected to become one of the busiest intermodal stations in North America. To effectively accommodate such planned activity and future capacity needs, the Station must be reconfigured in an integrated fashion that connects all transit services with each other and with the surrounding urban environment.

Private development of the surrounding area in conjunction with the City of San Jose is accelerating, providing opportunities to fully integrate development with the Station itself. In recent months, Google has publically revealed concepts for development near the Station.

By the Partners working together to prepare the Plan, they hope to maximize funding to implement the Plan and deliver a world-class destination and transportation hub that provides seamless customer experience for movement between transit modes within the Station and into the surrounding neighborhoods and Downtown.

Prepared by: Melissa Reggiardo, Manager, Caltrain Planning 650.508.6283



XXXXX

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

# Memorandum

**TO:** HONORABLE MAYOR AND CITY COUNCIL

**FROM:** John Ristow

**SUBJECT: DIRIDON INTEGRATED STATION CONCEPT PLAN – RAIL ALIGNMENT**

**DATE:** January 17, 2020

Approved Date

**COUNCIL DISTRICTS: 3 & 6**

## OUTCOME

Improved understanding of the rail alignment options associated with an expanded and redesigned San José Diridon Station (Diridon Station).

## BACKGROUND

When BART, commuter rail, high-speed rail, light rail, and supporting bus services converge, Diridon Station will support more high-capacity transit connections than any other place in the Bay Area. In order to plan for the substantial growth of Diridon Station, the City of San José, the Peninsula Corridor Joint Powers Board (PCJPB), Santa Clara Valley Transportation Authority (VTA), and the California High-Speed Rail Authority (CHSRA) (the "Partner Agencies") formed a public agency partnership via a Cooperative Agreement in July 2018.

The Partner Agencies have been working together with a consultant team led by Arcadis Design & Consultancy and Benthem Crouwel Architects ("Team ABC") since September 2018 to develop a spatial vision for a new and expanded station. The Layout Development Report completed by the Partner Agencies and Team ABC is included in the December 3, 2019 agenda packet to the City Council.

After considerable evaluation and interaction with the community, Team ABC and the Partner Agencies developed a fourth spatial layout (the "Concept Layout") that optimizes transit and passenger needs, while supporting future development potential and balancing city and neighborhood impacts. The project staff of the four Partner Agencies jointly authored a memo in December 2019 that put forward three decisions related to the Concept Layout for consideration by the Mayor and City Council. This included the following:

- **Decision #1: Elevated Station Platforms.** Elevating the tracks and platforms will allow for street-level east/west connections through the station area, knit together neighborhoods on either side of the tracks, and facilitate connections for people walking,

bicycling, and driving.

- **Decision #2: Station Entrances at Santa Clara Street and San Fernando Street.** The Partner Agencies recommend two main concourses with four station entrances. One concourse is oriented toward Santa Clara Street and will be close to BART, light rail, bus, and other connecting modes to allow for quick transfers. The other concourse will be located near San Fernando Street and allow for easy connections to the bike network, creeks, existing neighborhoods, and future office and housing development.

- **Decision #3: Existing Track Approaches into the Future Station.** The Partner Agencies recommend maintaining track approaches that generally stay within the existing northern and southern corridors in order to leverage existing rail infrastructure, minimize overall community impact, and minimize the need to acquire significant land.

**Previous Action and Direction**

The San José City Council and Caltrain Board of Directors (JPB) accepted the first two staff-recommended decisions in December 2019. The San José City Council deferred weighing in on Decision #3 and scheduled a study session on January 28, 2020 to better understand the possible track approaches into the future station. The VTA Board of Directors received the plan update as an information item on their Consent Agenda, and CHSRA Board of Directors elected to defer making decisions on all three items until after City Council consideration. The study session will specifically assess the different track approaches to the south of the station and the relative benefits and tradeoffs of having trains run in the existing corridor as recommended by the staff of the Partner Agencies or on a viaduct structure over the I-280/SR-87 freeway interchange.

In their November 27 memorandum to City Council, Mayor Liccardo and Councilmembers Davis and Peralez asked staff to further investigate the following items during the January 28 study session:

1. What are the infrastructure requirements for the northern and southern corridor flyovers? What environmental concerns might these generate?
2. What are the property impacts of an I-280/SR-87 viaduct, both north and south of the Diridon Station, including impacts to future transit-oriented housing development?
3. What are the impacts of a viaduct to the Tamien Station, planned transit-oriented development in Tamien, and surrounding amenities like Tamien Park?
4. Is it possible to shift Caltrain, High-Speed Rail, and other heavy rail operators onto a viaduct?
5. From a track design perspective, the Union Pacific Railroad (UPRR) requires that freight tracks not exceed a one percent grade. Can the Partner Agencies request a variance that would support UPRR service on a viaduct? What is UPRR's response?
6. What are the potential visual impacts of the viaduct option?
7. What can the community anticipate in terms of the number of tracks and trains to support the Caltrain Service Vision, and High-Speed Rail service, in the Gardner/Gregory/North

Willow Glen neighborhoods? What potential corridor and track treatments and best practices are being considered for the existing corridor at this time?
8. What are the likely impacts to Fuller Park in the existing corridor scenario? What are the likely property impacts in the Gardner/Gregory/North Willow Glen neighborhoods?
9. What specific commitments can the City and the Diridon Integrated Station Concept Plan (DISC) Partner Agencies make to the surrounding community regarding mitigations of noise, vibration, visual impact, air quality, and safety?

Additionally, during the December 3 City Council meeting, the Mayor and Councilmembers asked for additional information on the following items to be presented in the study session:

1. What is the relative effectiveness of different techniques to mitigate noise and vibration impacts of train travel such as rubber bearings and track slabs?
2. What are the maintenance considerations for each of these techniques?
3. What are the impacts of each alternative track approach on different types of development, whether housing, office, open space, or other?
4. What land is made permanently undevelopable, and what land is undevelopable until reconstruction of the station and related track infrastructure is complete?
5. What are the environmental considerations associated with each track approach, particularly on the Los Gatos Creek, the Guadalupe River, and the trails that line these waterways?
6. What are order-of-magnitude cost differences for each track approach?

This memorandum has been prepared for the January 28, 2020 Study Session to more thoroughly explain Decision #3 and respond to related additional requests for information.

## ANALYSIS

To facilitate the decision-making process for the track approaches (Decision #3), the Partner Agencies have prepared detailed information on the following topics. The memorandum is organized as follows:

A. Potential Long-term Train Volumes & Track Needs (Diridon Station to Tamien Station)
B. I-280/SR-87 Viaduct Alignment & Options
C. Existing Southern Corridor Alignment
D. Noise & Vibration
E. Property & Development Opportunity Sites
F. Capital Cost Comparison
G. Alignment Option Comparison

The memo will present and discuss two distinct alignments for the southern rail corridor, and multiple options within those alignments. These include all trains on a four-track viaduct, two tracks through the existing alignment and two tracks on a viaduct, and a four-track option

through the existing alignment. Although there will be additional analysis in future phases of work to determine whether three or four tracks would be necessary if the existing corridor was used, this analysis compares a four-track option because the impacts of a three-track option would only reduce the critical impacts evaluated here.

The design decisions made at the station influence the track approaches into and out of the station and vice versa. Depending on the choice of heavy rail corridor alignment, the impacts could span as far north as the Caltrain Centralized Equipment Maintenance and Operations Facility (CEMOF) and as far south as Communications Hill, shown in Figure 1.

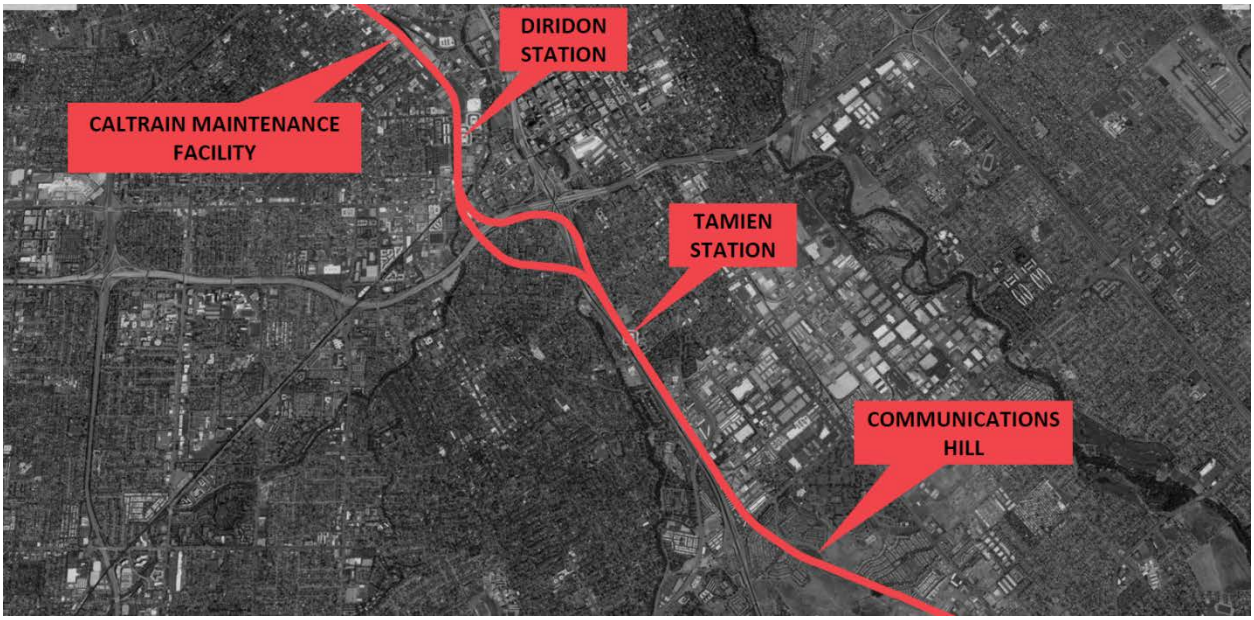


*Figure 1 – Approximate Project Study Boundaries*

## A. Long-Term Train Volumes and Track Needs

Currently, five passenger and freight rail operators utilize the corridor within the above-mentioned scope boundaries. These operators are Caltrain, the Altamont Corridor Express (ACE), Capitol Corridor (CC), Amtrak, and Union Pacific Railroad (UPRR). In the future, the California High-Speed Rail Authority (CHSRA) is expected to begin service on the corridor, for a total of six anticipated operators.

Caltrain owns and manages the overall rail corridor running through Diridon Station and south to Tamien Station. However, UPRR owns a single track (Main Track 1) within this larger corridor. South of Tamien Station, the UPRR owns and manages the entire corridor. Various “trackage rights” agreements govern the use of the corridor and its tracks by individual operators. These agreements specify the rights of individual rail operators to operate different levels of service. They also detail the responsibility of the infrastructure owner (either Caltrain or UPRR) to dispatch and maintain the railroad for collective use.

Today, on a typical weekday, approximately 52 trains travel between Diridon and Tamien Stations (the daily number of freight trains varies). Train volumes south of Diridon today are shown in Table 1. They are significantly lower than potential future volumes for two reasons. First, CHSRA trains are not yet operating between Gilroy and San José and Caltrain's current service volumes in the same corridor are limited by the existing infrastructure, funding availability and current, restrictive, trackage agreements with UPRR.

Second, Diridon Station is not currently a "through running" station – meaning that most trains using the station (including the majority of Caltrain trains and all CC trains) "turn" in the station (trains come into the station from the north, stop at Diridon Station and then return back northward.) Today, UPRR freight trains, Amtrak, ACE and a subset of Caltrain trains run "through" Diridon to Tamien and points further south before "turning" and heading north – these trains make up the 52 cited in Table 1. Turning trains at the station takes up space that could otherwise be utilized by through-running trains operating from Gilroy to San Francisco, which allows for increased service capacity south of Diridon Station. In addition, this increased capacity at Diridon Station can be accomplished without significantly increasing the overall footprint of the station and tracks.

*Table 1 – Typical Train Volumes Today (2020)*

| **Operator** | **Typical Weekday Train Volume** |
|---|---|
| Caltrain | 34 |
| ACE | 8 |
| Capitol Corridor | 0 |
| Union Pacific | Up to 8 |
| Amtrak | 2 |
| **Total** | **Up to 52** |

## Future Service Levels

Caltrain, CHSRA, ACE and CC have all adopted operator-specific, long range business plans or vision documents that describe their individual aspirations to grow rail service over the medium and long-term (some at a 50+ year horizon). When summed together, the individual long-range plans of each operator result in the daily train volumes shown in Table 2.

In the period after 2040, the collective train volumes contemplated by each operator could result in daily train volumes on the portion of corridor between Diridon and Tamien stations of up to 480 passenger trains per day (UPRR currently runs up to 8 trains daily; future growth or decline is unknown and not reflected in future totals). Caltrain's adopted service vision aims to achieve robust service through and to south San José, with a goal of up to 268 trains per day. The ACE Forward Plan has a defined goal of up to 20 daily trains and CC's Vision Plan specifies a goal of up to 30 daily trains. UPRR freight service has been variable in recent years and the long term trend is unclear. It is expected that Amtrak will maintain current service levels of two trains per

day. Finally, per CHSRA's 2018 Business Plan, CHSRA expects to run up to 160 trains each day at full buildout of the statewide system.

These potential future train volumes should be caveated:

1. First, plans have been developed individually and independently by each operator and have not yet been fully harmonized with each other. The 2018 State Rail Plan began this process of harmonization and further coordination of individual operator plans will occur over the coming year and ultimately through the development of the next State Rail Plan.
2. Similarly, the plans from which these potential train volumes are derived are aspirational, and their achievement is contingent on major, multi-decades-long investments in rail infrastructure around the region and the state. Their implementation will be incremental and will occur gradually over many years.

As suggested above, rail service on the corridor will increase gradually, rather than all at once. For illustrative purposes, the Partner Agencies have also estimated the potential interim service levels for a 2030 horizon year, also listed in Table 2.

*Table 2 – Estimated Interim (2030) and Long-Range Train Volumes*

| **Operator** | **Example Interim Train Volume (2030)** | **Long-Range Service Goal (2040+)** |
|---|---|---|
| Caltrain | 116 to 166 | 268 (Adopted Service Vision) |
| ACE | 20 | 20 (ACE Forward, non-electric service) |
| Capitol Corridor | 30 | 30 (CC Vision Plan, non-electric service) |
| Union Pacific | Unknown | Unknown |
| Amtrak | 2 | 2 |
| High-Speed Rail | 44 | 160 (2018 Business Plan) |
| **Total** | **212 to 262** | **480*** |

**Note: UPRR currently runs up to 8 trains daily; future growth or decline is unknown and not reflected in future totals.*

## Infrastructure Needs

The Partner Agencies have determined that no more than four tracks would be necessary and feasible along the existing southern corridor adjacent to the Gregory, Gardner, and North Willow Glen neighborhoods. Of these four tracks, there is a need for both electrified and non-electrified (diesel) tracks. For Caltrain and CHSRA to operate at both their interim and long-range service levels, two electrified tracks would be required. Determining whether diesel operators (ACE, CC, Amtrak, and UPRR) would require one or two non-electrified tracks depends on the following factors:

1. Further refinement of both the overall number of future trains planned as well as the details of schedules and service patterns;

2. The details of ongoing and future negotiations with the UPRR regarding the extent to which diesel passenger and freight services may share tracks; and
3. The long-term potential for ACE or CC to electrify their service or adopt performance-equivalent rolling stock that might allow them to utilize the electrified tracks.

The potential future train volumes suggest that the corridor will look and feel significantly different from today; as such, the corridor will need to be redeveloped to ensure that community concerns and issues are appropriately addressed and ensure that conditions for residents are as good as or better than today. Through the Concept Plan, the Partner Agencies aim to grade separate the existing at-grade crossings in the corridor through these neighborhoods with various treatments to comprehensively address noise, vibration, and visual concerns. This responds to both the projected train volumes and the potential need for four tracks in the segment of the corridor between Diridon and Tamien stations.

## B. I-280/SR-87 Viaduct Alignment & Options

In public meetings relating to the Concept Plan, community members and elected officials expressed interest in re-routing some or all train traffic onto a new, estimated three-mile long viaduct structure that would follow Interstate 280 (I-280) and State Route 87 (SR-87). The intent of this proposal is to divert train traffic away from the existing corridor and to reduce or eliminate the negative impacts of this train traffic on the Gregory, Gardner, and North Willow Glen neighborhoods—the neighborhoods along the current rail alignment.

The Partner Agencies analyzed the potential for a viaduct, considering the best possible alignment for this phase of the project and the necessary infrastructure to support it. This includes a viaduct that is operationally viable as well as compatible within the community. The analysis focused on the following topics:

1. The viaduct alignment south out of the station;
2. The need and placement for a flyover, which facilitates a separation between electrified and non-electrified (diesel) tracks necessary for electrified service to run along the viaduct; and
3. The feasibility of accommodating additional or all trains on the viaduct and the resulting impact on the infrastructure and service.

### Viaduct Alignment

In recent years, both the City and CHSRA have developed options for a potential viaduct along the southern rail corridor. CHSRA spent close to a decade evaluating a viaduct option that fully avoided the Gardner community, which is shown in blue on Figure 2. In 2018, the City conceptually developed an additional viaduct option that aimed to minimize property impacts south of the station. This option, shown in green on Figure 2, is the southern-most viaduct alignment. The Partner Agencies asked Team ABC to analyze the operational effects of these

two alignments and to devise a viaduct option that achieves acceptable train speeds and reliability while minimizing impacts to existing properties and future transit-oriented development. The Concept Layout attaches the viaduct to an elevated, redeveloped station, a distinct difference from the CHSRA work. The result is an optimized alignment that is located between the other proposed alignments, shown in pink on Figure 2.

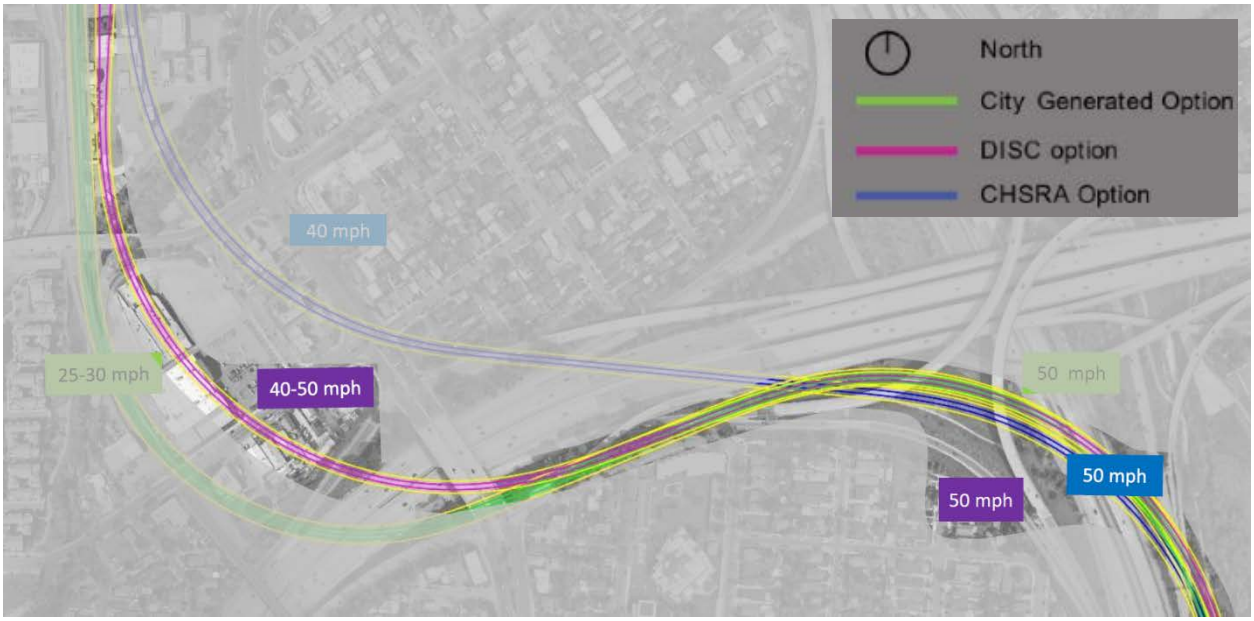


*Figure 2 – Partner Agencies' Optimized Viaduct Alignment*

## Explore All Trains on Viaducts

The Partner Agencies also received a request from both the Diridon Station Joint Policy Advisory Board (JPAB) and the City Council to investigate the possibility of routing all trains (diesel and electrified) on the I-280 viaduct in an effort to altogether remove the tracks within the existing southern rail corridor and thereby eliminate the negative impacts of the rail corridor on surrounding neighborhoods. The Partner Agencies and Team ABC analyzed the feasibility of this arrangement with the Concept Layout design and to Tamien Station.

To accommodate all trains – both electrified and diesel – would require four tracks on two distinct viaducts structures (two tracks on each viaduct). Two viaducts would be necessary because constructing a single viaduct large enough to accommodate all train traffic would require much larger footings that would be difficult to engineer and place. The viaducts are substantial pieces of infrastructure, approximately 45 to 50 feet wide each and built roughly 40 to 50 feet above ground. The doubling of the viaduct footprint to accommodate all trains would result in increased property, environmental, and visual impacts, as well as increased maintenance needs as compared to a single two-track viaduct. In addition, the engineers working for the

Partner Agencies are concerned about the feasibility of a dual viaduct construction since given the difficulty in placing proper footings around I-280, SR-87, and the Guadalupe River.


*Figure 3 – Four-Track Viaduct Rendering*

### *Viaduct Grade Challenges for Union Pacific Railroad*

Placing all trains on the I-280 viaduct would require the freight tracks to exceed UPRR's one percent grade design standard. UPRR will not use new infrastructure that is designed with more than a one percent grade due to the limitations that steeper grades would place on freight operations when hauling large loads. Moving UPRR service off of the existing rail corridor (where they own Main Track 1 north of Tamien Station and own and maintain the entire corridor south of Tamien Station) and onto a viaduct would require their concurrence, which is unlikely to be received if their design standards are not followed. Design compensation for the horizontal curve would result in a grade equivalent to 1.4 or 1.5 percent. The limited distance within the critical section of the alignment – between the Warm Springs rail corridor and the I-280/SR-87 interchange – is insufficient to accommodate a grade change of one percent or less.

The Partner Agencies reached out to representatives with the UPRR regarding the idea of all trains being routed on a rail viaduct. The UPRR response primarily focused on the following concerns:

1. Overall effect on the UPRR operations.
2. Design standards, which affect rail operations, safety and have cost considerations.
3. Commercial implications to the UPRR's overall operation in California and nationally.
4. Real estate agreements and considerations including trackage rights and property arrangements given that the UPRR owns Main Track 1 on the existing corridor.

The UPRR would require extensive analysis on these topics. This analysis would likely yield outcomes that conflict with UPRR standards. This could cause the UPRR to not agree to the proposal or only agree to it with substantial design, schedule, or financial considerations that may be at odds with the delivery of the overall Diridon Station program.

Again, for this arrangement to be feasible, UPRR would need to make an exception to their one percent grade design standard. This would pose enormous risks to the design, approval, and implementation of the entire rail program, and would be dependent on the concurrence of a third-party with little incentive to cooperate with the Partner Agencies.

**Conclusion:** *Given all these concerns and considerations, the Partner Agencies have concluded that placing all trains on the I-280 viaduct is a fatally flawed design option. Other potential alignment options are discussed in the following sections.*

## All Passenger Trains on Viaducts

Placing all passenger trains – both electrified and diesel, including Caltrain, CHSRA, ACE, CC, and Amtrak – on a new viaduct would also require the construction of a total of four tracks on two distinct viaduct structures (two tracks on each viaduct), even with UPRR remaining on the existing corridor. This would provide two tracks for the electrified services and up to two tracks for the diesel passenger rail. This is because it is most practical to construct the full width needed for future service levels at once. This option would also require a flyover north of Diridon Station and could require adjustments to the platform configuration at the station. It also could mean that there would be little to no mitigation within the existing corridor for the remaining freight train impacts, with all future growth and investment dedicated to the viaduct structures.

Given the potential impacts associated with the viaduct structure and the fact that freight trains would continue service on the existing southern corridor, the Partner Agencies have not further investigated this option.

## Electrified Trains Only on a Viaduct Require a "Flyover"

For the southern rail corridor to utilize an I-280 viaduct, a "flyover" either directly north or south of Diridon Station would be required. The purpose of a flyover is to ensure the reliability, capacity, and efficiency of rail operations by removing at grade conflicts between trains needing to cross from one side of tracks to the other. Electrified trains would need to cross diesel services to get to the east side of the station to utilize the viaduct.

Between W. Santa Clara St. and the area just south of Tamien Station, the track organization for the Concept Layout includes an electrified corridor on the west side and a non-electrified corridor on the east side. This is because most diesel service comes from the east and continues to the east, with only the low-volume Vasona Branch on the west. Electrified and non-electrified service cannot operate on the same tracks because of the high volume of electrified services, creating a need for separate tracks for diesel freight and electrified service. The volume of trains

on each corridor will be such that crossing the corridors at grade would significantly disrupt operations for all services. As such, a flyover would be required if the corridors must switch sides (as would be the case if an I-280 viaduct was used).

### *Southern Flyover*

A flyover south of Diridon Station could accommodate all or most electrified service, as electrified trains can travel at much steeper grades than diesel trains. This arrangement is illustrated on Figure 4. From the elevated tracks (approximately 25-30 feet) at the station, the electrified tracks would ascend to approximately 60-70 feet, whereas the non-electrified tracks must descend to grade. The non-electrified tracks must descend quickly to return back to grade by the start of the Vasona Branch in the southwest.

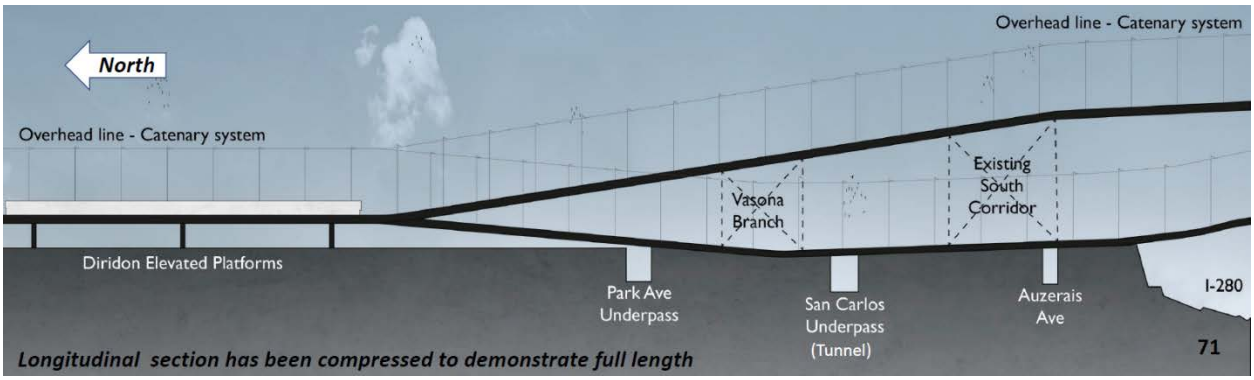


*Figure 4 – Longitudinal Section of Southern Flyover*

The southern flyover creates a "wall" of infrastructure that presents both functional and visual barriers to east-west connectivity – impeding a key objective of the Concept Plan, which is to better connect neighborhoods on both sides of the tracks. This concerns W. San Carlos St. and Auzerais Ave.; Park Ave. is also affected but is already an underpass currently. W. San Carlos St. and Auzerais Ave. would need to be reconstructed below grade via an underpass and/or roadway tunnel. These roadway tunnels would span an approximate distance of 1,000 feet, roughly located between McEvoy St. west of Diridon Station and S. Montgomery St. toward Downtown. These roadway tunnels would need to clear not only the rail corridor, but also Los Gatos Creek. Figure 5 illustrates an underpass/roadway tunnel cross section at W. San Carlos St.


*Figure 5 – Rendering of a Roadway Tunnel at W San Carlos St.*

In evaluating the option of a southern flyover, the Partner Agencies have identified and analyzed the following challenges and tradeoffs:

1. Added roadway underpass and/or roadway tunnel infrastructure given the intersection of rail, streets, trails, and the creek, which creates a "spaghetti-like" web of infrastructure;
2. Degraded access and connectivity for motorized and non-motorized travel between and to neighborhoods in the east and west (i.e., driveway access, street parking, etc.);
3. Compromised urban conditions due to a roadway tunnel and/or underpass (i.e., poor lighting, poor lines of sight, as illustrated in Figure 6);
4. Ongoing burden of maintaining the proposed roadway tunnels, including from flooding;
5. Difficulty in obtaining environmental clearance and necessary permits.

*Figure 6 – Posey Street Tube, Oakland to Alameda*

Additionally, the southern flyover is physically incompatible with the specified concourse locations in the Concept Layout design. To accommodate the southern flyover, the station would need to be shifted north, which would result in significant property impacts, including SAP Center parking lots A, B, and C and land for transit-oriented development north of W. Santa Clara St.

**Conclusion:** *Considering these factors, the Partner Agencies eliminated the option of a southern flyover from further consideration, as presented to the San José City Council on December 3, 2019.*

***Northern Flyover***

A flyover north of Diridon Station would be compatible with the Concept Layout design with a very slight shift of the station to the south to allow for the rail flyover north of the station. For a northern flyover, the Caltrain and CHSRA trains would be placed on the flyover, which would be elevated to approximately 60 to 70 feet. This arrangement would allow the electrified tracks to move from the eastern most platforms at the station to the western most tracks north of the station. This northern flyover option has been included in all further analysis of an I-280 viaduct.

**Other Considerations in Assessing the Two-Track Viaduct**

To fully assess a two-track viaduct for electrified trains, the Partner Agencies explored:

1. The trail system and natural resources;
2. The Tamien Station area;
3. Construction and Maintenance; and
4. New visual impacts.

***Trail System and Natural Resources***

While the Partner Agencies have not completed extensive work to examine the full breadth of impact the I-280 viaduct would have to the local trail network, the presence of a viaduct would degrade the vitality of the trail system.

The I-280 viaduct would need to cross the Los Gatos Creek Trail and then generally follow the Guadalupe River and trail with footings adjacent to the trail and within the riparian corridor. This enables the viaduct to utilize the space available between the existing tracks and SR-87. The Partner Agencies anticipate that the viaduct structure and footings would cross the planned Three Creeks Trail (also known as the Willow Glen Spur Trail).

Based on the proposed location of the viaduct and associated footings, the Partner Agencies have serious concerns about the likely impacts of building a viaduct structure on the Guadalupe River Trail and on the riparian habitat where the viaduct would cross the Guadalupe River. The viaduct

structure and footings may reduce the width of the Guadalupe River Trail and introduce barriers to visibility and monitoring. The viaduct may also affect design work now underway to extend the Los Gatos Creek Trail from Auzerais to Bird Avenue. Given these likely impacts, the Partner Agencies believe that the environmental review process for approving the viaduct structure would almost certainly be protracted and risky. Ultimately, a host of resource agencies, including federal agencies like the U.S. Army Corps of Engineers and the Department of Fish and Wildlife, and State agencies like California Fish and Game, would need to concur with the proposed design. These agencies may not agree to the placement of the infrastructure and/or proposed design. There is particular concern about environmental impacts during construction, given ample space would be needed during this period.

***Tamien Station Area***

The construction of an I-280 viaduct would also have implications for Tamien Station and the surrounding neighborhoods. Currently, there are two tracks for Caltrain and one non-electrified track for diesel trains at Tamien Station. To accommodate a Caltrain stop (CHSRA is not planning to stop) at Tamien Station with an I-280 alignment, the electrified tracks and platforms at the station must be elevated. In this scenario, shown in Figure 7, the future platforms would be located directly above the existing platforms. Diesel trains, which also do not stop at the station, would continue to utilize the tracks at the existing grade level at Tamien Station. The Partner Agencies expect that the viaduct would extend south from Tamien Station for approximately 1.75 miles and come back to grade near Communications Hill.

East of the pick-up and drop-off area next to Tamien Station, VTA has an approved TOD project slated to begin construction next year and will be in place well before the start of any potential viaduct construction in this area. The viaduct structure is expected to be approximately the same height as the TOD development. To accommodate the viaduct in this area, a very large straddle bent structure would be necessary to support the viaduct given the width of the SR-87, the freeway on-ramp, and the existing rail. Although this structure has not been designed as part of the Concept Plan, the Partner Agencies believe that the construction period for such a structure would be very significant. Additional implications of this structure could likely include adverse effects on the TOD site, including impacts to circulation, code compliance, and habitability, as well as along the edge of Tamien Park.

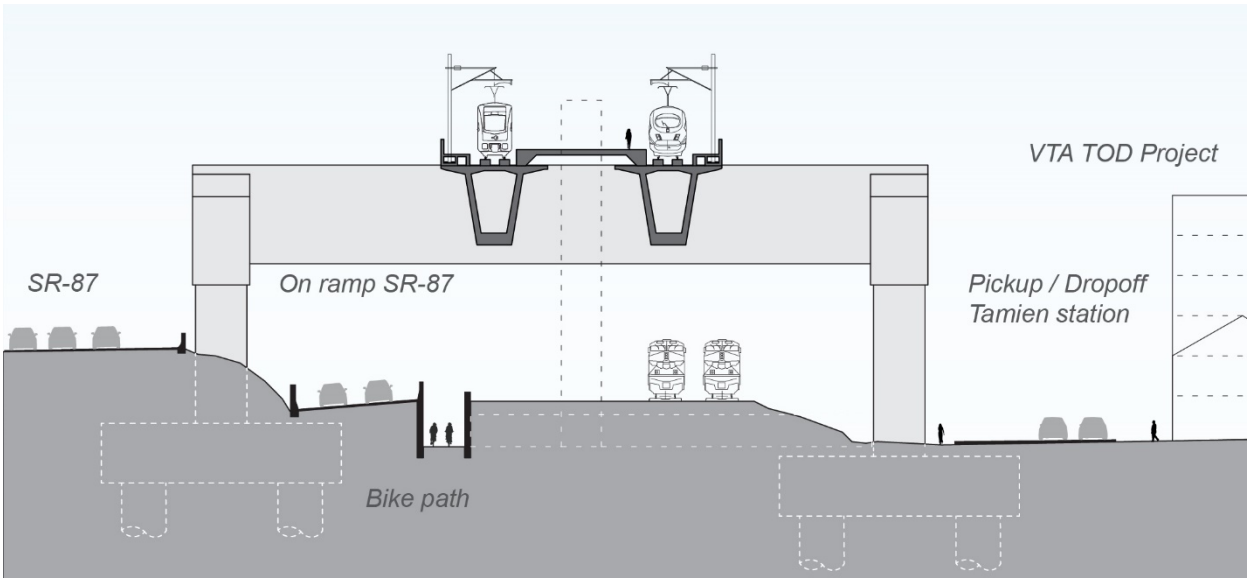


*Figure 7 – Cross-section of I-280 Viaduct at Tamien Station*

### *Construction and Maintenance*

A key element to consider is how a new viaduct could be constructed. There are significant concerns on how the construction of a new viaduct could impact community. It is likely that the construction duration would be multi-year and construction methods to install new footings and large structures would be complex. Considerations construction impacts are:

1. Staging areas for construction equipment in sensitive areas or within communities
2. Impacts to riparian corridor during construction including potential closure of trails
3. Impacts to SR-87 and to existing rail corridor operations to construct the needed straddle bents for Tamien Station
4. Construction related impacts throughout communities due to noise, dust, traffic, etc.

While maintenance needs for an I-280 viaduct would not be determined until subsequent phases of the project, the Partner Agencies have identified the following considerations and challenges associated with maintaining the structure:

1. A viaduct results in overall increased mileage (approximately 3 miles) of track to maintain.
2. Accessing elevated tracks for maintenance purposes is more difficult than accessing tracks at grade, as there would be limited points of access to the viaduct structure.
3. The viaduct adds more infrastructure (e.g., footings, straddle bent, etc.) to maintain across a substantial distance.
4. The overall cost of maintaining a structure is anticipated to be higher than an at grade corridor due to height, span, and length.

### *New Visual Impacts*

The viaduct would introduce new, permanent visual impacts to the surrounding communities, including the Washington-Guadalupe, Tamien, and Alma-Almaden neighborhoods. Figure 8 illustrates a potential new view of the I-280 viaduct along the Guadalupe River Trail. Additionally, there would likely be visual impacts in several locations adjacent to the rail corridor, including:

1. north of Diridon Station with the addition of a flyover structure, resulting in two levels of elevated tracks.
2. Between Diridon Station and I-280 (Vasona Branch, the existing corridor, and I-280 viaduct) with the construction of three elevated structures.
3. From I-280 to Communications Hill with infrastructure located at an elevation of approximately 40 to 50 feet above grade. More specifically, along the Guadalupe River, at Tamien Station, and the residential area at Communications Hill.

*Figure 8 – Possible new view of I-280 Viaduct on Guadalupe River Trail Looking South*

### *Summary of an I-280/SR-87 Viaduct*

Although the Partner Agencies assessments of the potential impacts of an I-280 viaduct are preliminary, they have identified the following challenges and tradeoffs that would likely result from the construction of such significant infrastructure:

1. Disrupts the trail system, natural environment, and the riparian corridor.

2. Construction of significant new rail infrastructure within the Tamien Station area, including potential effects on both Tamien Park and on the circulation of VTA's TOD project.
3. Poses environmental clearance, permitting, and constructability challenges, and also would result in increased maintenance needs.
4. Creates permanent visual impacts to multiple neighborhoods, including Washington-Guadalupe, Tamien, and Alma-Almaden.

## C. Existing Southern Corridor Alignment

The Partner Agencies have worked to investigate and optimize the existing southern corridor to carry planned additional future levels of service. The goal is to leverage and modernize an existing rail asset in a manner compatible with the surrounding community and with a clear intent to not worsen, and ideally improve, the rail corridor and its interface with the neighborhood.

The Partner Agencies desire to fully grade separate crossings along the rail corridor. Grade separation improves safety, circulation, and eliminates regular train horn noise. With an elevated station and tracks, this goal can be more easily accomplished. In the Concept Layout design, the elevated tracks at the station would descend to be at grade south of West Virginia St., near Bird Ave. Elevating the tracks allows for grade separations between the rail and other traffic while also improving east-west connectivity. The Partner Agencies believe this grade separation is important given the anticipated increase in rail service in this corridor.

The Partner Agencies have determined that no more than four tracks would be necessary and feasible along the southern corridor, through the Gregory, Gardner, and North Willow Glen neighborhoods. Of these four tracks, there is a need for both electrified and non-electrified (diesel) tracks. The previous section on train volumes articulated the various complexities related to the number of tracks needed to support future rail service. For purposes of analysis, the Partner Agencies have focused on a four-track option, which would require an approximate 80-foot wide corridor.

### *Fuller Park*

The Partner Agencies have also evaluated the effects of the expanded rail corridor on Fuller Park. Currently, the northernmost portion of Fuller Park is located in the rail corridor and owned by Caltrain. The City owns and maintains the other portions of the park. The Partner Agencies estimate that much of the park space currently located on rail property would be impacted, while impacts to the City-owned property would be avoided. Most of the loss would likely be behind the current tree line, rather than the widely used portion of the park. Figure 9 is an artist concept of how Fuller Park could look with the addition of a new green wall. Caltrain and the City are committed to working together and with the community to plan for a vibrant Fuller Park.

*Figure 9 – Artist concept of Fuller Park with new green wall*

## D. Noise and Vibration

The Partner Agencies aim to maintain the quality of life in the neighborhoods near the rail corridor. Specifically, the Partner Agencies will work to develop a design that results in noise, vibration, and visual conditions that are no worse and ideally better than today, even with higher future train volumes. As conditions change and growth occurs, it is reasonable to expect that the physical environmental will change with respect to noise, vibration, and visual aesthetics. The Partner Agencies recognize the expected increase in train volumes through the southern corridor concerns the surrounding community. In response to the City Council's request, the Partner Agencies have provided more information around these areas for consideration.

It is important to clarify the difference between a "project feature" and a "mitigation measure." A project feature is a design element or component that is solidified as part of the fundamental design of a project. This becomes part of the project's official description that is subject to environmental review. A "mitigation measure" is defined both by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) guidance as an action to be taken to reduce or avoid a significant impact resulting from a proposed project. Mitigation cannot be proposed or required where there is not impact or less than significant impact.[1] While there is a regulatory environment that guides how transit projects assess and evaluate potential environmental impacts, communities and cities can decide to pursue additional mitigation beyond what is required by legal guidance. These types of measures, sometimes called

[1] Source: *Title 14. California Code of Regulations,* Chapter 3. Guidelines for Implementation of the California Environmental Quality Act, Article 9. Contents of Environmental Impact Reports, 15126.4 Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects

betterments, can be determined through a planning process with communities and factor in multiple areas of focus to address how best to fit new or expanded projects into existing communities. During the environmental review process, the project sponsor would ensure open and transparent dialogue with the community. Often community outreach can help inform and shape project features, betterments or mitigation measures.

The following sections articulate the process, regulation, methodology for the assessment of noise and vibration levels for a rail project, as well as related project experiences.

***What generates rail noise or vibration?***

Train traffic produces both noise, which is the sound that can be heard, and vibration, which is what can be felt. To begin, noise and vibration results from several factors for rail projects:

1. Noise:
    a. Generated by the wheels on the tracks, as vehicles travel at different speeds, the condition of the railway track structure, the horns, and some railway equipment such as at-grade crossing bells.
    b. People are typically more sensitive to intermittent noise than background, constant noise.
    c. Different types of land use are more or less sensitive to noise such as a residential neighborhood versus a commercial office building.
    d. The time of day that people are sensitive to noise varies. For example, people in residential areas are more sensitive to noise during overnight hours.

2. Vibration:
    a. Generated by the weight and type of train as it travels across the tracks.
    b. Minimized or exacerbated by ground soil conditions, which are very important to how vibration transmits through the ground.

***How are noise and vibration assessed for rail projects?***

The analysis of impacts resulting from a rail project is completed during the environmental review process. For federally funded projects, this will fall under the guidance of NEPA and in California, CEQA. Often, environmental documents accommodate the requirements of both NEPA and CEQA since federal and state funds and approvals are needed for large transportation projects.

Generally, the following must fall into place to initiate environmental review:

1. A project sponsor has been identified.
2. A project definition is complete.
3. Funding is in place to prepare the environmental analysis and preliminary engineering.

Specific guidance and criteria for both NEPA and CEQA guide how agencies are to conduct the assessment of impact resulting from new or expansion of rail projects. These are:

1. Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment*;
2. Federal Railroad Administration (FRA) *High-speed ground transportation noise and vibration impact assessment manual; and*
3. CEQA guidelines.

Transit noise and vibration assessments will typically include:

1. Assessment of the ambient noise setting that the project will travel through:
    a. This is to determine the existing noise or vibration conditions
    b. Completed by conducting field measurements
        - Analysts take measurements for a full day period, as well as specific hourly measurements.
2. Using field measurements, calculate the forecasted new noise or vibration impacts.
    a. This is done using the FTA, FRA, and State guidelines.
    b. This determines the severity of the impact: low, moderate, or severe.
3. Assessment and recommendation of the mitigation measures that could be included in a project to reduce the forecasted impact.

***Related Projects***

In December 2014, Caltrain published a Final Environmental Impact Report (EIR) for the proposed modernization of service between San José and San Francisco which included the electrification of the line and replacement of diesel locomotives with EMU (electric multiple unit) trains. The proposed project, known as the Peninsula Corridor Electrification Project (PCEP), would replace 75 percent of the fleet (the remaining conversion would occur over time and pending funding). The project includes installing the required overhead catenary system to power the new electric trains. The project increases the trains per hour per direction from five today to six with the opening of the electrified service. It also accommodates future high-speed services by installing the same type of power system needed for the CHSRA project. The EIR described the benefits of electric trains services along the Peninsula Corridor to air quality and reduction of greenhouse gas emissions, but also disclosed the potential direct, indirect, and cumulative impacts associated with the project improvements. The Caltrain PCEP has a relatively small footprint to the degree that the physical improvements are largely within the existing Caltrain right-of-way.

Existing ambient noise measurements were taken at multiple locations along the alignment, including three locations in San José, one of which was identified as the highest ambient noise level along the line. There were 92 Caltrain movements on an average weekday in 2014 with a proposal to increase to 114 daily train movements with PCEP. Based on the transition from

diesel operation to EMU operation, including the increase in trains, noise levels were not anticipated to increase significantly. No moderate or severe noise impacts were identified for this study.

It was noted, however, that the analysis did not account for any future noise that could be attributed to additional service, such as high -speed rail operations. The analysis also did not account for any train operations which might be on an elevated structure, which has been suggested in the viaduct scenarios.

Similarly, CHSRA is currently working on the Draft EIR/EIS for the project segment from Merced to San José. The EIR/EIS will evaluate the impacts associated with the construction and operation of the high-speed rail system in this project section. The CHSRA environmental review will evaluate the potential impacts of adding high-speed rail infrastructure and high-speed rail trains, including alternatives with a viaduct over I-280/SR-87 and in the existing rail corridor. It will also articulate the improvements, design features, operational characteristics, and proposed mitigation measures needed to address the incremental addition of CHSRA rail infrastructure and services. The CHSRA Draft EIR/EIS is expected to be out for public review in Spring 2020.

The Partner Agencies have not yet initiated detailed engineering and environmental review work that would shed light on expected future noise and vibration levels in the corridor. However, electrified passenger trains are relatively quiet at the speeds anticipated in the corridor (around 55mph), and generally much quieter than the diesel trains currently using the corridor. Based on analysis by Caltrain for the PCEP and other similar projects, as more trains travel through the corridor it is likely that horn noise at non-grade-separated crossings would be the most significant source of future train noise in this corridor.

***What measures can be used to mitigate noise and vibration?***

Generally, noise and vibration impacts are best addressed at their source.

Noise dampening measures could include:

1. Installation of barriers, walls, or berms
2. Adjustment to or elimination of honking horns typically via grade separation or creation of FRA-approved quiet zone
3. Improvements to the track itself to eliminate the “click-clack” caused by joints between sticks of rail
4. Insulation of homes or sensitive receptors
5. Quieter vehicles such as electric trains

Vibration mitigation measures could include:

1. Constructing a modern railway structure to strengthen the railbed over which the trains travel
2. Installing vibration absorption materials into the track structure or in the ground

There are different ways to mitigate, and Figures 10 and 11 illustrate some examples of a green wall and modern track railway.

*Figure 10 – Sample noise wall mitigation*

*Figure 11 – Sample modern railway track*

It is important to note that vibration measures are highly subject to final design because soil conditions, site conditions, and track design must all be completed to a fairly high level of detail to effectively determine vibration mitigation. This level of detail is typically achieved at 60 to 90 percent design level. (This project is at roughly two percent design.)

There are many important factors to consider in determining the most appropriate noise or vibration mitigation measures to apply. These include the presence of freight trains, the presence and type of ambient noise, and/or existing vibration conditions, as well as project design features.

Some project design features may obviate what would otherwise likely be environmental impacts. For example, in the case of the Concept Plan, the elevated station and tracks facilitate grade separation in the station area; grade separation inherently reduces train noise, particularly from train horns.

***What have other cities/agencies done?***

Bringing new transit services into communities brings both benefits and impacts. In particular, new transit systems built in the United States in recent years have all faced how best to bring these new systems online in a satisfactory manner to the communities that they serve.

### *Experiences in Salt Lake City, Utah*

The Utah Transit Authority (UTA) operates bus, light rail and commuter rail services in the Salt Lake City area. Between 2006 to 2015, the agency experienced a rapid growth in its rail network by building nearly 70 miles of new transit services. Most of these rail projects were built within existing rail rights-of-way. Two of these projects traveled through residential communities along freight corridors that saw low use by the freight operators for many years, as depicted in Figure 8. The proposed project would add new light rail service with 15-minute headways, or effectively adding trains about every 7.5 minutes. This meant that these residents would experience a significant change to their community and environment. Of particular concern were noise and vibration due to increasing train services from fairly low train movements – maybe one movement per week – to relatively frequent transit services.

*Figure 12 – Synthetic Fencing in Salt Lake City, Utah*

UTA completed NEPA, including the *Transit Noise and Vibration Assessment*, as well as community outreach on these new rail lines. The change in the conditions did warrant mitigation measures that UTA deployed. Through the NEPA process and as a result of community engagement activities, UTA constructed three types of barriers to address the noise created by the new rail lines:

1. Concrete barrier walls
2. Earthen berms
3. Synthetic fencing

The type of barrier was chosen depending on the particular location and site conditions. For example, earthen berms were built where there was sufficiently wide rail right-of-way to accommodate such a structure. The berms were designed to be at a height that would absorb the

noise from the wheel-to-rail interface of the light rail vehicles. The concrete walls were built in more narrow areas where the barriers were required to be fairly tall due to the difference in height between the rail corridor and residents' backyards. The synthetic fencing was constructed where the height between the rail corridor and resident's backyard was fairly level. Figures 12 and 13 show examples of the synthetic fencing used.

UTA also worked with cities to institute quiet zones on these corridors to help reduce noise at the at-grade crossings. UTA and the local cities did not elect to pursue grade separation projects due to the significant costs associated with these relative to the number of crossings per corridor.

UTA also offered noise insulation to discrete homes that were adjacent to both the rail right-of-way and an at grade crossing. In these locations, the barrier or berm did not extend far enough, for safety reasons, to adequately abate the train noise and the at grade crossing equipment created additional noise issues.

During the final design of the project, vibration mitigation measures initially deployed were deemed ineffective in a several discrete locations. As a result, the agency reconstructed the rail track structure to include concrete rail ties, continuously welded rail, and new sub-surface structure that would firmly hold the track structure in place. In specific locations where the homes were either (1) extremely close to the corridor, (2) near special track work (i.e., cross-overs or turn-outs), and where virtually (3) no freight movements existed, the agency used shredded rubber ties within the track structure to absorb rail vibration. In other cases, vibration testing done during final design demonstrated that mitigation measures would be essentially ineffective. As a result, UTA elected not to construct vibration mitigation measures.

*Figure 13 – Synthetic Fencing in Salt Lake City, Utah*

## E. Property and Development Opportunity Sites

In response to the City Council's request for a better understanding of the relative differences in property impacts for maintaining the existing alignment and the two-track I-280 viaduct, the Partner Agencies have prepared a conceptual estimate of property impacts. The Partner Agencies also assessed the potential impacts to residential and commercial development sites based on

work underway in the Diridon Station Area Plan update and Downtown West development proposal. As previously noted, at this stage of the planning process, the estimates are very conceptual and subject to change based on a variety of factors.

The Partner Agencies determined that, in either alignment option, additional property will be required to expand and modernize the railway. This property is primarily linear strips along and east of the existing rail corridor. The following summarizes how property and TOD implications are expected to differ between the two alignment options.

## I-280 Viaduct

North of Diridon Station, slightly more property is required to build the northern flyover. This has relatively minor additional property and TOD effects, other than the visual and noise implications of the flyover.

South of Diridon Station, the viaduct has more significant impacts, primarily within two areas identified for potential TOD:

4. Up to 1,500 new homes are proposed in the area bounded by the existing corridor, W. San Carlos St., Royal Ave., and Auzerais Ave. This property would be bisected by the viaduct structure, significantly reducing the development potential and attractiveness of the site. Without the benefit of site-specific fit analysis, the viaduct is estimated to result in the loss in the approximate range of 800 units. The impact up to and during the construction of the viaduct would likely be even more.

5. Between the existing corridor, Auzerais Ave., Royal Ave., and I-280, over 700,000 square feet of new office/commercial development could be realized, per a capacity analysis performed by Skidmore, Owings and Merrill. This property would also be bisected by the viaduct structure, similarly reducing the development potential and attractiveness of the site. The remnant parcels may restrict the ability to achieve optimal office floorplates, further diminishing the likelihood of redevelopment for commercial use.

According to preliminary evaluation conducted by the Partner Agencies' economic and development experts, the presence of the viaduct would likely reduce the attractiveness of both areas to developers, and could make it more difficult for potential projects to receive financing. In addition, the timing of development would presumably be delayed until after the viaduct is completed.

South of I-280, property impacts from the viaduct are expected primarily within Caltrans right-of-way, the Guadalupe River corridor, and the area between the existing rail corridor and SR-87. Depending on the particular rail services that utilize the viaduct and the length of the viaduct structure, additional property may be required, particularly during construction, near Tamien

Station, including along the edges of VTA's TOD and Tamien Park, and south of Curtner Avenue near Communications Hill.

**Existing Corridor**

Differential property impacts of the existing corridor lie within the Gardner/North Willow Glen neighborhoods. Preliminary analysis identified portions of properties that may be effected by a four-track corridor. This includes:

1. Estimated up to 13 properties with residential uses; primary residences may not be impacted; rather, property impacts may be limited to portions of backyards, perhaps driveways, secondary structures, etc.
2. A reduction in the size Fuller Park by approximately 30 to 33 percent; this loss would likely be behind the current tree line, rather than the widely used portion of the park.
3. A potentially significantly impact to the San José Word of Faith Church.
4. Up to two parcels with commercial uses; again, main structures may not be impacted.

## F. Capital Cost Comparison

In response to the City Council request, the Partner Agencies also prepared preliminary cost comparisons for the two alignments to understand the relative differences between the two. The initial cost estimates only include those costs directly associated with the station, including the station building, tracks, concourses, underpasses, bus facilities, and light rail facilities. Additionally, the estimate for the viaduct alignment includes the costs associated with raising the tracks and platforms at Tamien Station. For both estimates, the relocation of CEMOF and the PG&E Substation is not included.

Given that capital cost estimates are very preliminary, the Partner Agencies have evaluated the costs for the two alignments using an order of magnitude comparison. The Partner Agencies estimate that rebuilding Diridon Station using the Existing Corridor alignment with a four-track alignment will cost billions of dollars, and that the I-280 viaduct alignment would cost roughly double this amount.

## G. Comparing Alignment Options

In considering the alignment options, the Partner Agencies looked at several points of comparison. These areas were identified based on ongoing conversations with the community and elected officials. The Partner Agencies acknowledge that the effects of the two rail alignment options differ between neighborhoods: some might experience noise, visual, and vibration impacts with one option and not the other. Table 3 below summarizes the partners overall findings when comparing the alignment options.

*Table 3 – Comparing Alignment Options*

| **Points of Comparison** | **Existing Rail Alignment in 2040** | **I-280 Rail Viaduct <u>Plus</u> Existing Rail Alignment in 2040** |
|---|---|---|
| Train Volumes | Overall Increase | Overall Increase |
| Neighborhoods Affected | Same as Today | Same as Today Plus Additional Neighborhoods |
| Infrastructure Footprint | Modest Increase | Significantly More |
| Noise and Vibration | Modest Increase | May Affect Larger Geography/Population |
| Visual | Modest | Significant Change to Visual Landscape |
| Environmental | Some | Significantly More (Incl. Guadalupe River) |
| Maintenance | Modest | High |
| Flyover Required | No | Yes |
| Cost | Base/Lowest Cost Option | ~2x Base Cost |
| Property | Low to Moderate | Medium to High |

## EVALUATION AND FOLLOW-UP

The rail alignment for the Diridon Integrated Station Concept Plan is agendized for decision at the February 4, 2020 City Council meeting. Additionally, the decision making bodies of the other three Partner Agencies will make a decision on the Concept Layout on:

- Caltrain Board of Directors, February 6, 2020
- VTA Board of Directors, February 6, 2020
- CHSRA Board of Directors, February 18, 2020

As detailed in the December 3, 2019 staff memorandum and attached Joint Partner Agency Report, in the next phases of planning the Partner Agencies will continue to work on the southern track approach in close consultation with neighboring communities, including:

- Grade separations keeping people and vehicles away from train traffic while maintaining good local connectivity and access;
- Sound and vibration dampening treatments for tracks;
- Aesthetic and functional treatments like sound walls with added landscaping (“green walls”) or other attractive, maintainable coverings;
- Optimize design to minimize the need to demolish existing buildings and/or acquire land; and
- Fuller Park as a permanent, city-owned park with high-quality landscaping and other amenities to be determined through a community-based process.

In addition, the Partner Agencies will work to develop appropriate metrics that will enable tracking and monitoring of these goals and conditions over time.

The Partner Agencies will continue to provide periodic updates to the Transportation and Environment Committee and/or City Council at key milestones in the Concept Plan's development.

## CLIMATE SMART SAN JOSÉ

The information in this memo aligns with one or more Climate Smart San José energy, water, or mobility goals.

## PUBLIC OUTREACH

The Partner Agencies have conducted five community meetings, including a Spanish-language meeting, three presentations to the City's Station Area Advisory Group (SAAG), three pop-up booths at Diridon Station and community events, an online survey, an online townhall, and additional meetings with stakeholder groups and neighborhood associations. In addition, the Partner Agencies have presented and received important feedback from the Diridon Joint Policy Advisory Board (JPAB) at five meetings. The community input has informed the Partner Agencies' work throughout the Concept Plan process, which has culminated in a single, optimized layout – the Concept Layout.

More information is available at the project website: www.diridonsj.org/disc.

## COORDINATION

This memorandum has been coordinated with the City Manager's Office and City Attorney's Office.

## COMMISSION RECOMMENDATION/INPUT

No commission recommendation or input is associated with this action.

## CEQA

Not a Project, File No. PP17-009, Staff Reports, Assessments, Annual Reports, and Informational Memos that involve no approvals of any City action.

/s/
JOHN RISTOW
Director of Transportation

For questions, please contact Eric Eidlin, DOT Station Planning Manager, at (408) 795-1638.

Attachment A – December 3, 2019 Item City Council Materials
Attachment B – Glossary of Terms

**Attachment B**

GLOSSARY

- ACE - Altamont Corridor Express. Operator of non-electrified passenger rail service connecting San Jose to Stockton.
- Alignment – Direction and position given to the center line of the railway track on the ground in the horizontal and vertical planes
- Amtrak – non-electrified passenger rail service provider, also known as the National Railroad Passenger Corporation
- BART - Bay Area Rapid Transit
- Berm – a raised barrier constructed of earth or sand
- CC – Capitol Corridor; provider of non-electrified passenger rail service connecting San Jose to Sacramento and Auburn
- CEMOF – Caltrain's Centralized Equipment Maintenance & Operations Facility
- CEQA - California Environmental Quality Act
- CHSRA - California High-Speed Rail Authority; provider of future electrified high-speed passenger rail service
- Concept Layout - The track and station configuration that holds the most promise to fulfill key project objectives and that the Partner Agencies are therefore recommending for further study.
- Concept Plan – A joint effort of the Diridon Partner Agencies to identify the future spatial layout of Diridon Station, including the arrangement of modes, the way in which the station is integrated into the surrounding community, as well as an organizational framework to deliver the vision.
- Concourse - A large open area inside or in front of a public building, as in an airport or train station, where stairs, elevators, escalators, and other vertical circulation elements are located that allow passengers access the platforms
- Constructability – refers to the ease and efficiency with which something can be built
- EIR – Environmental Impact Report, an environmental document prepared to satisfy California State environmental review requirements under CEQA.
- EIS – Environmental Impact Statement, an environmental document prepared to satisfy federal environmental review requirements under the National Environmental Policy Act (NEPA)
- Electrified tracks – railway track on which electrified trains operate; electrified railway systems operate on electric power supplied via overhead lines
- EMU - Electric Multiple Units
- Fatally flawed design – a design that is certain to fail due to deficiencies in design, difficulties in construction, or other insurmountable challenges
- Flyover - An overpass that crosses over another road or railway to provide a grade separation between different transportation modes
- Footings – concrete shafts that provide the foundation for an elevated structure, like a viaduct
- FRA – Federal Railroad Administration
- FTA – Federal Transit Administration

- Layout - A combination of the physical elements that create a conceptual design for the station and intermodal hub
- NEPA - National Environmental Policy Act
- Non-electrified tracks – railway track on which diesel (or freight) trains operate; trains that operate on non-electrified track are powered by engines
- Northern corridor – The heavy rail corridor between Diridon Station and CEMOF
- Partner Agencies – the four agencies that have entered into a cooperative partnership to complete the Concept Plan; Santa Clara Valley Transportation Authority (VTA), City of San José, Caltrain, and CHSRA.
- Property Impacts – A conceptual estimate of properties or parcels that could potentially be affected by an alignment
- Right-of-way – the land occupied by a railroad
- Rolling Stock – vehicles used on a railroad
- Southern corridor – The heavy rail corridor between Diridon Station to Communications Hill
- Straddle bent – a structure that spans a roadway to support a viaduct
- Team ABC - A Study Team consisting of Arcadis and Benthem Crouwel Architects
- TOD - Transit-Oriented Development
- UPRR - Union Pacific Railroad
- UTA - Utah Transit Authority
- Viaduct – A long bridge-like structure that carries a road or railroad across an area to provide a grade separation between different transportation modes.
- VTA - Santa Clara Valley Transportation Authority

**AGENDA ITEM #4(g)**
**FEBRUARY 6, 2020**

**PENINSULA CORRIDOR JOINT POWERS BOARD**
**STAFF REPORT**

TO: Peninsula Corridor Joint Powers Board

THROUGH: Jim Hartnett
Executive Director

FROM: Michelle Bouchard
Chief Operating Officer, Rail

SUBJECT: **ADOPTION OF THE CALTRAIN RAIL CORRIDOR USE POLICY**

## ACTION

The Staff Coordinating Council (SCC) recommends that the Board adopt the Caltrain Rail Corridor Use Policy, with minor revisions reflecting input received at the January 9, 2020 Board of Directors (Board) meeting.

## SIGNIFICANCE

Peninsula Corridor Joint Powers Board (JPB) staff proposes adoption of the Caltrain Rail Corridor Use Policy (RCUP), which has been revised to add or change language on grade separations and air space, based on input provided by the Board following a lengthy presentation and discussion at the January Board meeting.

The RCUP is one of four interrelated planning and policy efforts that will collectively inform and guide the future use of JPB property. The other three projects include the Caltrain Business Plan, the Caltrain Station Management Toolbox (Toolbox), and the Caltrain Transit-Oriented Development (TOD) Policy.

## BUDGET IMPACT

There is no impact on the budget.

## BACKGROUND

Over the last six months, Caltrain staff has made extensive progress to develop the RCUP, a policy framework to guide the use of JPB Property and support delivery of Caltrain's Long-Term Service Vision, which was adopted unanimously by the Caltrain Board on October 3, 2019. Included as an attachment to this staff report, the full draft RCUP consists of two main components: a set of maps of JPB property along the Caltrain corridor, and an administrative document to accompany the maps, which provides a decision-making framework regarding proposed non-railroad uses of JPB property.

Over the last few months, staff has been working closely with the Work Program – Legislative – Planning (WPLP) Committee to provide updates and seek feedback on the

RCUP's development, which has been closely aligned with the Caltrain Business Plan. The updates to the WPLP are summarized below:

- At its September 2019 meeting, the WPLP received a presentation with an update on the RCUP. It reintroduced the purpose of the RCUP and its connection to the Business Plan, introduced key terms for the RCUP, presented an illustrative RCUP map, and concluded with next steps.

- At its November 2019 meeting, the WPLP received a second presentation with an RCUP update. This presentation provided background and context on the RCUP project, explained the process for completing the technical analysis for the RCUP maps, and shared the draft RCUP maps and key findings.

- At its December 2019 meeting, the WPLP received a third presentation to provide an overview of the draft administrative framework that accompanies the maps. Staff also shared a copy of the full draft RCUP. The WPLP passed a motion to recommend Board adoption of the RCUP at the January 2020 JPB meeting.

In addition, staff provided an extensive update to the full Board on January 9, 2020 to share key draft findings for the RCUP project and the full draft RCUP policy framework. This update included background and context on the RCUP project, as well as an explanation for the process to develop the RCUP maps. Staff shared key draft findings from those maps, including a preliminary assessment of potential opportunity sites for development projects on JPB property. The update also introduced the high-level decision-making framework that accompanies the maps as the administrative component of the RCUP project. Following the presentation, Board members requested language be added to the RCUP to address opportunities for use of "air space," such as over stations and grade separations, perhaps as part of joint development projects.

After the RCUP is adopted by the Board, staff will complete additional administrative tasks to prepare the public-facing materials that will be used to implement the RCUP, including application forms and website updates. Staff has heard the specific concerns from some Board members that there should be Board review when short term leases are extended such that the cumulative lease term exceeds 5 years. This issue deserves meaningful attention and discussion in the context of the JPB's Policy Regarding Processing of Requests for Conveyance of Property Interests Involving Property Owned by the JPB (adopted pursuant to Resolution 2010-45). That policy, in part, delegates authority to the Executive Director to execute property right conveyances of shorter than five years, provided certain other conditions are met, including that all short term leases contain a claw back provision allowing the JPB to terminate the lease if the JPB requires the property for transportation purposes.

However, with the adoption of the RCUP, the next step is for staff to refine and update the JPB's Policy Regarding Processing of Requests for Conveyance of Property Interests

Involving Property Owned by the JPB. Accordingly, consistent with interests expressed by the Board, staff will work with the WPLP in the coming months to develop proposed comprehensive updates to the Property Conveyance Policy that reflect the intent and direction expressed in RCUP and specifically address appropriate safe guards and review for the issuance and renewal of short term leases.

The RCUP is a policy framework to assist the JPB in deciding upon future uses of its property and does not have a binding legal effect on the agency. It is therefore not considered a "project" under the terms of the California Environmental Quality Act (CEQA). Any actual change in use would be subject to review under CEQA, as appropriate.

More background information is available in the staff report from the January 9, 2019 meeting.

Prepared by: Melissa Jones, Principal Planner, Caltrain Planning 650.295.6852

**RESOLUTION NO. 2020 –**

**BOARD OF DIRECTORS, PENINSULA CORRIDOR JOINT POWERS BOARD**
**STATE OF CALIFORNIA**

*** * ***

**ADOPTING THE CALTRAIN RAIL CORRIDOR USE POLICY**

**WHEREAS**, the Peninsula Corridor Joint Powers Board (JPB) administers the Caltrain system and is owner of various properties along the Caltrain rail corridor; and

**WHEREAS,** the JPB frequently receives proposals for "non-railroad uses" of its property, such as for utilities, commercial businesses, development proposals, or government agency uses; and

**WHEREAS,** in accordance with its Policy Regarding Processing of Requests for Conveyance of Property Interests (initially adopted pursuant to Resolution 2010-45 and proposed for amendment at this February 6 meeting), the JPB has established an extensive review and approval process for proposed non-railroad uses of property, which considers design, engineering, and regulatory review, and which may conclude with issuance of Property Access Agreements for the proposed property uses; and

**WHEREAS,** the first step in the JPB's review process for Property Access Agreements is to determine if a proposed use is compatible with the railroad's current and future needs; and

**WHEREAS,** to prepare for the further modernization and expansion of the Caltrain rail service post-electrification, the JPB, working closely with stakeholders in both the public and private sectors, launched a significant undertaking in 2017 to develop a Caltrain Business Plan to articulate a long-term vision and business strategy for the system to the year 2040; and

**WHEREAS**, Caltrain Business Plan analysis indicates that Caltrain rail service could carry three or more times the current ridership with greatly expanded frequency and capacity and improved travel times; and

**WHEREAS,** on October 3, 2019, the JPB Board of Directors unanimously adopted the Caltrain 2040 Long-Range Service Vision (Resolution 2019-38) that envisions substantially expanded rail service by 2040, which is anticipated to require significant investments in conceptual capital infrastructure on the rail corridor in order to support the desired growth in train operations; and

**WHEREAS,** it is anticipated that significant portions of the JPB's property holdings on the rail corridor will be needed to support achievement of the Caltrain 2040 Long-Term Service Vision with growth in train operations and conceptual infrastructure investments; and

**WHEREAS,** staff has developed the Caltrain Rail Corridor Use Policy to provide a Board-adopted policy framework to use in the first step in the Property Access Agreement review process for proposed non-railroad uses of JPB property, specifically to guide decision-making regarding the compatibility of proposed non-railroad uses with the railroad's current and future needs; and

**WHEREAS,** the Caltrain Rail Corridor Use Policy is a policy framework to assist the JPB in deciding upon future uses of its property and does not have a binding legal effect on the agency and is therefore not considered a "project" under the terms of the California Environmental Quality Act; and

**WHEREAS,** Staff Coordinating Council recommends, and the Executive Director concurs, that the Board adopt the attached Caltrain Rail Corridor Use Policy.

**NOW, THEREFORE, BE IT RESOLVED** that the Board of Directors of the Peninsula Corridor Joint Powers Board hereby adopts the Caltrain Rail Corridor Use Policy, attached hereto as Exhibit A; and

**BE IT FURTHER RESOLVED THAT** that the Board of Directors hereby directs staff to review, and propose updates to, the Policy Regarding Processing of Requests for Conveyance of Property Interests Involving Property Owned by the JPB (adopted pursuant to Resolution 2010-45) to be consistent with and further the purposes of the Caltrain Rail Corridor Use Policy; and

**BE IT FURTHER RESOLVED** that the Board of Directors hereby authorizes the Executive Director, or his designee, to take any other necessary actions to implement the Caltrain Rail Corridor Use Policy.

Regularly passed and adopted this 6th day of February, 2020 by the following vote:

AYES:

NOES:

ABSENT:

_____

Chair, Peninsula Corridor Joint Powers Board

ATTEST:

_____

JPB Secretary

# CALTRAIN RAIL CORRIDOR USE POLICY

**Overview and Background on the Rail Corridor Use Policy**

The Rail Corridor Use Policy is a policy that has been adopted by the Peninsula Corridor Joint Powers Board (JPB) to guide the use of its property and support delivery of Caltrain's Long-Term Service Vision.

The JPB frequently receives proposals for "non-railroad uses" of its property, such as utilities, commercial businesses, development proposals, or community facilities. In accordance with the JPB's Policy of Property Conveyance[1] (Resolution 2010-45), the agency has an extensive review process for such proposals, including design, engineering, and regulatory review, and non-railroad uses of JPB property that have been reviewed and approved by the JPB are issued a Property Access Agreement. The first step in the review process for Property Access Agreements is for Caltrain staff to determine if the proposed use is compatible with the railroad's current and future needs.

The railroad's future needs for its property are directly connected to achieving Caltrain's Long-Term Service Vision, which was unanimously adopted by the Caltrain Board of Directors on October 3, 2019. Developed through the Caltrain Business Plan process, the Long-Term Service Vision describes a substantially expanded rail service on the Caltrain corridor by 2040, with a minimum of eight trains per hour operating in the peak period in each direction between San Francisco and San Jose. In order to support this growth in train service, the Caltrain Business Plan also identified the conceptual infrastructure that will be needed to operate more trains on the corridor and achieve the Long-Term Service Vision. It is anticipated that significant portions of the JPB's property will be needed to deliver this future infrastructure and support future train operations for the Long-Term Service Vision. Therefore, it is essential that the JPB make thoughtful, strategic decisions regarding non-railroad uses on its property to ensure that it can deliver the railroad's vision for its future.

The Rail Corridor Use Policy is intended to provide a Board-adopted policy to guide decision-making regarding the compatibility of proposed non-railroad uses of JPB property. Stated another way, the Rail Corridor Use Policy is intended to be used by the JPB to determine if a proposed non-railroad use of JPB property is compatible with the railroad's current and future needs for its property – a policy to guide decision-making for the first step in the Property Access Agreement review process. For proposed uses that are determined to be compatible with the railroad's current and future needs, it is important to note that in accordance with the Policy of Property Conveyance, additional design, engineering, and regulatory review is required before a Property Access Agreement can be approved and issued by the JPB.

**What Does the Rail Corridor Use Policy Contain?**

The Rail Corridor Use Policy is a policy framework that consists of two components: **an administrative document** and **a map series** displaying the JPB's property along the Caltrain corridor. The administrative document is intended to be used in conjunction with the maps to guide decision-making regarding the compatibility of proposed non-railroad uses with the railroad's current and future needs.

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[1] The JPB's Policy of Property Conveyance from 2010 can be accessed on Caltrain's website at http://www.caltrain.com/Assets/_Contracts+and+Procurement/pdf/2010-45+Property+Conveyance+$!26+Fee+Schedule.pdf.

# CALTRAIN RAIL CORRIDOR USE POLICY DRAFT ADMINISTRATIVE DOCUMENT

This section of the Rail Corridor Use Policy contains the administrative components of the policy framework, including the following:

- **Definitions** of the terms used in the policy framework, including the Property Use Zones and the Service Vision Capital Project Overlay;
- **Decision-making process** for proposed non-railroad uses to determine if they are compatible with the railroad's current and future needs;
- **Allowable non-railroad uses** that would be considered to be compatible with the railroad's current and future needs, including an overview and a list of allowable uses for each Property Use Zone; and,
- **Procedures** for updating the Rail Corridor Use Policy.

# DEFINITIONS

## PROPERTY USE ZONES

### OVERVIEW OF PROPERTY USE ZONES

The Property Use Zones serve as the base land use districts for Peninsula Corridor Joint Powers Board (JPB) property along the Caltrain corridor. The Property Use Zones apply to all JPB property and JPB operating easements along the Caltrain corridor from San Francisco to San Jose. Each Property Use Zone has a list of non-railroad uses that may be located within its borders, which are described later in this document.

### WHAT ARE "NON-RAILROAD USES?"

Non-railroad uses are uses of JPB property that do not have a primary purpose of supporting the delivery of Caltrain rail service and the safe operation of the railroad. Non-railroad uses may be located below, on, or above JPB property. Some examples of non-railroad uses on JPB property include:

- The many third party utilities that must cross the rail corridor to support the surrounding communities, such as water, electricity, or sewer facilities, which are the most common non-railroad uses on the corridor;
- A residential building, office building, restaurant, or museum near a Caltrain station; or,
- An access facility to improve mobility in a community, such as walkway or bikeway along or across the rail corridor.

In each of these examples, the primary purpose for which the land or building thereon is designed, arranged or intended, or for which it is occupied, maintained, or leased, is not directly related to supporting the delivery of Caltrain rail service and the safe operation of the railroad; therefore, they are considered to be non-railroad uses.

### WHAT ARE THE PROPERTY USE ZONES AND HOW DO THEY WORK?

#### PROPERTY USE ZONE 1: OPERATING RIGHT-OF-WAY

Property Use Zone 1 is the Operating Right-of-Way (ROW) land use district, and it includes property that is required for the safe operation of the railroad in its current configuration and for the Peninsula Corridor Electrification Project (PCEP). Land in Property Use Zone 1 is intended to serve railroad operations and is generally not available for non-railroad uses, except compatible utility uses.

#### PROPERTY USE ZONE 2: STATION RIGHT-OF-WAY

Property Use Zone 2 is the Station Right-of-Way land use district, and it includes property that is located at and near Caltrain's stations. Property in Property Use Zone 2 includes facilities that support the functioning of the railroad station, including station buildings, facilities that facilitate access to the railroad (such as sidewalks, driveways, loading and unloading areas, car parking facilities, bike parking facilities, etc.), passenger waiting areas, etc. Property Use Zone 2 could potentially have non-railroad land uses that are compatible with the functioning of the station and the safe operation of the railroad, including development projects, commercial leases, community uses, etc.

#### PROPERTY USE ZONE 3: NON-OPERATING RIGHT-OF-WAY

Property Use Zone 3 is the Non-Operating Right-of-Way land use district, and it includes all JPB property that is not already included in Property Use Zones 1, 2, and 4. Property in Property Use Zone 3 could potentially have non-railroad land uses that are compatible with the safe operation of the railroad, including development projects, commercial leases, community uses, etc.

### PROPERTY USE ZONE 4: SPECIAL STUDY AREA

Property Use Zone 4 Zone is the Special Study Area land use district, and it includes JPB property that is currently involved in a defined planning process that formally involves multiple stakeholders. Examples include areas of the corridor associated with the railroad terminal studies at San Francisco and San Jose. Land in Property Use Zone 4 is generally not available for non-railroad uses, except compatible utility uses, and future use of the property will generally be determined through the defined planning process in each area.

## SERVICE VISION CAPITAL PROJECT OVERLAY

### OVERVIEW

The Service Vision Capital Project Overlay serves as an overlay district that is applied on top of the Property Use Zones to JPB property along the Caltrain corridor. This overlay conceptually represents areas of JPB property along the Caltrain corridor that may be needed for potential future capital projects to support achievement of Caltrain's Long-Term Service Vision.

### WHAT IS INCLUDED IN THE SERVICE VISION CAPITAL PROJECT OVERLAY?

The Service Vision Capital Project Overlay includes all known potential future capital projects that may be delivered on the corridor to support achievement of Caltrain's Long-Range Service Vision. Consistent with the Caltrain Business Plan, the program of capital investments included in the Service Vision Capital Project Overlay is intended to be "visionary;" it has been developed to be comprehensive and inclusive of all the projects and plans that are already ongoing in the corridor. This means that many of the capital investments are related to projects and plans that are already under development by Caltrain's partner agencies and local jurisdictions.

The Service Vision Capital Project Overlay's collection of potential future capital projects includes the following:

- Near-term future maintenance and rehabilitation projects of existing rail infrastructure;
- Potential future changes to the rail infrastructure to accommodate a blended system;
- Potential future passing tracks to support increased rail service, as described by the Caltrain Business Plan;
- Potential future terminal projects at San Francisco and San Jose;
- Potential future grade separation projects at each current at-grade vehicular crossing; and,
- Potential future grade separation projects for bikes and pedestrians only, as defined by cities along the corridor.

### HOW DOES THE SERVICE VISION CAPITAL PROJECT OVERLAY WORK FOR THE RCUP?

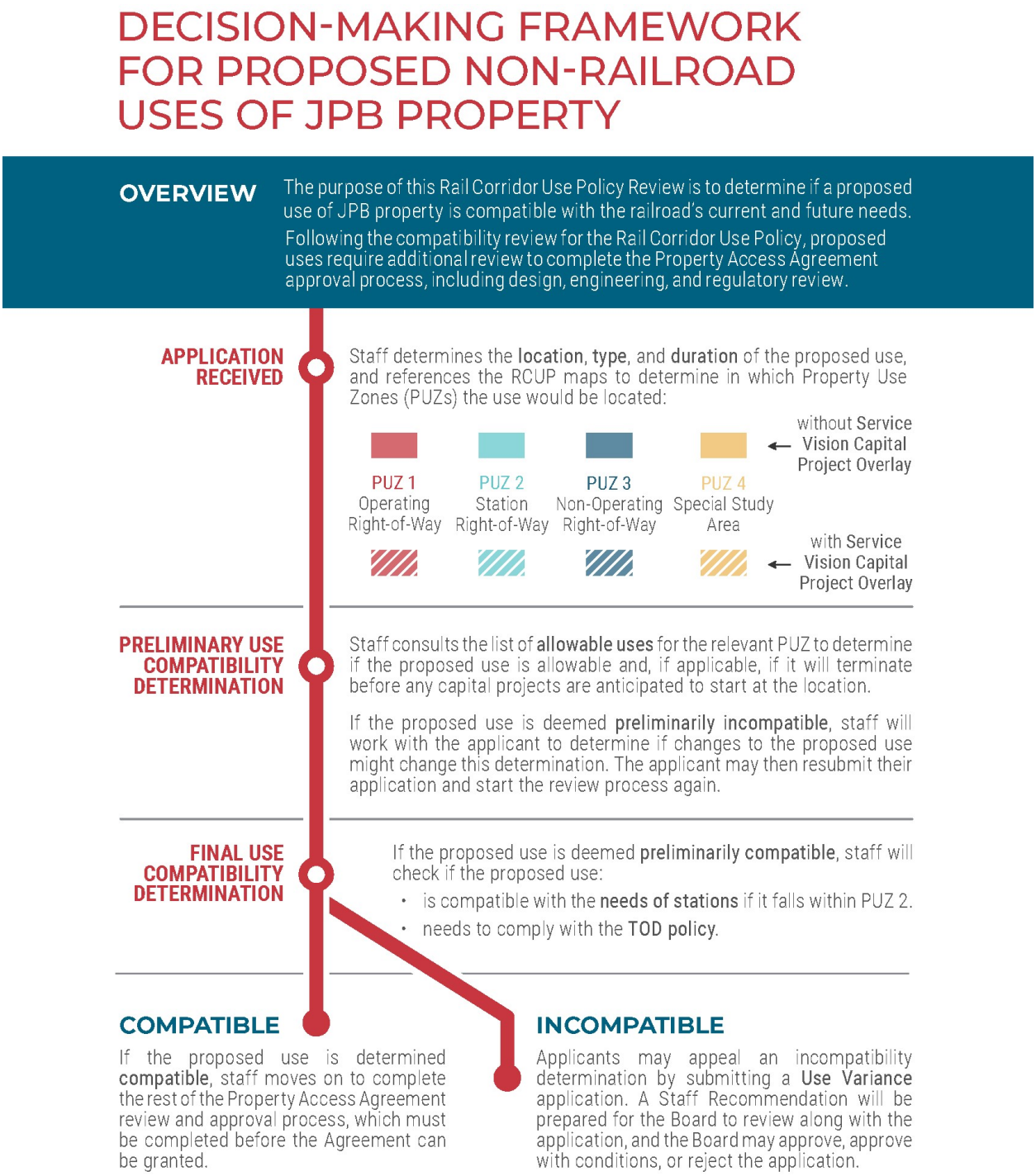
Because it is known that the property within its boundaries may be needed for a potential capital project in the future, the Service Vision Capital Project Overlay is intended to identify areas that need to be protected to ensure that JPB property would not become permanently encumbered or used in a way that would make it difficult or impossible to deliver the potential future capital project. This overlay is applied on top of the Property Use Zones, and it establishes more restrictive land use regulations than the underlying base Property Use Zone.

The Service Vision Capital Project Overlay could potentially have non-railroad land uses that are compatible with the safe operation of the railroad and that will be terminated before the anticipated start of the potential future capital project. The Service Vision Capital Project Overlay could also be available for a future, long-term, non-railroad use of the land that is co-designed with the potential future capital project, that is co-delivered with the potential future capital project, or that is delivered after completion of the potential future capital project.

# RAIL CORRIDOR USE POLICY DECISION-MAKING PROCESS

The section describes the JPB's process to review a proposed use and make a decision if it is compatible with the railroad's current and future needs. This process is summarized and illustrated in a flow chart in Figure 1, while a step-by-step overview describes the process below.

**FIGURE 1**



## STEP-BY-STEP OVERVIEW OF DECISION-MAKING PROCESS

1. **Application Received.** Staff receive an application for a proposed non-railroad use of JPB property.

    a. Based on the application, staff determine:
        i. The location of the proposed use on JPB property,
        ii. The type of proposed use, and
        iii. The proposed duration of the use.

    b. Staff consult the Rail Corridor Use Policy maps to determine:
        i. The Property Use Zone(s) where the proposed use would be located; and
        ii. Whether or not the Service Vision Capital Project Overlay occurs where the proposed use would be located.

2. **Preliminary Use Compatibility Determination.** Staff complete a preliminary compatibility review of the proposed use with current and future railroad needs.

    a. If the proposed use is not within the Service Vision Capital Project Overlay, staff consult the Rail Corridor Use Policy's list of allowable non-railroad uses for each applicable Property Use Zone (Tables 1A, 2A, 3A, 4A in this document) to determine if the proposed use is listed as an allowable use.
        i. If it is listed as an allowable use, then it is considered "preliminarily compatible" with the railroad's current and future needs.
        ii. If it is not listed as an allowable use, then it is considered "preliminarily incompatible" with the railroad's current and future needs.

    b. If the proposed use is within the Service Vision Capital Project Overlay, staff consult the Rail Corridor Use Policy's list of allowable uses for each applicable Property Use Zone and the Service Vision Capital Project Overlay (Tables 1B, 2B, 3B, 4B in this document) to determine if the proposed use is listed as an allowable use. Staff also determine if the proposed use would terminate before the anticipated start of the potential capital project in the area.
        i. If it is listed as an allowable use and the proposed use would terminate before the anticipated start of the potential capital project, then it is considered "preliminarily compatible" with the railroad's current and future needs.
        ii. If it is not listed as an allowable use or if the proposed use would not terminate before the anticipated start of the potential capital project, then it is considered "preliminarily incompatible" with the railroad's current and future needs.

3. **Final Use Compatibility Determination.** Staff complete the steps below to make a final determination of compatibility with the railroad's current and future needs.

    a. **Preliminarily Compatible.** If the proposed use is determined to be "preliminarily compatible" with the railroad's current and future needs, staff complete final compatibility review by checking if the Steps 3A – i. and ii. below would apply to the proposed use. If they do not apply, staff jump to Step 3C to make a final determination.

i. **Station Compatibility.** For any proposed use that is within Property Use Zone 2 – Station Right-of-Way – staff must determine if the proposed use is compatible with the needs and functioning of the station. When possible, staff should use the Station Management Toolbox to help assess the potential impacts of the proposed use on ridership, revenue, equity, and environment metrics. If changes to the proposed use would be needed to ensure it would be compatible with the station, those should be noted through the Rail Corridor Use Policy review process, and the broader Property Access Agreement review process should ensure that the changes are incorporated before granting the Agreement.

ii. **TOD Policy Referral.** Regardless of any underlying Property Use Zone, the TOD Policy must be consulted for the following instances of proposed uses, to determine if the TOD Policy would be applicable: if the proposed use would seek a Property Access Agreement duration of 50 years or more, or if the proposed use is on a site that could be contemplated for joint development (including but not limited to sites listed in the agency's potential opportunity site inventory). If the TOD Policy would be applicable, it should be noted through the Rail Corridor Use Policy review process, and the broader Property Access Agreement review process should ensure that the TOD Policy is complied with before granting the Agreement.

b. **Preliminarily Incompatible.** If the proposed use is determined to be "preliminarily incompatible" with the railroad's current and future needs, staff work with the applicant to assess if there are changes that could be made to the proposed use that could potentially change the compatibility determination. If there are, the applicant may submit a revised application with an updated/changed project and then go through the Preliminary Compatibility review process again. If so, the process may recommence with review of the updated project at Step 1.

c. **Final Compatibility Determination.** Based on the results from Steps 3A and/or 3B, staff make a final determination of compatibility with the railroad's current and future needs.
   i. If the final determination is that the proposed use is compatible, staff commence the rest of the Property Access Agreement review process that must be completed before the Agreement is granted.
      1. Following RCUP adoption, the anticipated next step is for staff to come forward to the Board with proposed updates to the Property Conveyance Policy.
   ii. If the final determination is that the proposed use is incompatible, staff go to Step 4.

4. **Incompatible Uses.** If the proposed use is determined to be incompatible, staff notify applicant of the results of the compatibility review and why the determination was made. Staff may provide information about the applicant's ability to pursue a Use Variance, which would need to go the Caltrain Board for approval to determine that the proposed use is compatible with current and future railroad needs.

5. **Use Variance.** Applicants may appeal an incompatibility determination by submitting a Use Variance application, which includes an opportunity to lay out the grounds for their appeal, as well as the Use Variance application fee.

   a. If a Use Variance application is received, staff determine current and future railroad needs in the proposed project's area, including potential future capital projects. Staff also do a preliminary assessment of the compatibility of the proposed use with Caltrain Engineering Standards, CPUC regulations, and State and federal regulations. Staff note if there are any issues that would need to

be resolved through the Property Access Agreement review process, or if there are any conditions or terms that would need to be included in the Property Access Agreement itself before it was granted.

b. Based on these assessments, a Staff Recommendation on the Use Variance is developed for the Board to approve, approve with conditions, or reject the Use Variance. The Use Variance and Staff Recommendation are reviewed by the Chief Operating Officer for Rail and the General Manager before they are submitted to the Board for review, along with the Use Variance application.

c. The Board may approve, approve with conditions, or reject a Use Variance. The Board's determination is the final decision about the compatibility of the proposed use with current and future railroad needs.

d. If the Use Variance is approved or approved with conditions by the Board, then the proposed use is considered to be compatible with the railroad's current and future needs, and staff commence the rest of the Property Access Agreement review process.

# ALLOWABLE NON-RAILROAD USES

## OVERVIEW

Each Property Use Zone has a range of non-railroad uses that may be allowed to be located within that zone. Allowable uses will vary depending on whether or not the proposed location is within the Service Vision Capital Project Overlay. The lists of allowable uses for each Property Use Zone are meant to be broad enough to give flexibility but also clear enough to provide sufficient direction regarding the expected type, location, and relation of proposed uses of JPB property along the rail corridor.

There are three general types of non-railroad uses, which each contain a variety of different types of uses: utilities; commercial and development uses; and community uses. Allowable uses are categorized by the duration of the proposed use of JPB property: short-term uses are for non-railroad uses that would be on JPB property for less than five years, while long-term uses are for non-railroad uses that would be on JPB property for more than five years.

In general, future capital projects (including vehicular grade separation projects) for the railroad are not considered non-railroad uses and are generally exempt from the Rail Corridor Use Policy's review process to determine their compatibility with the railroad's current and future needs. Instead, the review and approval of future capital projects, including any joint development elements that are integrated with the capital projects, should generally proceed via the railroad's approval process for capital projects. This general guidance applies to most capital projects that affect the railroad corridor; however, there may be exceptions with new potential capital projects that are proposed for the Caltrain corridor, which may, at the discretion of Caltrain staff, be required to undergo the Rail Corridor Use Policy's review process to ensure compatibility with the railroad's current and future needs. One notable exception from this general guidance is new crossings for bicycles and pedestrians in a location where a crossing does not currently exist. New bicycle and/or pedestrians crossings across the rail corridor (above the tracks or under the tracks) are considered to be a non-railroad use – specifically, they are considered to be community uses for a new access facility, not capital projects for the railroad. Additionally, as a final note on potential future capital projects, no new at-grade crossings of the railroad tracks are allowed for any mode of transportation at any location along the corridor.

All proposed uses must be compliant with local land use regulations. All proposed uses are subject to the JPB's fee schedule. All leases are expected to comply with requirements for fair market value. All proposed uses are subject to further review and approval from the JPB, in accordance with the Property Conveyance Policy.

## TABLES OF ALLOWABLE USES

Tables 1A, 2A, 3A, and 4A present the allowable uses for each Property Use Zone without the Service Vision Capital Project Overlay. Tables 1B, 2B, 3B, and 4B present the allowable uses for each Property Use Zone within the Service Vision Capital Project Overlay. When applicable, the tables note when additional review may be needed to determine compatibility with the current and future needs of the railroad.

## OPERATING RIGHT-OF-WAY

**Table 1A: Operating Right-of-Way (Property Use Zone 1) – No Service Vision Capital Project Overlay**

| *Non-Railroad Short-term Uses (< 5 Years)* | *Non-Railroad Long-term Uses (> 5 Years)* |
|---|---|
| **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve as a conduit for vital public services | **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve as a conduit for vital public services |
| **Commercial and development uses:**<br>- None | **Commercial and development uses:**<br>- None |
| **Community uses:**<br>- None | **Community uses:**<br>- None |
| **Notes for Review Process:**<br>- None | **Notes for Review Process:**<br>- None |

**Table 1B: Operating Right-of-Way (Property Use Zone 1) – With Service Vision Capital Project Overlay**

| *Non-Railroad Short-term Uses (< 5 Years)* | *Non-Railroad Long-term Uses (> 5 Years)* |
|---|---|
| **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve as a conduit for vital public services | **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve as a conduit for vital public services |
| **Commercial uses:**<br>- None | **Commercial uses:**<br>- None |
| **Community uses:**<br>- None | **Community uses:**<br>- None |
| **Notes for Review Process:**<br>- None | **Notes for Review Process:**<br>- None |

## STATION RIGHT-OF-WAY

**Table 2A: Station Right-of-Way (Property Use Zone 2) – No Service Vision Capital Project Overlay**

| *Non-Railroad Short-term Uses (< 5 Years)* | *Non-Railroad Long-term Uses (> 5 Years)* |
|---|---|
| **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve vital public services could be considered | **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve vital public services could be considered |
| **Commercial and development uses:**<br>- Within existing structures on JPB property:<br>  ○ Eating and drinking establishments<br>  ○ Retail establishments<br>  ○ Offices<br>  ○ Museums<br>- Other uses that serve commercial purposes that are compatible with the railroad could be considered | **Commercial and development uses:**<br>- Within existing structures on JPB property:<br>  ○ Eating and drinking establishments<br>  ○ Retail establishments<br>  ○ Offices<br>  ○ Museums<br>- New, long-term buildings or structures on JPB property to be used as offices, hotels, residences, retail space, etc.<br>- Other uses that serve commercial purposes that are compatible with the railroad could be considered, including the use of air rights. |
| **Community uses:**<br>- Access facilities, such as walking or bicycling paths<br>- Recreational facilities, such as a park or community garden<br>- Community event, such as a farmers market<br>- Other uses that serve public purposes and are compatible with the railroad could be considered | **Community uses:**<br>- Access facilities, such as walking or bicycling paths<br>- Recreational facilities, such as a park or community garden<br>- Community event, such as a farmers market<br>- Other uses that serve public purposes and are compatible with the railroad could be considered |
| **Notes for Review Process:**<br>- Station Compatibility: The proposed use's compatibility with the needs and functioning of the train station must be confirmed through the RCUP review process. | **Notes for Review Process:**<br>- Station Compatibility: The proposed use's compatibility with the needs and functioning of the train station must be confirmed through the RCUP review process.<br>- TOD Policy must be consulted for any proposed use that is more than 50 years in duration or for any proposed use that is on a site that could be contemplated for joint development. |

**Table 2B: Station Right-of-Way (Property Use Zone 2) – With Service Vision Capital Project Overlay**

| *Non-Railroad Short-term Uses (< 5 Years)* | *Non-Railroad Long-term Uses (> 5 Years)* |
|---|---|
| **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve vital public services could be considered | **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve vital public services could be considered |
| **Commercial and development uses:**<br>- Within existing structures on JPB property:<br>  ○ Eating and drinking establishments<br>  ○ Retail establishments<br>  ○ Offices<br>  ○ Museums<br>- Other uses that serve commercial purposes that are compatible with the railroad could be considered | **Commercial and development uses:**<br>- Within existing structures on JPB property:<br>  ○ Eating and drinking establishments<br>  ○ Retail establishments<br>  ○ Offices<br>  ○ Museums<br>- New, long-term buildings or structures that are designed and/or delivered in conjunction with the potential future capital project on JPB property (offices, hotels, residences, retail space, etc.), or that will be constructed after delivery of the potential future capital project.<br>- Other uses that serve commercial purposes that are compatible with the railroad could be considered, including the use of air rights. |
| **Community uses:**<br>- Community event, such as a farmers market | **Community uses:**<br>- None |
| **Notes for Review Process:**<br>- Station Compatibility: The proposed use's compatibility with the needs and functioning of the train station must be confirmed through the RCUP review process.<br>- Staff must determine that the proposed non-railroad use has a duration that concludes before the anticipated start of delivery of the potential capital project. | **Notes for Review Process:**<br>- Station Compatibility: The proposed use's compatibility with the needs and functioning of the train station must be confirmed through the RCUP review process.<br>- Staff must determine that that the proposed non-railroad use has a duration that concludes before the anticipated start of delivery of the potential capital project.<br>- TOD Policy must be consulted for any proposed use that is more than 50 years in duration or for any proposed use that is on a site that could be contemplated for joint development. |

## NON-OPERATING RIGHT-OF-WAY

**Table 3A: Non-Operating Right-of-Way (Property Use Zone 3) – No Service Vision Capital Project Overlay**

| *Non-Railroad Short-term Uses (< 5 Years)* | *Non-Railroad Long-term Uses (> 5 Years)* |
|---|---|
| **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve vital public services could be considered | **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve vital public services could be considered |
| **Commercial and development uses:**<br>- Within existing structures on JPB property:<br>  ○ Eating and drinking establishments<br>  ○ Retail establishments<br>  ○ Offices<br>  ○ Museums<br>- Vehicle sales, rentals, and service establishments<br>- Staging ground for nearby non-railroad construction projects<br>- Other uses that serve commercial purposes that are compatible with the railroad could be considered | **Commercial and development uses:**<br>- Within existing structures on JPB property:<br>  ○ Eating and drinking establishments<br>  ○ Retail establishments<br>  ○ Offices<br>  ○ Museums<br>- Vehicle sales, rentals, and service establishments<br>- New, long-term buildings or structures on JPB property to be used as offices, hotels, residences, retail space, etc.<br>- Other uses that serve commercial purposes that are compatible with the railroad could be considered, including the use of air rights. |
| **Community uses:**<br>- Access facilities, such as walking or bicycling paths<br>- Recreational facilities, such as a park or community garden<br>- Community event, such as a farmers market<br>- Other uses that serve public purposes and are compatible with the railroad could be considered | **Community uses:**<br>- Access facilities, such as walking or bicycling paths<br>- Recreational facilities, such as a park or community garden<br>- Community event, such as a farmers market<br>- Other uses that serve public purposes and are compatible with the railroad could be considered |
| **Notes on Review Process:**<br>- None | **Notes on Review Process:**<br>- TOD Policy must be consulted for any proposed use that is more than 50 years in duration or for any proposed use that is on a site that could be contemplated for joint development. |

**Table 3B: Non-Operating Right-of-Way (Property Use Zone 3) – With Service Vision Capital Project Overlay**

| *Non-Railroad Short-term Uses (< 5 Years)* | *Non-Railroad Long-term Uses (> 5 Years)* |
|---|---|
| **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve vital public services could be considered | **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve vital public services could be considered |
| **Commercial and development uses:**<br>- Within existing structures on JPB property:<br>  ○ Eating and drinking establishments<br>  ○ Retail establishments<br>  ○ Offices<br>  ○ Museums<br>- Vehicle sales, rentals, and service establishments<br>- Staging ground for nearby non-railroad construction projects<br>- Other uses that serve commercial purposes that are compatible with the railroad could be considered | **Commercial and development uses:**<br>- Within existing structures on JPB property:<br>  ○ Eating and drinking establishments<br>  ○ Retail establishments<br>  ○ Offices<br>  ○ Museums<br>- Vehicle sales, rentals, and service establishments<br>- New, long-term buildings or structures that are designed and/or delivered in conjunction with the potential future capital project on JPB property (offices, hotels, residences, retail space, etc.), or that will be constructed after delivery of the potential future capital project.<br>- Other uses that serve commercial purposes that are compatible with the railroad could be considered, including the use of air rights. |
| **Community uses:**<br>- Community event, such as a farmers market | **Community uses:**<br>- None |
| **Notes for Review Process:**<br>- Staff must determine that the proposed non-railroad use has a duration that concludes before the anticipated start of delivery of the potential capital project. | **Notes for Review Process:**<br>- Staff must determine that the proposed non-railroad use has a duration that concludes before the anticipated start of delivery of the potential capital project.<br>- TOD Policy must be consulted for any proposed use that is more than 50 years in duration or for any proposed use that is on a site that could be contemplated for joint development. |

## SPECIAL STUDY AREA

**Table 4A: Special Study Area (Property Use Zone 4) – No Service Vision Capital Project Overlay**

| *Non-Railroad Short-term Uses (< 5 Years)* | *Non-Railroad Long-term Uses (> 5 Years)* |
|---|---|
| **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve as a conduit for vital public services | **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve as a conduit for vital public services |
| **Commercial uses:**<br>- None | **Commercial uses:**<br>- None |
| **Community and development uses:**<br>- None | **Community and development uses:**<br>- None |
| **Notes for Review Process:**<br>- None | **Notes for Review Process:**<br>- None |

**Table 4B: Special Study Area (Property Use Zone 4) – With Service Vision Capital Project Overlay**

| *Non-Railroad Short-term Uses (< 5 Years)* | *Non-Railroad Long-term Uses (> 5 Years)* |
|---|---|
| **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve as a conduit for vital public services | **Utilities:**<br>- Facilities and infrastructure that support electricity, gas, water, sewer, telecommunications, etc.<br>- Other uses that serve as a conduit for vital public services |
| **Commercial uses:**<br>- None | **Commercial uses:**<br>- None |
| **Community and development uses:**<br>- None | **Community and development uses:**<br>- None |
| **Notes for Review Process:**<br>- None | **Notes for Review Process:**<br>- None |

# POLICIES AND PROCEDURES FOR UPDATING THE RCUP

The Rail Corridor Use Policy is intended to be updated as conditions change on the Caltrain corridor. Changes may be made by staff to ensure that the Rail Corridor Use Policy is kept up-to-date, and staff should regularly report any changes that have been made to the Board. The following list provides examples of circumstances under which the RCUP may be updated; however, this is not an exhaustive list and staff may make other changes as needed, so long as changes are reported to the Board.

## MAP CHANGES:

- The Property Use Zones should be updated as construction projects are completed. These updates should be completed to ensure that all property and facilities needed for the safe operation of the railroad are included in Property Use Zone 1 (Operating Right-of-Way).
- The Property Use Zones should be updated as conditions change on the corridor. For example, if there are any station closures in the future, that property should be converted from Property Use Zone 2 (Station Right-of-Way) to Property Use Zone 3 (Non-Operating Right-of-Way). As another example, if Caltrain enters into a formal, complex, multi-stakeholder planning process for one of its stations, that property may be changed to Property Use Zone 4 (Special Study Area).
- The Service Vision Capital Project Overlay should be updated as construction projects are completed. These updates should include removing the Overlay from areas where the construction project has been completed.
- The Service Vision Capital Project Overlay may have its component projects updated, including details about the projects and the projects' footprints, as partner agencies and cities take action on proposed alignments and alternatives, or as the projects reach the final phase of design.
- The Service Vision Capital Project Overlay should be updated to include all potential future capital projects that may be needed to deliver Caltrain's Long-Term Service Vision, including any new, yet-to-be-conceived capital projects.
- The Service Vision Capital Project Overlay should be updated if it is determined conclusively that a potential future capital project is not needed to deliver the Long-Term Service Vision and will not occur on the Caltrain corridor in the future.
- The maps should be updated to be consistent with the JPB's property holdings, including property which the agency owns in fee simple and property on which the agency has a perpetual operating easement. As the JPB's property holdings change over time, the RCUP maps should be updated to include all current JPB property holdings with assigned Property Use Zones. For example, if the JPB purchases additional property to support a capital project, the RCUP maps should be updated to include that new property holding, and Property Use Zones should be appropriately assigned when adding the new property holding to the RCUP maps.

## DECISION-MAKING FRAMEWORK

- While it is not anticipated that there will be substantial or significant changes to the RCUP's decision-making framework in the near future, any substantial or significant change that does arise will be reported to the Board. An example of this could be a substantial change to the types of uses that are allowed in a Property Use Zone.

# CALTRAIN RAIL CORRIDOR USE POLICY DRAFT MAP SERIES FOR THE CALTRAIN CORRIDOR

The following section of the Rail Corridor Use Policy contains a map series of the JPB's property and operating easements along the Caltrain corridor, beginning with a summary overview of the map contents and a quick reference guide to the Property Use Zones and Service Vision Capital Project Overlay.

## PENINSULA CORRIDOR JOINT POWERS BOARD

# CALTRAIN RAIL CORRIDOR USE POLICY DRAFT MAPS

### OVERVIEW:

- The RCUP is being developed to provide a Board-adopted policy framework around the use of Peninsula Corridor Joint Powers Board (JPB) property to support the achievement of the vision in the Caltrain Business Plan.
- The RCUP will include an administrative policy framework and a series of maps to facilitate decision-making regarding use of space on the JPB's limited property along the rail corridor. This PDF presents the draft maps for the RCUP project.

### PROJECT OBJECTIVES:

- Provide a Board-adopted policy framework that supports the delivery of Caltrain's long-term service vision while also clarifying nearer-term opportunities for the use of JPB property.
- Develop a process for considering and approving the range of proposed uses and projects on JPB property.
- Provide transparency and clarity on the decision-making process and outcomes.

## PROPERTY USE ZONES

### Property Use Zone 1 – Operating Right-of-Way

- Property Use Zone 1 is the Operating Right-of-Way (ROW) land use district, and it includes property that is required for the safe operation of the railroad in its current configuration and for the Peninsula Corridor Electrification Project (PCEP).
- Land in Property Use Zone 1 is intended to serve railroad operations and is generally not available for non-railroad uses, except compatible utility uses.

### Property Use Zone 2 – Station Right-of-Way

- Property Use Zone 2 is the Station Right-of-Way land use district, and it includes property that is located at and near Caltrain's stations.
- Property in the Station Right-of-Way includes facilities that support the functioning of the railroad station, including station buildings, access facilities (such as sidewalks, driveways, loading and unloading areas, car parking facilities, bike parking facilities, etc.), passenger waiting areas, etc.
- Property Use Zone 2 could potentially have non-railroad land uses that are compatible with the functioning of the station and the safe operation of the railroad.

### Property Use Zone 3 – Non-Operating Right-of-Way

- Property Use Zone 3 is the Non-Operating Right-of-Way land use district, and it includes all JPB property that is not already included in Property Use Zones 1, 2, and 4.
- Property in Property Use Zone 3 could potentially have non-railroad land uses that are compatible with the safe operation of the railroad, including development projects, commercial leases, community uses, etc.

### Property Use Zone 4 – Special Study Area

- Property Use Zone 4 Zone is the Special Study Area land use district, and it includes JPB property that is currently involved in a defined planning process that formally involves multiple stakeholders.
- Examples include areas of the corridor associated with the railroad terminal studies at San Francisco and San Jose.
- Land in Property Use Zone 4 is generally not available for non-railroad uses, except compatible utility uses, and future use of the property will generally be determined through the defined planning process in each area.

## SERVICE VISION CAPITAL PROJECT OVERLAY

### Service Vision Capital Project Overlay

- The Service Vision Capital Project Overlay serves as an overlay district that is applied on top of the Property Use Zones to JPB property along the Caltrain corridor.
- This overlay conceptually represents areas of JPB property along the Caltrain corridor that may be needed for potential future capital projects.
- Because it is known that the property within its boundaries may be needed for a potential capital project in the future, the Service Vision Capital Project Overlay is intended to ensure that JPB property would not become permanently encumbered or used in a way that would make it difficult or impossible to deliver the potential future capital project.
- The Service Vision Capital Project Overlay could potentially have non-railroad land uses that are compatible with the safe operation of the railroad and that will be terminated before the anticipated start of the potential future capital project.
- The Service Vision Capital Project Overlay could also be potentially available for a future, long-term, non-railroad use of the land that is co-designed with the potential future capital project, that is co-delivered with the potential future capital project, or that is delivered after completion of the potential future capital project.

**Note:** Maps are for general information only. Peninsula Corridor Joint Powers Board property lines are approximate and for illustrative purposes only.

**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 1 OF 34


- 4th & King Station
- 22nd Street Station
- Bayshore Station
- South San Francisco Station
- San Bruno Station
- Millbrae Station
- Broadway Station
- Burlingame Station
- San Mateo Station
- Hayward Park Station
- Hillsdale Station
- Belmont Station
- San Carlos Station
- Redwood City Station
- Atherton Station
- Menlo Park Station
- Palo Alto Station
- Stanford Stadium Station
- California Avenue Station
- San Antonio Station
- Mountain View Station
- Sunnyvale Station
- Lawrence Station
- Santa Clara Station
- College Park Station
- San Jose Diridon Station
- Tamien Station

JPB-Owned
UPRR-Owned

- Capitol Station

## Legend

### Property Use Zones

- 1: Operating Right-of-Way
- 2: Station Right-of-Way
- 3: Non-Operating Right-of-Way
- 4: Special Study Area

### Service Vision Capital Project Overlay

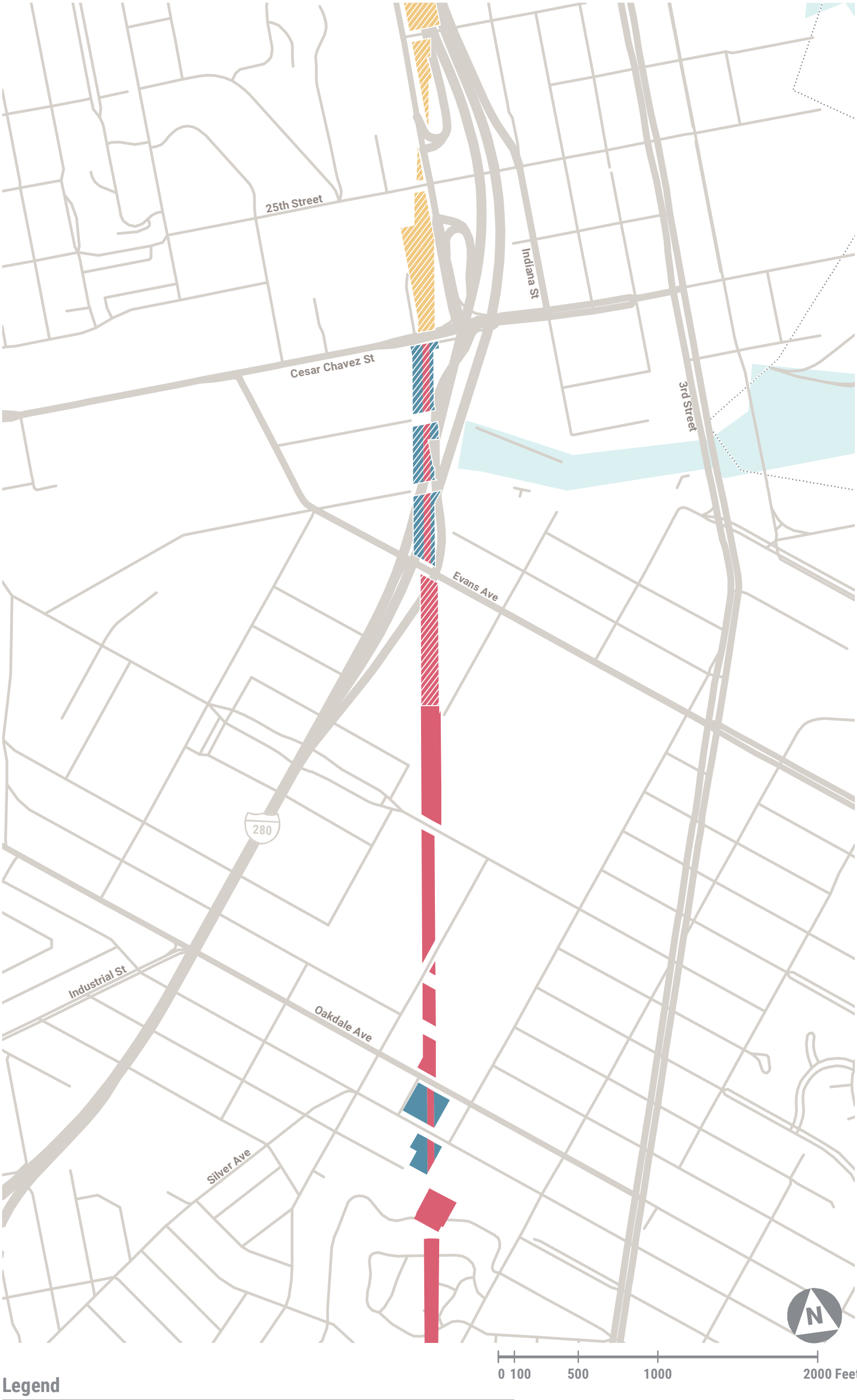
- Service Vision Capital Project Overlay

**Note:** Map is for general information only. Peninsula Corridor Joint Powers Board property lines are approximate and for illustrative purposes only. In portions of San Francisco, the Peninsula Corridor Joint Powers Board has a perpetual operating easement but does not own the property in fee.

**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 2 OF 34




- 4th & King Station
- 22nd Street Station
- Bayshore Station
- South San Francisco Station
- San Bruno Station
- Millbrae Station
- Broadway Station
- Burlingame Station
- San Mateo Station
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## Legend

### Property Use Zones

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# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 3 OF 34


- 4th & King Station
- 22nd Street Station
- Bayshore Station
- South San Francisco Station
- San Bruno Station
- Millbrae Station
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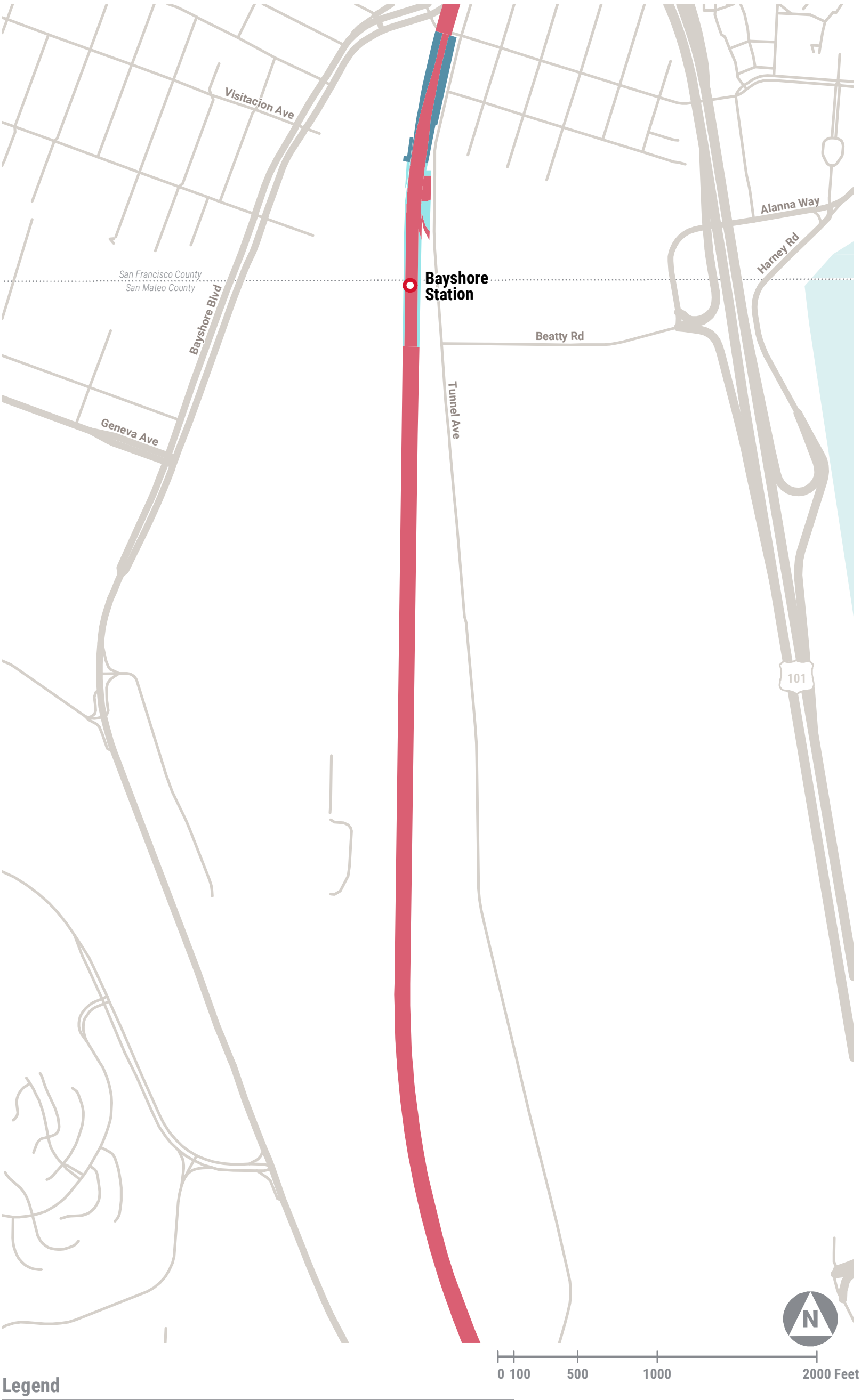
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 4 OF 34




- 4th & King Station
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### Property Use Zones

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- Service Vision Capital Project Overlay

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**PENINSULA CORRIDOR JOINT POWERS BOARD**

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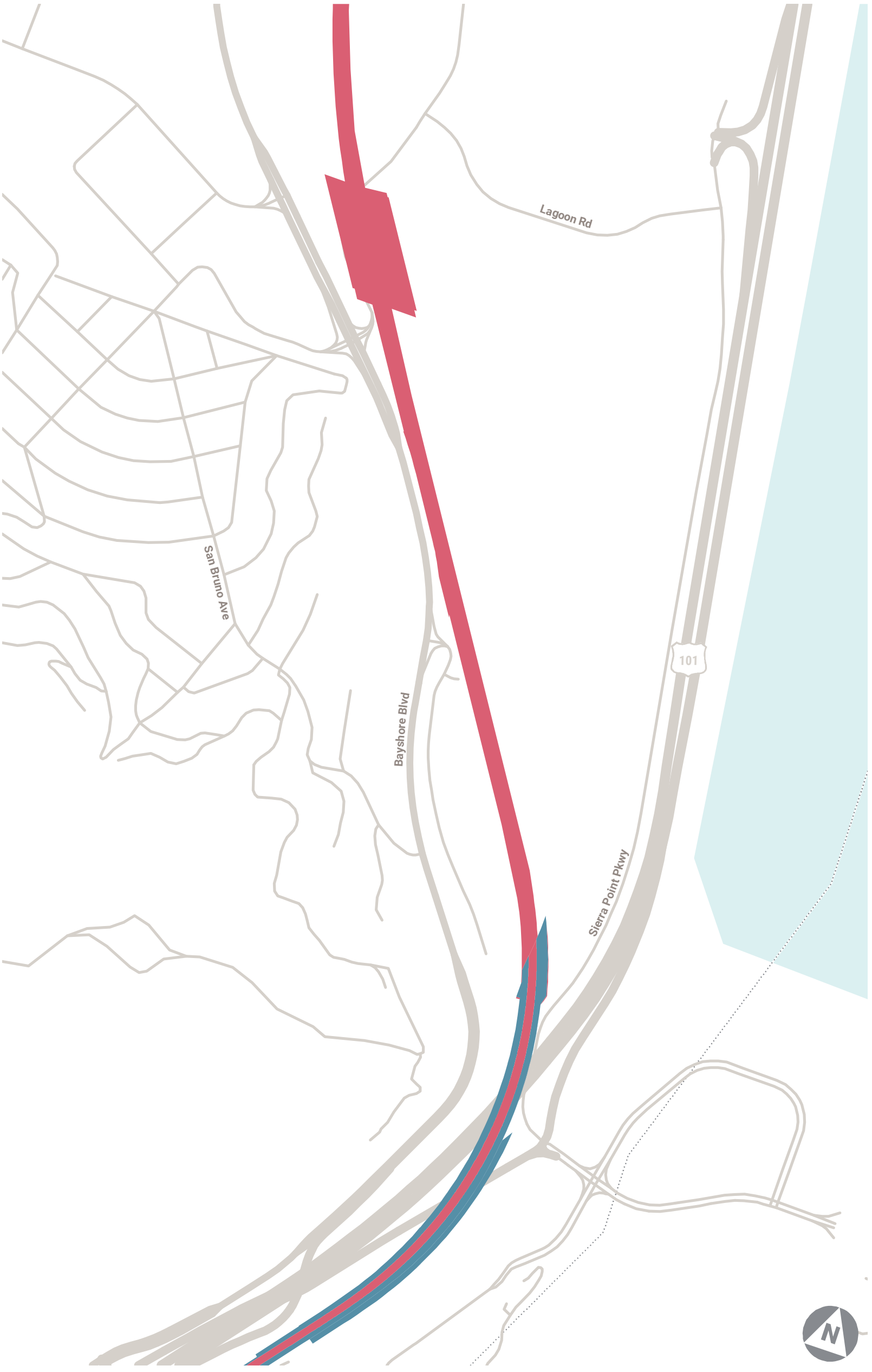
# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 5 OF 34

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### Service Vision Capital Project Overlay

- Service Vision Capital Project Overlay

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**PENINSULA CORRIDOR JOINT POWERS BOARD**

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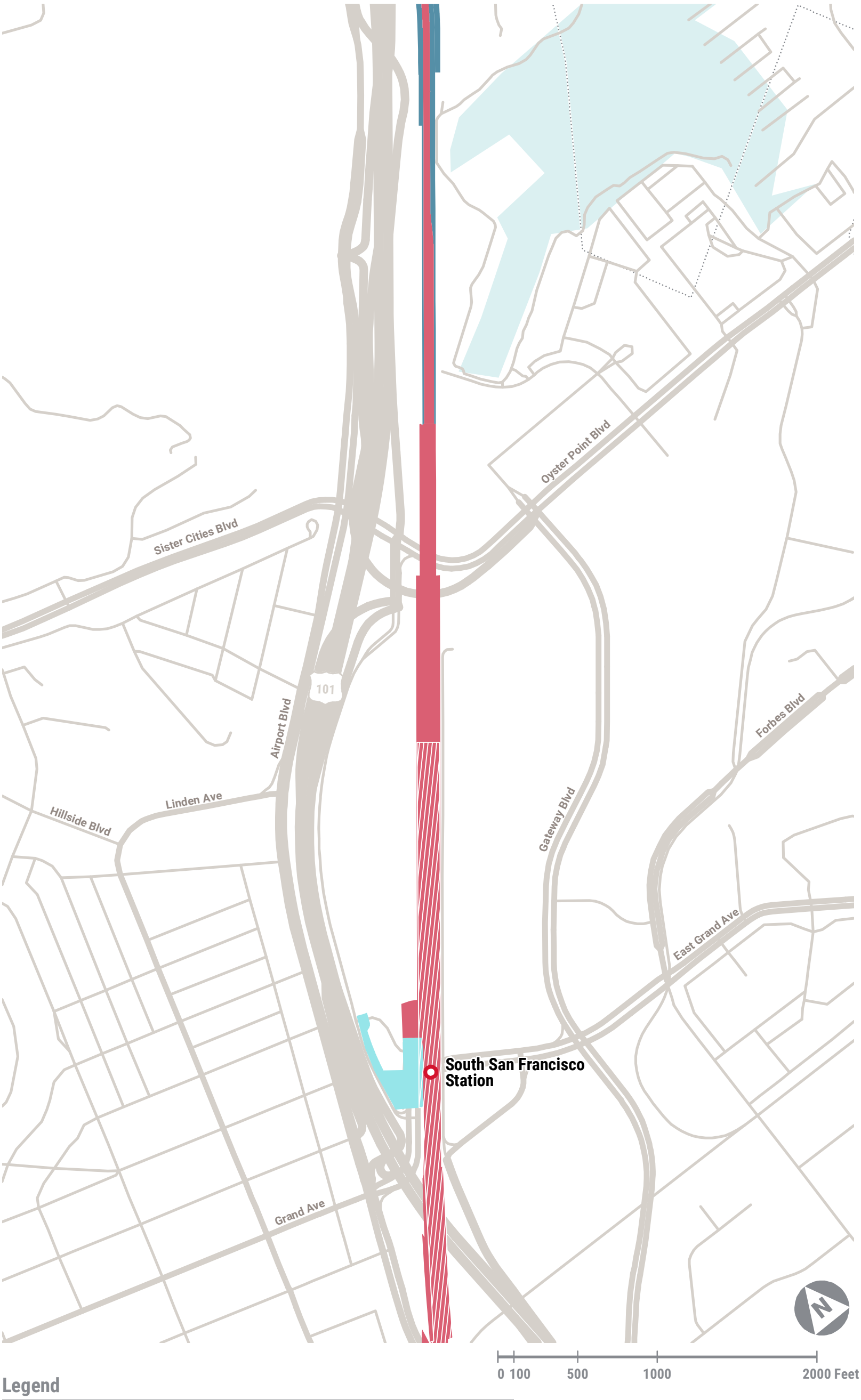
# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 6 OF 34

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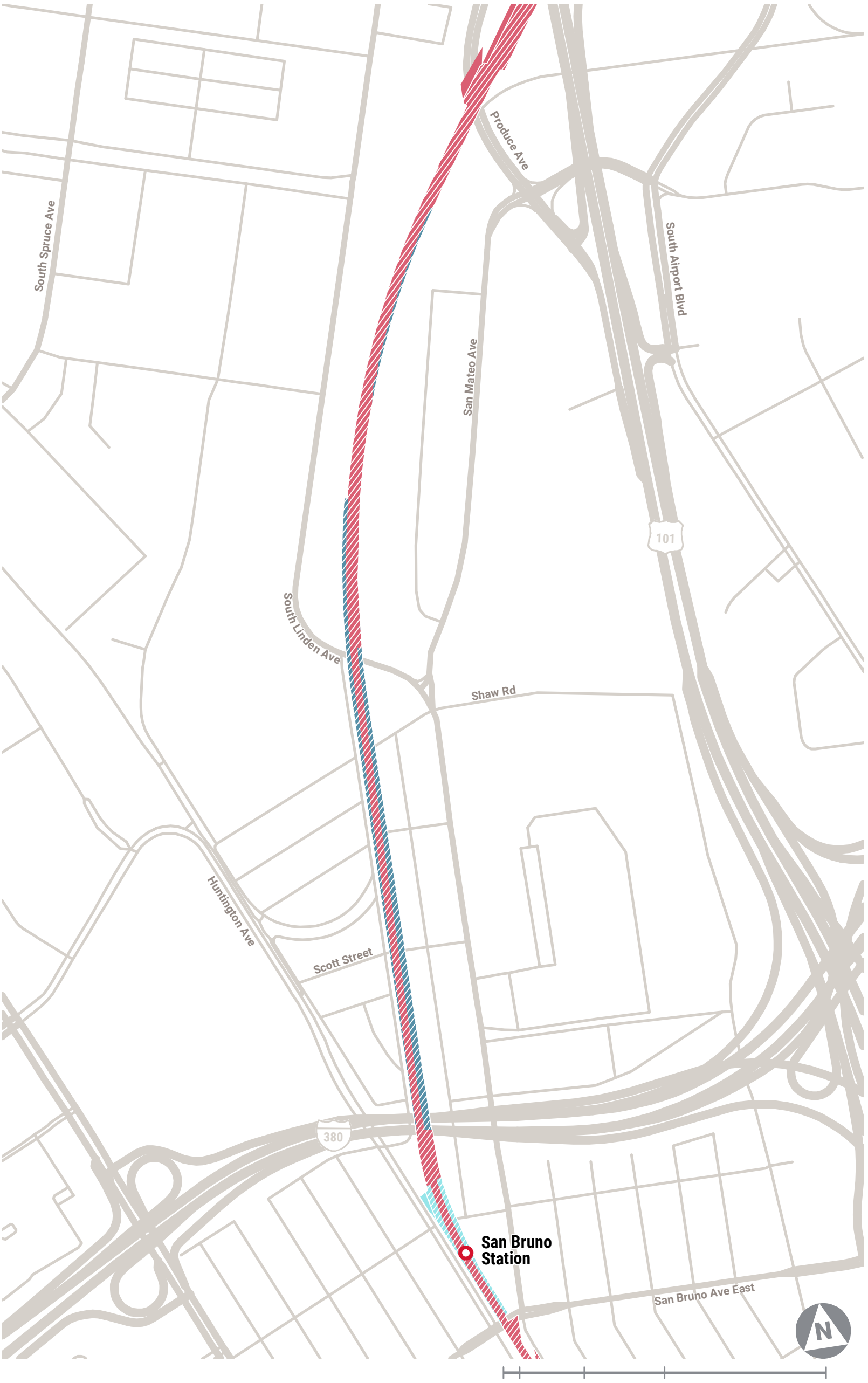
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 7 OF 34

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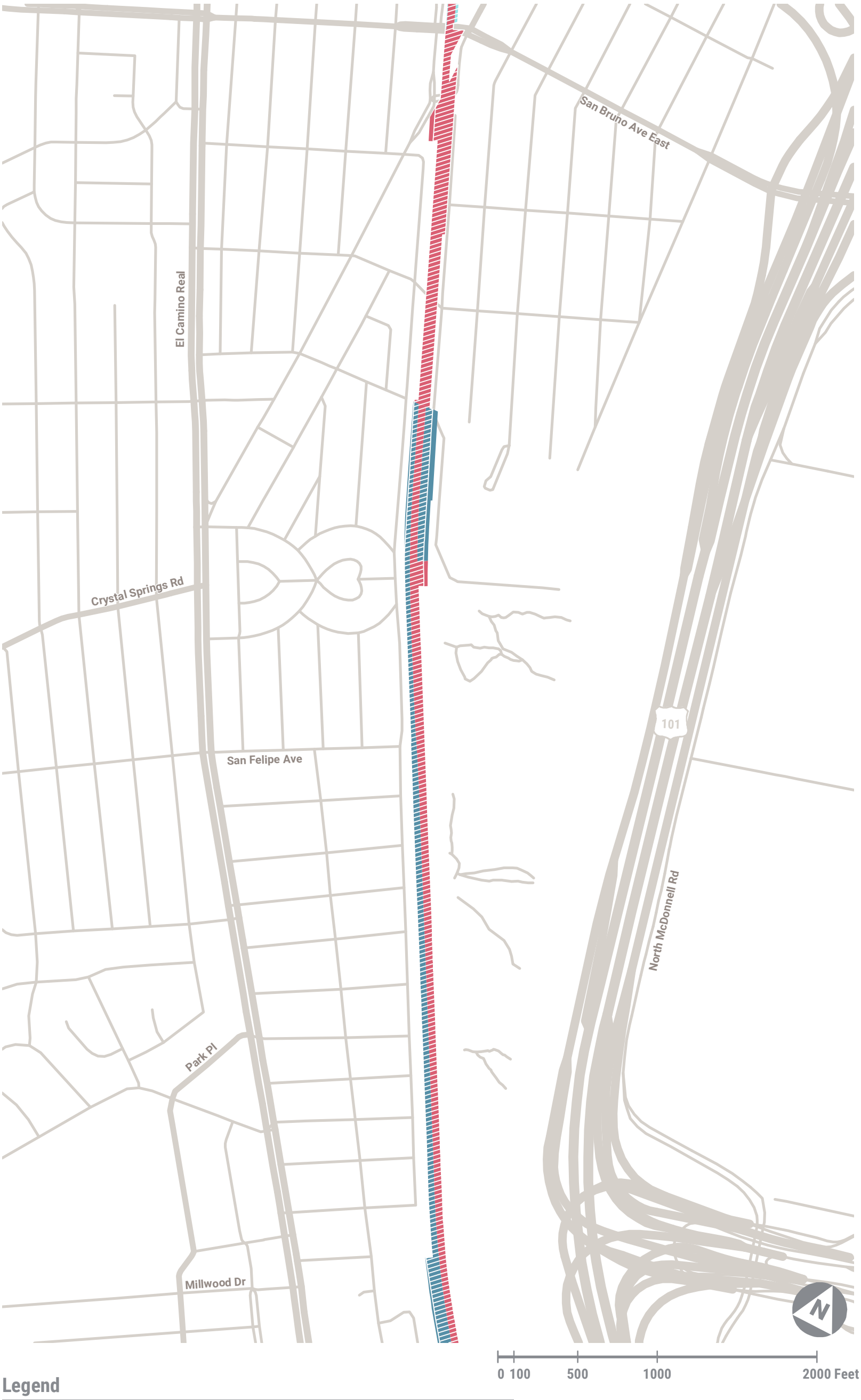
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 8 OF 34

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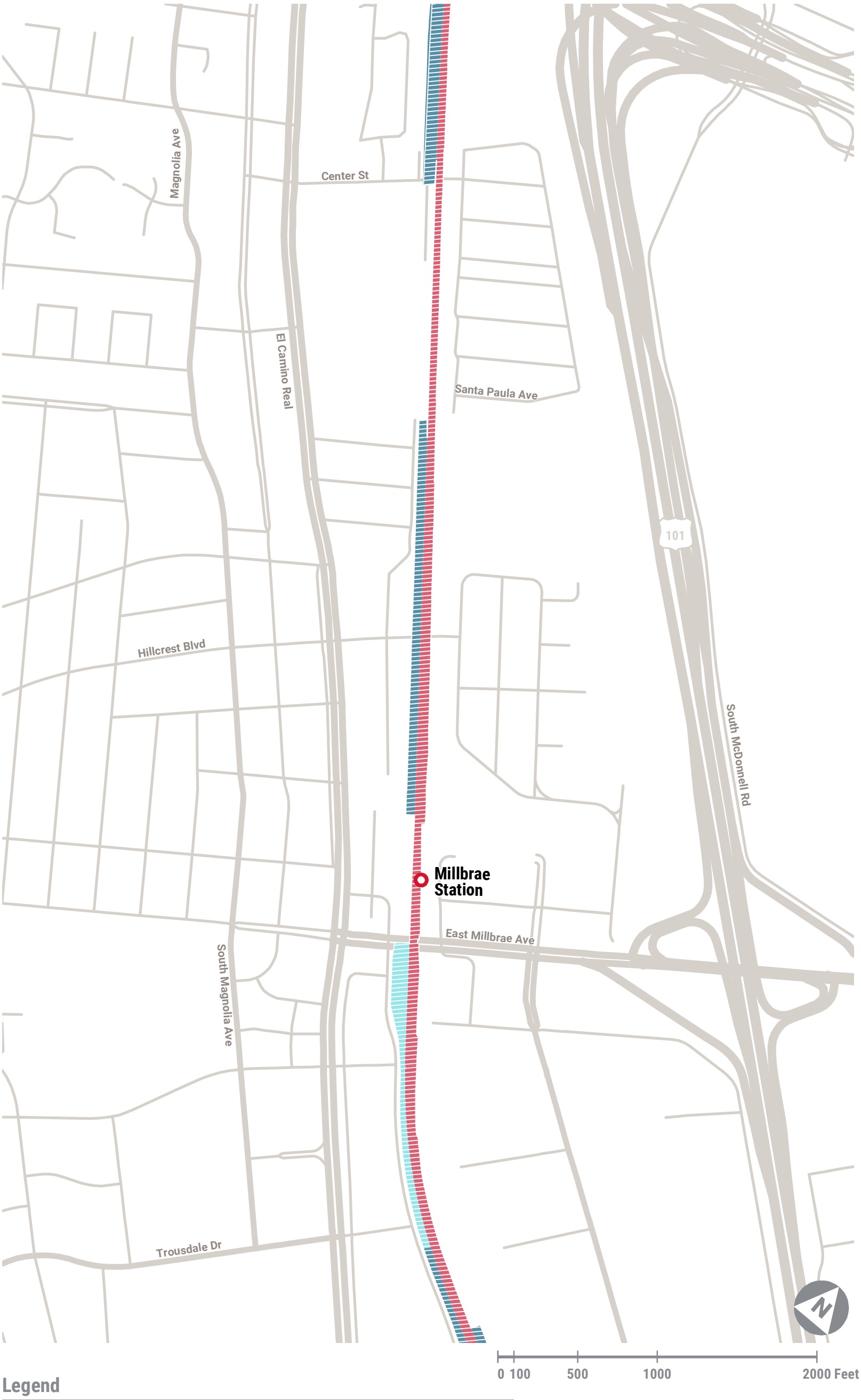
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 9 OF 34

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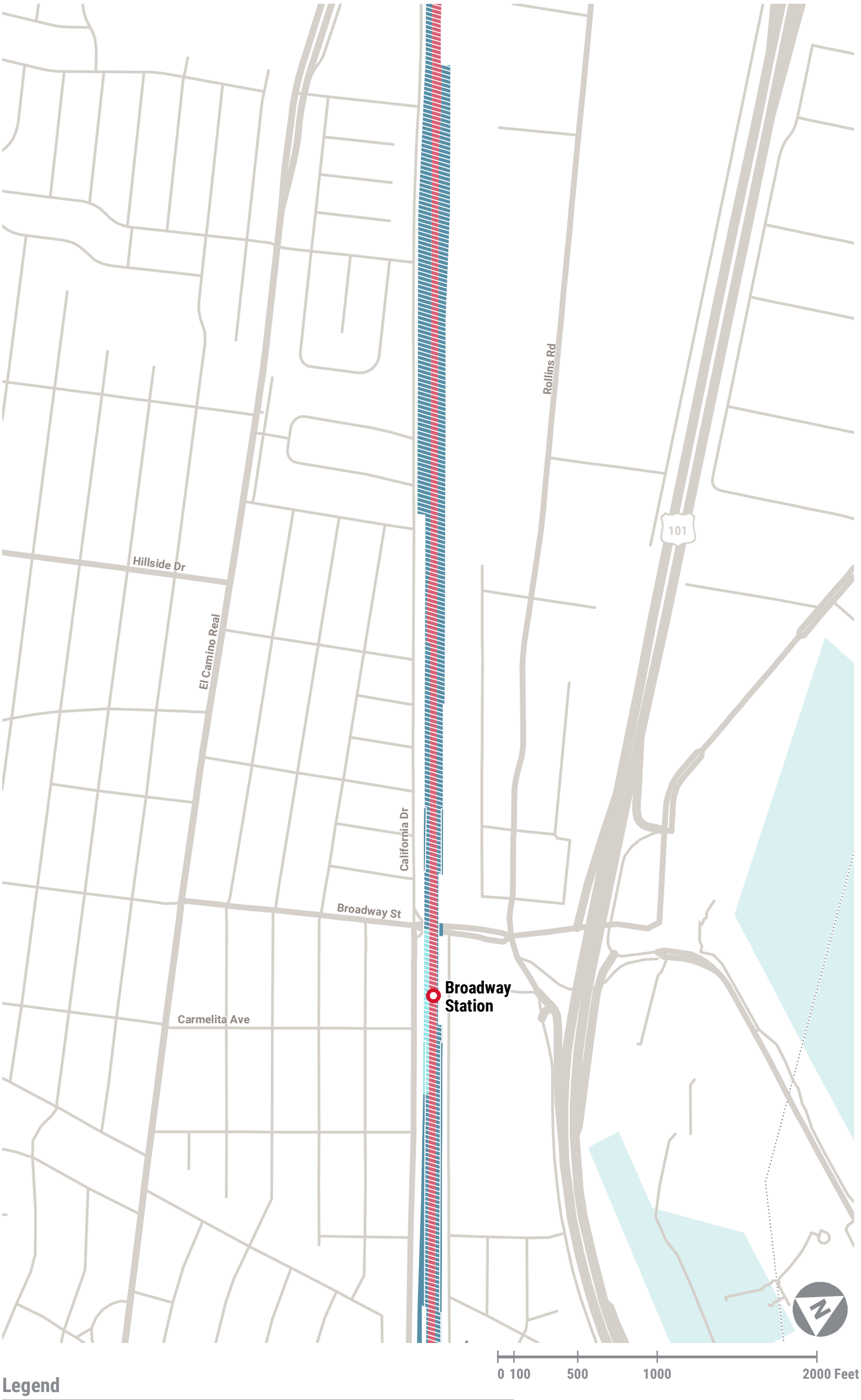
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 10 OF 34

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### Property Use Zones

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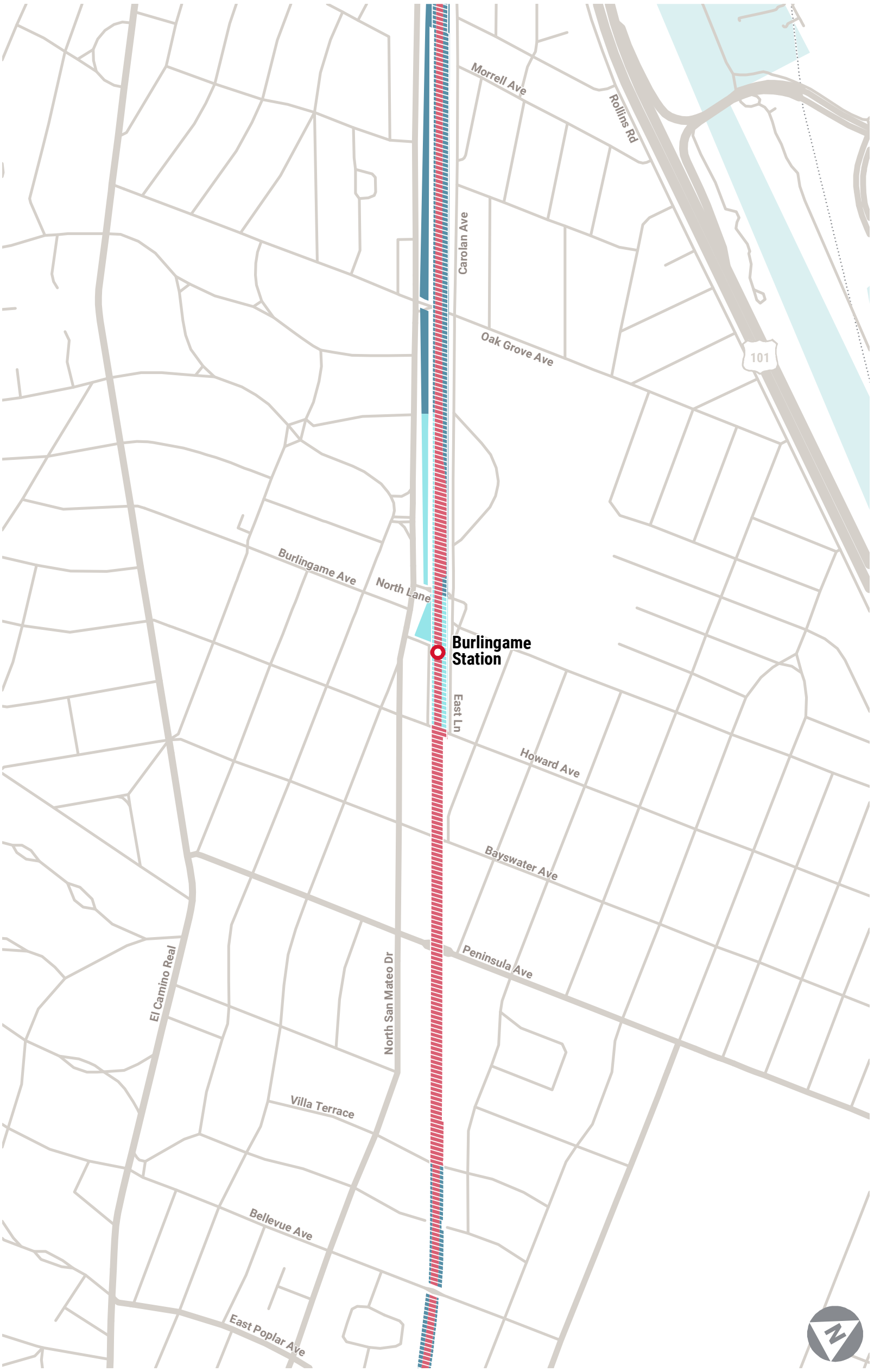
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 11 OF 34

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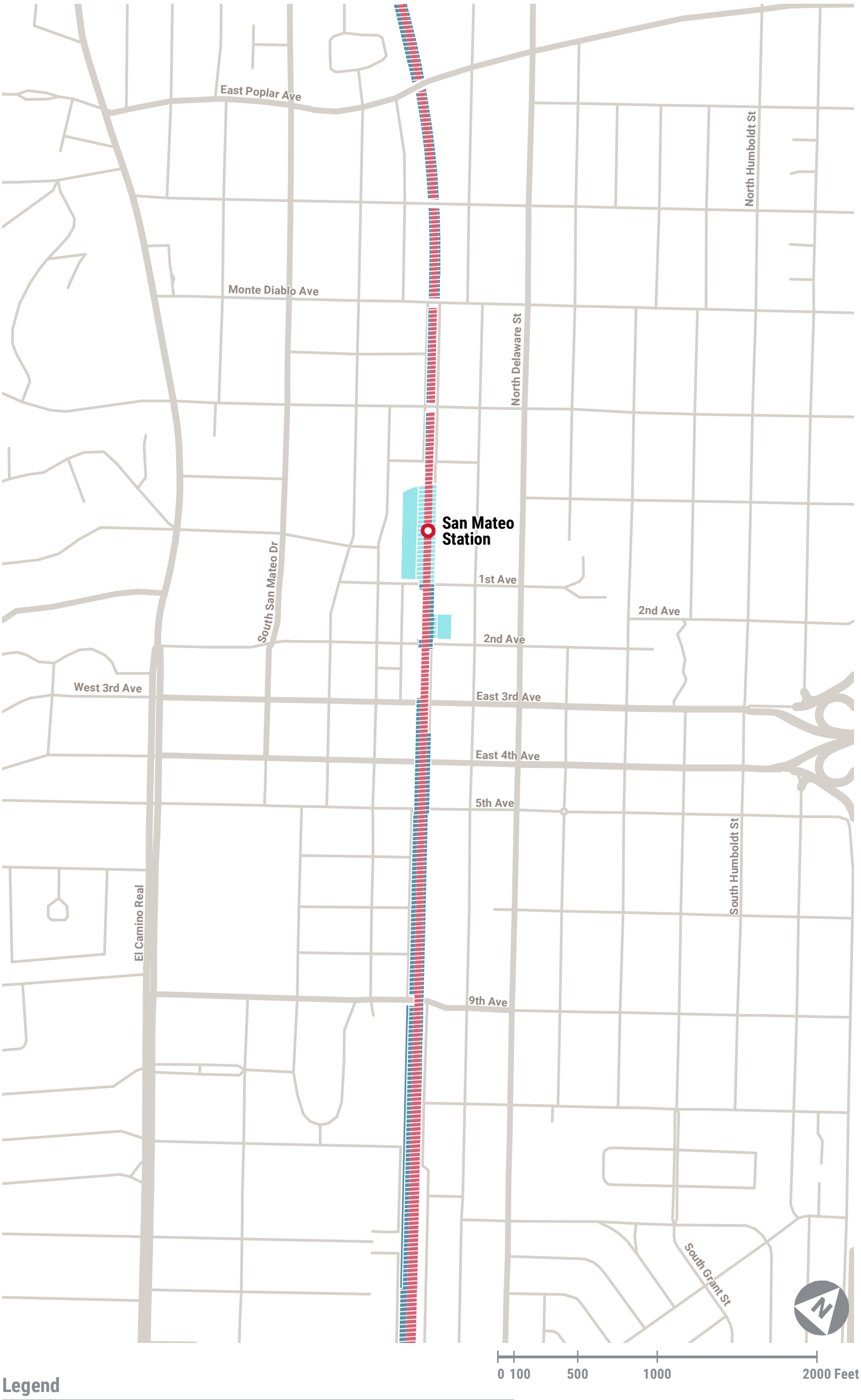
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 12 OF 34




## Legend

### Property Use Zones

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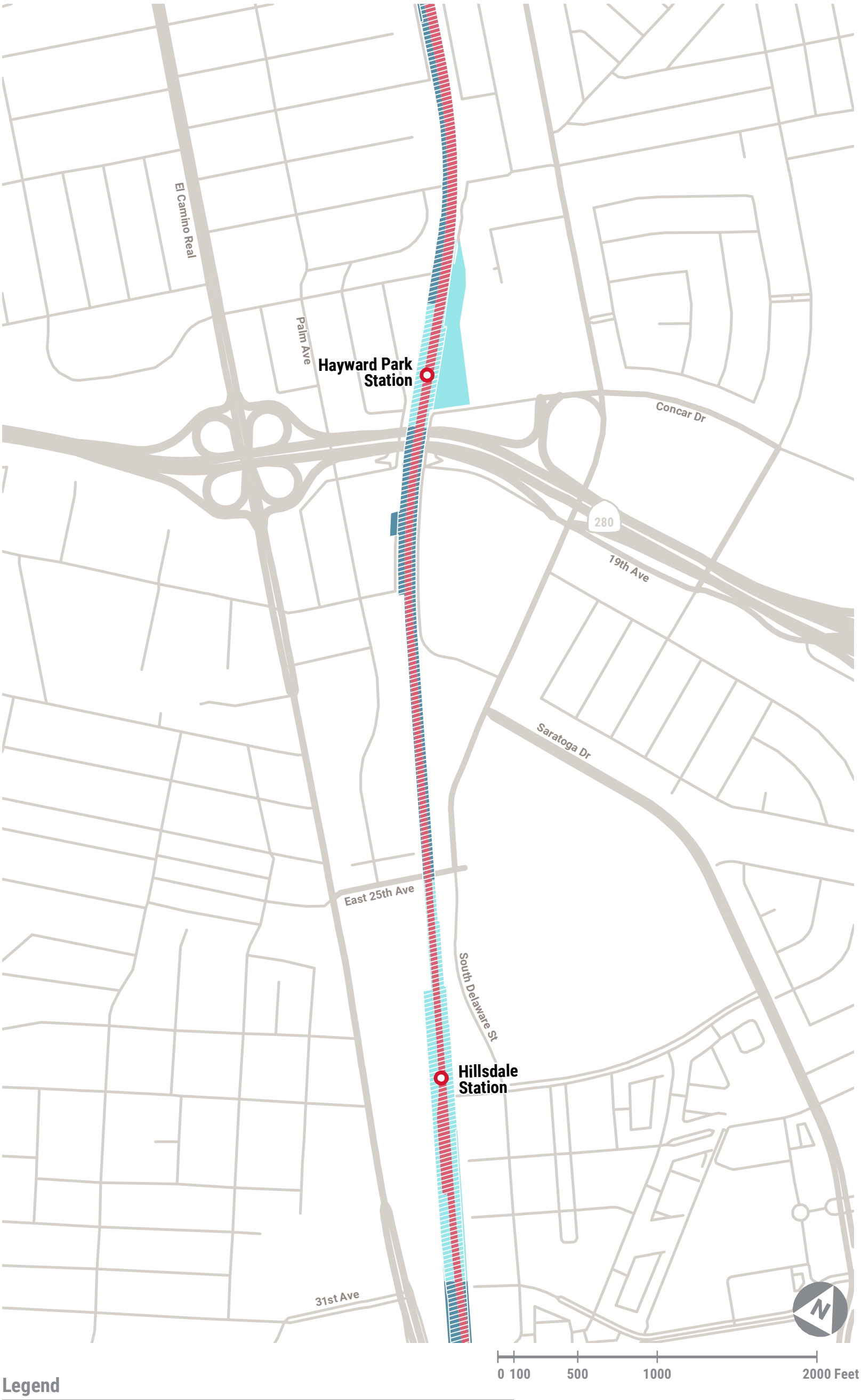
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 13 OF 34

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### Service Vision Capital Project Overlay

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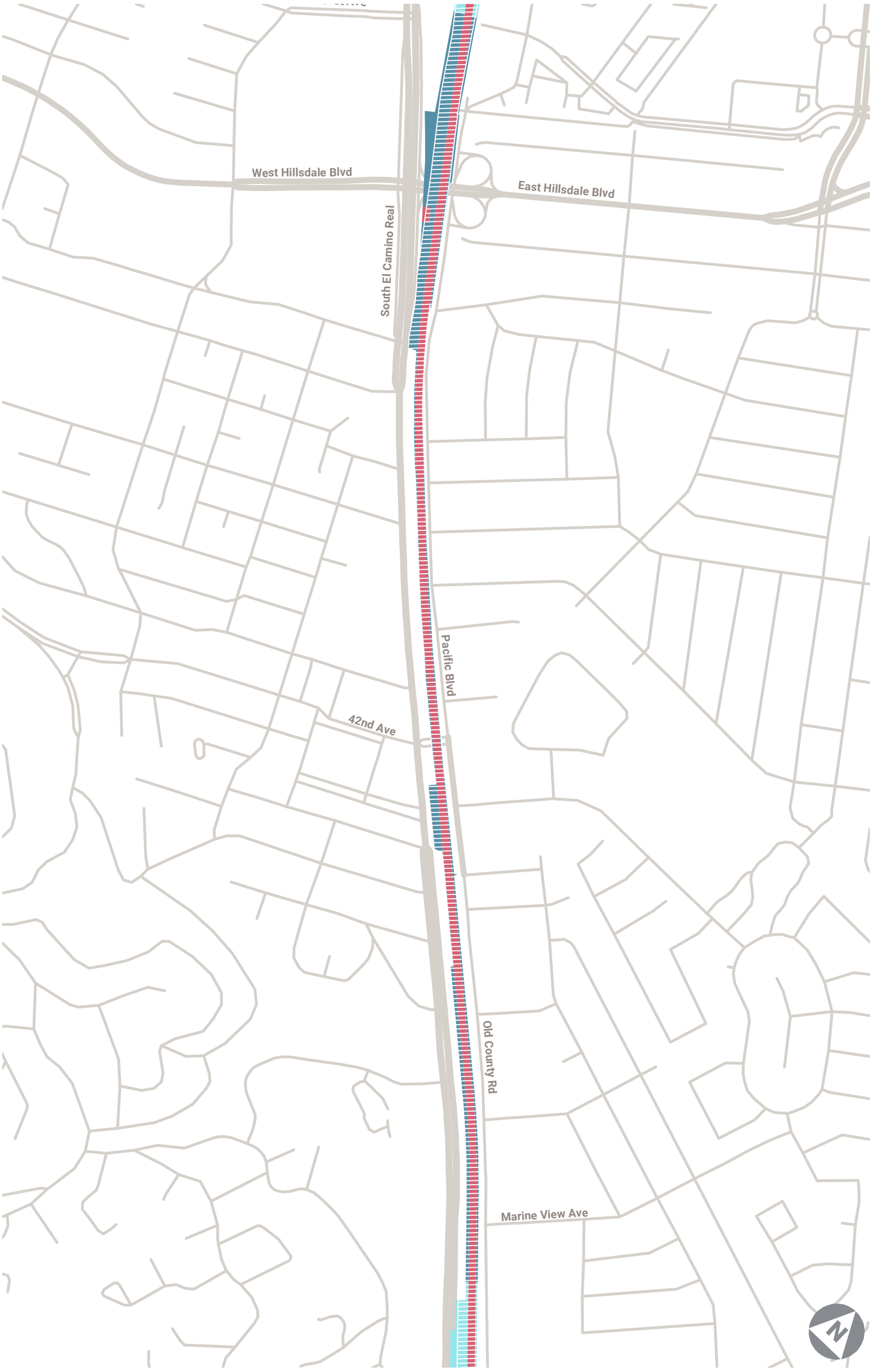
# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 14 OF 34

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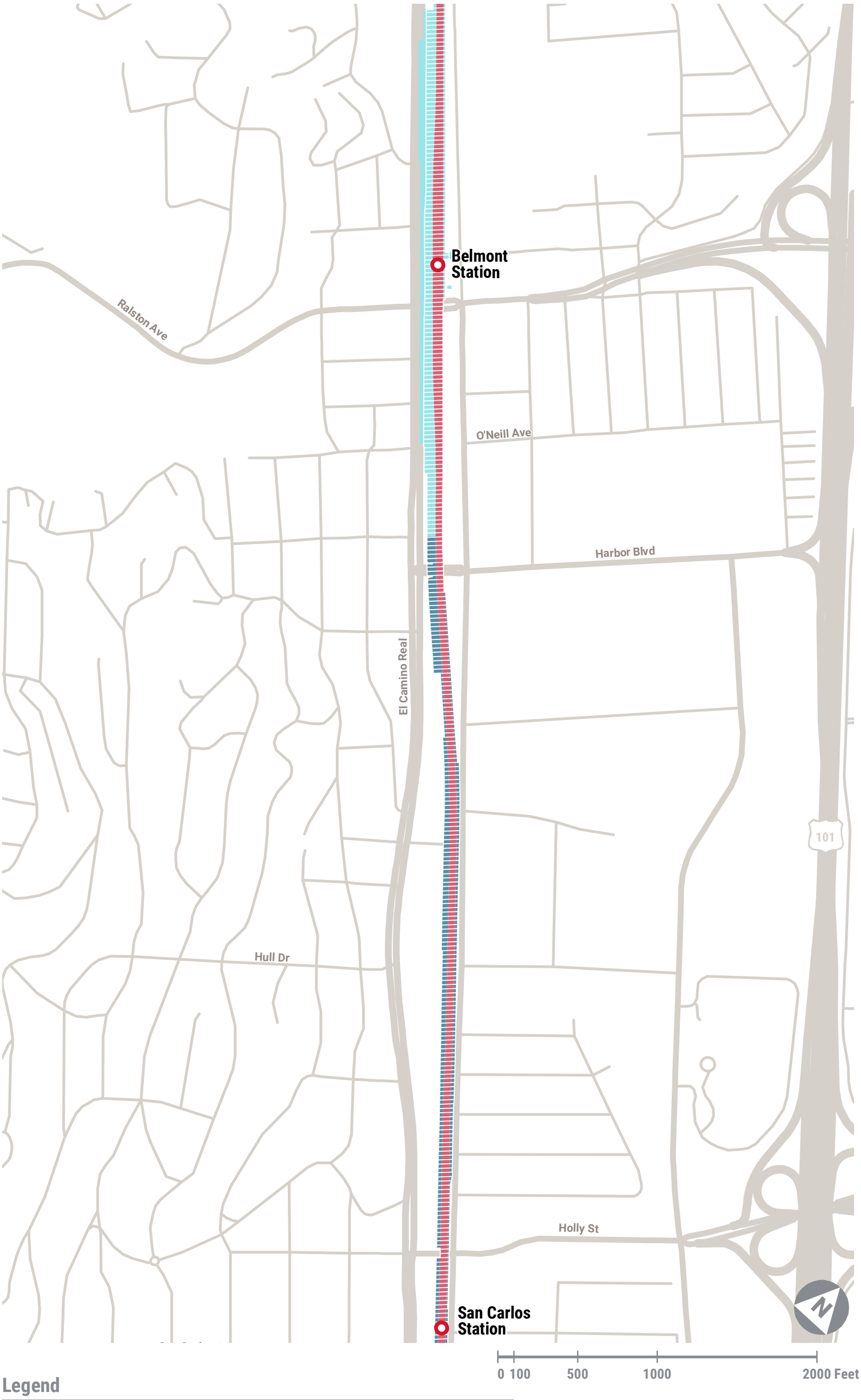
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 15 OF 34

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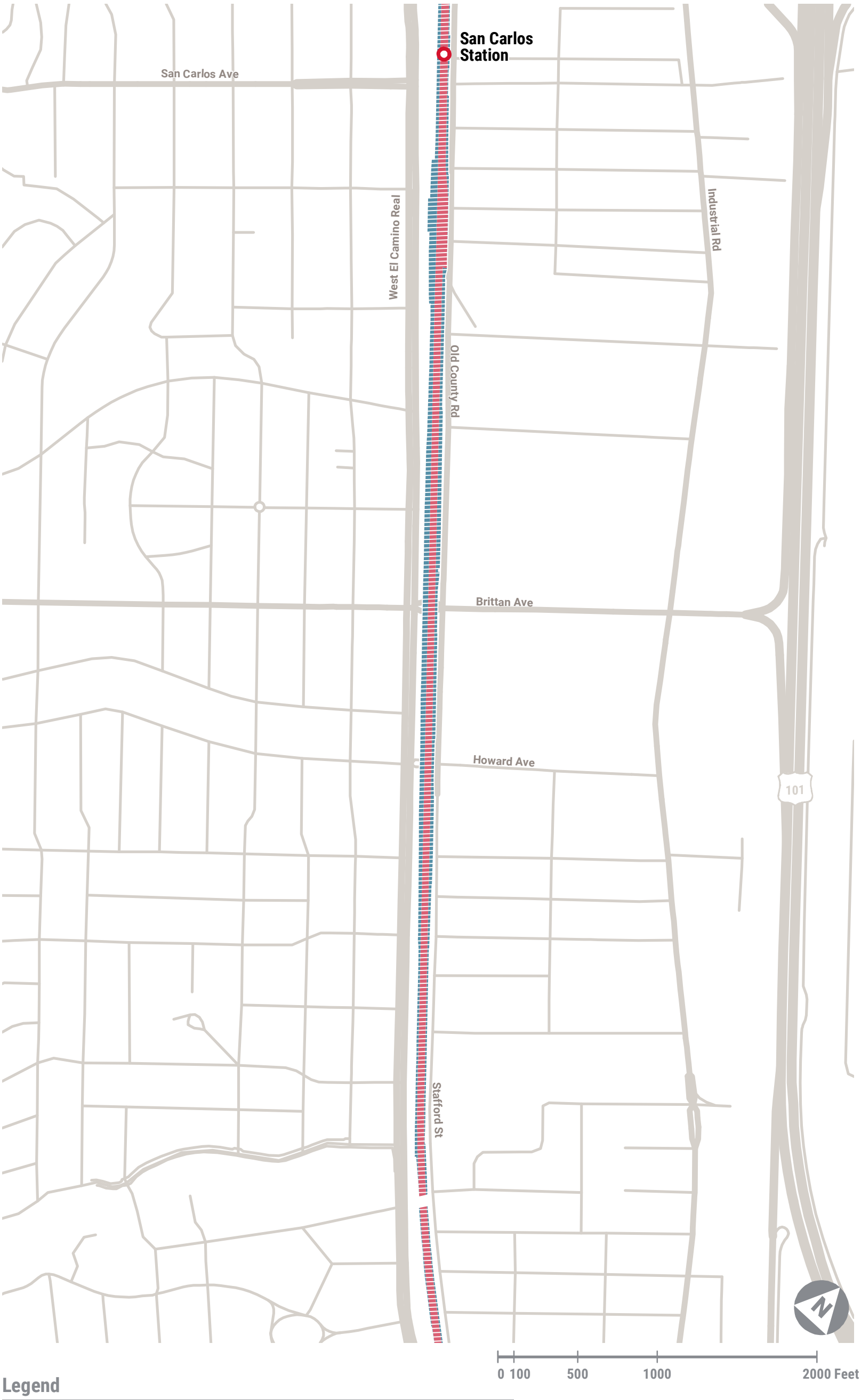
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 16 OF 34

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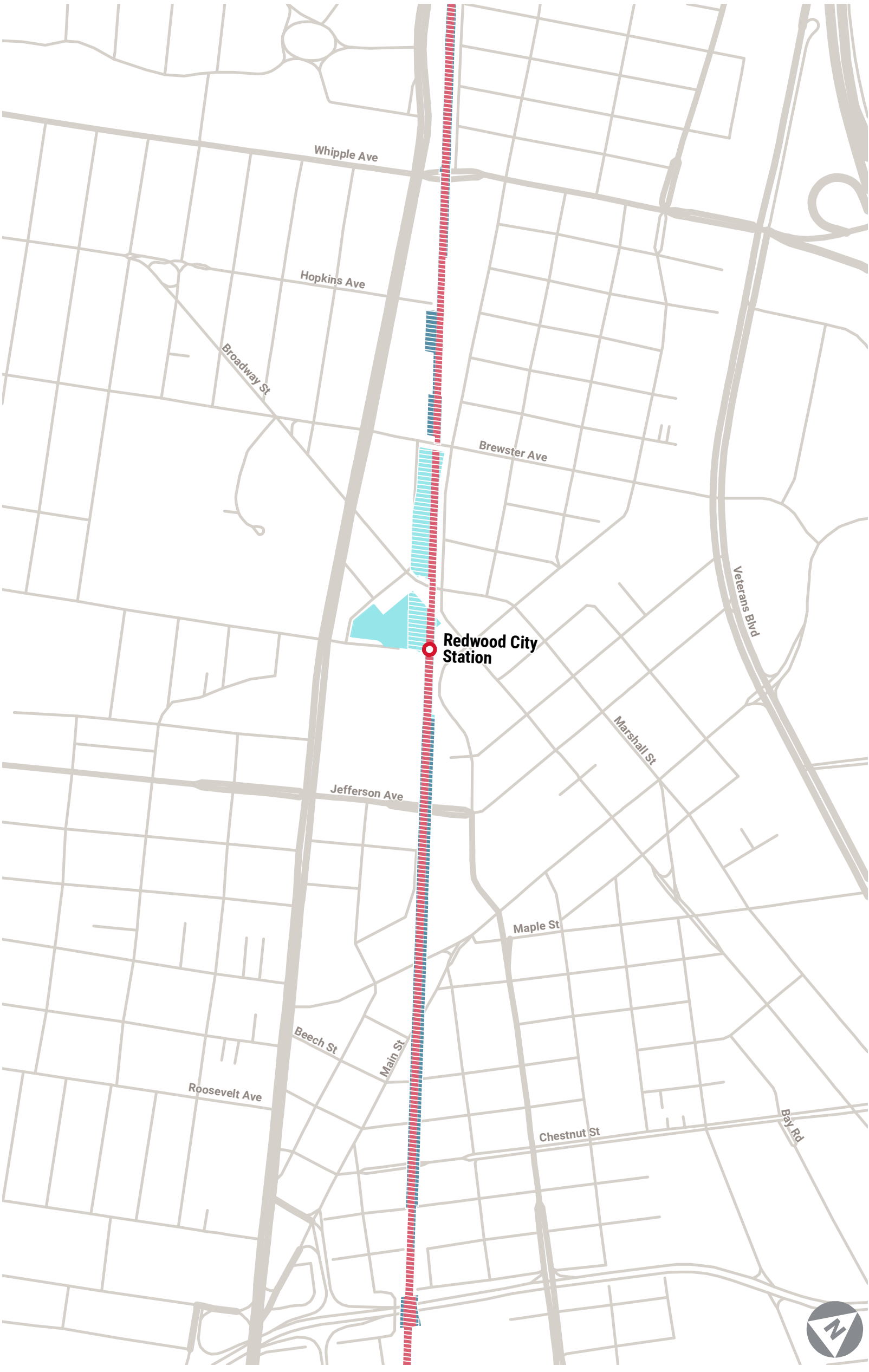
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 17 OF 34

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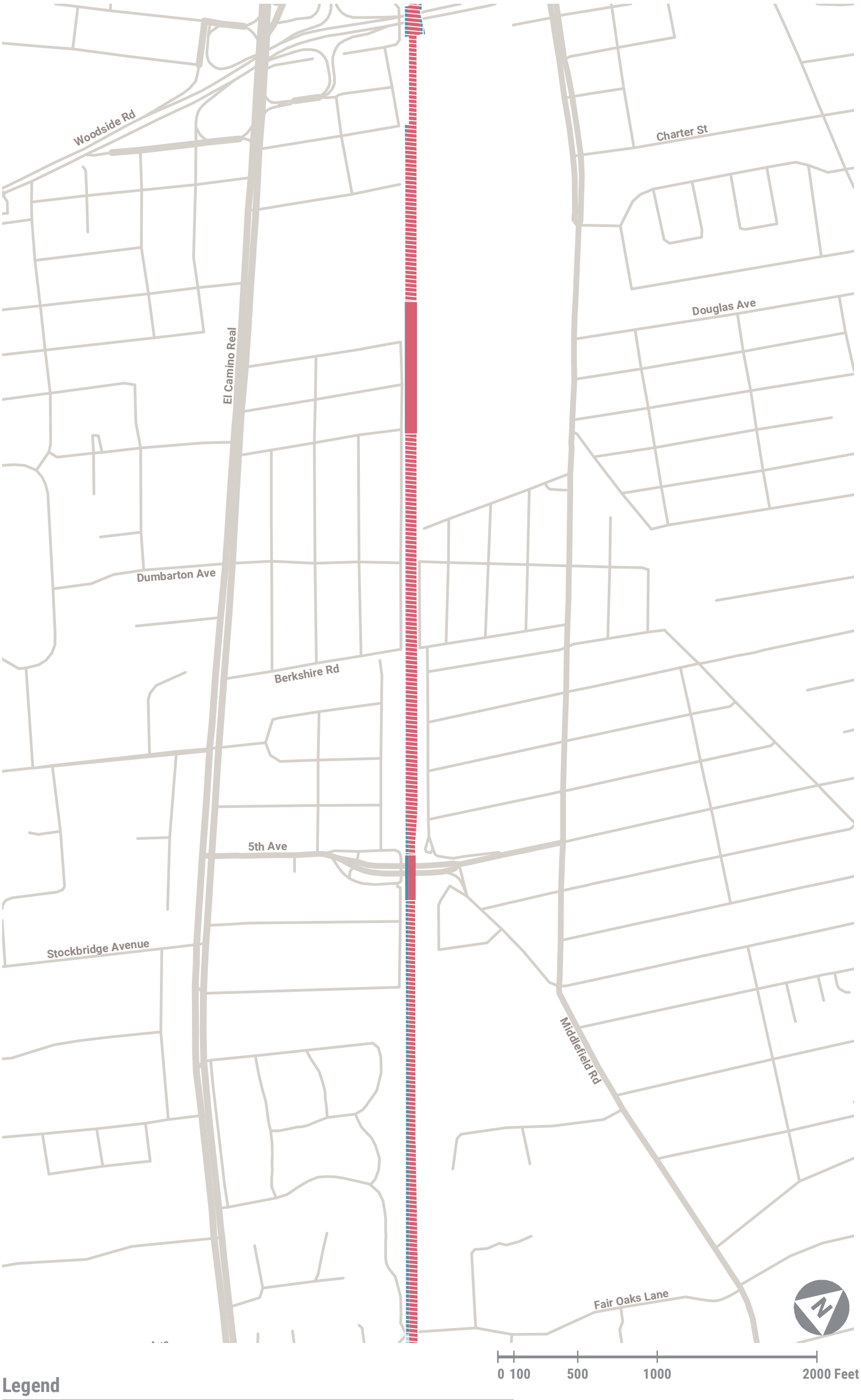
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 18 OF 34




## Legend

### Property Use Zones

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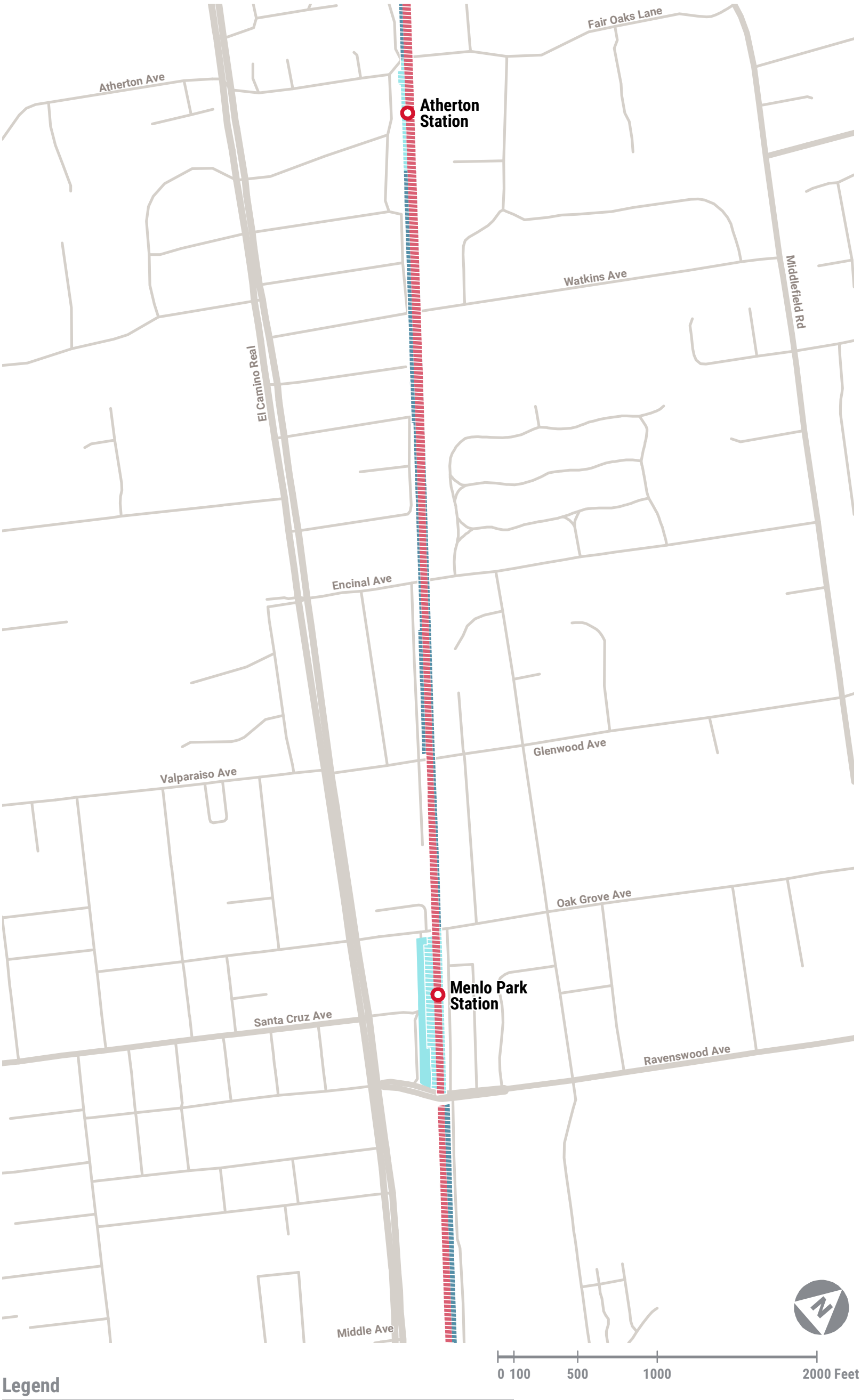
# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 19 OF 34




## Legend

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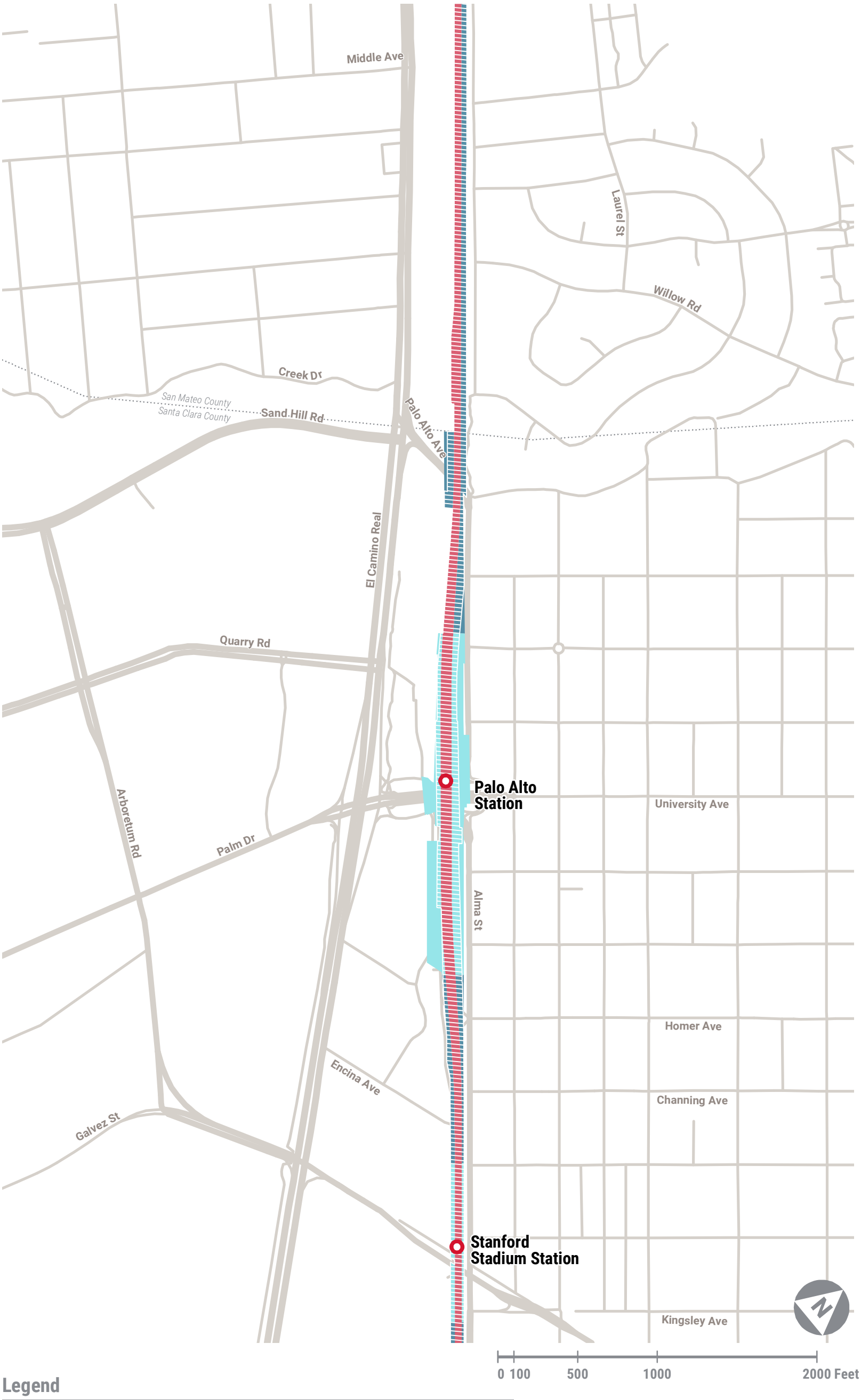
# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 20 OF 34

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**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 21 OF 34


## Legend

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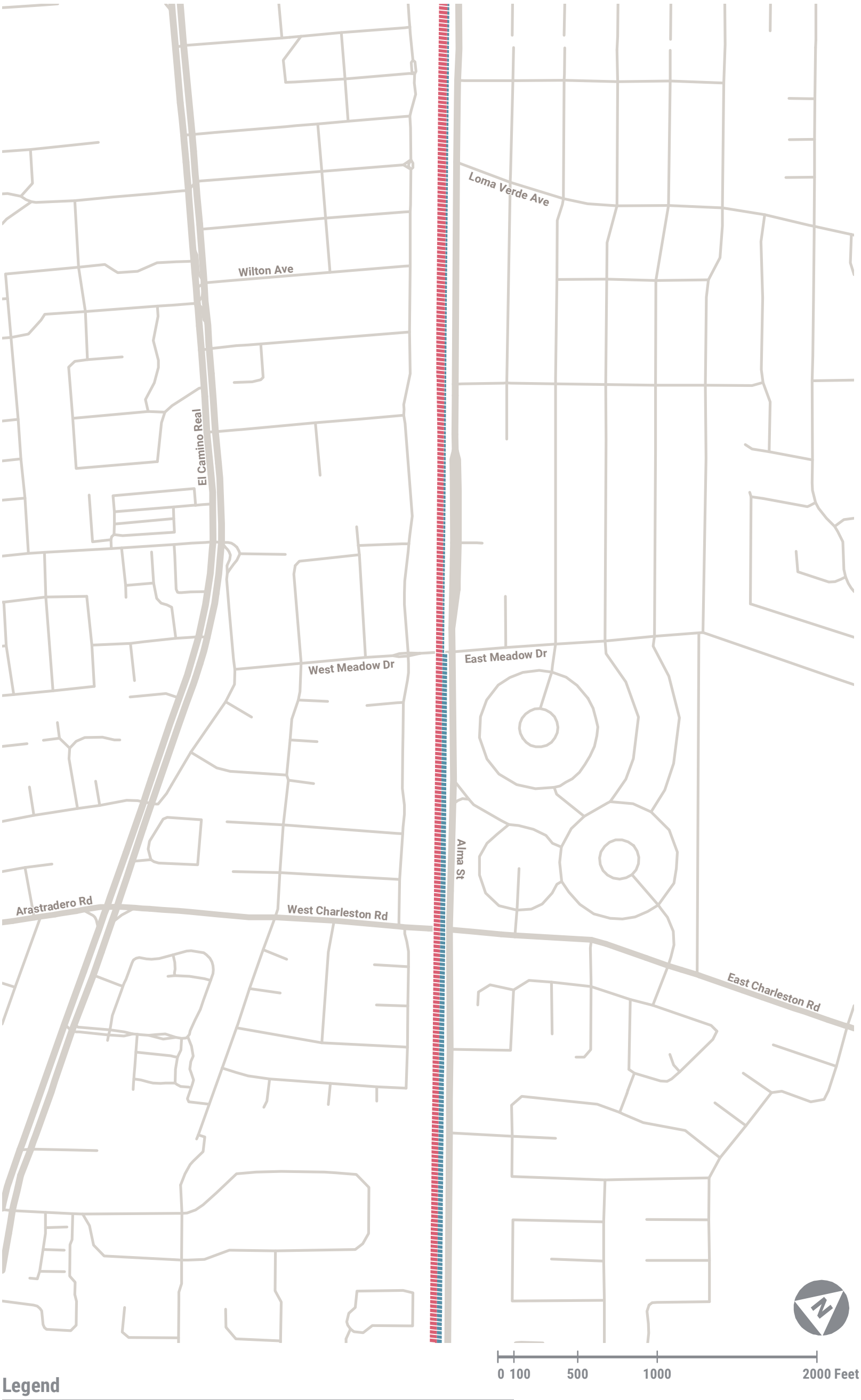
# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 22 OF 34

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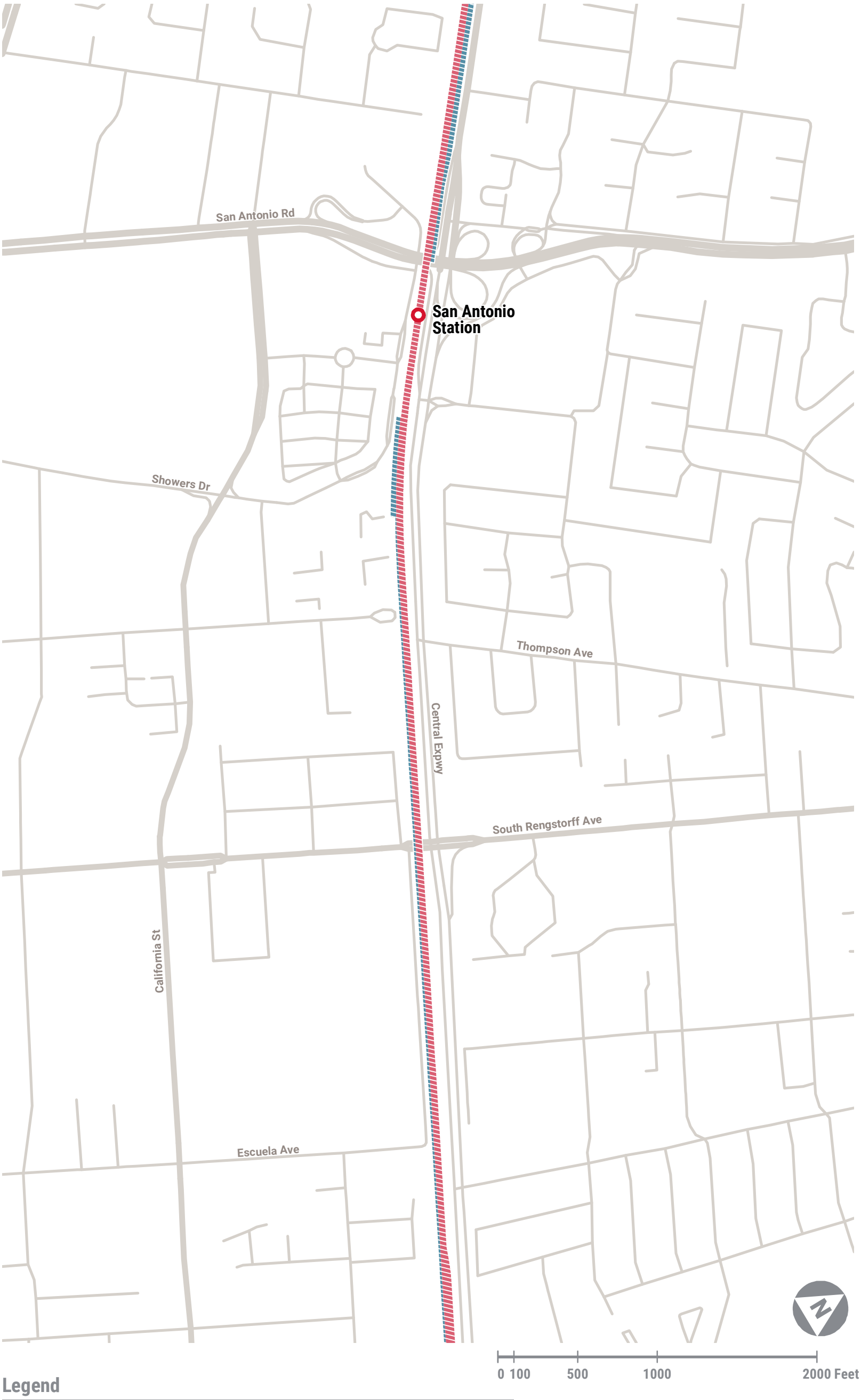
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 23 OF 34

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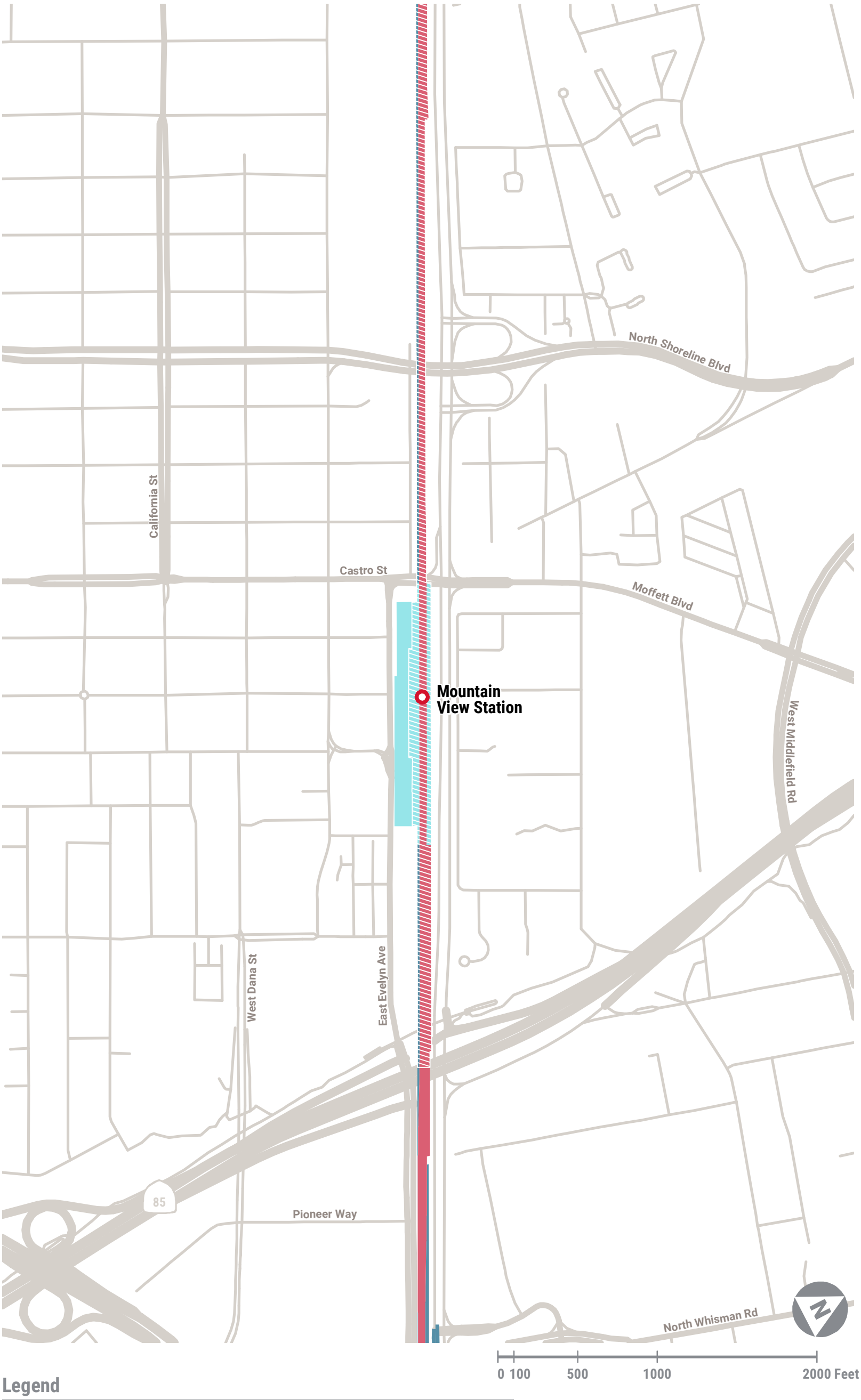
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 24 OF 34

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11/19/2019 - PUBLIC REVIEW DRAFT

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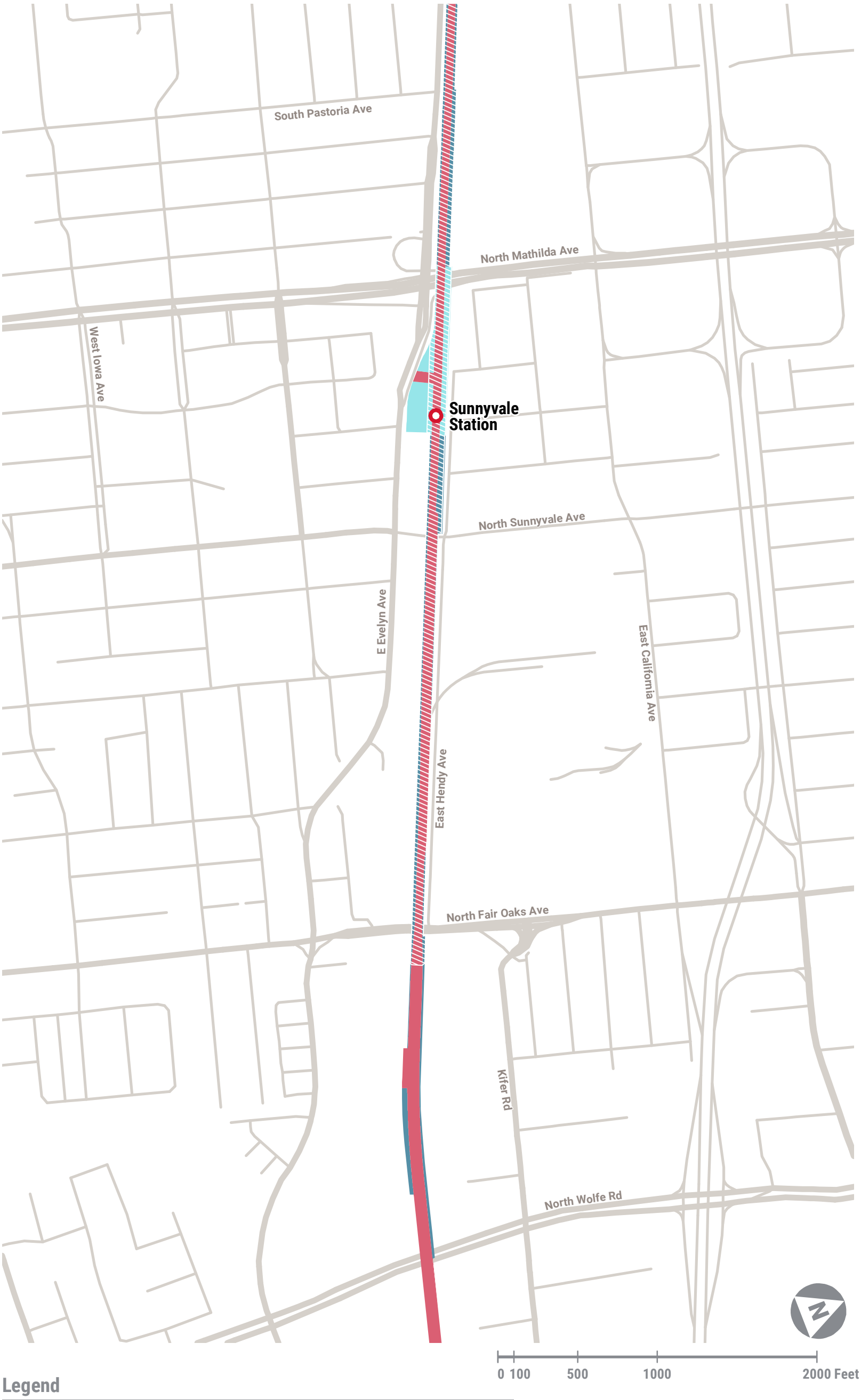


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**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

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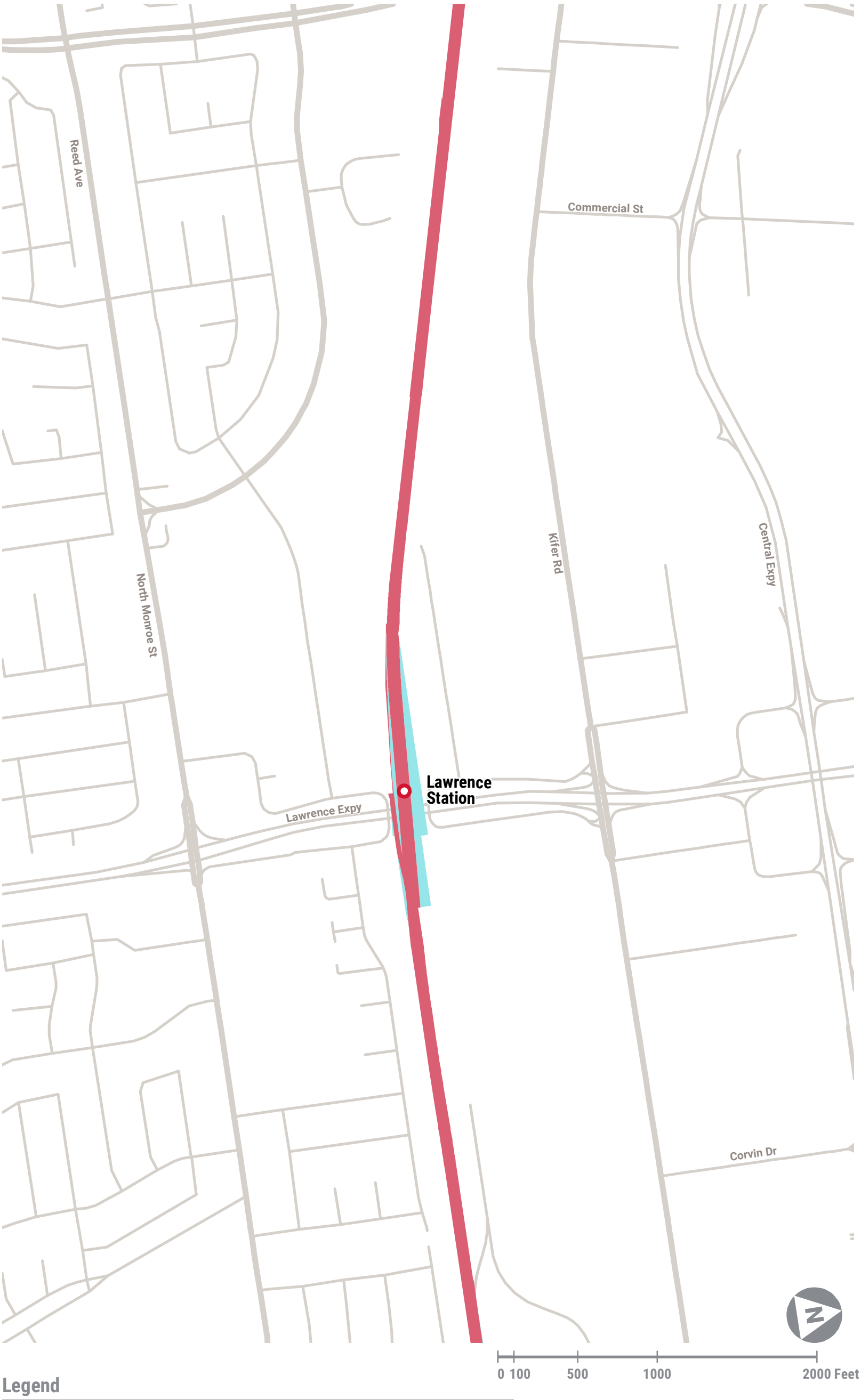


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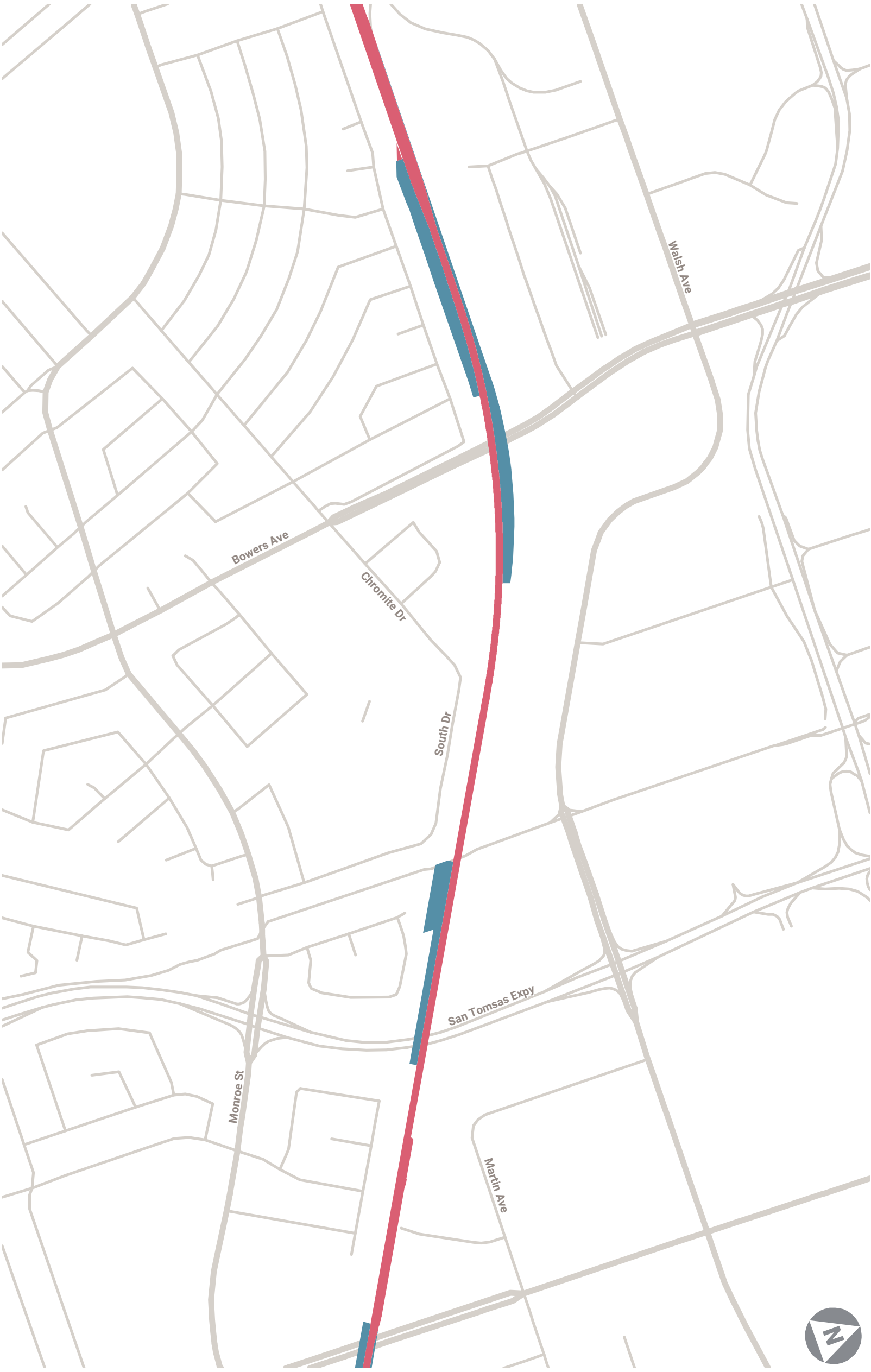
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 28 OF 34

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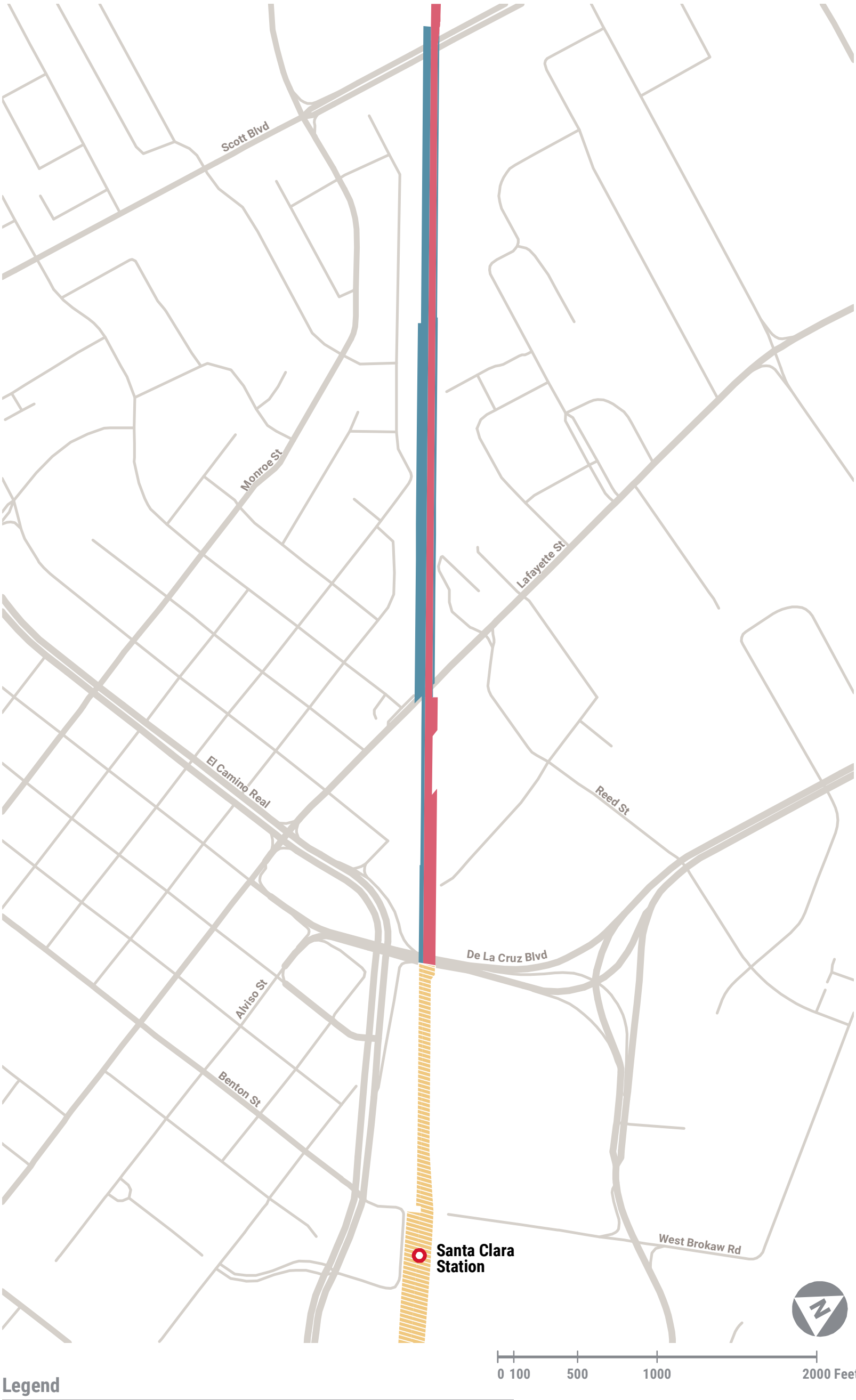
**PENINSULA CORRIDOR JOINT POWERS BOARD**

11/19/2019 - PUBLIC REVIEW DRAFT

# CALTRAIN RAIL CORRIDOR USE POLICY: MAP 29 OF 34

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11/19/2019 - PUBLIC REVIEW DRAFT

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**AGENDA ITEM 4(h)**
**FEBRUARY 6, 2020**

**PENINSULA CORRIDOR JOINT POWERS BOARD**
**STAFF REPORT**

TO: Joint Powers Board

THROUGH: Jim Hartnett
Executive Director

FROM: Michelle Bouchard
Chief Operating Officer, Caltrain

SUBJECT: **CALTRAIN BUSINESS PLAN – UPDATE COVERING DECEMBER 2019 & JANUARY 2020**

## ACTION

Staff Coordinating Council recommends the Board of Directors (Board) receive a presentation providing an update on Caltrain Business Plan activities and progress during December of 2019 and January of 2020.

## SIGNIFICANCE

Peninsula Corridor Joint Powers Board (JPB) staff has prepared the attached presentation describing analysis and project activities related to the Caltrain Business Plan that have been ongoing in December of 2019 and January of 2020.

Staff will provide the JPB with written updates or presentation materials on a monthly basis throughout the duration of the Business Plan project. These written updates will periodically be supplemented by a full presentation to the Board.

## BUDGET IMPACT

There is no budget impact associated with receiving this memo.

## BACKGROUND

In 2017, the JPB secured full funding for the Peninsula Corridor Electrification Project and issued notices to proceed to its contractors for corridor electrification and purchase of Electric Multiple Unit railcars. Now that construction on this long-awaited project is underway, the agency has the opportunity to articulate a long-term business strategy for the future of the system.

The initial concept for a Caltrain "Business Plan" was brought to the Board in April of 2017. The Board reviewed a draft scope of work for the Business Plan in December of 2017 and adopted a final Business Strategy and Scope of Work in February of 2018. Technical work on the Plan commenced in the summer of 2018. The Business Plan has been scoped to include long-range demand modeling, and service and infrastructure planning, as well as organizational analysis and an assessment of Caltrain's interface

with the communities it traverses. In October of 2019, the JPB marked a major milestone in the Business Plan process with its adoption of a "2040 Service Vision" for the Caltrain system. This action sets long range policy guidance for the future of the Caltrain service and allows staff to move forward with completion of the overall plan by early 2020

Prepared by: Sebastian Petty, Deputy Chief, Caltrain Planning 650.622.7831

# Caltrain Business Plan

**JANUARY 2020**


**JPB**

**February 6, 2020**

## Agenda for Today

- **Process Overview**
- **Making it Happen: Options for Caltrain Service Over the Next Decade**
  - CalMod: Improved Service in the 2020s
  - Going beyond CalMod
  - Ridership Forecasts (2020-2030)
- **Work in Progress & Next Steps**

# Process Overview



## What is the Caltrain Business Plan?

**What** Addresses the future potential of the railroad over the next 20-30 years. It will assess the benefits, impacts, and costs of different service visions, building the case for investment and a plan for implementation.

**Why** Allows the community and stakeholders to engage in developing a more certain, achievable, financially feasible future for the railroad based on local, regional, and statewide needs.

# What Will the Business Plan Cover?

## Technical Tracks

### Service

- Number of trains
- Frequency of service
- Number of people riding the trains
- Infrastructure needs to support different service levels

### Business Case

- Value from investments (past, present, and future)
- Infrastructure and operating costs
- Potential sources of revenue

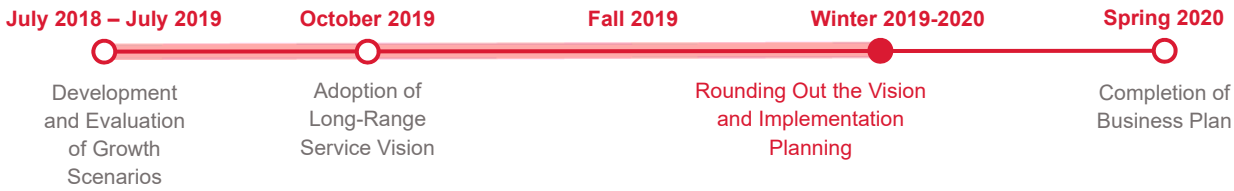
### Community Interface

- Benefits and impacts to surrounding communities
- Corridor management strategies and consensus building
- Equity considerations

### Organization

- Organizational structure of Caltrain including governance and delivery approaches
- Funding mechanisms to support future service

# Timeline



Remaining Technical Analysis

# Making it Happen

With a 2040 Service Vision adopted, what will the next 10 years look like for Caltrain? What are the key actions and steps we need to focus on next?

Additional technical and policy analysis is underway to focus on what Caltrain can achieve over the next decade and they key near term steps and work that will be needed to make it happen

- **Building towards the Vision with service concepts for initial electrification and options for growth and investment through 2020s**
- **Accompanying financial projections and funding plan**
- **Identification of a program of key planning, policy and organizational next steps**



Remaining Technical Analysis

# Rounding Out the Vision

With a 2040 Service Vision adopted, how can Caltrain "Round Out" its vision for the future?

Additional technical and policy analysis are underway with a focus on areas that that were highlighted as important through stakeholder outreach and help complete the picture of the railroad Caltrain hopes to become

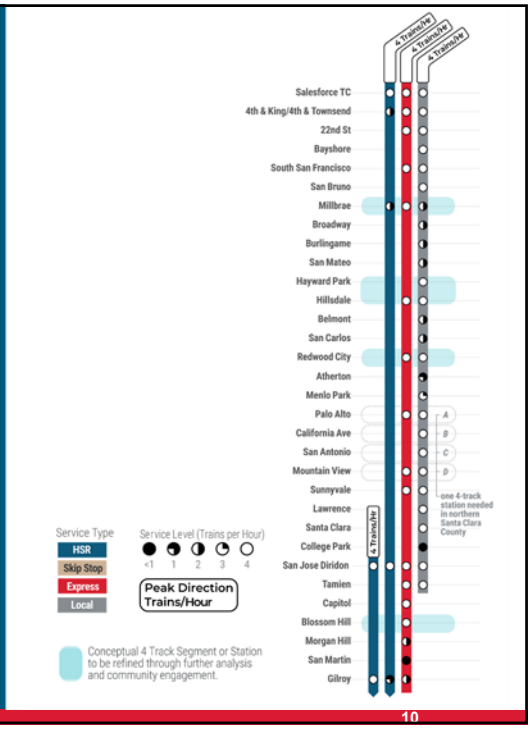
- **Analysis of connections to other systems & station access options**
- **Equity analysis & focus on making Caltrain accessible to all**
- **Review of funding options and revenue generation opportunities to support the Vision**

# Making it Happen



## Caltrain's 2040 Service Vision
### Illustrative Service Details

| | |
|---|---|
| **Trains per Hour, per Direction** | Peak: 8 Caltrain + 4 HSR<br>Off-Peak: Up to 6 Caltrain + 3 HSR |
| **Stopping Pattern** | Local / Express with timed transfer in Mid Peninsula |
| **Travel Time, STC-Diridon** | 61 Min (Express)<br>85 Min (Local) |
| **New Passing Tracks** | Millbrae, Hayward Park-Hillsdale, Redwood City area, Northern Santa Clara County, Blossom Hill |
| **Service Plan Description** | • Local and Express trains each operating at 15-minute frequencies with timed cross-platform transfer at Redwood City<br>• All trains serve Sales For Transit Center<br>• Trains serve Capitol and Blossom Hill every 15 minutes and Morgan Hill and Gilroy every 30 minutes<br>• Skip stop pattern for some mid-Peninsula stations |



# Caltrain's 2040 Service Vision - Investments

CAPITAL COSTS

**$23 BILLION**
TOTAL CAPITAL COSTS*

Capital costs include all projects from SF to Gilroy, knitting together a connected corridor with greatly improved service.

**$9.4B**
GRADE SEPARATIONS

**$7.8B**
TERMINAL IMPROVEMENTS

**$3.3B**
RAIL INFRASTRUCTURE AND SYSTEMS


**$1.4B**
STATION IMPROVEMENTS

**$1.1B**
FLEET UPGRADES

OPERATING COSTS

**$370 MILLION**
2040 ANNUAL OPERATING COSTS*

Caltrain is one of the leanest, most efficient transit services in the country. Today's annual operating and maintenance costs are $135 million, and 73% is covered by fares. The vision would benefit from a similarly high farebox recovery ratio.

**$266M**
OPERATING COSTS COVERED BY FAREBOX (72%)

**$104M**
ANNUAL OPERATING INVESTMENT NEEDED (28%)



# Getting to the 2040 Vision

**The "path" of milestone service improvements and investments used in initial Business Plan work was based on a simplified version of the existing plans of Caltrain and its partner agencies**

Amount of Investment / Number of Trains

**2018**
**Diesel Fleet**
- 5 Caltrain trains per hour, per direction (phpd), existing varied schedule
- Hourly off peak service

**2022**
**Start of Electrified Operations**
- 6 Caltrain trains phpd, skip stop service
- Expansion to 7-car trains
- 30 minute off peak service

**2029**
**HSR Valley to Valley & Downtown Extension**
- 6 Caltrain trains phpd, skip stop service
- Full electrification and expansion to 8- car trains
- 30 minute off peak service
- Service to Downtown SF via DTX
- Up to 2 HSR phpd

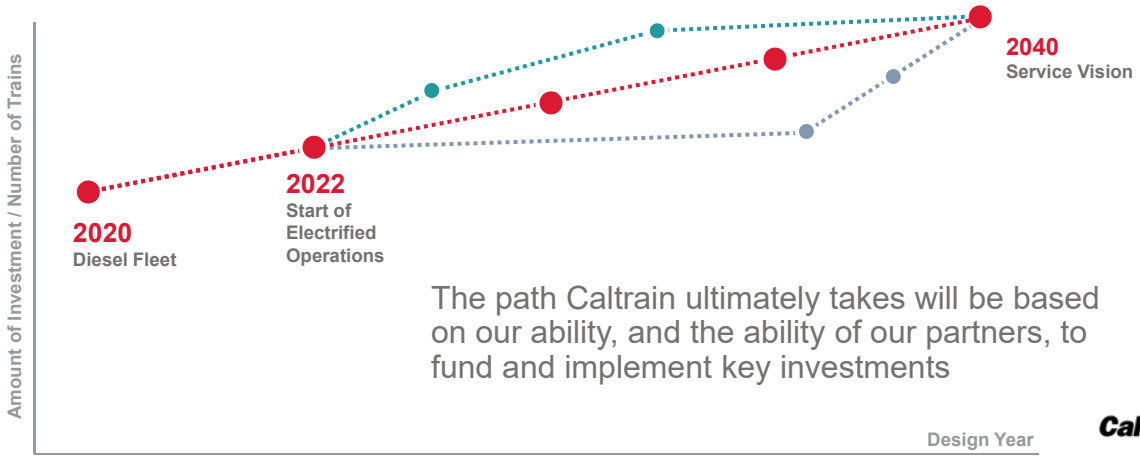
**2033**
**High Speed Rail Phase 1, SF to LA**
- 6 Caltrain trains phpd
- 8- car trains
- Skip stop service
- 30 minute off peak service
- Service to Downtown SF via DTX
- Up to 4 HSR phpd

**2040**
**Service Vision**
- 8 Caltrain trains phpd, regular express + local service
- Up to 10-car train lengths
- Up to 10 min off peak service
- Service to Downtown SF via DTX
- Significantly increased service to South San Jose and South Santa Clara County
- Up to 4 HSR phpd

Design Year

# Getting to the 2040 Vision

**With a long-range Service Vision established, we can optimize our approach. We can explore different "paths" or incremental steps that allow us to deliver improved service sooner**




The path Caltrain ultimately takes will be based on our ability, and the ability of our partners, to fund and implement key investments



# Key Questions for the Next Decade

What is the potential market demand for Caltrain service over the next 10 years – how can we grow to satisfy it?

Which benefits of the 2040 Service Vision could Caltrain deliver before 2030?

- How can we use the initial electrified system (CalMod) to deliver near-term service benefits and best meet market demand?
- How could we improve service further through subsequent incremental investments?

# CalMod: Improved Service in the 2020s

## Market Analysis

**Additional Slides Included In Appendix**

- **Market Analysis**
- Planning Priorities
- Service Concepts & Evaluation
- Service Levels at Stations
- Illustrative Service Plans

# Understanding Demand

**Daily ridership demand for Caltrain service will likely exceed 90,000 passengers in the next decade. This growth is driven by several factors:**

### Latent Demand

Improving Caltrain service and increasing capacity will make Caltrain more appealing for a wider range of trips

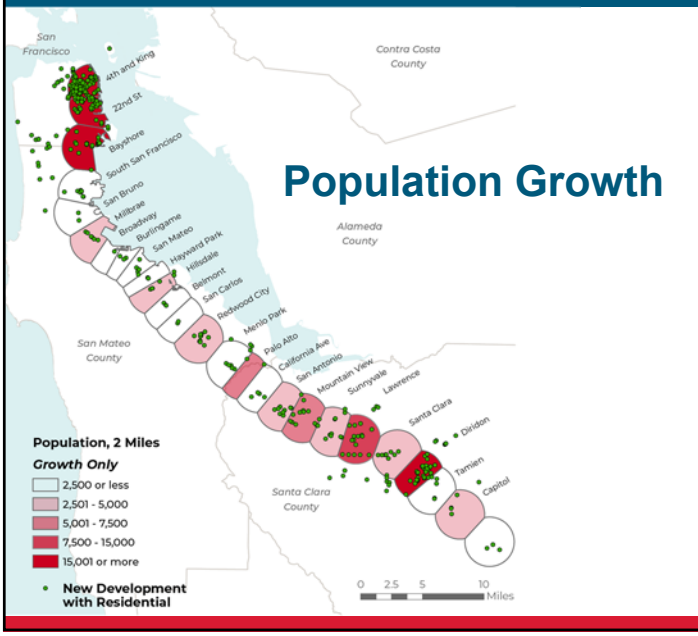
### Population and Employment Growth

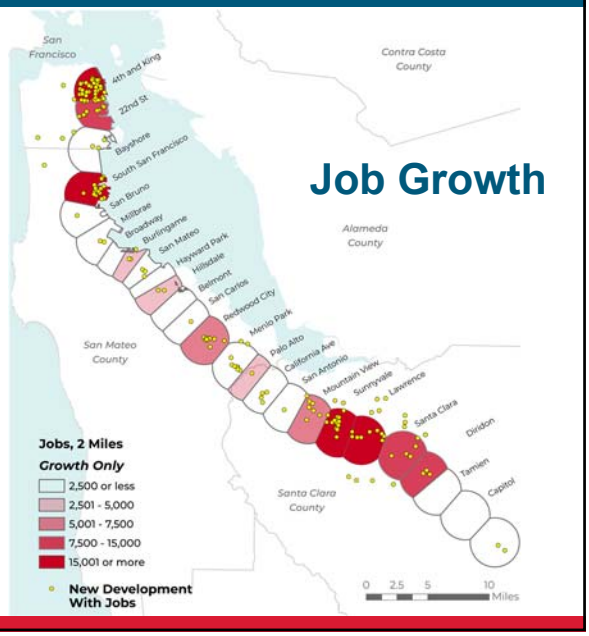
Station areas will add over 100,000 new residents and employees within ½ mile of Caltrain stations, a ~30% increase over existing

### Improved Connectivity

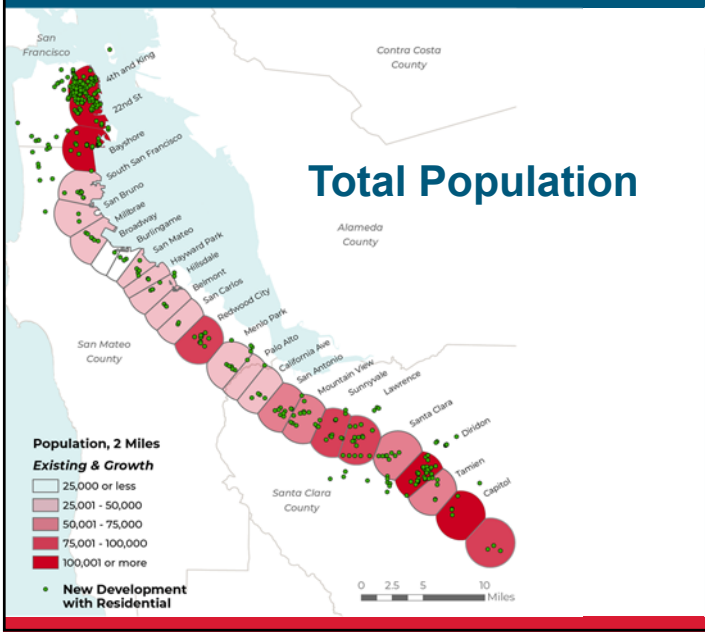
New connections like the Central Subway will extend Caltrain's reach

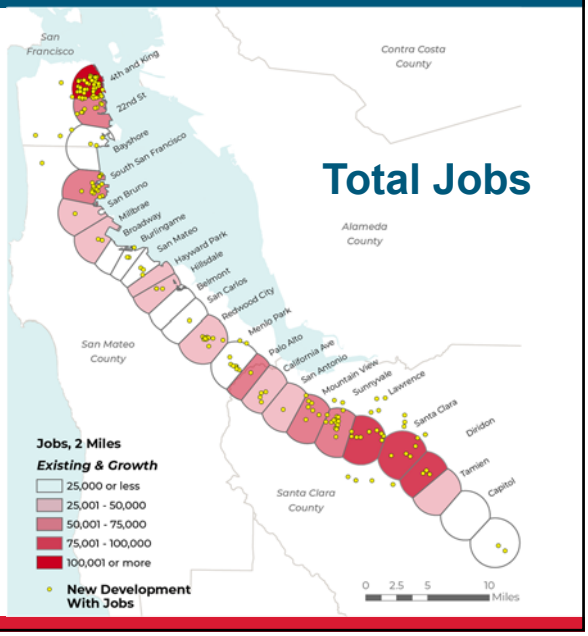
# Caltrain Corridor – Approved Growth



# 2020s Outlook




# 2020s Outlook – South of Tamien

## Unmet Demand

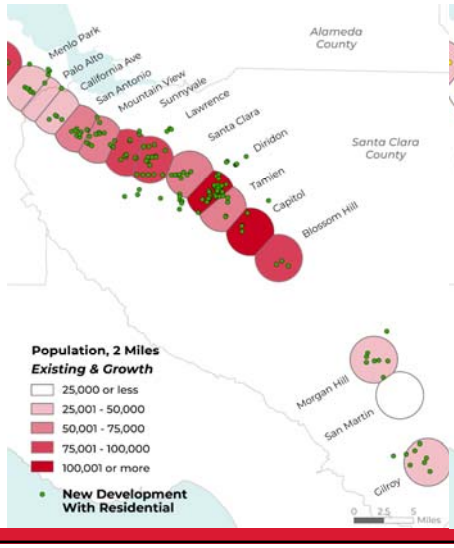
Capitol and Blossom Hill have large populations that are underserved by Caltrain, while Morgan Hill, San Martin, and Gilroy have comparatively lower demand.

## Operational Constraints

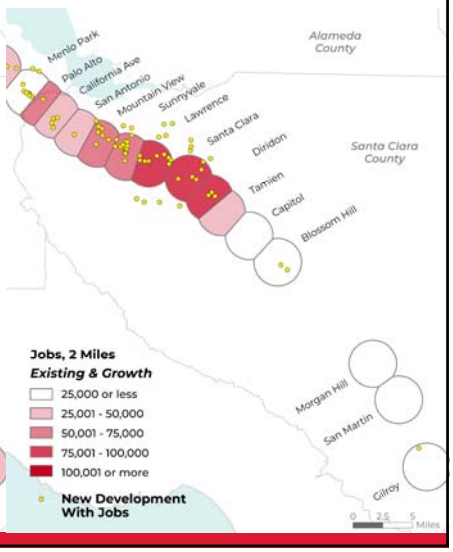
Under the current agreement with Union Pacific, Caltrain can add up to two additional roundtrips to Gilroy to reach five trips per day. There is limited flexibility in when these trips can be added without affecting mainline service.

Two of these roundtrips could be extended south to Salinas subject to further planning and agreement by both the Caltrain Board and Union Pacific.

## Total Population




## Total Jobs



# Existing Ridership by Station

**5**
**Highest Ridership**
>4,000
Daily Riders

- 4th & King
- Redwood City
- Palo Alto
- Mountain View
- San Jose Diridon

**4**
**Moderate Ridership**
2,000 – 4,000
Daily Riders

- Millbrae
- San Mateo
- Hillsdale
- Sunnyvale

**20**
**Lower Ridership**
<2,000
Daily Riders

- 22nd Street
- Bayshore
- South San Francisco
- San Bruno
- Broadway
- Burlingame
- Hayward Park
- Belmont
- San Carlos
- Atherton
- Menlo Park
- California Ave
- San Antonio
- Lawrence
- Santa Clara
- Tamien
- Capitol
- Blossom Hill
- Morgan Hill
- San Martin
- Gilroy

# Potential 2020s Demand by Station

**8**
**Highest Ridership Potential**
>4,000
Daily Riders

- 4th & King
- 22nd Street
- Millbrae
- Redwood City
- Palo Alto
- Mountain View
- Sunnyvale
- San Jose Diridon

**9**
**Moderate Ridership Potential**
2,000 – 4,000
Daily Riders

- Bayshore
- South San Francisco
- San Mateo
- Hillsdale
- Menlo Park
- California Ave
- San Antonio
- Lawrence
- Santa Clara

**13**
**Lower Ridership Potential**
<2,000
Daily Riders

- San Bruno
- Broadway
- Burlingame
- Hayward Park
- Belmont
- San Carlos
- Atherton
- Tamien
- Capitol
- Blossom Hill
- Morgan Hill
- San Martin
- Gilroy

# Potential 2020s Demand by Station

Stations experiencing significant changes

**8**
**Highest Ridership Potential**
>4,000
Daily Riders

- 4th & King
- 22nd Street
- Millbrae
- Redwood City
- Palo Alto
- Mountain View
- Sunnyvale
- San Jose Diridon

**9**
**Moderate Ridership Potential**
2,000 – 4,000
Daily Riders

- Bayshore
- South San Francisco
- San Mateo
- Hillsdale
- Menlo Park
- California Ave
- San Antonio
- Lawrence
- Santa Clara

**13**
**Lower Ridership Potential**
<2,000
Daily Riders

- San Bruno
- Broadway
- Burlingame
- Hayward Park
- Belmont
- San Carlos
- Atherton
- Tamien
- Capitol
- Blossom Hill
- Morgan Hill
- San Martin
- Gilroy

# Train Capacity and Crowding

**Even with increased service, crowding will continue to be an issue for Caltrain over the next decade as demand for service increases**

- Caltrain provides approximately 3,800 seats per direction per peak hour today, which will increase to 4,144 with electrification.
- With standing room, Caltrain's hourly capacity peak hour capacity will increase from about 4,500 passengers per direction today to 5,400 with electrification, assuming even distribution of passengers between trains.

# Planning Priorities

Market Analysis → **Planning Priorities** → Service Concepts & Evaluation → Service Levels at Stations → Illustrative Service Plans

# How Can we Improve Service and Meet Market Demand Using CalMod?

The electrification of the Caltrain service between San Francisco and San Jose provides a transformative, near-term opportunity to improve service.

With this investment, Caltrain can begin delivering many, but not all, of the service improvements described 2040 Service Vision while also attempting to keep pace with growing market demand.

While CalMod provides an overwhelming improvement to the system as a whole we will still need to make choices about which service benefits and improvements we prioritize – there are tradeoffs

**Increasing frequency at more stations** ⟷ **Reducing travel times between major stations**

**Standardized intuitive schedules** ⟷ **Customized and tailored schedules**

**Maximizing peak hour throughput** ⟷ **Providing differentiated Service types**

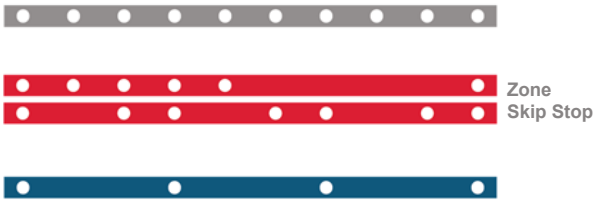
## Building Blocks of Service Planning:
# Mainline Stopping Patterns

*Mainline times shown for San Francisco (4th & King) to San Jose (Diridon)*

**Local** 80 Minutes
*Connects all stations regardless of demand*

**Skip Stop** or **Zone** 70-75 Minutes
*Varied patterns connect some stations with higher demand*

**Express** 60-67 Minutes
*Connects a few stations with highest demand*




**Analytical Approach:** Combinations of Skip Stop, Zone, and Express patterns were evaluated for peak service. While local service is part of the 2040 Service Vision, it is not yet viable during peak hours due to infrastructure and fleet limitations.

## Building Blocks of Service Planning:
# Travel Time vs. Frequency

**Reduce Travel Times between Major Stations**
- Minimize stops to save a few minutes in travel times for many passengers
- Demand in growing markets continues to be underserved

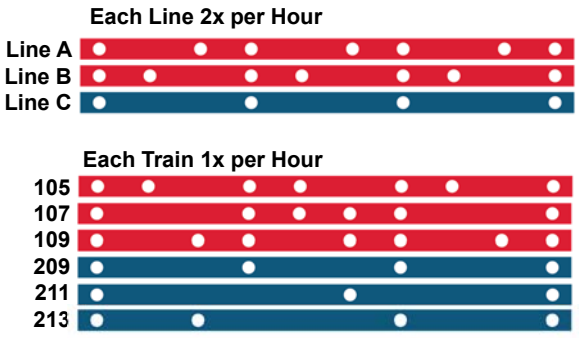
**Increase Frequency at More Stations**
- Add stops and keep travel times about the same
- Serve more demand in growing markets

**Analytical Approach:** Service concepts tend to prioritize improving frequency over travel time given recent and projected growth patterns along the Caltrain corridor.

## Building Blocks of Service Planning:
# Standardization vs. Customization

### Standardized Schedule
- Repeating clockface patterns
- Symmetrical in both directions
- Typically communicated as “lines” (eg the “A Line”)

### Customized Schedule
- Complex patterns that may vary by time of day
- May not be symmetrical in both directions
- Typically communicated as individual train numbers




**Analytical Approach:** Concepts developed focus on standardized, bi-directional schedules to create a more user-friendly experience and facilitate coordination with the region’s larger transit network.

## Building Blocks of Service Planning:
# Combining Service Patterns

### Mixing Different Service Patterns
- Passengers choose between different train types
- Demand can be concentrated on some very crowded trains, while other trains may be half empty


### Similar Service Patterns
- Train types are broadly similar in terms of overall stopping structure and time between major stations
- Demand is more evenly distributed between trains – helping maximize overall throughput


**Analytical Approach:** Both parallel and differentiated service patterns have been considered.

# Service Concepts & Evaluation

**Additional Slides Included In Appendix**

Market Analysis → Planning Priorities → **Service Concepts & Evaluation** → Service Levels at Stations → Illustrative Service Plans

# Introducing Four Service Concepts

# Service Concept Evaluation Metrics

**1 - Service Metrics**

I. Travel Time

II. Maximum Wait Time

**2 - Capacity Metrics**

I. Crowding

II. Ability to Support Ridership Growth

**3 - User Experience**

I. Internal Connectivity

II. External Connectivity

# Summary – Comparison to Existing Service

| Metric | Two Zone with Express | Three Zone | Skip Stop with Express | Distributed Skip Stop |
|---|---|---|---|---|
| Travel Time | Similar | Similar | Similar | Similar |
| Maximum Wait Time | Slightly Better | Slightly Better | Slightly Better | Better |
| Throughput Capacity & Crowding | Slightly Better | Slightly Better | Similar | Better |
| Able to Support Significant Ridership Growth | Partially | Partially | No | Yes |
| Internal Connectivity | Similar | Similar | Similar | Similar |
| External Connectivity | Slightly Better | Slightly Better | Slightly Better | Better |

# Summary – Comparison to Existing Service

| Metric | Two Zone with Express | Three Zone | Skip Stop with Express | Distributed Skip Stop |
|---|---|---|---|---|
| Travel Time | Similar | Similar | Similar | Similar |
| Maximum Wait Time | Slightly Better | Slightly Better | Slightly Better | Better |
| Throughput Capacity & Crowding | Slightly Better | Slightly Better | Similar | Better |
| Able to Support Significant Ridership Growth | Partially | Partially | No | Yes |
| Internal Connectivity | Similar | Similar | Similar | Similar |
| External Connectivity | Slightly Better | Slightly Better | Slightly Better | Better |

Removed from Consideration

# Service Levels at Stations

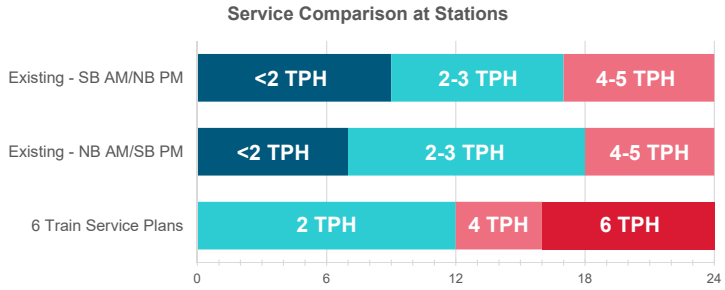
Market Analysis → Planning Priorities → Service Concepts & Evaluation → **Service Levels at Stations** → Illustrative Service Plans

# Service Frequency Improvements

**To aid in comparison, all of the service concepts have been developed using a *uniform* set of *illustrative* frequency assumptions (eg there is no difference between concepts in the number of stops a specific station receives)**

All service concepts *double* the number of stations that receive at least four trains per hour, per direction.

All service concepts provide *at least* two trains per hour, per direction to all mainline, regularly served stations.




# Illustrative Service Levels

**Service levels shown *are illustrative*. Final service planning and schedule development for CalMod will involve consideration of additional data and public input and may include considerations related to:**

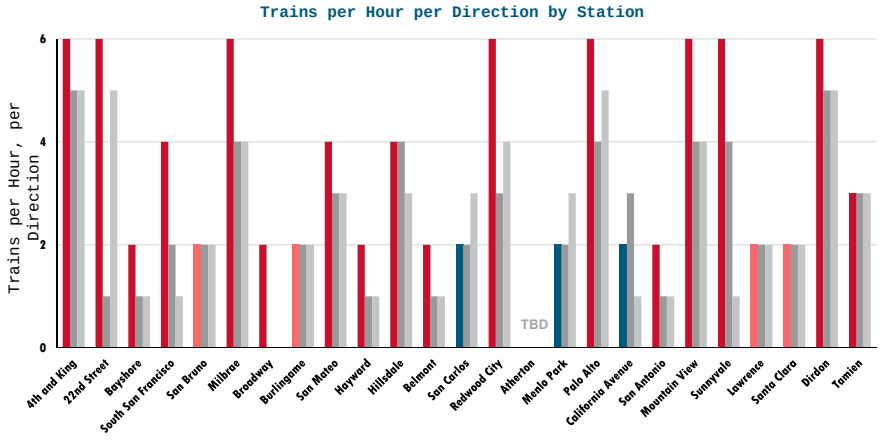
- **Current Market Demand and Ridership Patterns**
- **Approved Station Area Growth**
- **Station Access and Connectivity Opportunities**
- **Social Equity and Geographic Equality**
- **Transportation Demand Management Policies**

# Illustrative Peak Period Service Levels by Station (Mainline)

**Change in Peak Period Service Levels**

- Service Increases (17 Stations)
- No Change (4 Stations)
- Service Reduction (3 Stations)
- Existing NB AM/SB PM
- Existing SB AM/NB PM

Hourly Service levels are the same for all service concepts




# Illustrative Service Plans

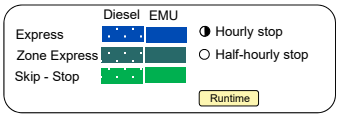
Market Analysis → Planning Priorities → Service Concepts & Evaluation → Service Levels at Stations → **Illustrative Service Plans**

# Illustrative Service Plans

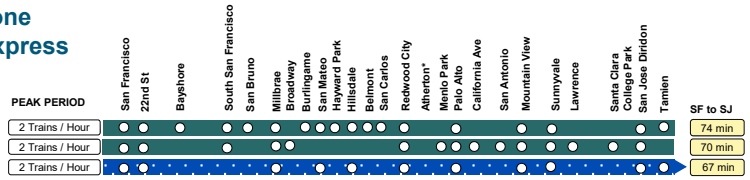
Caltrain has prepared two sets of illustrative service plans to carry forward for further analysis.

**Two Zone with Express –** two zone patterns (north and south of Redwood City) with a regional express pattern offering different travel times and wait times

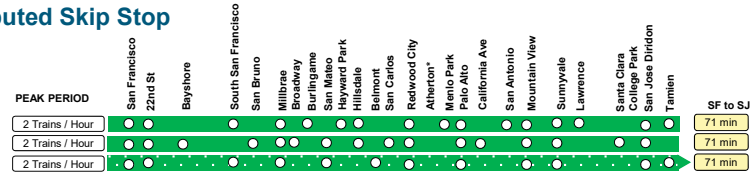
**Distributed Skip Stop –** three skip stop patterns offering similar travel times and regular wait times at major stations




## Two Zone with Express




## Distributed Skip Stop

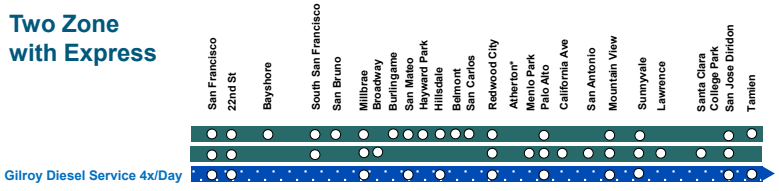



# Service South of Tamien

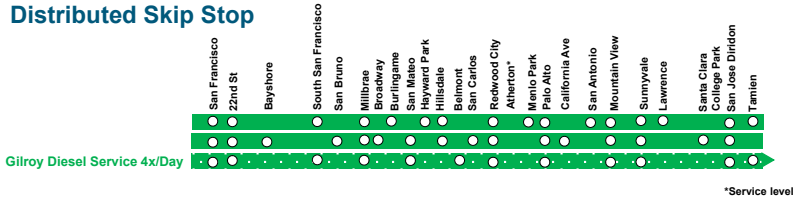
Caltrain will increase service to Gilroy to four roundtrips per day. Passengers from south of Tamien would have a one-seat ride to major stations and a transfer at Diridon Station to reach minor stations.

Arrival and departure times would be similar to today, with one later AM train and one later PM train. Service may be extended to Salinas, pending key agreements and funding, adding about one hour to travel times.

## Two Zone with Express




## Distributed Skip Stop



# Off-Peak and Weekend Service

With electrification, Caltrain has the opportunity to increase off-peak and weekend service levels to better meet corridor demand.

However, operational and financial constraints may affect what kind of service Caltrain is able to provide and when.

## Goals

- Increase Caltrain's market share during off-peak and weekend periods
- Offer competitive travel times between major stations
- Provide a legible schedule transition between peak and off-peak (Two Zone with Express concept has some advantages in this regard)
- Maintain flexibility to accommodate construction and maintenance windows


Example Off-Peak Pattern

# Implementation Process and Next Steps

This analysis has been developed to provide updated concepts for how the investments currently being made as part of CalMod can be used to serve market demand and begin delivering some of the key benefits of the 2040 Service Vision

Preferred concepts shown will be used to continue planning for various aspects of CalMod implementation and launch of electrified service in 2022.

## Developing a Final Service Plan for CalMod

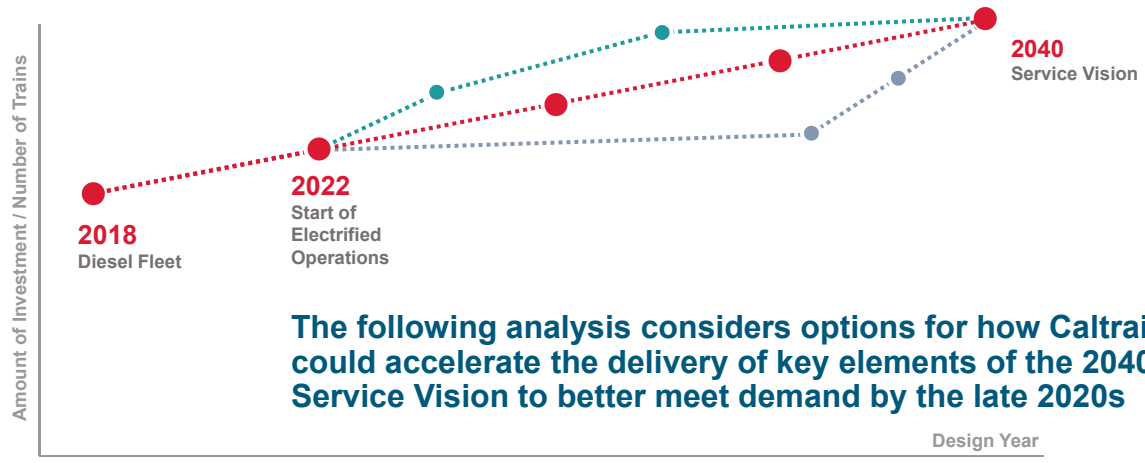
- Preferred Service Concepts shown are illustrative and are intended to help advance analysis and planning
- As the PCEP approaches completion, Caltrain will undertake a supplemental planning process to determine the final 6tph schedule that the railroad will operate – this will include;
  - Selecting the ultimate concept or "style" of service to be operated
  - Determining individual station service levels
  - Confirming off-peak and weekend service levels
- This process will include additional public and stakeholder input as well as analysis of updated ridership and survey data

# Going Beyond CalMod

**Paths to Incrementally Improving and Increasing Service**

## Getting to the 2040 Vision

**CalMod will provide tremendous service benefits to the corridor. However regional growth projections suggest that there is medium-term demand for even more service and capacity**




**The following analysis considers options for how Caltrain could accelerate the delivery of key elements of the 2040 Service Vision to better meet demand by the late 2020s**

# Adding Capacity and Increasing Service to Grow Ridership

**Toward the end of the 2020s, Caltrain is expected to reach capacity during peak hours.**

Caltrain will not be able to accommodate additional ridership growth in the 2030s without adding capacity. This poses a challenge for accomodating land use growth, DTX, Dumbarton rail, and other potential changes on the corridor.

**While smaller, interim improvements may ease capacity, the most significant improvement to service and capacity involves expanding service to eight trains per hour, per direction.**

# An Interim Step- Not the Full 2040 Service Vision

Increasing mainline service in the mid- to late 2020's would be an interim step- not the full implementation of the 2040 Service Vision.

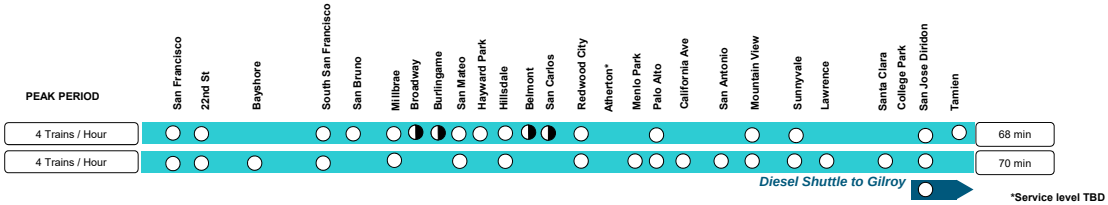
Major investments at terminals and in passing tracks infrastructure are not assumed.

Making near-term, tactical investments to increase service to 8 trains per hour per direction would *precede* the full buildout of the 2040 Service Vision. As such, many important aspects of the 2040 Service Vision would not yet be fully achieved, including:

- Ability to operate a peak-hour express / local service pattern with timed transfers
- Ability to lengthen trains to 8- or 10-cars
- Direct service to downtown San Francisco
- Greatly expanded and electrified service south of Tamien Station to Gilroy

Fully achieving the 2040 Service Vision would require the overall buildout discussed and documented in the Business Plan process to date.

# 8 Train Illustrative Service Plan

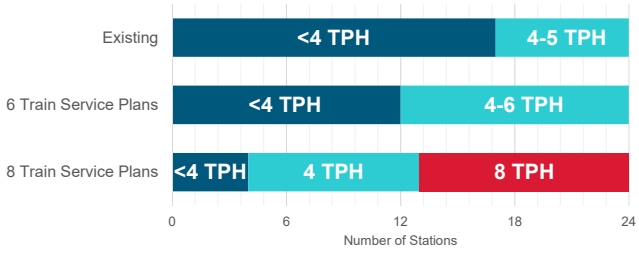



- An 8-train Caltrain service would likely look like a hybrid of the zone express and skip stop patterns with 8 trains per hour, per direction.
- There is limited flexibility in the service structure due to lack of new passing tracks and the constraints of Caltrain's existing signal system.
- Diesel service to/from Gilroy would terminate at San Jose with a timed transfer mainline service. This service could be increased to 5 round trips per day and would have more flexibility to customize departure and arrival times based on public input.

# Increasing Service at Stations

**Increasing service from six to eight trains per hour, per direction enables more frequent service to more stations.**

With an interim 8 tphpd service, 20 of 24 mainline stations would receive at least four trains per hour, per direction, and nearly half of stations would receive eight trains per hour, per direction.

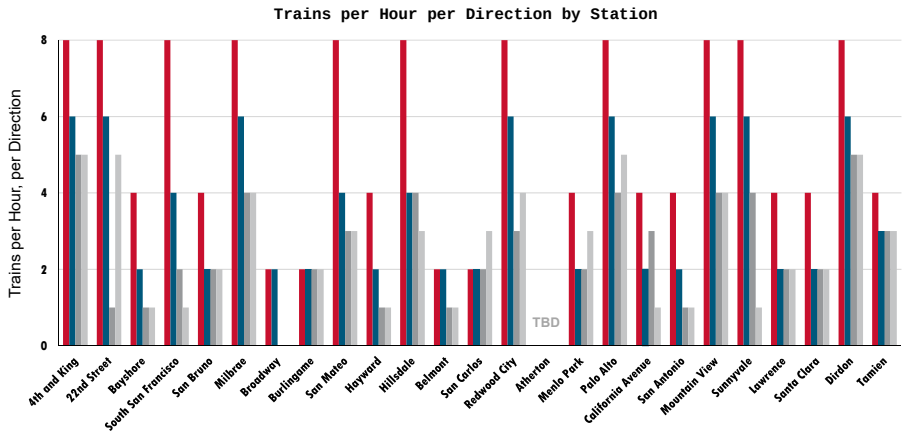


# Increasing Service to Stations

**20 stations could receive at least four trains per hour, per direction.**

**Illustrative Change in Peak Period Service Levels**

- Illustrative service at expanded "8tph plan"
- Illustrative service at initial CalMod level
- Existing NB AM/SB PM
- Existing SB AM/NB PM




# Overall Investments

**The following parallel and programmatic investments are assumed to be occurring throughout the 2020's- they are needed to support the overall success of the system and the full implementation of the 2040 Service Vision**

### Grade Separations

Planning and construction of grade separations and grade crossing improvements

### Station Improvements

Programmatic improvements to Caltrain stations and investments in station access and connectivity

### Major Investments

Work on major terminal projects (including Diridon and DTX), major station investments, and partner projects including HSR

# What Specific Incremental Investments and Changes Would be Needed?

**The following key investments would specifically be needed to implement an interim 8-tph service. These investments are consistent with the overall program assumed in the 2040 Service Vision**

### Expanded EMU Fleet

To provide 8 tphpd direction mainline service, Caltrain will need to expand its EMU fleet

### More Train Storage

The railroad will need to add storage capacity to accommodate additional trainsets

### Holdout Rule Elimination

Once 8 trains per hour per direction are operating on the corridor, remaining "holdout" rule stations will need to be rebuilt or closed

# What Specific Incremental Investments and Changes Would be Needed?

**The following key investments would specifically be needed to implement an interim 8-tph service. These investments are consistent with the overall program assumed in the 2040 Service Vision**

### Level Boarding

Level boarding is needed to ensure reliability and to keep dwell times as short as possible

### Gilroy-SJ Shuttle Service

Remaining diesel service south of Tamien would be converted to a shuttle service until the UP corridor is rebuilt and electrified. Service levels could be increased to 5 round trips per day under existing agreements with UP

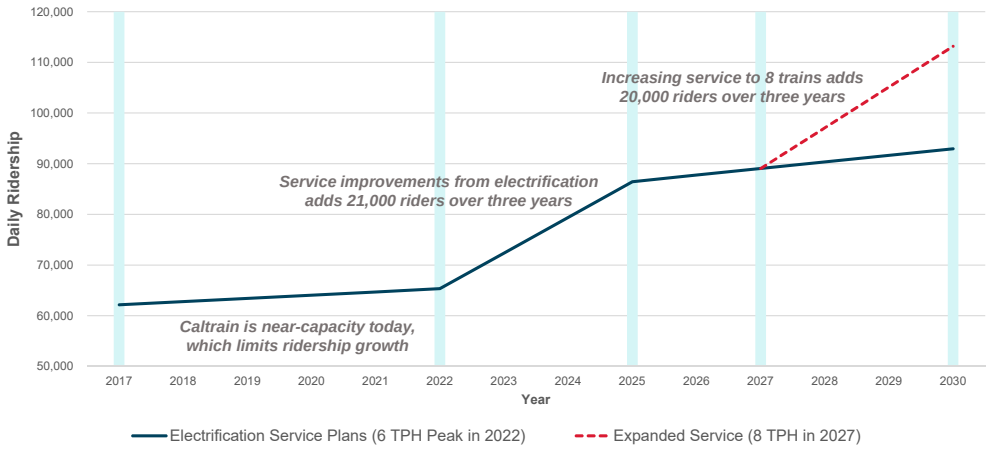
### Minor Track Work

Minor track work would be needed to accommodate increased train volumes around Diridon Station

# Ridership Forecasts

**2020-2030**

## Change in Weekday Ridership Over Time



# Ridership Forecasts, 2019-2030

| Ridership Unit | 2019 5 TPH | 2025 6 TPH | 2030 6 TPH | 2030 8 TPH |
|---|---|---|---|---|
| Average Weekday | 63,400 | 86,500 | 92,900 | 113,200 |
| Average Weekend Day | 11,800 | 23,600 | 25,200 | 25,200 |
| **Annual** | **18.4M** | **26.1M** | **28.1M** | **33.6M** |

*Note: Ridership forecasts are relatively comparable between zone express and skip stop patterns in 2025.*
*2030 Forecasts assume no DTX, which may add another 30,000 weekday riders (~9M annually) after opening.*

Over the next decade, Caltrain could nearly double ridership by increasing service from five to eight trains and doubling to quadrupling service at many stations

By 2025, Caltrain could serve about 35% more passengers than today with either zone express or skip stop service

Caltrain

Work in Progress

# Station Access Work Plan

The Business Plan presents an opportunity to evaluate Caltrain's current role in station access and how this role may need to change over time to support the service vision.

The Business Plan will provide a high-level assessment of potential paths forward at a system-level, but will not address investment needs at individual stations.

**What role does Caltrain play in station access?**

- Review existing programs and investments

**What is Caltrain's station access vision?**

- Consider several paths forward:
  a. A hands-off approach
  b. A proactive investment in parking
  c. A proactive investment in multimodal access

**How do we get there?**

- Identify most pressing access needs and priorities



# Equity Assessment Work Plan

The equity assessment is intended to help us understand how the Service Vision could improve equitable access to Caltrain and develop a series of policy interventions that would improve equitable access further.

**Opportunities & Challenges**

- Review of existing plans
- Stakeholder interviews
- Market assessment

**Analysis of the Service Vision**

- Qualitative & quantitative evaluation of the Service Vision

**Recommendations**

- Context-specific recommendations as outcomes from the analysis of the Service Vision and opportunities and challenges.

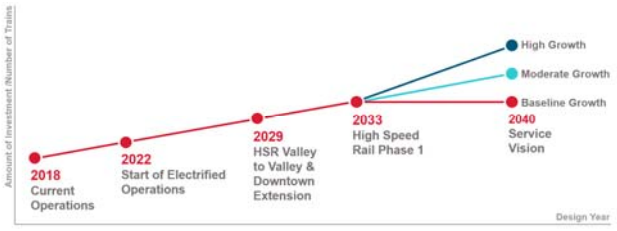
# Funding Work Plan

Service Vision includes $25.3 Billion in corridor investments by Caltrain, cities and partner agencies and operating costs of $370 M/year by 2040

This phase of work will identify new funding and revenue sources to support the increase in capital and operating costs.

The funding work plan will develop:

- 10-year Funding Plans to support incremental increases in service from 2019-2029
- A Funding and Revenue Strategy to support the full implementation of the Service Vision by 2040







**FOR MORE INFORMATION**

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BUSINESSPLAN@CALTRAIN.COM

650-508-6499

# Appendix



## Market Analysis

**Additional Slides Included In Appendix**

**Market Analysis** | Planning Priorities | Service Concepts & Evaluation | Service Levels at Stations | Illustrative Service Plans

# Near-Term Growth: County-Level Findings

| County | Population Growth Pipeline | Job Growth Pipeline | Total Population + Job Growth | % Growth over Existing | *% of Growth within ½ mile of Caltrain* | *% of Growth within 2 miles of Caltrain* |
|---|---|---|---|---|---|---|
| San Francisco | 99,600 | 78,000 | 177,600 | 11% | *23%* | *82%* |
| San Mateo | 30,400 | 56,700 | 87,100 | 7% | *37%* | *87%* |
| Santa Clara | 82,700 | 122,600 | 205,300 | 7% | *17%* | *64%* |
| **Total** | **212,700** | **257,300** | **470,000** | **8%** | ***23%*** | ***75%*** |

**Inventory of all development projects that are approved or under construction in cities along the Caltrain Corridor to assess mid-2020s demand:**

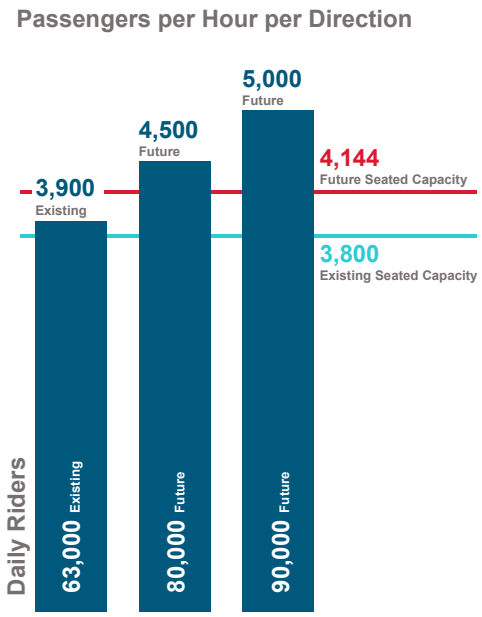
- Based on review of City planning websites
- Excludes developments proposed/under review and growth allowed under specific plans that has not resulted in individual project entitlements
- Prorates major SF developments like Candlestick Point based on latest information on phasing

# Near-Term Growth: Corridor-Level Findings

| Distance | Category | Existing | Under Construction | Approved | Total Growth | Mid-2020s Estimate | % Growth over Existing |
|---|---|---|---|---|---|---|---|
| Within ½ Mile of Stations | Population | 195,000 | 24,600 | 32,100 | 56,800 | **251,800** | +29% |
| | Jobs | 196,300 | 28,200 | 28,500 | 56,700 | **253,000** | +29% |
| | **Population + Jobs** | **391,300** | **52,800** | **60,600** | **113,400** | **504,800** | **+29%** |
| Within 2 Miles of Stations | Population | 1,599,700 | 85,000 | 98,500 | 183,500 | **1,783,100** | *+11%* |
| | Jobs | 1,423,100 | 132,800 | 68,600 | 201,400 | **1,624,500** | *+14%* |
| | **Population + Jobs** | **3,022,700** | **217,900** | **167,100** | **384,900** | **3,407,600** | ***+13%*** |

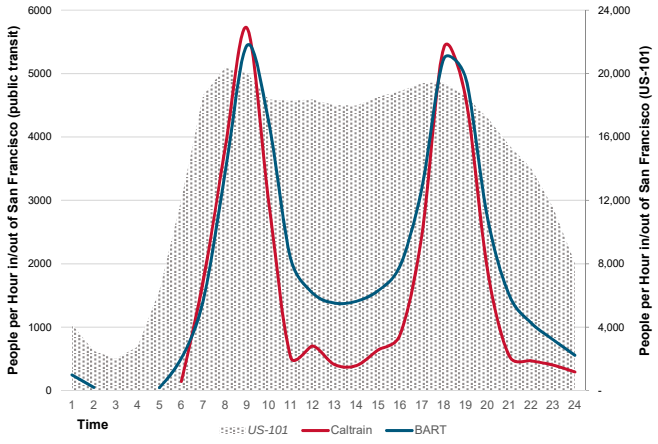
# Existing & Future Crowding Capacity

- Today, Caltrain carries up to 3,900 passengers per hour at its peak load points. 7 trains exceed a comfortable crowding level of 900 passengers during peak periods
- Caltrain would need to accommodate 4,500-5,000 passengers per peak hour at 80,000-90,000 daily riders, which approaches the throughput capacity of a six-train mixed fleet (5,400)
- The effective capacity of the system may be lower depending on the degree to which trains are differentiated:
  - Differentiating faster and slower trains reduces Caltrain's effective capacity by concentrating demand on a few trains
  - Similar service patterns across all trains maximizes the effective capacity by spreading demand evenly across all trains




# Off-Peak & Weekend Service

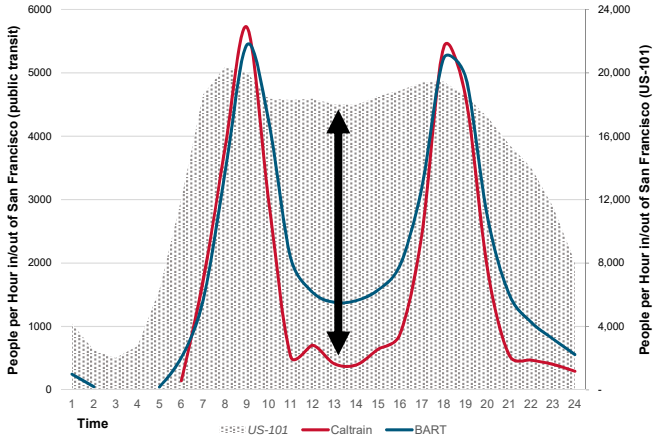
**There is substantial unmet demand for midday and weekend Caltrain service, although this demand is difficult to measure**



# Off-Peak & Weekend Service

**Measured Against US-101 Trips**
Traffic volumes on US-101 no longer experience peak periods; there is all-day bidirectional travel and intermittent congestion.

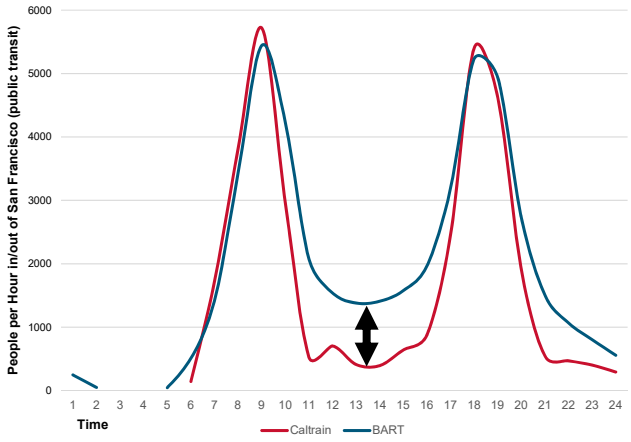
Yet, Caltrain's share of US-101 in/out of San Francisco is 10 times higher during peak periods than off-peak and weekend periods.




# Off-Peak & Weekend Service

**Measured Against BART Ridership**
Caltrain serves more peak period passengers than BART traveling between the Peninsula and San Francisco, but BART serves three times more passengers during off-peak times.

BART provides six times more service than Caltrain during off-peak times, but connects fewer people and jobs on the Peninsula than Caltrain.



# Service Concepts & Evaluation

**Additional Slides Included In Appendix**

Market Analysis → Planning Priorities → **Service Concepts & Evaluation** → Service Levels at Stations → Illustrative Service Plans

# Introducing Four Service Concepts

# Service Concept Evaluation Metrics

**1 - Service Metrics**

I. Travel Time

II. Maximum Wait Time

**2 - Capacity Metrics**

I. Crowding

II. Ability to Support Ridership Growth

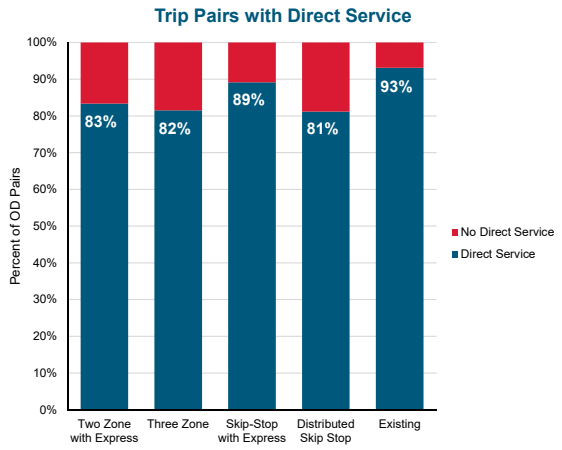
**3 - User Experience**

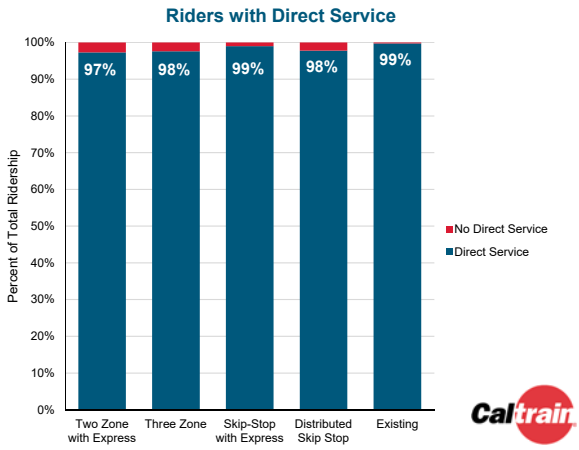
I. Internal Connectivity

II. External Connectivity

**Detailed Slides Included In Appendix**

# Internal Connectivity



# 1 - Travel Time to/from San Francisco

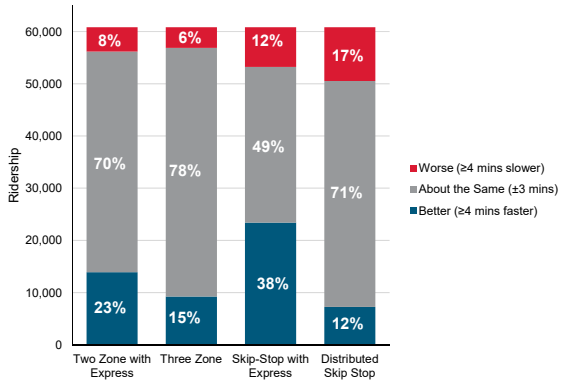
**All four concepts offer mostly similar travel times to San Francisco compared to the 'typical best' existing travel time**

*Typical best defined as the median fastest time in the current timetable. For example, 4th & King to Diridon Baby Bullet travel times vary from 62 to 69 minutes, with a median time of 66 minutes.*

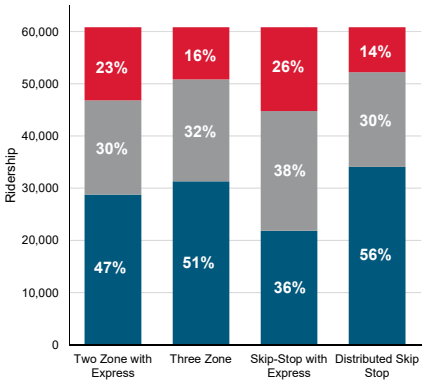
| Change in Travel Time by Station | Two Zone with Express | Three Zone | Skip Stop with Express | Distributed Skip Stop |
|---|---|---|---|---|
| Better (≥4 mins faster) | 5 | 4 | 3 | 4 |
| About the Same (+- 3 mins) | 15 | 16 | 14 | 17 |
| Worse (≥4 mins slower) | 3 | 3 | 6 | 2 |

# 1 - Change in Travel Time and Wait Time by Existing Ridership

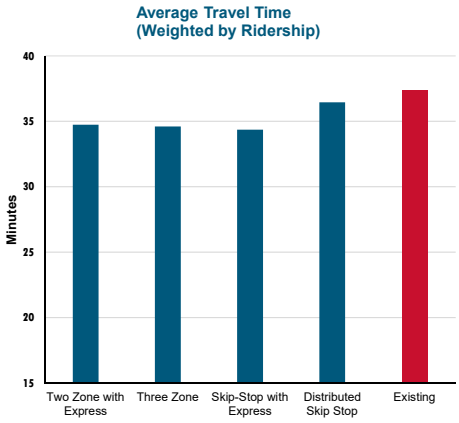
**Change in Average Travel Time by OD Pair (By Total Ridership)**

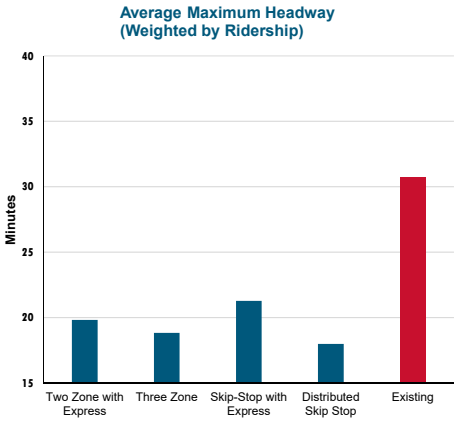



**Change in Maximum Headway by OD Pair (By Total Ridership)**



# 1- Travel Time & Wait Time Systemwide




# 1 – Service Comparison to Existing

| Metric | Two Zone with Express | Three Zone | Skip Stop with Express | Distributed Skip Stop |
|---|---|---|---|---|
| Travel Time | Similar | Similar | Similar | Similar |
| Maximum Wait Time | Slightly Better | Slightly Better | Slightly Better | Better |

**Travel Times**
All concepts provide similar travel times to existing, although each pattern preferences different station pairs

**Maximum Wait Times**
All concepts provide a similar reduction in maximum wait times, although the Distributed Skip Stop is the only concept to provide regular intervals at major stations

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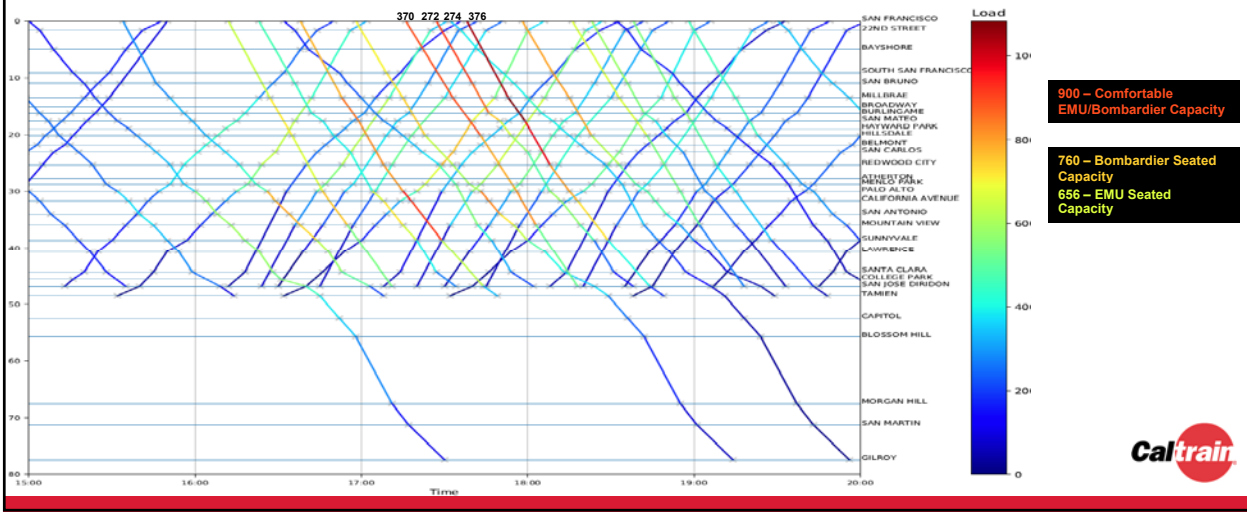
# 2 – Capacity Metrics

**Internal Connectivity**

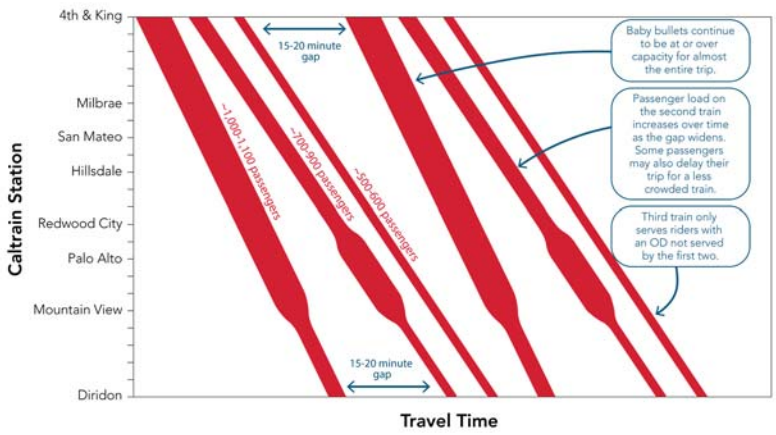
**External Connectivity**

# 2 – Crowding Effects of Irregular Wait Times and Differentiated Service

## Passenger Loads: PM Peak

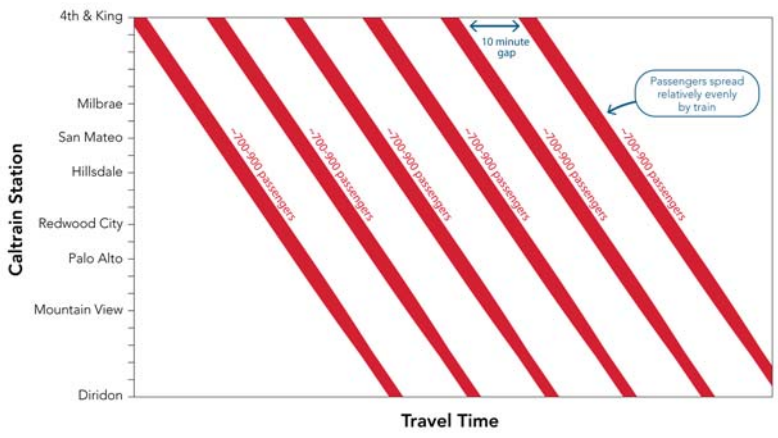



# Crowding Effects – Skip Stop with Express




Skip Stop with Express has the lowest effective capacity and least room for ridership growth.

# Crowding Effects – Distributed Skip Stop

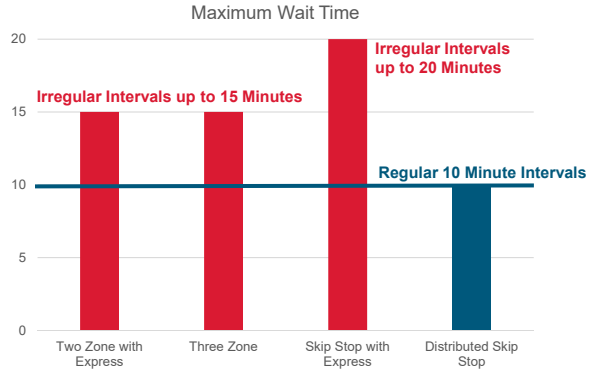



Distributed Skip Stop has the highest effective capacity and most room for ridership growth.

# Wait Times at Major Stations

Depending on the service concept, Caltrain may still experience irregular wait times at major stations served by all trains. This has ramifications for Caltrain's ability to manage crowding for trains and stations, coordinate transfers, and provide a user-friendly experience.

Only the Distributed Skip Stop concept would maintain regular 10 minute intervals serving all major stations.



# 2 – Crowding Comparison to Existing

| Metric | Two Zone with Express | Three Zone | Skip Stop with Express | Distributed Skip Stop |
|---|---|---|---|---|
| Throughput Capacity & Crowding | Slightly Better | Slightly Better | Similar | Better |
| Ability to Support Significant Ridership Growth | Partially | Partially | No | Yes |

- The Two Zone with Express and Three Zone concepts would spread riders somewhat evenly across trains, but would still experience some capacity issues due to bunching
- The Skip Stop with Express would concentrate riders on express trains, which will not alleviate current crowding conditions or provide room for growth
- The Distributed Skip Stop would spread riders across trains relatively evenly and maximize effective capacity

# 3 - Rider Experience Metrics

**Internal Connectivity**

**External Connectivity**

*Photo credit SPUR*

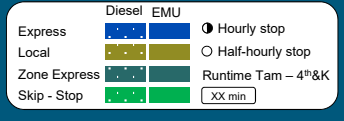
# 3 - User Experience Comparison to Existing Service

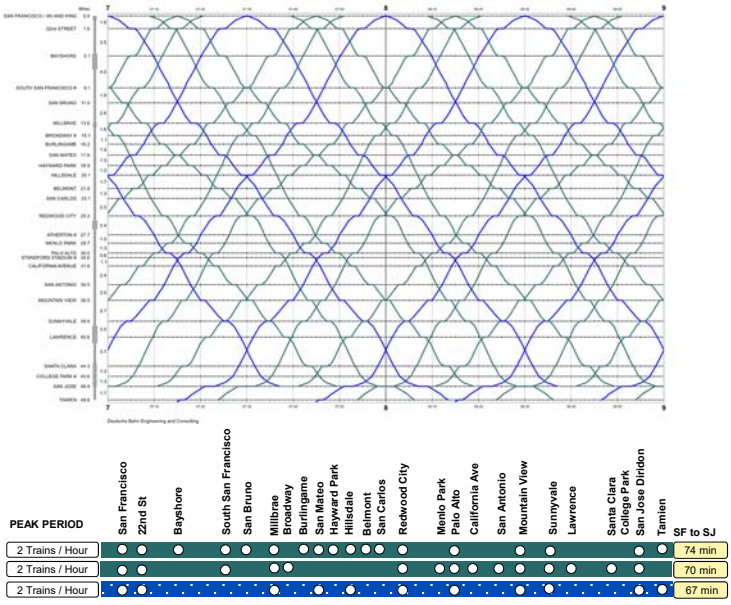
| Metric | Two Zone with Express | Three Zone | Skip Stop with Express | Distributed Skip Stop |
|---|---|---|---|---|
| Internal Connectivity | Similar | Similar | Similar | Similar |
| External Connectivity | Slightly Better | Similar | Similar | Better |

**Existing Riders**
All concepts serve nearly all existing riders with more frequent direct service, although none serve all existing riders

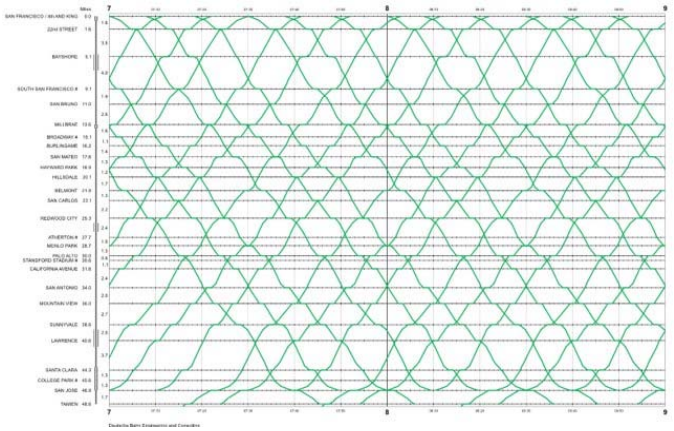
**Intermodal Transfers**
The Distributed Skip Stop provides efficient transfers at key intermodal stations, while the Two Zone Express provides a good transfer to BART at Millbrae

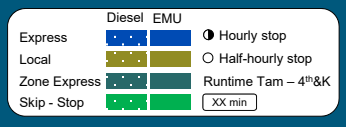
# Two Zone with Expresss

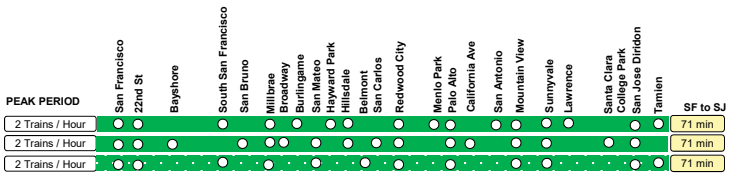


# Distributed Skip Stop





# Memorandum

**Date:** January 27, 2020

**To:** Board of Directors

**From:** Jim Hartnett, Executive Director

**Subject:** February 6, 2020 JPB Board Meeting Executive Director's Report

---

- **On-time Performance –**
  - **Through January 26:** The preliminary January 2020 OTP was 95.5 percent compared to 94.4 percent for January 2019.
  - **December:** The December 2019 OTP was 92.5 percent compared to 92.2 percent for December 2018.
    - **Trespasser Strikes –** There were two trespasser strikes on December 2 and December 11, one resulting in a fatality.
- **SF Weekend Service Closure –** Caltrain's San Francisco tunnel construction work, which is needed for the electrification of Caltrain, will require six weekend service closures. Crews will be installing an overhead contact system as part of the electrification project.

  Trains will terminate at Bayshore station. Caltrain will NOT operate service to 22nd Street or San Francisco stations on the following weekends:

  - Saturday, February 22 and Sunday, February 23
  - Saturday, February 29 and Sunday, March 1
  - Saturday, March 7 and Sunday, March 8
  - Saturday, March 14 and Sunday, March 15
  - Saturday, March 21 and Sunday, March 22
  - Saturday, March 28 and Sunday, March 29

On these weekends, free SamTrans bus service will replace train service between the Bayshore and San Francisco stations. Buses are ADA accessible and will have limited capacity for luggage and bikes onboard.

To learn more, visit www.caltrain.com/SFWeekendClosure.

- **Caltrain Adds Daily Parking to Mobile Ticketing App –** Caltrain Mobile now allows users to pay for parking through their phones. The new feature offers users the option to purchase a Caltrain Daily Parking Permit. After selecting the option, users can select the station they parked at and input their parking space number, allowing them to pay for parking in seconds without requiring the use of a ticket vending machine. The feature was introduced in a soft launch on December 18. In that time, over a thousand permits have been sold through the app, with no reported issues. This is the first feature of its kind in the Bay Area, and was one of the most requested updates by Caltrain Mobile users.

- **Hillsdale Station Triangle Parking Lot Closure –** The Hillsdale Station triangle parking lot located on the east side of the station will close permanently on Monday, January 27, 2020. The JPB's lot lease is being terminated in order to develop the property. Caltrain customers were informed of alternative parking on the east side of the station between 28th Ave and 31st Avenues. Other parking lot impacts and improvements are also being coordinated with the City of San Mateo. The lot closure will also have a significant impact on all Hillsdale Station shuttles that utilize the parking lot. Staff worked with City staff to relocate shuttle pick-up and drop-off along Pacific Avenue adjacent to the east side of the station. To inform customers and shuttle operations, signs were placed at the station and entrances of the parking lot, flyers were distributed in the parking lot, a new release was issued and information was posted on social media. Additional details are available on the Hillsdale Station webpage: http://www.caltrain.com/stations/hillsdalestation.html.

- **CAC Meeting –** The Citizens Advisory Committee met on Wednesday, January 15, in San Carlos. Rafael Bolon, Project Manager, provided a presentation on Hillsdale 25th Avenue Grade Separation. Christiane Kwok, Manager – Fare Program Operations, provided an update on the Caltrain Mobile App. Joe Navarro, Deputy Chief – Rail Operations, provided the Staff Report. The next CAC meeting is scheduled for Wednesday, February 19, in San Carlos.

- **BAC Meeting –** The Bicycle Advisory Committee met on Thursday, January 16, in San Carlos. Dan Provence, Principal Planner – CalMod Planning, provided Scooters Onboard Update and also provided a presentation on 4th

& King Station Access Improvements. Lori Low, Public Affairs Officer, provided the Staff Report. The next BAC meeting is scheduled for Thursday, March 19, in San Carlos.

- **Special Event Train Service**

  **Services Provided:**

  **SF 49ers Post-Season –** The SF 49ers clinched the West Division and the NFC's No 1 overall seed. The 49ers hosted the Minnesota Vikings in the NFL divisional playoff game at Levi's Stadium on Saturday, January 11 at 1:35 p.m. and the Green Bay Packers in the NFC Championship game on Sunday, January 19 at 3:40 p.m. The 49ers won the NFC Championship game and are on their way to Super Bowl 54 in Miami on Sunday, February 2. Caltrain operated one extra pre-game train with limited stops and one extra post-game local train from Mountain View to San Francisco for both weekend games. January event ridership will be provided in March.

  In December total riders alighting and boarding at Mountain View station was 2,848. Pre and regular season total year-to-date ridership alighting and boarding at Mountain View station was 17,446, a nine percent increase compared to the 2018 season.

  - **Warriors Regular Season** – The Golden State Warriors hosted eight games in December. Total post-game additional riders, boarding at San Francisco station in December was 3,013. Year-to-date post-game additional riders, boarding at San Francisco station in December was 10,880.

    The Golden State Warriors hosted seven games in January. Event ridership will be provided in March.

  - **San Jose Sharks Regular Season –** The Sharks hosted eight games in December. Total post-game additional riders, boarding at San Jose Diridon station in December was 1,542. Total year-to-date post-game additional riders, boarding at San Jose Diridon station in November, was 5,753, which represents a four percent increase compared to the same number of games in the 2018/2019 season.

    The Sharks hosted four games in January. Event ridership will be provided in March.

  - **New Year's Eve Fireworks –** Caltrain operated two pre-event northbound and five post-event southbound special trains on New Year's Eve for SF

fireworks show. Post-fireworks service carried 4,443 riders, which represents a 25 percent decrease compared to 2018 ridership. Total additional riders alighting and boarding at San Francisco station was 7,779, a decrease of 29 percent compared to 2018 ridership.

- **Holiday Service –** During the following Holidays, Caltrain operated the following schedules:

  - Tuesday, December 31 – New Year's Eve (Regular Weekday schedule + Pre & Post-Fireworks Special Trains)
    - Caltrain provided **FREE** service beginning at 8:00 p.m. until the last train post-event departed SF at 2:00 a.m., making all local stops.
  - Wednesday, January 1 – New Year's Day (Sunday schedule)

- **Redbox Bowl (California Golden Bears vs. Illinois Fighting Illini)** – The Redbox Bowl College Football game was held at Levi's Stadium on Monday, December 30 at 1:00 p.m. Caltrain operated regular weekday service. Total additional riders alighting and boarding at Mountain View station was 815.

- **Modified Service –** The Modified Schedule is a Modified Saturday Schedule with four extra trains in each direction and includes one round trip from Gilroy to SF. The Modified Schedule was implemented during the following Observed Holiday:

  - Monday, January 20 – Martin Luther King Day

- **Caltrain NorCalMLK Celebration Train** – The Caltrain NorCalMLK Celebration Train operated on Monday, January 20, 2020. The 10-car train departed San Jose Diridon at 9:35 a.m. and made limited stops at Palo Alto and San Mateo prior to its arrival at San Francisco. Event ridership will be provided in March.

**Services Scheduled:**

- **San Jose Sharks –** The Sharks will host five games in February. Caltrain will track post-game ridership at SJ Diridon station for all home games. No extra special trains are planned. For weeknight and Saturday night games, the last northbound train departs SJ Diridon station at 10:30 p.m. or 15 minutes after the game ends but departs no later than 10:45 p.m.

- **Warriors Regular Season –** The Golden State Warriors will host six games in February. In coordination with Chase Center, Caltrain will operate regular

service for all home games and continues to monitor ridership as well as identify the need for additional or modified post-game service. Caltrain will track post-game service ridership at SF Station for all home games.

- **Modified Service –** The Modified Schedule is a Modified Saturday Schedule with four extra trains in each direction and includes one round trip from Gilroy to SF. The Modified Schedule will be implemented during the following Observed Holiday:

  - Monday, February 17 – President's Day

- **SF Giants FanFest –** On Saturday, February 8, 2020, the SF Giants Fan Fest will be held at Oracle Park from 10 a.m. to 3 p.m. Caltrain will operate one extra pre-event northbound express train and one post-event train that will be express from San Francisco to Millbrae and then make all local weekend stops to San Jose.

  In coordination with the SF Giants, Caltrain will participate in Oracle Park Transportation table along with other SF Giants transit agency partners. Caltrain staff will provide Caltrain Giants Service information to FanFest goers as well as promote the use of the Caltrain Mobile App with the newly added parking feature.

- **Capital Projects –**

The Capital Projects information is current as of January 17, 2020 and is subject to change between January 17 and February 6, 2020 (Board Meeting).

- **San Mateo 25th Avenue Grade Separation Project:** Raise the elevation of the alignment from Hillsdale Boulevard to south of the Highway 92 Overcrossing in the city of San Mateo. The project creates a grade separation at 25th Avenue, relocates the Hillsdale Station to the north, and creates two new east-west street grade-separated connections at 28th and 31st Avenues in San Mateo.

  Painting of the 31st Avenue Bridge steel bridge is in progress. Construction of ramp and stair walls for the future relocated Hillsdale Station by 28th Avenue continued. Construction of MSE Wall C (between 28th Avenue and the new Pedestrian Underpass) was completed. Construction of MSE Wall D (between the Pedestrian Underpass and 31st Avenue), and MSE Wall E (between 31st Avenue and existing Hillsdale station) continues.

  Retaining walls on the west side of 28th and 31st Avenue continued as weather permitted. Construction of the east sides of 28th and 31st Avenues cannot proceed until the track shift associated with the temporary Hillsdale

station closure is in place. Construction began for the pump station that will support drainage at the future depressed 31st Avenue roadway section. Trackwork construction continued in the elevated segments of MSE Wall A (Borel to 25th Avenue) and MSE Wall B (25th Avenue to 28th Avenue.

The temporary closure of the Hillsdale Station, to allow completion of the project, is now forecast to occur in the Spring of 2020 until Fall of 2020. The planned dates for the temporary closure was extended due to the Third Party Fiber Optic (TPFOC) utility relocation delays in early 2019. During the temporary closure, enhanced bus and shuttle service to the Belmont Station will be provided to minimize the temporary passenger inconvenience.

The original San Mateo Parking Track (i.e., Bay Meadows Set-Out track) was removed to support the construction of the grade separation. A Community Meeting was held on January 13 to discuss the results of the technical and financial feasibility analysis that was conducted for various possible future replacement locations. The San Mateo City Council has scheduled a study session for January 21, 2020.

- **South San Francisco Station Improvements:** the existing side platforms with a new centerboard platform, construction of a new connecting pedestrian underpass to the two new plazas in downtown South San Francisco to the west and the shuttle area to east. Upon completion, the hold-out rule at this station will be removed that currently impacts the overall system operational efficiency.

  In January, construction of OCS foundations and the removal of abandoned underground utilities were in progress. Shoring, that is required to commence construction of the pedestrian underpass and the station, is expected to begin in January.

  Critical third-party utility relocations that were originally scheduled to begin in November 2017; however, relocation was delayed until August 2018 due to delays in obtaining Caltrans permits. Due to physical conflicts between third-party utility relocations and civil construction for critical path activities such as the pedestrian underpass, a partial suspension was issued for construction to minimize delays and inefficiencies that would be caused by the stacking of the utilities and construction work. The partial suspension was lifted in September. Critical path station related construction that was planned to resume in April 2019 was delayed to late 2019 due to delays in the relocation of existing PG&E gas and electric utilities. Additional funding allocation, received from the City of South San Francisco and the San Mateo County Transit Authority (TA), and associated increase in contract

authority to ensure that construction can continue and key milestones can be achieved was approved by the JPB board in December.

- **Marin and Napoleon Bridge Rehabilitation Project:** This state of good repair project will perform repairs at the Marin St. Bridge and replace the Napoleon St. Bridge. Both bridges are in the City of San Francisco located south of the 22nd Street Station. The repairs at Marin Street are primarily for concrete spalling and cracks, and deficient walkways and handrails. The Napoleon St. bridge concrete spans will be removed and replaced with elevated soil berm structures and the main steel span will be replaced with a new concrete span. The span replacement at Napoleon Street will require a partial weekend service outage in which a bus bridge will be provided to shuttle patrons between Bayshore and 4th & King Stations during the outage. The project will install security fencing to deter encampments, and, also include track improvements in the vicinity of the bridges.

  Currently, the project is completing the design phase and is revising the bridge structure and construction staging to address constructability issues with working adjacent to an existing City storm drain box culvert and the Electrification project. The advertisement of the construction contract is planned for early-2020 and construction to occur from the Summer of 2020 to Summer 2021.

- **Ticket Vending Machine (TVM) Rehabilitation:** Upgrade the existing TVM Server and retrofit and refurbish two existing TVM machines to become prototypes for new TVM's so that the machines are capable of performing the functions planned for the current Clipper program. The new machines will be able to dispense new Clipper cards (excluding discount Clipper cards that require verification of eligibility) and have the ability of increasing the cash values of existing Clipper cards. The scope of the original contract was increased to include upgrades to the credit card reader and the database.

  Testing of the new credit card reader was completed. Design and production continues for other facets including new TVM Door graphics. The completion of the 2 prototype machines is expected in April 2020. The option for retrofitting 12 additional TVM's, if executed, would follow the acceptance of the 2 prototypes. Full funding for the option is not yet secured. There is an additional phase for the rehabilitation of 28 TVM's that was partially funded in the FY20 Capital Budget.

- **Mary and Evelyn Avenue Traffic Signal Preemption Project:** Perform upgrades to train approach warning systems at the Mary Avenue and Evelyn Avenue crossings in Sunnyvale. The project will improve vehicle

safety at the at-grade crossings by increasing the traffic signal advance warning times for approaching trains in order to clear vehicles at the crossings. This project will mimic the previously completed traffic signal preemption project that was completed in 2014 in Redwood City, Palo Alto and Mountain View. This project is being funded through the State of California Public Utilities Commission Section 130 program to eliminate hazards at existing grade crossings.

The design for this project began in late January 2019; however, the design was placed on hold until late August 2019 due to design coordination with the Electrification project to assure that the work is coordinated, and, waiting for signal preemption timing requirements from the City of Sunnyvale in order to proceed with design. The 100% design is currently in progress. The current schedule is for design to complete by the Spring of 2020, and conduct construction from late 2020 until mid-2021. The schedule may be impacted because of design coordination with the Electrification project. The 100% crossing design by the Electrification project is not yet available and is needed in order for this project's design to be complete.

- **FY19/FY20 Grade Crossing Improvements:** This project is a continuation of the ongoing grade crossing program to improve the safety at grade crossings in accordance with Grade Crossing Hazards Analysis for the entire corridor. This analysis prioritized the crossings and we have proceeded with the work in phases based on funding availability. 10 crossings were improved in 2018 under the FY16 budget authorization. Due to budget constraints, the FY19/FY20 scope is limited to five (5) crossings to be improved. The five crossings selected to be improved in this phase are 1st, 2nd, and 3rd Avenues in San Mateo, and, Glenwood and Oak Grove Avenues in Menlo Park. Work items that are usually included are the installation of signals, fences, gates, curbs, lighting and signs.

  The 65% final design submittal was received at the end of December and is currently under review. Advertisement of the construction contract is planned for the Summer of 2020 with construction beginning in early 2021 and lasting until Fall of 2021.

- **Broadband Wireless Communications for Railroad Operations:** This project is to provide wireless communications system to provide enhanced capabilities for the monitoring of the railroad operations and maintenance, and, provide Wi-Fi capability for passengers. This project is funded through a grant from the Transit and Intercity Rail Capital Program (TIRCP). Currently, the project is currently only approved for the design phase.

The project is currently continuing the planning/design phase that began in November 2019. The current schedule calls for the planning/design efforts to complete by the summer of 2020. Advertisement for construction is dependent upon additional funding being secured. Currently, the scope of the planned work is to provide Wi-Fi to passengers on the diesel fleet only. Extension of wireless capability to the EMU's and for railroad operations and maintenance will be addressed in a future phase.

- **F-40 Locomotive Mid-Life Overhaul Project:** Perform mid-life overhaul of three F40PH2C locomotives. The mid-life overhaul of the locomotives includes the compete disassembly of the main diesel engine, overhauling by reconditioning re-usable main frame components and re-assembly with new engine components and replacement of the Separate Head-End Power (SEP-HEP) unit and all electrical components of the SEP-HEP compartment. All areas of the locomotive car body, trucks, wheels and electrical components shall be reconditioned to like-new condition or replaced with new material. The work will be completed off-site at contractor's (Motive Power) facility location at Boise, Idaho. The three locomotives are Locomotive #'s 920, 921 and 922.

  Locomotives #'s 920 and 921 were shipped to the vendor's facility in Idaho in February and March of 2018, and, #922 was shipped in April 2019. Locomotive 920 and 921 have been released and inward facing cameras were installed in both vehicles. Locomotive #920 been returned service. Locomotive #922 is still undergoing refurbishment at the vendor's facility and expected to be returned in March 2020.

  Delays to the return of the first 2 vehicles are related to: 1) locomotive component condition that was poorer than was originally anticipated; and 2) critical personnel shortages at Motive Power, the locomotive overhaul contractor.

- **MP-36 Locomotive Mid-Life Overhaul Project:** Perform mid-life overhaul of six MP-36-3C Locomotives. The mid-life overhaul of the locomotives shall include complete disassembly of the main diesel engine, overhauling by reconditioning re-usable main frame components and re-assembly with new engine components and the replacement of the Separate Head-End Power (SEP-HEP) unit and all electrical components of the SEP-HEP compartment. All areas of the locomotive car body, trucks, wheels and electrical components shall be reconditioned to like-new condition or replaced with new material. The project work shall be completed off-site at the contractor's facility location.

The Request for Proposal (RFP) was advertised on November 11, 2019 and the proposals due date has been extended from December 31, 2019 to January 31, 2020 to allow for additional time for proposer's questions and for JPB proposal clarifications and responses to questions. Award of the contract is planned for Spring 2020.

The 6 locomotives to be overhauled are Locomotive #'s 923, 924, 925, 926, 927 & 928. In order to maintain daily service, only 1 to 2 of these locomotives will be released at a time for overhaul that is expected to take approximately 8 months per locomotive. Due to this restriction, the overall completion of this work is expected to take approximately 4 years.

**AGENDA ITEM #6(a)**
**FEBRUARY 6, 2020**

**PENINSULA CORRIDOR JOINT POWERS BOARD**
**STAFF REPORT**

TO: Joint Powers Board

THROUGH: Jim Hartnett
Executive Director

FROM: John Funghi
Chief Officer, Caltrain Modernization Program

SUBJECT: **PENINSULA CORRIDOR ELECTRIFICATION PROJECT MONTHLY PROGRESS REPORT AND QUARTERLY REPORT**

## ACTION

Staff Coordinating Council recommends the Board receive the Peninsula Corridor Electrification Project (PCEP) Monthly Progress Report (MPR) and Quarterly Update. Both the MPR and the Quarterly Update are available online under "Reports and Presentations" at this webpage: http://www.caltrain.com/projectsplans/CaltrainModernization/CalMod_Document_Library.html. No action required.

## SIGNIFICANCE

Staff prepares and submits a report covering the PCEP on a monthly basis and a PowerPoint presentation on a quarterly basis.

## BUDGET IMPACT

There is no impact on the budget.

## BACKGROUND

The MPR and Quarterly Update are intended to provide funding partners, stakeholders, and the public a PCEP overview and an overall update on project progress. These documents provide information on the scope, cost, funding, schedule, and project implementation.

Prepared by: Josh Averill, Program Management Administrator 650.508.6453

**Modernization Program**
**Peninsula Corridor Electrification Project (PCEP)**


# December 2019
# Monthly Progress Report

**December 31, 2019**

## Funding Partners

Federal Transit Administration (FTA) Core Capacity

FTA Section 5307 (Environmental / Pre Development only)

FTA Section 5307 (Electric Multiple Unit (EMU) only)

Prop 1B (Public Transportation Modernization & Improvement Account)

Caltrain Low Carbon Transit Operations Cap and Trade

Proposition 1A

California High Speed Rail Authority (CHSRA) Cap and Trade

Carl Moyer Fund

Bridge Tolls (Funds Regional Measure (RM) 1/RM2)

San Francisco County Transportation Authority (SFCTA)/San Francisco Municipal Transportation Agency (SFMTA)

San Mateo County Transportation Authority (SMCTA) Contribution

SMCTA Measure A

Santa Clara Valley Transportation Authority (VTA) Measure A

VTA Contribution

City and County of San Francisco (CCSF) Contribution

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## 1.0 BACKGROUND

Over the last decade, Caltrain has experienced a substantial increase in ridership and anticipates further increases in ridership demand as the San Francisco Bay Area's population grows. The Caltrain Modernization (CalMod) Program, scheduled to be implemented by 2021, will electrify and upgrade the performance, operating efficiency, capacity, safety, and reliability of Caltrain's commuter rail service.

The PCEP is a key component of the CalMod Program and consists of converting Caltrain from diesel-hauled to Electric Multiple Unit (EMU) trains for service between the San Francisco Station (at the intersection of Fourth and King Streets in San Francisco) and the Tamien Station in San Jose. Caltrain will continue Gilroy service and support existing tenants.

An electrified Caltrain will better address Peninsula commuters' vision of environmentally friendly, fast and reliable service. Electrification will modernize Caltrain and make it possible to increase service while offering several advantages in comparison with existing diesel power use, including:

- **Improved Train Performance, Increased Ridership Capacity and Increased Service:** Electrified trains can accelerate and decelerate more quickly than diesel-powered trains, allowing Caltrain to run more efficiently. In addition, because of their performance advantages, electrified trains will enable more frequent and/or faster train service to more riders.
- **Increased Revenue and Reduced Fuel Cost:** An electrified Caltrain will increase ridership and fare revenues while decreasing fuel costs.
- **Reduced Engine Noise Emanating from Trains:** Noise from electrified train engines is measurably less than noise from diesel train engines. Train horns will continue to be required at grade crossings, adhering to current safety regulations.
- **Improved Regional Air Quality and Reduced Greenhouse Gas Emissions:** Electrified trains will produce substantially less corridor air pollution compared with diesel trains even when the indirect emissions from electrical power generation are included. Increased ridership will reduce automobile usage, resulting in additional air quality benefits. In addition, the reduction of greenhouse gas emissions will improve our regional air quality, and will also help meet the state's emission reduction goals.



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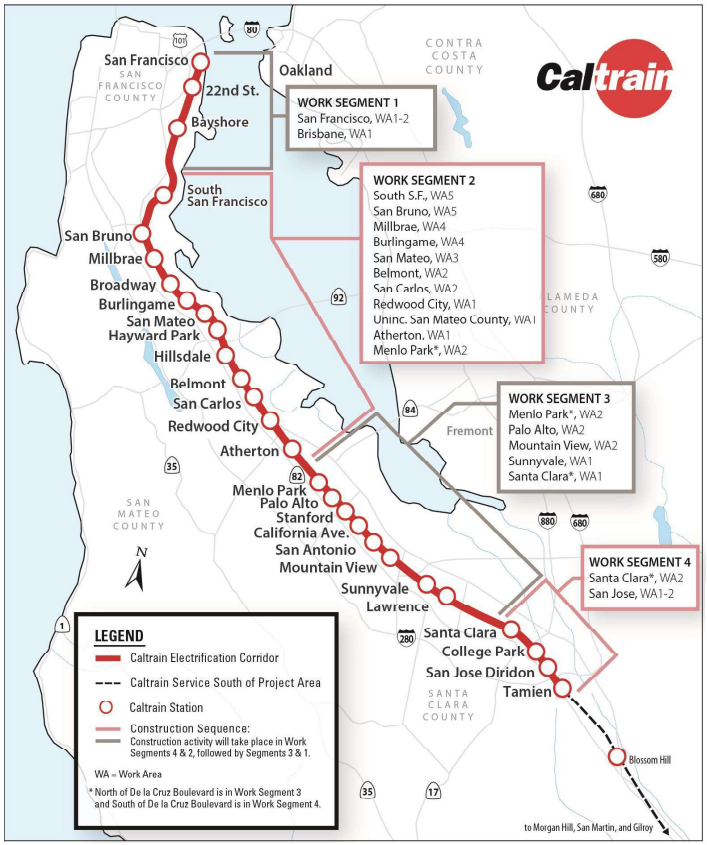
## 2.0 EXECUTIVE SUMMARY

The Monthly Progress Report is intended to provide an overview of the PCEP and provide funding partners, stakeholders, and the public an overall update on the progress of the project. This document provides information on the scope, cost, funding, schedule, and project implementation. Work along the Caltrain Electrification Corridor has been divided into four work segments and respective work areas (WA) as shown in Figure 2-1. PCEP activities are described and summarized by segments and work areas.

**Figure 2-1 PCEP Work Segments**








Electrification infrastructure construction activities this month include installation of OCS foundations in Segment 3, gantry foundations at Paralleling Station (PS) PS-6, and potholing in all segments. Signal conduit surveying was performed in Segments 2 and 4. Numerous other typical construction activities continued this month, including ductbank and conduit installation, installation of OCS poles, down guys, balance weights, and relocation of signal cables.

Final Design Reviews continue to be performed for the EMUs, and First Article Inspections continue to be conducted and closed (54 of 64 have been closed). A quality audit was conducted on Stadler electrical tests on completed cars with satisfactory results.

The Centralized Equipment Maintenance and Operations Facility construction activities included completion of shoring for the south pit and preparation for ongoing construction of the storage facility.

### 2.1. Monthly Dashboards

Dashboard progress charts are included below to summarize construction progress.

**Figure 2-2 Expenditure – Planned vs. Actual**

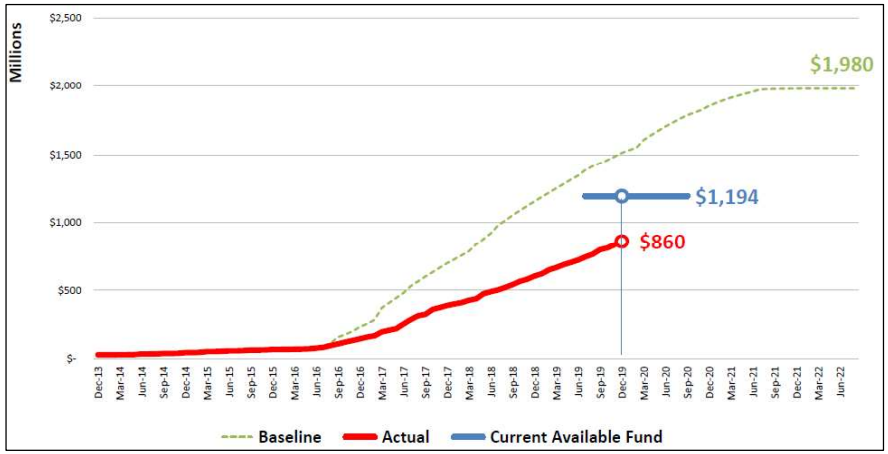


**Figure 2-3 Spending Rate vs. Required**

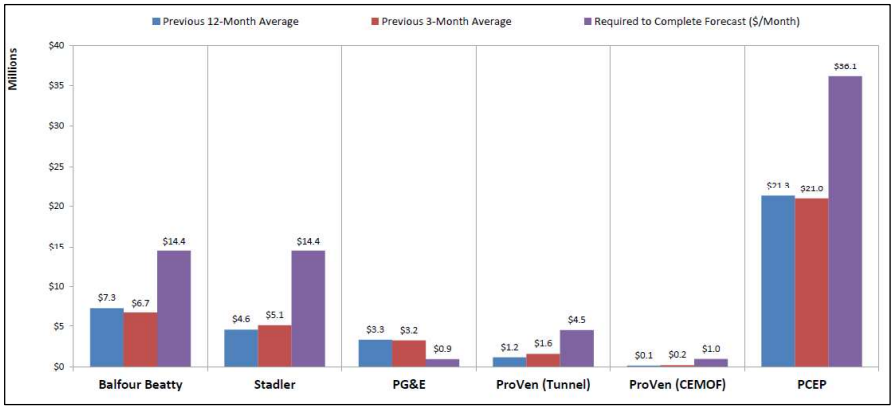



**Figure 2-4 Construction Contract Budgets**

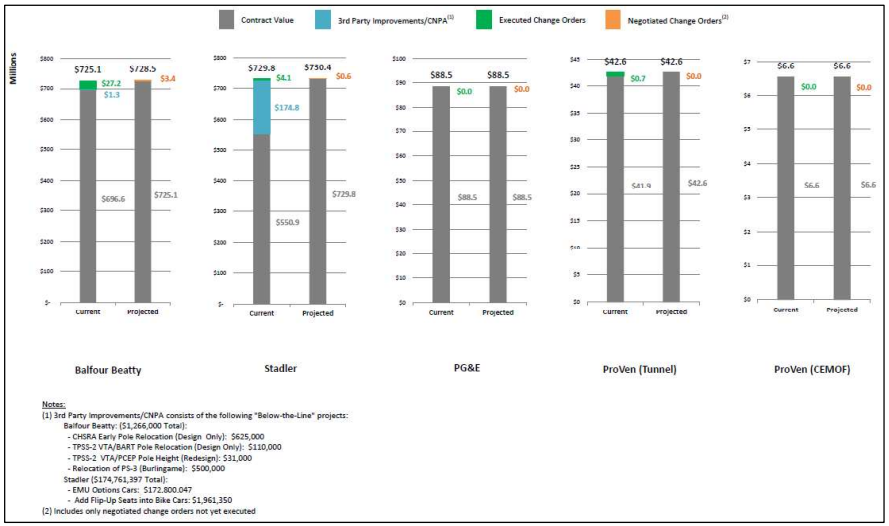







**Figure 2-5 OCS Foundation Production**

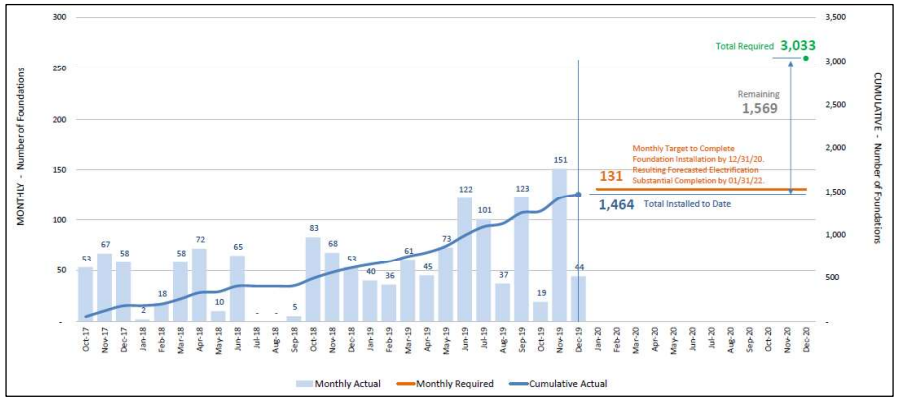
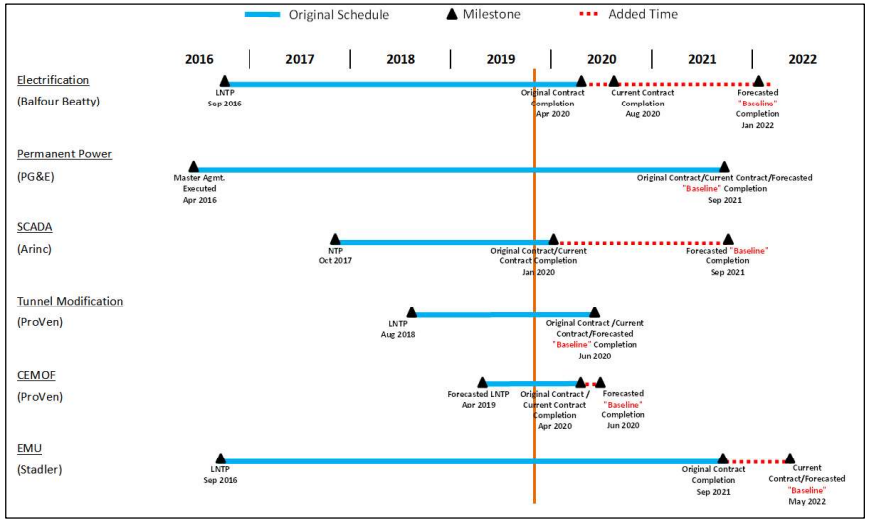



**Figure 2-6 Contractor Completion Schedule**



## 2.2. Funding Partners Participation in PCEP

The PCEP has a series of weekly, biweekly, monthly and quarterly meetings to coordinate all aspects of the program. The meetings are attended by project staff with participation by our funding partners in accordance with the Funding Partners Oversight Protocol. A summary of funding partner meetings and invitees can be found in Appendix B.

This section of the report provides a summary of the discussions and decisions made at the meetings and a list of funding partners who attended the meetings.

**Electrification – Engineering Meeting – Weekly**

Purpose: To discuss status, resolution and tracking of Balfour Beatty Infrastructure, Inc. (BBII) and electrification design-related issues, to discuss Supervisory Control and Data Acquisition (SCADA), the Tunnel Modification Project, and monitor the progress of utility relocation compared to schedule, and to discuss third-party coordination activities with Pacific Gas and Electric (PG&E), CHSRA, Union Pacific Rail Road (UPRR), Bay Area Rapid Transit, California State Department of Transportation (Caltrans), Positive Train Control (PTC) and others.

Activity this Month

Funding Partners: CHSRA: Ian Ferrier

Continued discussions on resolution of outstanding issues for the Design-Build (DB) contract, such as:

- Grade crossing designs, including progress of design and ongoing meetings with key stakeholders such as the Federal Railroad Administration (FRA), California Public Utilities Commission (CPUC) and local jurisdictions
- OCS foundation design, potholing status, and foundation installation sequencing
- Key right of way acquisition issues as related to construction activities
- Review of key actions from weekly BBII progress meetings, status of critical submittals or Requests for Information (RFI), open non-conformance reports, and open critical issues from the Design Build (DB) contract
- The progression of the PG&E interconnections design and material procurement status, including interface with VTA on the design of TPS-2 interconnection into PG&E's FMC Substation
- The progression of the PG&E single phase study including next steps to resolve comments from PG&E and Silicon Valley Power (SVP), which will be required for the energization of the system
- Key interface points (foundation installation, signal design, etc.) between the PCEP and other major Peninsula Corridor Joint Powers Board (JPB) projects such as South San Francisco Station Project, 25th Avenue Grade Separation Project, and Broadway Grade Separation Project
- The utility relocation status
- Status of the upcoming work for the Tunnel OCS





- Updates on DB and program schedule, including key foundation and traction power facility milestones, PG&E Infrastructure buildout and power quality study status
- Upcoming changes to the contract in preparation for the Change Management Board (CMB) and specific contract change orders that require technical review and input

**PCEP Delivery Coordination Meeting – Bi-Weekly**

Purpose: To facilitate high-level coordination and information sharing between cross-functional groups regarding the status of the work for which they are responsible.

Activity this Month

Funding Partners: CHSRA: Ian Ferrier; SFCTA: Luis Zurinaga

The Project Management Oversight Consultant (PMOC) met with staff on December 16 – 18 and observed construction activities on the field. The Federal Transit Administration (FTA) Quarterly and the CHSRA/Funding Partners Quarterly meetings are both scheduled to occur on January 22. In response to the FTA triennial audit, although no deficiencies were identified for PCEP, staff attended the ICE and Cost/Price Analysis training that occurred on December 4. In EMU design and manufacturing, the 4th trainset of carshells has been completed in Altenrhein and released for shipment. In Winterthur, manufacturing of the 4th and 5th trainsets of truck frames are complete, and in Salt Lake City, wiring and circuit verification tests are ongoing of the first trainset of cars. For construction and field activities, on-tracking for S3WA2 is complete and the planning and scheduling of off-track foundations in S3WA2 is underway. Installation of poles continue in S4, completion of form and rebar work and high voltage cable installation continue in TPS-2, and manhole and ductbank installation, form and rebar work, and drainage work continue at TPS-1. Ductbank and manhole installation continues at SWS-1 and PS-6. In the Tunnel Modification Project, drop tube installation started on December 3 with 38 drop tubes installed as of December 10.

**Systems Integration Meeting – Bi-Weekly**

Purpose: To discuss and resolve issues with inter-system interfaces and to identify and assign Action Item Owners for interface points that have yet to be addressed.

Activity this Month

Funding Partners: CHSRA: Ian Ferrier

Bi-weekly PCEP interface meetings are held to monitor and determine appropriate resolution for systems integration issues. The systems integration database is being reviewed. Data was recovered from a corrupted database. A spreadsheet for keeping track of Action Items and the individual(s) assigned to these items is the primary tracking method while issues relating to the System Integration database are resolved. Meetings with the electrification contractor to discuss design and construction integration issues are being scheduled as needed. The Systems Integration Lead also maintains contact with the EMU procurement team. The Traction Power SCADA team also holds bi-weekly status meetings. Coordination with the EMU procurement, PTC and Caltrain Capital Project managers responsible for delivery of the 25th Avenue Grade Separation

Project, Marin Napoleon Bridge Rehabilitation Project, and the South San Francisco Station Project is ongoing. There is coordination with the Tunnel Modification Project and the CEMOF upgrades as well. Progress on activities including systems integration testing activities, FRA, FTA and safety certification are being tracked. Systems Integration is working with the JPB Rail Activation Committee.

**Master Program Schedule (MPS) Meeting – Monthly**

Purpose: To review the status of the MPS and discuss the status of major milestones, critical and near critical paths, upcoming Board review items, and progress with the contracts, among others.

Activity this Month

Funding Partners: CHSRA: Ian Ferrier and Wai-On Su, VTA: Manolo Gonzalez-Estay, SFCTA: Luis Zurinaga

The overall schedule remains unchanged from last month. The forecasted Revenue Service Date (RSD) remains May 2022. The addition of approximately three and a half months of contingency yields an RSD of August 2022. The program critical path runs through the manufacturing and testing of EMU trainsets.

**Risk Assessment Meeting – Monthly**

Purpose: To identify risks and corresponding mitigation measures. For each risk on the risk register, mitigation measures have been identified and are being implemented. Progress in mitigating these risks is confirmed at the ongoing risk monitoring and monthly risk assessment meetings.

Activity this Month

No meeting was held this month due to lack of agenda items.

**Change Management Board (CMB) – Monthly**

Purpose: To review, evaluate and authorize proposed changes to PCEP over $200,000.

Activity this Month

The December CMB was cancelled.

The CMB discusses major topics including potential changes to PCEP contracts, contingency usage, track access delays and Differing Site Conditions (DSC) field order updates.

Potential contract changes will follow the PCEP Change Order Procedure. Once approved changes are executed, they will be reported in the Change Management section (Section 9) of this report.

BBII Contract

No changes were identified for consideration.





CEMOF Contract

No changes were identified for consideration.

Stadler Contract

No changes were identified for consideration.

SCADA Contract

No changes were identified for consideration

Tunnel Modification Contract

No changes were identified for consideration.

Amtrak Contract

No changes were identified for consideration.

**2.3. Schedule**

The overall schedule remains unchanged from last month. The forecasted Revenue Service Date (RSD) remains as May 2022. The program critical path runs through the manufacturing and testing of EMU trainsets.

BBII continues to report an overall delay to substantial completion. JPB is working with BBII on the issue and is urging BBII to accelerate resolution.

The MPS has been updated this month to recognize a delay in arrival of the first trainset in Pueblo, CO due to delayed Stadler production and testing activities. The arrival date of the first vehicle at JPB is unchanged. The anticipated revenue service date of May 2022 is unchanged.

Table 2-1 indicates major milestone dates for the MPS.

**Table 2-1 Schedule Status**

| Milestones | Program Plan | Progress Schedule (December 2019)[1] |
|---|---|---|
| Arrival of First Vehicle in Pueblo, CO | N/A | 09/01/2020 |
| Arrival of First Vehicle at JPB (after Pueblo Testing) | N/A | 02/26/2021 |
| Segment 4 Completion | 11/21/2019 | 02/14/2021[2] |
| ○ Interconnection from PG&E Substation to Traction Power Substation (TPS) | N/A | 09/30/2020[2] |
| PG&E Provides Permanent Power | 09/09/2021 | 09/09/2021 |
| Electrification Substantial Completion | 08/10/2020 | 01/31/2022[2] |
| Start Phased Revenue Service | N/A | 02/01/2022[2] |
| RSD (w/o Risk Contingency) | 12/09/2021 | 05/06/2022 |
| FFGA RSD (w/ Risk Contingency) | 08/22/2022 | 08/22/2022 |

Note:

1. Dates may shift slightly as the update of this month's Progress Schedule is still in process.
2. See "Notable Variances" in Section 7 for explanation on date shift.

## 2.4. Budget

A summary of the overall budget and expenditure status for the PCEP is provided in Table 2-2 below.

**Table 2-2 Budget and Expenditure Status**

| Description of Work | Budget (A) | Current Budget (B)[1] | Cost This Month (C)[2] | Cost To Date (D)[3] | Estimate To Complete (E) | Estimate At Completion (F) = (D) + (E) |
|---|---|---|---|---|---|---|
| Electrification Subtotal | $1,316,125,208 | $1,316,125,208 | $17,476,734 | $662,419,619 | $653,705,589 | $1,316,125,208 |
| EMU Subtotal | $664,127,325 | $664,127,325 | $8,089,778 | $197,396,342 | $466,730,983 | $664,127,325 |
| **PCEP TOTAL** | $1,980,252,533 | $1,980,252,533 | $25,566,512 | $859,815,961 | $1,120,436,572 | $1,980,252,533 |

Notes regarding tables above:

1. Column B "Current Budget" includes executed change orders and awarded contracts.
2. Column C "Cost This Month" represents the cost of work performed this month.
3. Column D "Cost To Date" includes actuals (amount paid) and accruals (amount of work performed) to date.





## 2.5. Board Actions

- None

**Future anticipated board actions include:**

- Shunt wire construction
- PG&E interconnect construction
- EMU Pantograph Inspection & Monitoring System contract

## 2.6. Government and Community Affairs

There were no outreach events this month.

## 3.0 ELECTRIFICATION – INFRASTRUCTURE

This section reports on the progress of the Electrification, SCADA, and Tunnel Modification components. A brief description on each of the components is provided below.

### 3.1. Electrification

The Electrification component of the PCEP includes installation of 138 miles of wire and overhead catenary system (OCS) for the distribution of electrical power to the EMUs. The OCS will be powered from a 25 kilovolt (kV), 60-Hertz, single phase, alternating current supply system consisting of two traction power substations (TPS), one switching station (SWS), and seven paralleling stations (PS). Electrification infrastructure will be constructed using a DB delivery method.

**Activity This Month**

- Installed OCS foundations in S3WA2 and gantry foundations at PS-6.
- Continued to install OCS poles, down guys, and balance weights in Segment 4.
- Potholed at proposed OCS locations and utility locations in all Segments in advance of foundation installation. BBII and PCEP also continued to resolve conflicts found during the potholing process, such as loose concrete, asphalt, and other debris, and continued designing solutions for those conflicts that cannot be avoided. The conflicts must be resolved before installation of foundations at those locations.
- Relocated signal cables and remove abandoned facilities found in conflict with planned OCS foundations as conflicts were identified.
- Continued to install formwork, rebar and high-voltage cable at TPS-2.
- Continued to install ductbank and manholes, drainage, and form and rebar work at TPS-1.
- Continued to install ductbank and manholes at PS-6.
- Continued grading work at PS-7.
- Continued to install ductbanks and manholes at SWS-1.
- Performed clearing and grubbing at PS-4 as a part of ongoing sitework.
- Continued to install signal ductbank and conduits in Segment 4.
- Performed signal conduit survey in Segments 2 and 4.
- Continued drilling of rails for impedance bond connections in Segments 1, 2, 3 and 4 at various control points and crossings.
- Continued installation of insulated joints (IJs) corridor wide.
- Progressed the OCS design with BBII in all segments, which included submittal and review of Design Change Notices for revised foundation locations.
- Coordinated design review with local jurisdictions for the OCS, traction power facilities, and bridge attachments design, including responses to comments from jurisdictions.





- Continued to review and coordinate signal and communication design submittals with BBII.
- Continued discussions with FRA and CPUC on grade crossing design.
- Continued to progress the TPS interconnection design for TPS-1 and TPS-2. Completed review of 90% design for TPS-2. The interconnection is between the PG&E substations and future Caltrain main substations.
- Worked with BBII through Site Specific Work Plans (SSWP) for upcoming field work.
- Continued to work with PG&E and Silicon Valley Power (SVP) for the finalization of single phase studies and came to an agreement on steps to finalize the studies.
- PG&E continued work at East Grand and FMC substations.

A summary of the work progress by segment is provided in Table 3-1 below.

**Table 3-1 Work Progress by Segment**

| Segment | Work Area | Foundations | | | Poles | | |
|---|---|---|---|---|---|---|---|
| | | Required[abc] | Completed this Month | Completed to Date | Required[ab] | Completed this Month | Completed to Date |
| 1 | Tunnels | 32 | 0 | 32 | 32 | 0 | 0 |
| | A | 309 | 0 | 0 | 259 | 0 | 0 |
| | B | 237 | 0 | 0 | 177 | 0 | 0 |
| 2 | 5 | 243 | 0 | 184 | 208 | 0 | 160 |
| | 4 | 314 | 0 | 240 | 253 | 0 | 186 |
| | 3 | 174 | 0 | 63 | 140 | 0 | 36 |
| | 2 | 248 | 0 | 78 | 205 | 0 | 60 |
| | 1 | 206 | 0 | 79 | 154 | 0 | 33 |
| 3 | 2 | 512 | 44 | 192 | 442 | 0 | 0 |
| | 1 | 390 | 0 | 353 | 311 | 96 | 96 |
| 4 | A | 244 | 0 | 156 | 180 | 0 | 107 |
| | B | 131 | 0 | 87 | 124 | 0 | 70 |
| | CEMOF | 112 | 0 | 0 | 102 | 0 | 0 |
| **Total** | | **3,152** | **44** | **1,464** | **2,587** | **96** | **748** |

Note:

a. Foundations required do not match poles required as guy foundations are needed in some locations for extra support.
b. The number of required poles and foundations fluctuate due to design changes.
c. 55 foundations in S2WA5 will be installed by South San Francisco and 64 foundations in S2WA3 will be installed by 25th Avenue.

Activity Next Month

- Continue installation of foundations in S3WA2.
- Continue resolution of DSCs.
- Continue to install protective steel plates for protection of utilities during foundation installation.
- Continue to install OCS poles and assemblies in Segment 4.
- Continue work with BBII on field investigation activities and designs, which will include the progression of the OCS, traction power, bonding and grounding, signal systems, and other civil infrastructure such as overhead bridge protections.

- Pothole and clear obstructions at proposed OCS locations. Potholing will concentrate in Segments 3 and 4.
- Continue construction at TPS-1 and TPS-2.
- Continue construction at PS-7, PS-4, PS-6, and the Switching Station.
- Continue to install conduit and foundations for signal and wayside power cubicle units in Segments 2 and 4.
- Continue to install impedance bond connections.
- Continue to install IJs.
- Continue to install bridge attachments.
- Continue to coordinate with stakeholders on the consistent warning time solution and advance location-specific design.
- Continue to progress location-specific design for grade crossing system.
- Review BBII work plans for upcoming construction activities.
- Continue to progress design for PG&E interconnection at TPS-1 towards 90% and work on long-lead material procurement in advance of construction.
- Progress TPS-2 Interconnection Design to IFC and review 90% TPS-1 interconnection Design.
- Coordinate with PG&E on final design and construction for PG&E infrastructure.
- Coordinate with local jurisdictions to review designs.
- Continue tree pruning and removals.

### 3.2. Supervisory Control and Data Acquisition

SCADA is a system that monitors and controls field devices for electrification, including traction power substations (TPS), wayside power cubicles (WPC), and the OCS. SCADA will be integrated with the base operating system for Caltrain Operations and Control, which is the Rail Operations Center System. A separate control console will be established for the Power Director.

**Activity This Month**

- Submitted formal schedule for review and Monthly Progress Report.
- Worked on addressing comments to test procedures (ongoing).
- JPB returned comments to the contractor on four of the previously submitted test procedures.

**Activity Next Month**

- Prepare and deliver the Monthly Report and the Monthly Schedule Update.
- Attend project status meetings.
- Support ongoing discussions concerning RFIs.
- Complete the database and display to 100% for all locations.





- Continue development of Test Procedures and respond to comments received from JPB.

### 3.3. Tunnel Modification

Tunnel modifications will be required on the four tunnels located in San Francisco. This effort is needed to accommodate the required clearance for the OCS to support electrification of the corridor. Outside of the PCEP scope, Caltrain Engineering has requested the PCEP team to manage completion of design and construction for the Tunnel 1 and Tunnel 4 Drainage and Track Rehabilitation Project. The Tunnel Drainage and Track Rehabilitation Project is funded separately from PCEP.

**Activity This Month**

- Installed drop tubes in Tunnels 1 – 4.
- Continued review of and prepared responses for submittals and RFIs.
- Met with ProVen to discuss the weekend closures schedule for Tunnel OCS work.

**Activity Next Month**

- Continue procuring and fabrication of OCS termination structures from steel shop drawings based on as-built survey of foundations and shop drawing approval.
- Review and respond to submittals, RFIs, and SSWPs as needed.
- Complete the installation of the drop tubes at all tunnels.
- Prepare and plan for the six consecutive weekend shutdowns for installation of the wires, OCS termination structures in all tunnels, and masonry at South Tunnel 4.

## 4.0 ELECTRIC MULTIPLE UNITS

This section reports on the progress of the Electric Multiple Units (EMU) procurement and the Centralized Equipment Maintenance and Operations Facility (CEMOF) modifications.

### 4.1. Electric Multiple Units

The procurement of EMUs, or trainsets, from Stadler consists of a Base Order of 96 railcars, plus an Option Order of an additional 37 railcars, for a total of 133 railcars. The cars from these two orders will be combined and delivered as 19 seven-car Trainsets. The Base Order is funded from PCEP, and Option Order funded by a Transit and Intercity Rail Capital Program (TIRCP) grant. One more Option for additional cars is available.

**Activity This Month**

- System Level Final Design Reviews (FDRs) continue to have open items addressed and closed. 14 of 17 FDRs conducted, three remain and scheduled for first quarter of 2020.
- First Article Inspections (FAIs) continue to be conducted and closed. 54 of 64 FAIs have been closed.
- Electrical test conducted in Salt Lake City on six cars of first trainset.
- Car production rate improved as parts and resource shortages are being addressed.
- 28 car shells have been shipped from Stadler - Switzerland and 25 are onsite in Stadler's Salt Lake City facility.
- Waiver request submitted to FRA for relief from requirement of passenger side door emergency manual release to operate while a train is in motion. The petition for waiver is for a design that when the door emergency open is requested, the train comes to a stop, and then the doors open.
- Performed Quality Assurance (QA) audit on Stadler electrical tests for completed cars in Salt Lake City. Results satisfactory.

**Activity Next Month**

- Continue to close out system level FDRs and FAIs.
- Finalize plan to perform QA audits on critical USA-based sub-suppliers.
- Work with the FRA on closing out remaining open items.
- Advance high-level door plug design.
- Finalize bike car flip-up seat and barrier design.
- Re-baseline Stadler trainset delivery and testing schedule on Caltrain property.





### 4.2. Centralized Equipment Maintenance and Operations Facility Modifications

The CEMOF Modifications Project will provide work areas to perform maintenance on new EMUs.

**Activity This Month**

- Potholed additional utilities.
- Continued processing submittals, RFIs, and SSWPs.
- Shoring for the South Pit has been completed.

**Activity Next Month**

- Relocate ground wire.
- Pothole the Boosted Water line.
- Begin excavation of the South Pit.
- Sawcut for Storm Drain and Siphon line.
- Install fire suppression/water line at Parts Storage Warehouse.

## 5.0 SAFETY

Safety and Security requirements and plans are necessary to comply with applicable laws and regulations related to safety, security, and emergency response activities. Safety staff coordinates with contractors to review and plan the implementation of contract program safety requirements. Safety project coordination meetings continue to be conducted on a monthly basis to promote a clear understanding of project safety requirements as defined in contract provisions and program safety documents.

### Activity This Month

- Project staff provided input and continued its participation in the BBII contractor workforce safety meetings. Project incidents continue to be reviewed with project staff to reinforce the application of recommended safety mitigation measures.
- Continued to provide input and oversight of the contractor SSWP safety provisions and ongoing safety construction oversight and inspections.
- Conducted the monthly project Safety and Security Certification and Fire/Life Safety Meetings.
- Provided project safety updates and conducted site visits of traction power systems locations (TPS-2 and PS-6) with PMOC representatives.
- Conducted a field site meeting with representatives of the Santa Clara Valley Transportation Authority (VTA) to discuss planned work adjacent to the VTA alignment.
- Investigated project incident occurrences and worked with the BBII contractor to identify incident root causes and develop safety and security mitigation measures.
- Conducted ongoing safety inspections of contractor field activities and performed pre-work site hazards assessment walks with BBII and subcontractor staff.
- Participated in weekly project coordination meetings with the contractor to review open issues and recommended action items.

### Activity Next Month

- Monthly safety communication meetings continue to be scheduled for the Project Safety and Security Certification Committee, Fire/Life Safety Committee, Rail Activation Committee, and other project-related contractor and JPB safety meetings to discuss safety priorities.
- Participate in the TASI Engineering Department's Semiannual Safety Meetings.
- Continue focus on performing site safety inspections on the OCS foundations, pole installations, potholing, Tunnel, and CEMOF work to assess safety work practices and identify additional opportunities for improvement. Conduct contractor equipment inspections as needed.
- Continue to meet with the PCEP contractors, JPB safety, and TASI to identify opportunities to further improve project safety performance and continue to reinforce lessons learned safety mitigation recommendations resulting from prior project incidents.
- Provide project safety updates at the FTA/Caltrain – PCEP Quarterly Meeting scheduled on January 22nd.

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## 6.0 QUALITY ASSURANCE

The Quality Assurance (QA) staff performs technical reviews for planning, implementing, evaluating, and maintaining an effective program to verify that all equipment, structures, components, systems, and facilities are designed, procured, constructed, installed, and maintained in accordance with established criteria and applicable codes and standards throughout the design, construction, startup and commissioning of the PCEP.

### Activity This Month

- Staff meetings with BBII QA/Quality Control (QC) management representatives continue weekly.
- Continued review of BBII-generated Nonconformance Reports (NCR) and Construction Discrepancy Reports for proper discrepancy condition, cause, disposition, corrective and preventive action and verification of closure.
- Continued review and approval of Design Variance Requests for BBII and PGH Wong for QA/QC and inspection issues/concerns.
- Continued review of BBII QC Inspectors Daily Reports, Construction QC Reports and Surveillance Reports for work scope, performance of required duties, adequacy, non-conformances, test/inspection results, follow-up on unresolved issues, and preciseness.
- Continued review of BBII Material Receipt Reports, Certificates of Conformance, Certified Tests Reports, and Certificates of Analysis to ensure delivered project materials conform to specifications, and that contractually required quality and test support documents are adequate and reflect concise conditions per the purchase order requirements.
- Continued regularly scheduled design reviews and surveillances on project design packages.
- A Corrective Action Request (CAR) was written against BBII for continuing NCRs without sufficient corrective action for issues concerning BBII field personnel working to designs/drawings that don't match the latest from the designer, PGH Wong – is now closed.
- Conducted an audit of BBII Field Activities Rail Welding on second shift.



Peninsula Corridor Electrification Project
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Table 6-1 below provides details on the status of audits performed through the reporting period.

**Table 6-1 Quality Assurance Audit Summary**

| Quality Assurance Activity | This Reporting Period | Total to Date |
|---|---|---|
| Audits Conducted | 1 | 104 |
| **Audit Findings** | | |
| Audit Findings Issued | 0 | 65 |
| Audit Findings Open | 0 | 0 |
| Audit Findings Closed | 0 | 65 |
| **Non-Conformances** | | |
| Non-Conformances Issued | 0 | 10 |
| Non-Conformances Open | 0 | 1 |
| Non-Conformances Closed | 0 | 9 |

### Activity Next Month

- Conduct audits of the two RMA facilities, the QC lab for the CEMOF Contractor, PMI.

## 7.0 SCHEDULE

The overall schedule remains unchanged from last month. The forecasted Revenue Service Date (RSD) remains as May 2022. The program critical path runs through the manufacturing and testing of EMU trainsets.

Shown below, Table 7-1 indicates major milestone dates for the MPS.

**Table 7-1 Schedule Status**

| Milestones | Program Plan | Progress Schedule (December 2019)[1] |
|---|---|---|
| Arrival of First Vehicle in Pueblo, CO | N/A | 05/29/2020 |
| Arrival of First Vehicle at JPB (after Pueblo testing) | N/A | 09/01/2021 |
| Segment 4 Completion | 11/21/2019 | 02/14/2021[2] |
| ○ Interconnection from PG&E Substation to Traction Power Substation (TPS) | N/A | 09/30/2020[2] |
| PG&E Provides Permanent Power | 09/09/2021 | 09/09/2021 |
| Electrification Substantial Completion | 08/10/2020 | 01/31/2022[2] |
| Start Phased Revenue Service | N/A | 02/01/2022[2] |
| RSD (w/o Risk Contingency) | 12/09/2021 | 05/06/2022 |
| FFGA RSD (w/ Risk Contingency) | 08/22/2022 | 08/22/2022 |

Note:

1. Dates may shift slightly as the update of this month's Progress Schedule is still in process.
2. See "Notable Variances" for explanation on date shift.

### Notable Variances

BBII continues to report an overall delay to substantial completion. JPB is working with BBII on the issue and is urging BBII to accelerate resolution.

The MPS has been updated this month to recognize a delay in arrival of the first trainset in Pueblo, CO due to delayed Stadler production and testing activities. The anticipated revenue service date of May 2022 is unchanged.





Items listed in Table 7-2 reflect the critical path activities/milestones for the PCEP.

**Table 7-2 Critical Path Summary**

| Activity | Start | Finish |
|---|---|---|
| Manufacturing, Testing & Acceptance of Trainsets 1 - 14 | 08/13/2018 | 05/06/2022 |
| RSD w/out Risk Contingency | 05/06/2022 | 05/06/2022 |
| FFGA RSD w/ Risk Contingency | 08/22/2022 | 08/22/2022 |

### Schedule Hold Points

Schedule Hold Points (SHP) represent key milestones on or near a schedule's critical path that are used as measurement points with respect to contingency drawdown. Delays to these key milestones have the potential to require a program to utilize available contingency. Table 7-3 below reflects the SHPs for the PCEP program schedule. The dates indicated reflect the planned completion dates for each SHP.

**Table 7-3 Schedule Hold Points**

| Schedule Hold Point (SHP) | Date |
|---|---|
| FTA/PMOC Risk Refresh | 08/30/2016 (A) |
| Begin EMU Manufacturing | 12/04/2017 (A) |
| Arrival of 1st Trainset in Salt Lake City | 02/04/2019 (A) |
| Arrival of 1st Trainset in Pueblo, CO | 09/01/2020 |
| Arrival of 1st Trainset at JPB | 02/26/2021 |
| Segment 4 Completion | 02/14/2021 |
| Conditional Acceptance of 1st Trainset | 04/09/2021 |
| System Electrified | 01/31/2022 |
| Begin Phased Revenue Service | 02/01/2022 |
| Conditional Acceptance of 14th Trainset | 05/06/2022 |
| FFGA RSD w/ Risk Contingency | 08/22/2022 |

Note: "(A)" denotes an actual completion

## 8.0 BUDGET AND EXPENDITURES

The summary of overall budget and expenditure status for the PCEP and Third Party Improvements is shown in the following tables. Table 8-1 reflects the Electrification budget, Table 8-2 the EMU budget, Table 8-3 the overall PCEP budget, and Table 8-4 Third Party Improvements budget. Table 8-5 summarizes the budget transfers of contingency completed this month.

### Table 8-1 Electrification Budget & Expenditure Status

| Description of Work | Budget (A) | Current Budget (B)[1] | Cost This Month (C)[2] | Cost To Date (D)[3] | Estimate To Complete (E) | Estimate At Completion (F) = (D) + (E) |
|---|---|---|---|---|---|---|
| **ELECTRIFICATION** | | | | | | |
| Electrification [4] | $696,610,558 | $723,796,465 | $6,942,184 | $363,674,691 | $360,121,774 | $723,796,465 |
| SCADA | $0 | $3,446,917 | $0 | $1,934,371 | $1,512,546 | $3,446,917 |
| Tunnel Modifications | $11,029,649 | $42,624,610 | $4,438,390 | $29,071,405 | $13,553,205 | $42,624,610 |
| Real Estate | $28,503,369 | $28,503,369 | $67,858 | $20,743,460 | $7,759,909 | $28,503,369 |
| Private Utilities | $63,515,298 | $92,451,380 | $2,703,826 | $73,830,895 | $18,620,486 | $92,451,380 |
| Management Oversight [5] | $141,506,257 | $144,957,684 | $1,914,132 | $129,170,035 | $15,787,649 | $144,957,684 |
| Executive Management | $7,452,866 | $6,214,226 | $143,386 | $7,695,329 | ($1,481,102) | $6,214,226 |
| Planning | $7,281,997 | $7,281,997 | $11,517 | $5,716,584 | $1,565,413 | $7,281,997 |
| Community Relations | $2,789,663 | $2,789,663 | $14,301 | $1,528,633 | $1,261,030 | $2,789,663 |
| Safety & Security | $2,421,783 | $3,691,387 | $87,907 | $2,932,588 | $758,799 | $3,691,387 |
| Project Management Services | $19,807,994 | $19,807,994 | $74,085 | $12,126,174 | $7,681,820 | $19,807,994 |
| Engineering & Construction | $11,805,793 | $11,805,793 | $248,466 | $9,495,094 | $2,310,700 | $11,805,793 |
| Electrification Eng & Mgmt | $50,461,707 | $50,461,707 | $931,296 | $45,411,627 | $5,050,080 | $50,461,707 |
| Construction Management | $0 | $2,790,608 | $169,158 | $1,853,022 | $937,587 | $2,790,608 |
| IT Support | $312,080 | $407,170 | $0 | $407,170 | $0 | $407,170 |
| Operations Support | $1,445,867 | $1,980,632 | $37,937 | $2,283,909 | ($303,277) | $1,980,632 |
| General Support | $4,166,577 | $4,166,577 | $106,755 | $5,180,740 | ($1,014,163) | $4,166,577 |
| Budget / Grants / Finance | $1,229,345 | $1,229,345 | $2,021 | $1,347,714 | ($118,370) | $1,229,345 |
| Legal | $2,445,646 | $2,445,646 | $24,362 | $4,469,053 | ($2,023,407) | $2,445,646 |
| Other Direct Costs | $5,177,060 | $5,177,060 | $62,942 | $4,014,520 | $1,162,540 | $5,177,060 |
| Prior Costs 2002 - 2013 | $24,707,878 | $24,707,878 | $0 | $24,707,878 | $0 | $24,707,878 |
| TASI Support | $55,275,084 | $55,275,084 | $1,307,308 | $34,165,290 | $21,109,794 | $55,275,084 |
| Insurance | $3,500,000 | $4,543,588 | $0 | $4,543,588 | $0 | $4,543,588 |
| Environmental Mitigations | $15,798,320 | $14,972,644 | $0 | $690,411 | $14,282,234 | $14,972,644 |
| Required Projects | $17,337,378 | $14,253,335 | $6,935 | $828,930 | $13,424,405 | $14,253,335 |
| Maintenance Training | $1,021,808 | $1,021,808 | $0 | $0 | $1,021,808 | $1,021,808 |
| Finance Charges | $5,056,838 | $6,137,156 | $96,100 | $3,766,544 | $2,370,612 | $6,137,156 |
| Contingency | $276,970,649 | $184,141,167 | N/A | N/A | $106,577,308 | $106,577,308 |
| Forecasted Costs and Changes | $0 | $0 | N/A | N/A | $77,563,859 | $77,563,859 |
| **ELECTRIFICATION SUBTOTAL** | **$1,316,125,208** | **$1,316,125,208** | **$17,476,734** | **$662,419,619** | **$653,705,589** | **$1,316,125,208** |

Notes regarding tables above:

1. Column B "Current Budget" includes executed change orders and awarded contracts.
2. Column C "Cost This Month" represents the cost of work performed this month.
3. Column D "Cost To Date" includes actuals (amount paid) and accruals (amount of work performed) to date.
4. Cost To Date for "Electrification" includes 5% for Contractor's retention until authorization of retention release.
5. The agency labor is actual through November 2019 and accrued for December 2019.





### Table 8-2 EMU Budget & Expenditure Status

| Description of Work | Budget (A) | Current Budget (B)[1] | Cost This Month (C)[2] | Cost To Date (D)[3] | Estimate To Complete (E) | Estimate At Completion (F) = (D) + (E) |
|---|---|---|---|---|---|---|
| **EMU** | | | | | | |
| EMU | $550,899,459 | $555,034,909 | $7,016,569 | $152,219,402 | $402,815,507 | $555,034,909 |
| CEMOF Modifications | $1,344,000 | $6,550,777 | $477,534 | $1,727,973 | $4,822,804 | $6,550,777 |
| Management Oversight [4] | $64,139,103 | $63,113,984 | $485,829 | $40,497,524 | $22,616,459 | $63,113,984 |
| Executive Management | $5,022,302 | $4,263,136 | $82,641 | $4,769,996 | ($506,860) | $4,263,136 |
| Community Relations | $1,685,614 | $1,285,614 | $8,779 | $623,073 | $662,541 | $1,285,614 |
| Safety & Security | $556,067 | $765,296 | $6,990 | $504,234 | $261,062 | $765,296 |
| Project Mgmt Services | $13,275,280 | $13,275,280 | $74,197 | $7,865,078 | $5,410,202 | $13,275,280 |
| Eng & Construction | $89,113 | $89,113 | $0 | $23,817 | $65,296 | $89,113 |
| EMU Eng & Mgmt | $32,082,556 | $30,581,014 | $168,298 | $18,650,065 | $11,930,948 | $30,581,014 |
| Construction Management | $0 | $1,501,543 | $42,322 | $367,859 | $1,133,684 | $1,501,543 |
| IT Support | $1,027,272 | $952,089 | $10,550 | $568,327 | $383,763 | $952,089 |
| Operations Support | $1,878,589 | $1,878,589 | $15,518 | $335,313 | $1,543,275 | $1,878,589 |
| General Support | $2,599,547 | $2,599,547 | $38,158 | $2,241,325 | $358,222 | $2,599,547 |
| Budget / Grants / Finance | $712,123 | $712,123 | $1,155 | $894,530 | ($182,406) | $712,123 |
| Legal | $1,207,500 | $1,207,500 | ($1,013) | $1,221,462 | ($13,962) | $1,207,500 |
| Other Direct Costs | $4,003,139 | $4,003,139 | $38,235 | $2,432,445 | $1,570,694 | $4,003,139 |
| TASI Support | $2,740,000 | $2,789,493 | $12,683 | $66,373 | $2,723,120 | $2,789,493 |
| Required Projects | $0 | $38,263 | $38,263 | $38,263 | $0 | $38,263 |
| Insurance | $4,500,000 | $4,427,821 | $0 | $538,280 | $3,889,541 | $4,427,821 |
| Finance Charges | $1,941,800 | $3,761,482 | $58,900 | $2,308,527 | $1,452,955 | $3,761,482 |
| Contingency | $38,562,962 | $28,410,596 | N/A | N/A | $29,473,057 | $29,473,057 |
| Forecasted Costs and Changes | $0 | $0 | N/A | N/A | ($1,062,461) | ($1,062,461) |
| **EMU SUBTOTAL** | **$664,127,325** | **$664,127,325** | **$8,089,778** | **$197,396,342** | **$466,730,983** | **$664,127,325** |

Notes regarding tables above:

1. Column B "Current Budget" includes executed change orders and awarded contracts.
2. Column C "Cost This Month" represents the cost of work performed this month.
3. Column D "Cost To Date" includes actuals (amount paid) and accruals (amount of work performed) to date.
4. The agency labor is actual through November 2019 and accrued for December 2019.

### Table 8-3 PCEP Budget & Expenditure Status

| Description of Work | Budget (A) | Current Budget (B)[1] | Cost This Month (C)[2] | Cost To Date (D)[3] | Estimate To Complete (E) | Estimate At Completion (F) = (D) + (E) |
|---|---|---|---|---|---|---|
| Electrification Subtotal | **$1,316,125,208** | **$1,316,125,208** | **$17,476,734** | **$662,419,619** | **$653,705,589** | **$1,316,125,208** |
| EMU Subtotal | **$664,127,325** | **$664,127,325** | **$8,089,778** | **$197,396,342** | **$466,730,983** | **$664,127,325** |
| **PCEP TOTAL** | **$1,980,252,533** | **$1,980,252,533** | **$25,566,512** | **$859,815,961** | **$1,120,436,572** | **$1,980,252,533** |

Notes regarding tables above:

1. Column B "Current Budget" includes executed change orders and awarded contracts.
2. Column C "Cost This Month" represents the cost of work performed this month.
3. Column D "Cost To Date" includes actuals (amount paid) and accruals (amount of work performed) to date.

**Table 8-4 Third Party Improvements/CNPA Budget & Expenditure Status**

| Description of Work | Budget (A) | Current Budget (B)[1] | Cost This Month (C)[2] | Cost To Date (D)[3] | Estimate To Complete (E) | Estimate At Completion (F) = (D) + (E) |
|---|---|---|---|---|---|---|
| CHSRA Early Pole Relocation | $1,000,000 | $1,000,000 | $0 | $731,526 | $268,474 | $1,000,000 |
| PS-3 Relocation (Design) | $500,000 | $500,000 | $0 | $150,000 | $350,000 | $500,000 |
| TPSS-2 VTA/PCEP Pole Relocation (Design) | $110,000 | $110,000 | $0 | $93,500 | $16,500 | $110,000 |
| TPSS-2 VTA/PCEP Pole Height (Redesign) | $31,000 | $31,000 | $0 | $0 | $31,000 | $31,000 |
| EMU Option Cars | $172,800,047 | $172,800,047 | $0 | $52,359,370 | $120,440,677 | $172,800,047 |
| Add Flip-Up Seats into Bike Cars | $1,961,350 | $1,961,350 | $0 | $0 | $1,961,350 | $1,961,350 |
| **CNPA TOTAL** | **$176,402,397** | **$176,402,397** | **$0** | **$53,334,396** | **$123,068,001** | **$176,402,397** |

Notes regarding tables above:

1. Column B "Current Budget" includes executed change orders and awarded contracts.
2. Column C "Cost This Month" represents the cost of work paid this month.
3. Column D "Cost To Date" includes actuals (amount paid) to date.

Table 8-4 shows improvements outside of the scope of PCEP that are funded with non-PCEP funds. These improvements are implemented through the PCEP contracts. In FTA terminology, these efforts are categorized as Concurrent Non-Project Activities (CNPA).

- CHSRA Early Pole Relocation: Relocation of 196 OCS poles as part of PCEP. Implementing these pole relocations minimizes future cost and construction impacts. This scope is funded by the CHSRA.
- PS-3 Relocation (Design): Relocate PS-3 (Burlingame) as part of PCEP to avoid a future conflict with the Broadway Grade Separation Project (BGSP). This scope is funded by the BGSP.
- TPSS-2 VTA/PCEP Pole Relocation and Height (Design): Design changes due to the relocation of VTA/BART Pole at TPSS-2 location and pole height redesign for live line clearances. This scope is funded by the VTA.
- EMU Option Cars: Exercise Stadler Contract Option for 37 additional EMUs. This scope is funded with a combination of TIRCP and matching local funds.
- Add Flip-Up Seats into Bike Cars: Stadler contract change order to add four additional flip-up seats in each of the two unpowered (bike) cars per trainset (eight total per trainset). This scope is funded by Caltrain outside of the PCEP.





**Table 8-5 Budget Transfers of Contingency**

| Transfer | Description | Contingency[1] |
|---|---|---|
| **ELECTRIFICATION** | | |
| BBI-053-CCO-065A | Foundation Inefficiencies S2WA5 | $401,501 |
| | **ELECTRIFICATION SUBTOTAL** | **$401,501** |
| **EMU** | | |
| USI-BT-016 | Rail Road Liability Protection (RRLP) for CEMOF | $38,263 |
| TASI-BT-022 | TASI Support for AEM-7 Locomotives | $49,493 |
| | **EMU SUBTOTAL** | **$87,756** |
| | | |
| | **PCEP TOTAL** | **$489,257** |

Notes regarding tables above:

1. Budget amount transferred from project contingency. A negative amount represents a credit to contingency.

Table 8-5 shows budget transfers of project contingency implemented during the current monthly reporting period. This table includes contingency transfers for both executed contract change orders as covered under Section 9.0 and uses of contingency for Program budget line items outside the five PCEP contracts.

Appendix D includes costs broken down by Standard Cost Code (SCC) format. This format is required for reporting of costs to the FTA. The overall project total in the SCC format is lower than the project costs in table 8-3. This is due to the exclusion of costs incurred prior to the project entering the Project Development phase.

## 9.0 CHANGE MANAGEMENT

The change management process establishes a formal administrative work process associated with the initiation, documentation, coordination, review, approval and implementation of changes that occur during the design, construction or manufacturing of the PCEP. The change management process accounts for impacts of the changes and ensures prudent use of contingency.

Currently the PCEP contracts are BBII, CEMOF, Stadler, SCADA, Tunnel Modifications, and Amtrak.

A log of all executed change orders can be found in Appendix E.

**Executed Contract Change Orders (CCO) This Month**

### Electrification Contract

| **Change Order Authority (5% of BBII Contract)** | | | **5% x $696,610,558 = $34,830,528** |
|---|---|---|---|
| **Date** | **Change Number** | **Description** | **CCO Amount** |
| 12/11/2019 | BBI-053-CCO-065A | Foundation Inefficiencies S2WA5 | $401,501 |
| | | **Total** | **$401,501** |

[1] (When indicated) Change approved by the Board of Directors – not counted against the Executive Director's Change Order Authority.

### EMU Contract

| **Change Order Authority (5% of Stadler Contract)** | | | **5% x $550,899,459 = $27,544,973** |
|---|---|---|---|
| **Date** | **Change Number** | **Description** | **CCO Amount** |
| | None | | $0 |
| | | **Total** | **$0** |

[1] (When indicated) Change approved by the Board of Directors – not counted against the Executive Director's Change Order Authority.

### CEMOF Contract

| **Change Order Authority (10% of ProVen Contract)** | | | **10% x $6,550,777 = $655,078** |
|---|---|---|---|
| **Date** | **Change Number** | **Description** | **CCO Amount** |
| | None | | $0 |
| | | **Total** | **$0** |

[1] (When indicated) Change approved by the Board of Directors – not counted against the Executive Director's Change Order Authority.

### SCADA Contract

| **Change Order Authority (15% of ARINC Contract)** | | | **15% x $3,446,917 = $517,038** |
|---|---|---|---|
| **Date** | **Change Number** | **Description** | **CCO Amount** |
| | None | | $0 |
| | | **Total** | **$0** |

[1] (When indicated) Change approved by the Board of Directors – not counted against the Executive Director's Change Order Authority.





### Tunnel Modification Contract

| **Change Order Authority (10% of ProVen Contract)**[2] | | | **10% x $38,477,777 = $3,847,778** |
|---|---|---|---|
| **Date** | **Change Number** | **Description** | **CCO Amount** |
| | None | | $0 |
| | | **Total** | **$0** |

[1] (When indicated) Change approved by the Board of Directors – not counted against the Executive Director's Change Order Authority.
[2] Tunnel modification contract ($38,477,777) includes: Notching ($25,281,170) and Drainage ($13,196,607).
[3] Third Party Improvements/CNPA Projects that are funded with non-PCEP funds.

### Amtrak AEM-7 Contract

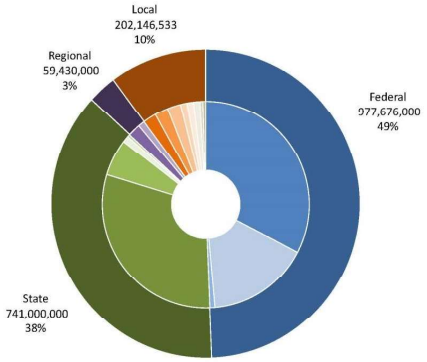
| **Change Order Authority (Lump Sum)** | | | **Up to $150,000** |
|---|---|---|---|
| **Date** | **Change Number** | **Description** | **CCO Amount** |
| | None | | $0 |
| | | **Total** | **$0** |

Notes:
[1.] When the threshold of 75% is reached, staff may return to the Board to request additional authority.

## 10.0 FUNDING

Figure 10-1 depicts a summary of the funding plan for the PCEP. It provides a breakdown of the funding partners as well as the allocated funds. As previously reported, FTA awarded amendments to include $67 million in Fiscal Year 2019 Section 5307 formula funds, and the next $100 million in Core Capacity funds, in the existing grants for the project.

**Figure 10-1 Funding Plan**




| Fund Source | Amount | % |
|---|---|---|
| FTA Core Capacity | $647,000,000 | 32.67% |
| FTA Section 5307 (EMU only)* | $315,000,000 | 15.91% |
| FTA Section 5307 (Environmental / Pre Development only) | $15,676,000 | 0.79% |
| Prop 1A | $600,000,000 | 30.30% |
| High Speed Rail Cap and Trade | $113,000,000 | 5.71% |
| Transit & Intercity Rail Capital Program | $20,000,000 | 1.01% |
| Prop 1B (Public Transportation Modernization & Improvement Account) | $8,000,000 | 0.40% |
| Bridge Toll Funds (RM1/RM2) | $39,430,000 | 1.99% |
| Carl Moyer | $20,000,000 | 1.01% |
| SFCTA/SFMTA** | $41,382,178 | 2.09% |
| SMCTA Measure A | $41,382,178 | 2.09% |
| VTA Measure A | $41,382,177 | 2.09% |
| Santa Clara (VTA) 7-Party MOU Contribution | $20,000,000 | 1.01% |
| San Francisco 7-Party MOU Contribution | $20,000,000 | 1.01% |
| San Mateo (SMCTA) 7-Party MOU Contribution | $20,000,000 | 1.01% |
| Caltrain Low Carbon Transit Operations Cap and Trade | $9,000,000 | 0.45% |
| Prior Local Contribution | $9,000,000 | 0.45% |
| **Total** | **$1,980,252,533** | |

Notes:
*Includes necessary fund transfer with SMCTA
**Includes $4M CMAQ Transfer considered part of SF local contribution

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## 11.0 RISK MANAGEMENT

The risk management process is conducted in an iterative fashion throughout the life of the project. During this process, new risks are identified, other risks are resolved or managed, and potential impacts and severity modified based on the current situation. The Risk Management team's progress report includes a summary on the effectiveness of the Risk Management Plan, any unanticipated effects, and any correction needed to handle the risk appropriately.

The Risk Management team meets monthly to identify risks and corresponding mitigation measures. Each risk is graded based on the potential cost and schedule impacts they could have on the project. This collection of risks has the greatest potential to affect the outcome of the project and consequently is monitored most closely. For each of the noted risks, as well as for all risks on the risk register, mitigation measures have been identified and are being implemented. Progress in mitigating these risks is confirmed at monthly risk assessment meetings attended by project team management and through continuous monitoring of the Risk Management Lead.

The team has identified the following items as top risks for the project (see Appendix F for the complete Risk Table):

1. Contractor incorrect sequencing of early utility locations, preliminary design, final design, and foundation construction may result in inefficiencies in construction, redesign, and reduced production rates.
2. Extent of differing site conditions and delays in resolving differing site conditions result in delays to the completion of Electrification contract and increases program costs.
3. The contractor may not complete and install signal design including CWT modifications within budget and schedule.
4. Track access does not comply with contractor-stipulated work windows.
5. Major program elements may not be successfully integrated with existing operations and infrastructure in advance of revenue service.
6. Potential that modifications to the PTC database and signal software are not completed in time for cutover and testing.
7. Additional property acquisition is necessitated by change in design.
8. Contractor generates hazardous materials that necessitate proper removal and disposal in excess of contract allowances and expectations.
9. Rejection of Design Variance Request (DVR) for Auto Transformer Feeder (ATF) and static wires results in cost and schedule impacts to PCEP.
10. Changes to PTC implementation schedule could delay completion of electrification work.

**Activity This Month**

- Updated risk descriptions, effects, and mitigations based upon weekly input from risk owners. Monthly cycle of risk updating was completed based on schedules established in the Risk Identification and Mitigation Plan.



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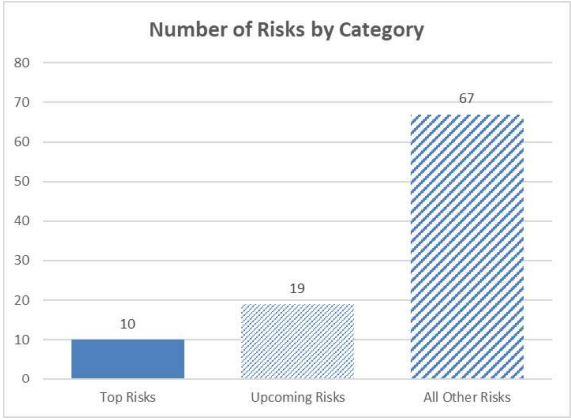
- Updated risk retirement dates based upon revisions to the project schedule and input from risk owners.
- Continued weekly monitoring of risk mitigation actions and publishing of the risk register.
- The Risk Management team attended Project Delivery, Electrification, and Systems Integration meetings to monitor developments associated with risks and to identify new risks.

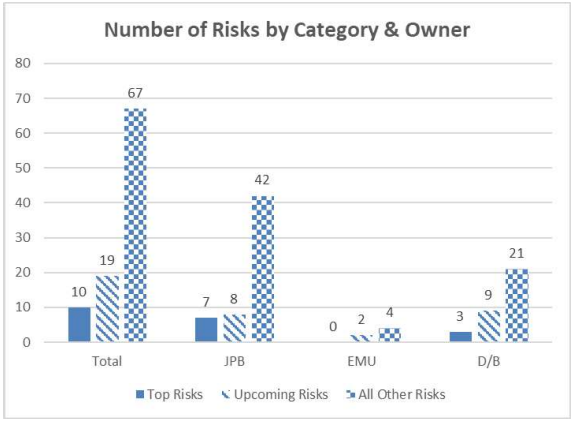
Figures 11-1 and 11-2 show the risks identified for the program. Risks are categorized as top risk, upcoming risk, and all other risks. The categories are based on a rating scale composed of schedule and cost factors. Top risks are considered to have a significantly higher than average risk grade. Upcoming risks are risks for which mitigating action must be taken within 60 days. All other risks are risks not falling into other categories.

**Figure 11-1 Monthly Status of Risks**




**Total Number of Active Risks = 96**

**Figure 11-2 Risk Classification**




**Total Number of Active Risks = 96**

**Activity Next Month**

- Conduct weekly monitoring of risk mitigation actions and continue publishing risk register.
- Update risk descriptions, effects, mitigations and retirement dates based on weekly monitoring and attendance at key project meetings.
- Convene Risk Assessment Committee meeting.
- Finalize risk analysis report for cost and schedule impacts based on updated risk register with Project Management and PMOC.

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## 12.0 ENVIRONMENTAL

### 12.1. Permits

The PCEP has obtained the required environmental permits from the following agencies/federal regulations: Section 106 of the National Historic Preservation Act of 1966 (NHPA), Section 7 of the Endangered Species Act (ESA), United States Army Corps of Engineers, San Francisco Bay Regional Water Quality Control Board (SFWQCB), the California Department of Fish and Wildlife, and the San Francisco Bay Conservation Development Commission.

**Activity This Month**

- None

**Activity Next Month**

- None

### 12.2. Mitigation Monitoring and Reporting Program (MMRP)

The California Environmental Quality Act (CEQA) requires that a Lead Agency establish a program to monitor and report on mitigation measures that it has adopted as part of the environmental review process. The PCEP team has prepared a MMRP to ensure that mitigation measures identified in the PCEP Environmental Impact Report are fully implemented during project implementation. PCEP will implement the mitigation measures through its own actions, those of the DB contractor and actions taken in cooperation with other agencies and entities. The status of each mitigation measure in the MMRP is included in Appendix G.

**Activity This Month**

- Environmental compliance monitors were present during project activities (OCS pole foundation installation, potholing for utility location, duct bank and manhole installation, tree trimming/removal, conduit installation, signal case installation, grading, abandoned signal cable removal, traction power station work installation, replacement, and/or removal of existing power/light pole, etc.) occurring in areas that required environmental compliance monitoring. The monitoring was conducted in accordance with measures in the MMRP in an effort to minimize potential impacts on sensitive environmental resources.
- Noise and vibration monitoring also occurred during project activities, and non-hazardous soil was removed from the right of way (ROW).
- Environmentally Sensitive Area (ESA) delineation (staking and/or fencing) occurred to delineate jurisdictional waterways and other potentially sensitive areas that should be avoided during upcoming construction activities. Wildlife exclusion fencing installation and monitoring occurred adjacent to portions of the alignment designated for wildlife exclusion fencing.





- Best management practices (BMP) installation (e.g., silt fencing, straw wattles, soil covers) occurred at equipment staging areas and other work areas throughout the alignment in accordance with the project-specific Stormwater Pollution Prevention Plan (SWPPP). An assessment of two existing subsurface pipes by a certified Asbestos Consultant occurred during this reporting period, and a specification describing the methods for removal and disposal is currently in progress.
- A certified Asbestos Consultant finalized specifications describing the removal, disposal, and monitoring methods for two (2) existing subsurface pipes within the right of way.

**Activity Next Month**

- Environmental compliance monitors will continue to monitor project activities (OCS pole foundation installation, pot holing for utility location, duct bank and manhole installation, tree trimming/removal, conduit installation, case installation, traction power station drainage work, grading, clear and grub, soils removal, etc.) occurring in areas that require environmental compliance monitoring in an effort to minimize potential impacts on sensitive environmental resources in accordance with the MMRP.
- Noise and vibration monitoring of project activities will continue to occur and non-hazardous soil will continue to be removed.
- Biological surveyors will continue to conduct pre-construction surveys for sensitive wildlife species ahead of project activities. Surveys for a sensitive avian species will commence for the 2020 breeding season at previously identified potential habitat locations.
- BMPs installation will continue in accordance with the project-specific SWPPP, and ESA staking and fencing will continue to occur, to delineate jurisdictional waterways, and other potentially sensitive areas, that should be avoided during upcoming project activities.
- Wildlife exclusion fencing will continue to be installed prior to upcoming construction activities adjacent to potentially suitable habitat for sensitive wildlife species.

## 13.0 UTILITY RELOCATION

Implementation of the PCEP requires relocation or rerouting of both public and private utility lines and/or facilities. Utility relocation will require coordination with many entities, including regulatory agencies, public safety agencies, federal, state, and local government agencies, private and public utilities, and other transportation agencies and companies. This section describes the progress specific to the utility relocation process.

### Activity This Month

- Worked with all utilities on review of overhead utility line relocations based on the current design.
- Coordinated with individual utility companies on relocation plans and schedule for incorporation with Master Program Schedule.
- Coordinated work with communications utilities on review of relocation design.
- Continued to coordinate relocation work for SVP and Palo Alto Power facilities.
- Continued to coordinate relocation by communication cable owners such as AT&T and Comcast.
- Conducted utility coordination meeting to discuss overall status and areas of potential concern from the utilities.

### Activity Next Month

- Coordinate with individual utility owners on the next steps of relocations, including support of any required design information.
- Update the relocation schedule as information becomes available from the utility owners.
- Continue to review relocation design SVP, Palo Alto Power, and communications companies and coordinate relocation field work.
- Continue communication relocations in all Segments.
- Continue SVP and Palo Alto Power relocations in Segment 3.

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## 14.0 REAL ESTATE

The PCEP requires the acquisition of a limited amount of real estate. In general, Caltrain uses existing Right of Way (ROW) for the PCEP, but in certain locations, will need to acquire small portions of additional real estate to expand the ROW to accommodate installation of OCS supports (fee acquisitions or railroad easements) and associated Electrical Safety Zones (ESZ) (easements). There are two larger full acquisition areas required for wayside facilitates. The PCEP Real Estate team manages the acquisition of all property rights. Caltrain does not need to acquire real estate to complete the EMU procurement portion of the PCEP.

Of the parcels identified at the beginning of the project, there remain only five owners from whom the agency requires possession; of which two are in redesign.

The Real Estate team's current focus is working to identify new parcels and acquire them in conjunction with the project schedule.

- Staff has defined a process to ensure that BBII conveys new needs as soon as possible.
  - BBII must justify and JPB must approve all new parcels.
- Design needs to progress to enable BBII to identify exact acquisition areas.
- Staff is conducting pre-acquisition activities as appropriate.
- JPB has approved four new parcels to date.

**Activity This Month**

- Negotiations with Willowbend Apartments are ongoing.
- Staff reviewing potential new pole locations and providing feedback to the design team.
- Preparation of First Written Offer package for KB Homes. Reviewed ESZ requirements for KB Homes to confirm acquisitions.
- Reviewing parcel acquisition options for Marchese parcel with Santa Clara Valley Water District.
- Working with City of San Jose and Diridon Hospitality to finalize design. Met with Diridon Hospitality and we are moving forward with redesign. Held follow-up conference calls and emails with Diridon Hospitality regarding design conflicts.
- Actively working with SVP to de-energize and install foundations.
- Staff is actively working with PG&E and VTA to gain access to their properties for potholing. Submitted acquisition information package/plan to PG&E for their review and working with VTA to develop safety procedures for working near each agency's operating ROW.
- Finalizing appraisal map for Britannia Gateway, which requires PG&E approval.

**Activity Next Month**

- Continue to negotiate for all open parcels.



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- Review the acquisition of the Marchese parcel.
- Continue discussions with PG&E to finalize possession date.
- Confirm new acquisition associated with the Stephens parcel. The Design Builder identified a potential modified acquisition.
- JPB Safety to coordinate with VTA Safety to comply with their permitting requirements.
- Confirm ROW acquisitions with City of San Jose.
- Finalize design for Diridon Hospitality.
- Work with City of San Jose to resolve underlying street interests.
- Continue to work with Segment 3 and 4 owners for early access to pothole.
- Make offers on the parcel for which appraisals have been completed.
- Actively participate in Foundation/Pothole and Gannett Fleming weekly meetings.
- Continue to work with project team to identify and analyze new potential parcels.
- Map newly identified parcels.

## 15.0 THIRD PARTY AGREEMENTS

Third-party coordination is necessary for work impacting public infrastructure, utilities, ROW acquisitions, and others. Table 15-1 below outlines the status of necessary agreements for the PCEP.

**Table 15-1 Third-Party Agreement Status**

| Type | Agreement | Third-Party | Status |
|---|---|---|---|
| Governmental Jurisdictions | Construction & Maintenance[1] | City & County of San Francisco | Executed |
| | | City of Brisbane | Executed |
| | | City of South San Francisco | Executed |
| | | City of San Bruno | Executed |
| | | City of Millbrae | Executed |
| | | City of Burlingame | Executed |
| | | City of San Mateo | Executed |
| | | City of Belmont | Executed |
| | | City of San Carlos | Executed |
| | | City of Redwood City | Executed |
| | | City of Atherton | In Process |
| | | County of San Mateo | Executed |
| | | City of Menlo Park | Executed |
| | | City of Palo Alto | Executed |
| | | City of Mountain View | Executed |
| | | City of Sunnyvale | Executed |
| | | City of Santa Clara | Executed |
| | | County of Santa Clara | Executed |
| | | City of San Jose | Executed |
| | Condemnation Authority | San Francisco | In Process |
| | | San Mateo | Executed |
| | | Santa Clara | Executed |
| Utilities | Infrastructure | PG&E | Executed |
| | Operating Rules | CPUC | Executed |
| Transportation & Railroad | Construction & Maintenance | Bay Area Rapid Transit | Executed[2] |
| | Construction & Maintenance | California Dept. of Transportation (Caltrans) | Not needed[3] |
| | Trackage Rights | UPRR | Executed[2] |

Notes regarding table above:

1. Agreements memorialize the parties' consultation and cooperation, designate respective rights and obligations and ensure cooperation between the JPB and the 17 cities and three counties along the Caltrain ROW and within the PCEP limits in connection with the design and construction of the PCEP.
2. Utilizing existing agreements.
3. Caltrans Peer Process utilized. Formal agreement not needed.

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## 16.0 GOVERNMENT AND COMMUNITY AFFAIRS

The Community Relations and Outreach team coordinates all issues with all jurisdictions, partner agencies, government organizations, businesses, labor organizations, local agencies, residents, community members, other interested parties, and the media. In addition, the team oversees the BBII's effectiveness in implementing its Public Involvement Program. The following PCEP-related external affairs meetings took place this month:

**Presentations/Meetings**

- None

**Third Party/Stakeholder Actions**

- Brisbane Bridge Attachments – Design Change Notice Drawings

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## 17.0 DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION AND LABOR STATISTICS

BBII proposed that 5.2% ($36,223,749) of the total DB base contract value ($696,610,558) would be subcontracted to DBEs.

### Activity This Month

As expressed in Figure 17-1 below, to date:

- **$32,423,110** has been paid to DBE subcontractors.
- **4.7%** has been achieved.

**Figure 17-1 DBE Participation**


### Activity Next Month

In order to reach the 5.2% DBE participation goal, BBII has proposed the following key actions:

"In the month of January, 2019, we continue to anticipate increasing our DBE commitments to firms who we are currently negotiating pricing on proposed work or Professional Services Agreements. We are optimistic about the prospect of making future awards to DBE firms. We also anticipate that the existing project work will increase resulting in expanded work for current DBE subcontractors."

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## 18.0 PROCUREMENT

**Invitation for Bids (IFB)/Request for Quotes (RFQ)/ Request for Proposals (RFP) Issued this Month:**

- None

**Bids, Quotes, Proposals in Response to IFB/RFQ/RFP Received this Month:**

- None

**Contract Awards this Month:**

- None

**Work Directive (WD)/Purchase Order (PO) Awards & Amendments this Month:**

- Multiple WDs & POs issued to support the program needs

**In Process IFB/RFQ/RFP/Contract Amendments:**

- None

**Upcoming Contract Awards/Contract Amendments:**

- Amendment to Memorandum of Understanding (MOU) – Bus Bridge Services for Tunnel Modifications Project – SamTrans
- Letter to Exercise Option Term – LTK – 14-PCJPB-P-006 – EMU Rail Vehicle Support Services for CalMod

**Upcoming IFB/RFQ/RFP to be Issued:**

- RFP – Pantograph Inspection and Monitoring System
- RFQ – Scissor Lift Work Platform

**Existing Contracts Amendments Issued:**

- None

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## 19.0 TIMELINE OF MAJOR PROJECT ACCOMPLISHMENTS

Below is a timeline showing major project accomplishments from 2001 to 2017:

| Date | Milestone |
|---|---|
| 2001 | Began federal National Environmental Policy Act (NEPA) Environmental Assessment (EA) / state EIR clearance process |
| 2002 | Conceptual Design completed |
| 2004 | Draft NEPA EA/EIR |
| 2008 | 35% design complete |
| 2009 | Final NEPA EA/EIR and Finding of No Significant Impact (FONSI) |
| 2014 | RFQ for electrification |
| | RFI for EMU |
| 2015 | JPB approves final CEQA EIR |
| | JPB approves issuance of RFP for electrification |
| | JPB approves issuance of RFP for EMU |
| | Receipt of proposal for electrification |
| | FTA approval of Core Capacity Project Development |
| 2016 | JPB approves EIR Addendum #1: PS-7 |
| | FTA re-evaluation of 2009 FONSI |
| | Receipt of electrification best and final offers |
| | Receipt of EMU proposal |
| | Application for entry to engineering to FTA |
| | Completed the EMU Buy America Pre-Award Audit and Certification |
| | Negotiations completed with Stadler for EMU vehicles |
| | Negotiations completed with BBII, the apparent best-value electrification firm |
| | JPB approves contract award (LNTP) to BBII |
| | JPB approves contract award (LNTP) to Stadler |
| | FTA approval of entry into engineering for the Core Capacity Program |
| | Application for FFGA |
| 2017 | FTA finalized the FFGA for $647 million in Core Capacity funding, met all regulatory requirements including end of Congressional Review Period (February) |
| | FTA FFGA executed, committing $647 million to the project (May) |
| | JPB approves $1.98 billion budget for PCEP (June) |
| | Issued NTP for EMUs to Stadler (June 1) |
| | Issued NTP for electrification contract to BBII (June 19) |
| | Construction began (August) |
| | EMU manufacturing began (October) |
| | Issued NTP for SCADA to Rockwell Collins (ARINC) (October) |
| | Issued NTP for CEMOF Facility Upgrades to HNTB (November) |





| Date | Milestone |
|---|---|
| 2018 | Completed all PG&E agreements |
| | JPB approves contract award to Mitsui for the purchase of electric locomotives and Amtrak for overhaul services, storage, acceptance testing, training, and shipment of locomotive to CEMOF |
| | JPB approves authorization for the Executive Director to negotiate final contract award to ProVen for tunnel modifications and track rehabilitation project |
| | JPB approves contract award (LNTP) to ProVen for tunnel modifications |
| | Issued NTP to ProVen for tunnel modifications (October) |
| | Amended contract with ProVen to include OCS in the tunnels (November) |
| 2019 | JPB approves contract award to ProVen for CEMOF modifications (February) |
| | JPB approves LNTP to ProVen for CEMOF modifications (April) |
| | JPB approves NTP to ProVen for CEMOF modifications (September) |

**APPENDICES**

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# Appendix A – Acronyms

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| | |
|---|---|
| AIM | Advanced Information Management |
| ARINC | Aeronautical Radio, Inc. |
| BAAQMD | Bay Area Air Quality Management District |
| BBII | Balfour Beatty Infrastructure, Inc. |
| CAISO | California Independent System Operator |
| CalMod | Caltrain Modernization Program |
| Caltrans | California Department of Transportation |
| CDFW | California Department of Fish and Wildlife |
| CEMOF | Centralized Equipment Maintenance and Operations Facility |
| CEQA | California Environmental Quality Act (State) |
| CHSRA | California High-Speed Rail Authority |
| CIP | Capital Improvement Plan |
| CNPA | Concurrent Non-Project Activity |
| CPUC | California Public Utilities Commission |
| CTC | Centralized Traffic Control |
| DB | Design-Build |
| DBB | Design-Bid-Build |
| DBE | Disadvantaged Business Enterprise |
| DEMP | Design, Engineering, and Management Planning |
| EA | Environmental Assessment |
| EAC | Estimate at Completion |
| EIR | Environmental Impact Report |
| EOR | Engineer of Record |
| EMU | Electric Multiple Unit |
| ESA | Endangered Species Act |
| ESA | Environmental Site Assessments |
| FAI | First Article Inspection |
| FEIR | Final Environmental Impact Report |
| FNTP | Full Notice to Proceed |
| FFGA | Full Funding Grant Agreement |
| FONSI | Finding of No Significant Impact |
| FRA | Federal Railroad Administration |
| FTA | Federal Transit Administration |
| GO | General Order |
| HSR | High Speed Rail |
| ICD | Interface Control Document |
| IFC | Issued for Construction |
| ITS | Intelligent Transportation System |
| JPB | Peninsula Corridor Joint Powers Board |
| LNTP | Limited Notice to Proceed |





| | |
|---|---|
| MMRP | Mitigation, Monitoring, and Reporting Program |
| MOU | Memorandum of Understanding |
| MPS | Master Program Schedule |
| NCR | Non Conformance Report |
| NEPA | National Environmental Policy Act (Federal) |
| NHPA | National Historic Preservation Act |
| NMFS | National Marine Fisheries Service |
| NTP | Notice to Proceed |
| OCS | Overhead Contact System |
| PCEP | Peninsula Corridor Electrification Project |
| PCJPB | Peninsula Corridor Joint Powers Board |
| PG&E | Pacific Gas and Electric |
| PHA | Preliminary Hazard Analysis |
| PMOC | Project Management Oversight Contractor |
| PS | Paralleling Station |
| PTC | Positive Train Control |
| QA | Quality Assurance |
| QC | Quality Control |
| QMP | Quality Management Plan |
| QMS | Quality Management System |
| RAMP | Real Estate Acquisition Management Plan |
| RE | Real Estate |
| RFI | Request for Information |
| RFP | Request for Proposals |
| RFQ | Request for Qualifications |
| ROCS | Rail Operations Center System |
| ROW | Right of Way |
| RRP | Railroad Protective Liability |
| RSD | Revenue Service Date |
| RWP | Roadway Worker Protection |
| SamTrans | San Mateo County Transit District |
| SCADA | Supervisory Control and Data Acquisition |
| SCC | Standard Cost Code |
| SPUR | San Francisco Bay Area Planning and Urban Research Association |
| SFBCDC | San Francisco Bay Conservation Development Commission |
| SFCTA | San Francisco County Transportation Authority |
| SFMTA | San Francisco Municipal Transportation Authority |
| SFRWQCB | San Francisco Regional Water Quality Control Board |
| SOGR | State of Good Repair |
| SSCP | Safety and Security Certification Plan |
| SSMP | Safety and Security Management Plan |
| SSWP | Site Specific Work Plan |

| | |
|---|---|
| **SWS** | **Switching Station** |
| **TASI** | **TransitAmerica Services Inc.** |
| **TBD** | **To Be Determined** |
| **TPS** | **Traction Power Substation** |
| **TVA** | **Threat and Vulnerability Assessment** |
| **UPRR** | **Union Pacific Railroad** |
| **USACE** | **United States Army Corp of Engineers** |
| **USFWS** | **U.S. Fish and Wildlife Service** |
| **VTA** | **Santa Clara Valley Transportation Authority** |

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# Appendix B – Funding Partner Meetings

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**Funding Partner Meeting Representatives**
Updated December 31, 2019

| Agency | CHSRA | MTC | SFCTA/SFMTA/CCSF | SMCTA | VTA |
|---|---|---|---|---|---|
| **FTA Quarterly Meeting** | • Bruce Armistead<br>• Boris Lipkin<br>• Simon Whitehorn<br>• Ian Ferrier (info only)<br>• Wai Siu (info only) | • Anne Richman | • Luis Zurinaga | • April Chan<br>• Peter Skinner | • Jim Lawson |
| **Funding Partners Quarterly Meeting** | • Bruce Armistead<br>• Boris Lipkin<br>• Simon Whitehorn<br>• John Popoff | • Trish Stoops | • Luis Zurinaga | • April Chan<br>• Peter Skinner | • Krishna Davey |
| **Funding Oversight (monthly)** | • Kelly Doyle | • Anne Richman<br>• Kenneth Folan | • Anna LaForte<br>• Maria Lombardo<br>• Luis Zurinaga<br>• Monique Webster<br>• Ariel Espiritu Santo | • April Chan<br>• Peter Skinner | • Jim Lawson<br>• Marcella Rensi<br>• Michael Smith |
| **Change Management Board (monthly)** | • Bruce Armistead<br>• Boris Lipkin<br>• Simon Whitehorn | • Trish Stoops<br>• Kenneth Folan | • Luis Zurinaga<br>• Tilly Chang (info only) | • Joe Hurley | • Krishna Davey<br>• Jim Lawson<br>• Nuria Fernandez (info only) |
| **Master Program Schedule Update (monthly)** | • Ian Ferrier<br>• Wai Siu | • Trish Stoops | • Luis Zurinaga | • Joe Hurley | • Jim Lawson |
| **Risk Assessment Committee (monthly)** | • Ian Ferrier<br>• Wai Siu | • Trish Stoops | • Luis Zurinaga | • Joe Hurley | • Krishna Davey |
| **PCEP Delivery Coordination Meeting (bi-weekly** | • Ian Ferrier | • Trish Stoops | • Luis Zurinaga | • Joe Hurley | • Krishna Davey |
| **Systems Integration Meeting (bi-weekly** | • Ian Ferrier<br>• Wai Siu | • Trish Stoops | • Luis Zurinaga | • Joe Hurley | • Krishna Davey |



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# Appendix C – Schedule

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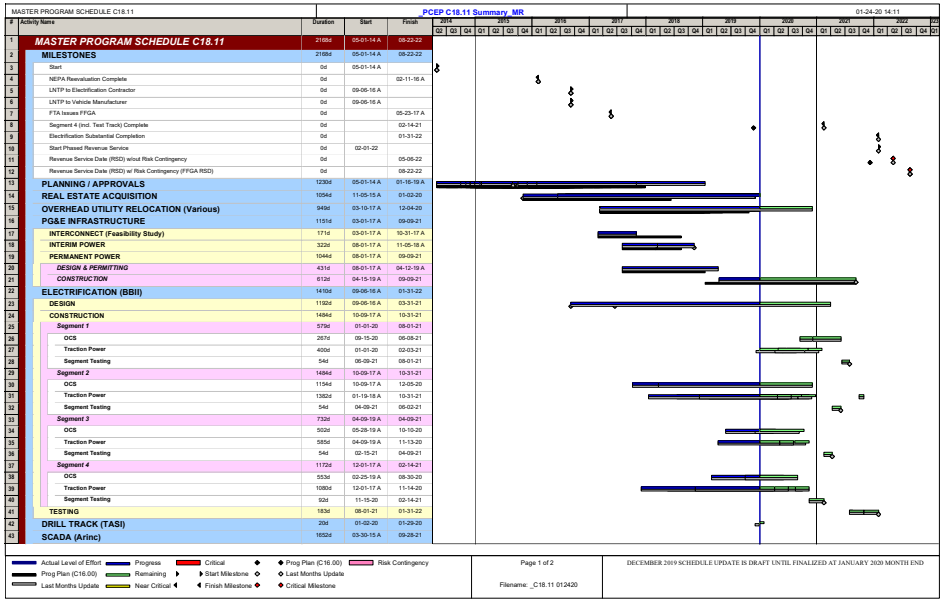
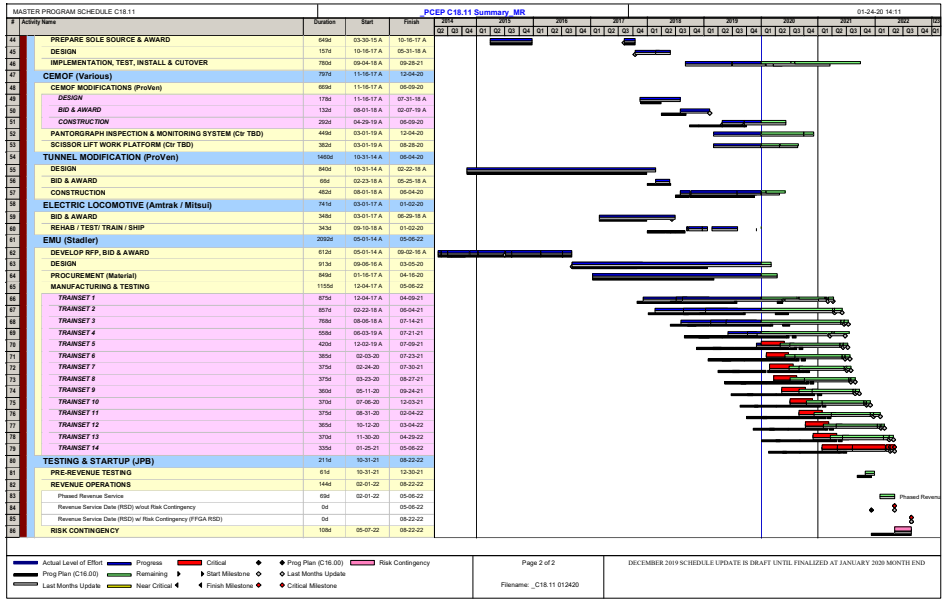

MASTER PROGRAM SCHEDULE C18.11
PCEP C18.11 Summary_MR
01-24-20 14:11
# Activity Name Duration Start Finish
1 MASTER PROGRAM SCHEDULE C18.11 2168d 05-01-14 A 08-22-22
2 MILESTONES 2168d 05-01-14 A 08-22-22
3 Start 0d 05-01-14 A
4 NEPA Reevaluation Complete 0d 02-11-16 A
5 LNTP to Electrification Contractor 0d 09-06-16 A
6 LNTP to Vehicle Manufacturer 0d 09-06-16 A
7 FTA Issues FFGA 0d 05-23-17 A
8 Segment 4 (incl. Test Track) Complete 0d 02-14-21
9 Electrification Substantial Completion 0d 01-31-22
10 Start Phased Revenue Service 0d 02-01-22
11 Revenue Service Date (RSD) w/out Risk Contingency 0d 05-06-22
12 Revenue Service Date (RSD) w/ Risk Contingency (FFGA RSD) 0d 08-22-22
13 PLANNING / APPROVALS 1230d 05-01-14 A 01-16-19 A
14 REAL ESTATE ACQUISITION 1056d 11-05-15 A 01-02-20
15 OVERHEAD UTILITY RELOCATION (Various) 949d 03-10-17 A 12-04-20
16 PG&E INFRASTRUCTURE 1151d 03-01-17 A 09-09-21
17 INTERCONNECT (Feasibility Study) 171d 03-01-17 A 10-31-17 A
18 INTERIM POWER 322d 08-01-17 A 11-05-18 A
19 PERMANENT POWER 1044d 08-01-17 A 09-09-21
20 DESIGN & PERMITTING 431d 08-01-17 A 04-12-19 A
21 CONSTRUCTION 612d 04-15-19 A 09-09-21
22 ELECTRIFICATION (BBII) 1410d 09-06-16 A 01-31-22
23 DESIGN 1192d 09-06-16 A 03-31-21
24 CONSTRUCTION 1484d 10-09-17 A 10-31-21
25 Segment 1 579d 01-01-20 08-01-21
26 OCS 267d 09-15-20 08-08-21
27 Traction Power 402d 01-01-20 02-03-21
28 Segment Testing 54d 06-09-21 08-01-21
29 Segment 2 1484d 10-09-17 A 10-31-21
30 OCS 1154d 10-09-17 A 12-05-20
31 Traction Power 1382d 01-19-18 A 10-31-21
32 Segment Testing 54d 04-09-21 06-02-21
33 Segment 3 732d 04-09-19 A 04-09-21
34 OCS 502d 05-28-19 A 10-10-20
35 Traction Power 585d 04-09-19 A 11-13-20
36 Segment Testing 54d 02-15-21 04-09-21
37 Segment 4 1172d 12-01-17 A 02-14-21
38 OCS 553d 02-25-19 A 08-30-20
39 Traction Power 1080d 12-01-17 A 11-14-20
40 Segment Testing 92d 11-15-20 02-14-21
41 TESTING 183d 08-01-21 01-31-22
42 DRILL TRACK (TASI) 20d 01-02-20 01-29-20
43 SCADA (Arinc) 1652d 03-30-15 A 09-28-21
Actual Level of Effort
Prog Plan (C16.00)
Last Months Update
Progress
Remaining
Near Critical
Critical
Start Milestone
Finish Milestone
Prog Plan (C16.00)
Last Months Update
Critical Milestone
Risk Contingency
Page 1 of 2
Filename: _C18.11 012420
DECEMBER 2019 SCHEDULE UPDATE IS DRAFT UNTIL FINALIZED AT JANUARY 2020 MONTH END


MASTER PROGRAM SCHEDULE C18.11
PCEP C18.11 Summary_MR
01-24-20 14:11
# Activity Name Duration Start Finish
44 PREPARE SOLE SOURCE & AWARD 649d 03-30-15 A 10-16-17 A
45 DESIGN 157d 10-16-17 A 05-31-18 A
46 IMPLEMENTATION, TEST, INSTALL & CUTOVER 780d 09-04-18 A 09-28-21
47 CEMOF (Various) 797d 11-16-17 A 12-04-20
48 CEMOF MODIFICATIONS (ProVen) 669d 11-16-17 A 08-09-20
49 DESIGN 178d 11-16-17 A 07-31-18 A
50 BID & AWARD 132d 08-01-18 A 02-07-19 A
51 CONSTRUCTION 292d 04-29-19 A 08-09-20
52 PANTORGRAPH INSPECTION & MONITORING SYSTEM (Ctr TBD) 449d 03-01-19 A 12-04-20
53 SCISSOR LIFT WORK PLATFORM (Ctr TBD) 382d 03-01-19 A 08-28-20
54 TUNNEL MODIFICATION (ProVen) 1460d 10-31-14 A 08-04-20
55 DESIGN 840d 10-31-14 A 02-22-18 A
56 BID & AWARD 65d 02-23-18 A 05-25-18 A
57 CONSTRUCTION 482d 08-01-18 A 08-04-20
58 ELECTRIC LOCOMOTIVE (Amtrak / Mitsui) 741d 03-01-17 A 01-02-20
59 BID & AWARD 348d 03-01-17 A 06-29-18 A
60 REHAB / TEST/ TRAIN / SHIP 343d 09-10-18 A 01-02-20
61 EMU (Stadler) 2092d 05-01-14 A 03-06-22
62 DEVELOP RFP, BID & AWARD 612d 05-01-14 A 09-02-16 A
63 DESIGN 913d 09-06-16 A 03-05-20
64 PROCUREMENT (Material) 849d 01-16-17 A 04-16-20
65 MANUFACTURING & TESTING 1155d 12-04-17 A 05-06-22
66 TRAINSET 1 875d 12-04-17 A 04-09-21
67 TRAINSET 2 857d 02-22-18 A 05-04-21
68 TRAINSET 3 765d 08-06-18 A 07-14-21
69 TRAINSET 4 558d 06-03-19 A 07-21-21
70 TRAINSET 5 420d 12-02-19 A 07-09-21
71 TRAINSET 6 385d 02-03-20 07-23-21
72 TRAINSET 7 375d 02-24-20 07-30-21
73 TRAINSET 8 375d 03-23-20 08-27-21
74 TRAINSET 9 360d 05-11-20 09-24-21
75 TRAINSET 10 370d 07-06-20 12-03-21
76 TRAINSET 11 375d 08-31-20 02-04-22
77 TRAINSET 12 365d 10-12-20 03-04-22
78 TRAINSET 13 370d 11-30-20 04-29-22
79 TRAINSET 14 335d 01-25-21 05-06-22
80 TESTING & STARTUP (JPB) 211d 10-31-21 08-22-22
81 PRE-REVENUE TESTING 61d 10-31-21 12-30-21
82 REVENUE OPERATIONS 144d 02-01-22 08-22-22
83 Phased Revenue Service 69d 02-01-22 05-06-22
84 Revenue Service Date (RSD) w/out Risk Contingency 0d 05-06-22
85 Revenue Service Date (RSD) w/ Risk Contingency (FFGA RSD) 0d 08-22-22
86 RISK CONTINGENCY 108d 05-07-22 08-22-22
Phased Revenue
Actual Level of Effort
Prog Plan (C16.00)
Last Months Update
Progress
Remaining
Near Critical
Critical
Start Milestone
Finish Milestone
Prog Plan (C16.00)
Last Months Update
Critical Milestone
Risk Contingency
Page 2 of 2
Filename: _C18.11 012420
DECEMBER 2019 SCHEDULE UPDATE IS DRAFT UNTIL FINALIZED AT JANUARY 2020 MONTH END

# Appendix D – Standard Cost Codes

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| Description of Work | Approved Budget (A) | Cost This Month[1] (B) | Cost To Date (C) | Estimate To Complete (D) | Estimate At Completion (E) = (C) + (D) |
|---|---|---|---|---|---|
| **10 - GUIDEWAY & TRACK ELEMENTS** | **$28,524,610** | **$674,639** | **$23,684,015** | **$4,248,090** | **$27,932,105** |
| 10.02 Guideway: At-grade semi-exclusive (allows cross-traffic) | $2,500,000 | $0 | $66,807 | $2,533,193 | $2,600,000 |
| 10.07 Guideway: Underground tunnel | $26,024,610 | $674,639 | $23,617,208 | $1,714,897 | $25,332,105 |
| 10.07 Allocated Contingency | $0 | $0 | $0 | $0 | $0 |
| **30 - SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS** | **$7,050,777** | **$477,534** | **$1,727,973** | **$5,326,293** | **$7,054,266** |
| 30.03 Heavy Maintenance Facility | $6,550,777 | $477,534 | $1,727,973 | $4,826,293 | $6,554,266 |
| 30.03 Allocated Contingency | $0 | $0 | $0 | $0 | $0 |
| 30.05 Yard and Yard Track | $500,000 | $0 | $0 | $500,000 | $500,000 |
| **40 - SITEWORK & SPECIAL CONDITIONS** | **$265,429,560** | **$4,342,601** | **$154,471,056** | **$117,798,593** | **$272,269,649** |
| 40.01 Demolition, Clearing, Earthwork | $3,077,685 | $60,000 | $4,021,000 | ($943,315) | $3,077,685 |
| 40.02 Site Utilities, Utility Relocation | $91,128,599 | $3,192,460 | $72,630,213 | $21,698,387 | $94,328,599 |
| 40.02 Allocated Contingency | ($0) | $0 | $0 | ($0) | ($0) |
| 40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments | $2,200,000 | $0 | $3,800,000 | $994,473 | $4,794,473 |
| 40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks | $32,579,208 | $32,625 | $1,716,870 | $31,237,338 | $32,954,208 |
| 40.05 Site structures including retaining walls, sound walls | $568,188 | $0 | $0 | $568,188 | $568,188 |
| 40.06 Pedestrian / bike access and accommodation, landscaping | $764,933 | $0 | $0 | $764,933 | $764,933 |
| 40.07 Automobile, bus, van accessways including roads, parking lots | $284,094 | $0 | $0 | $284,094 | $284,094 |
| 40.08 Temporary Facilities and other indirect costs during construction | $114,216,852 | $1,057,516 | $72,302,974 | $42,784,495 | $115,087,469 |
| 40.08 Allocated Contingency | $20,610,000 | $0 | $0 | $20,410,000 | $20,410,000 |
| **50 - SYSTEMS** | **$521,476,559** | **$9,918,549** | **$129,170,861** | **$414,966,440** | **$544,137,300** |
| 50.01 Train control and signals | $99,483,668 | $2,145,273 | $25,172,787 | $76,774,195 | $101,946,982 |
| 50.01 Allocated Contingency | $0 | $0 | $0 | $0 | $0 |
| 50.02 Traffic signals and crossing protection | $23,879,905 | $0 | $0 | $23,879,905 | $23,879,905 |
| 50.02 Allocated Contingency | $1,140,000 | $0 | $0 | $1,140,000 | $1,140,000 |
| 50.03 Traction power supply: substations | $72,744,787 | $791,360 | $30,198,268 | $54,831,838 | $85,030,106 |
| 50.03 Allocated Contingency | $27,990,895 | $0 | $0 | $27,990,895 | $27,990,895 |
| 50.04 Traction power distribution: catenary and third rail | $274,881,495 | $6,981,916 | $73,741,817 | $222,844,297 | $296,586,114 |
| 50.04 Allocated Contingency | $13,792,511 | $0 | $0 | ($0) | ($0) |
| 50.05 Communications | $5,455,000 | $0 | $57,989 | $5,397,011 | $5,455,000 |
| 50.07 Central Control | $2,090,298 | $0 | $0 | $2,090,298 | $2,090,298 |
| 50.07 Allocated Contingency | $18,000 | $0 | $0 | $18,000 | $18,000 |
| **60 - ROW, LAND, EXISTING IMPROVEMENTS** | **$35,675,084** | **$67,858** | **$18,584,124** | **$17,090,960** | **$35,675,084** |
| 60.01 Purchase or lease of real estate | $25,927,074 | $67,858 | $18,455,550 | $7,471,524 | $25,927,074 |
| 60.01 Allocated Contingency | $8,748,010 | $0 | $0 | $8,748,010 | $8,748,010 |
| 60.02 Relocation of existing households and businesses | $1,000,000 | $0 | $128,574 | $871,426 | $1,000,000 |
| **70 - VEHICLES (96)** | **$625,657,938** | **$7,464,803** | **$186,532,262** | **$437,327,023** | **$623,859,285** |
| 70.03 Commuter Rail | $592,327,115 | $7,464,803 | $185,993,982 | $405,267,183 | $591,261,165 |
| 70.03 Allocated Contingency | $6,499,071 | $0 | $0 | $5,766,368 | $5,766,368 |
| 70.06 Non-revenue vehicles | $8,067,821 | $0 | $538,280 | $7,529,541 | $8,067,821 |
| 70.07 Spare parts | $18,763,931 | $0 | $0 | $18,763,931 | $18,763,931 |
| **80 - PROFESSIONAL SERVICES (applies to Cats. 10-50)** | **$330,261,209** | **$2,465,527** | **$289,989,001** | **$68,747,268** | **$358,736,270** |
| 80.01 Project Development | $130,350 | $0 | $280,180 | ($149,830) | $130,350 |
| 80.02 Engineering (not applicable to Small Starts) | $187,284,094 | $481,388 | $195,597,792 | ($821,125) | $194,776,668 |
| 80.02 Allocated Contingency | $5,045 | $0 | $0 | $282,474 | $282,474 |
| 80.03 Project Management for Design and Construction | $74,332,188 | $1,584,627 | $70,103,379 | $18,849,628 | $88,953,008 |
| 80.03 Allocated Contingency | $8,000,396 | $0 | $0 | $8,000,396 | $8,000,396 |
| 80.04 Construction Administration & Management | $25,347,671 | $334,370 | $14,422,546 | $16,834,517 | $31,257,063 |
| 80.04 Allocated Contingency | $17,867,277 | $0 | $0 | $11,957,886 | $11,957,886 |
| 80.05 Professional Liability and other Non-Construction Insurance | $4,581,851 | $38,263 | $4,581,851 | $0 | $4,581,851 |
| 80.06 Legal; Permits; Review Fees by other agencies, cities, etc. | $6,341,599 | $24,362 | $4,967,736 | $8,014,100 | $12,981,836 |
| 80.06 Allocated Contingency | $556,000 | $0 | $0 | $0 | $0 |
| 80.07 Surveys, Testing, Investigation, Inspection | $3,388,781 | $2,518 | $35,516 | $3,353,265 | $3,388,781 |
| 80.08 Start up | $1,797,957 | $0 | $0 | $1,797,957 | $1,797,957 |
| 80.08 Allocated Contingency | $628,000 | $0 | $0 | $628,000 | $628,000 |
| **Subtotal (10 - 80)** | **$1,814,075,737** | **$25,411,512** | **$804,159,292** | **$1,065,504,667** | **$1,869,663,959** |
| **90 - UNALLOCATED CONTINGENCY** | **$106,696,559** | **$0** | **$0** | **$51,108,337** | **$51,108,337** |
| **Subtotal (10 - 90)** | **$1,920,772,296** | **$25,411,512** | **$804,159,292** | **$1,116,613,004** | **$1,920,772,296** |
| **100 - FINANCE CHARGES** | **$9,898,638** | **$155,000** | **$6,075,070** | **$3,823,568** | **$9,898,638** |
| **Total Project Cost (10 - 100)** | **$1,930,670,934** | **$25,566,512** | **$810,234,362** | **$1,120,436,572** | **$1,930,670,934** |

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# Appendix E – Change Order Logs

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## Change Order Logs

### Electrification Contract

**Change Order Authority (5% of BBII Contract)** — **5% x $696,610,558 = $34,830,528**

| Date | Change Number | Description | CCO Amount | Change Order Authority Usage[1] | Remaining Authority |
|---|---|---|---|---|---|
| 08/31/17 | BBI-053-CCO-001 | Track Access Delays Q4 2016 | $85,472 | 0.25% | $34,745,056 |
| 02/28/18 | BBI-053-CCO-003 | Deletion of Signal Cable Meggering (Testing) | ($800,000) | (2.30%) | $35,545,056 |
| 02/21/18 | BBI-053-CCO-004 | Field Order for Differing Site Condition Work Performed on 6/19/17 | $59,965 | 0.17% | $35,485,091 |
| 03/12/18 | BBI-053-CCO-006 | Track Access Delays for Calendar Quarter 1 2017 | $288,741 | 0.83% | $35,196,350 |
| 04/24/18 | BBI-053-CCO-002 | Time Impact 01 Associated with Delayed NTP | $9,702,667 | 0.00%[2] | - |
| 04/24/18 | BBI-053-CCO-008 | 2016 Incentives (Safety, Quality, and Public Outreach) | $750,000 | 0.00%[2] | - |
| 05/31/18 | BBI-053-CCO-009 | 16th St. Grade Crossing Work Removal from BBII Contract | ($685,198) | (1.97%) | $35,881,548 |
| 05/31/18 | BBI-053-CCO-012 | 2017 Incentives (Safety, Quality, and Public Outreach) | $1,025,000 | 0.00%[2] | - |
| 06/25/18 | BBI-053-CCO-010 | Pothole Change Of Shift | $300,000 | 0.86% | $35,581,548 |
| 06/25/18 | BBI-053-CCO-013 | Field Order for Signal Cable Relocation (FO# 31) | $95,892 | 0.28% | $35,485,656 |
| 06/25/18 | BBI-053-CCO-015 | TASI Pilot Transportation 2017 | $67,345 | 0.19% | $35,418,311 |
| 06/26/18 | BBI-053-CCO-005 | Field Orders for Signal Cable Relocation (FO#s 26, 30) | $191,836 | 0.55% | $35,226,475 |
| 06/28/18 | BBI-053-CCO-014 | Field Orders for Signal Cable Relocation (FO-36 & FO-38) | $145,694 | 0.42% | $35,080,781 |
| 06/29/18 | BBI-053-CCO-007 | Track Access Delays for Calendar Quarter 2 2017 | $297,512 | 0.85% | $34,783,269 |
| 06/29/18 | BBI-053-CCO-011 | Field Orders for Differing Site Condition (FO#s Partial 07A , 08-14) | $181,013 | 0.52% | $34,602,256 |
| 06/29/18 | BBI-053-CCO-017 | Field Order for NorCal Utility Potholing (FO# 27) | $93,073 | 0.27% | $34,509,183 |
| 06/29/18 | BBI-053-CCO-018 | Field Order for NorCal Utility Potholing (FO# 29) | $76,197 | 0.22% | $34,432,986 |
| 06/29/18 | BBI-053-CCO-020 | Field Orders for Differing Site Condition (FO#s 15-19) | $118,364 | 0.34% | $34,314,622 |
| 7/19/2018 | BBI-053-CCO-019 | Field Order for NorCal Utility Potholing (FO-032) | $88,956 | 0.26 % | $34,225,666 |
| 7/19/2018 | BBI-053-CCO-021 | As In-Service (AIS) Drawings for Segment 2 and 4 Signal Design (CN-009) | $105,000 | 0.30 % | $34,120,666 |
| 7/25/2018 | BBI-053-CCO-022 | CEMOF Yard Traction Power Feed (CN-008) | $332,700 | 0.96 % | $33,787,966 |
| 7/31/2018 | BBI-053-CCO-028 | Sonic Echo Impulse Testing | $4,541 | 0.01 % | $33,783,425 |
| 7/31/2018 | BBI-053-CCO-026 | TASI Pilot Transportation 2018 (CNC-0022) | $50,409 | 0.14% | $33,733,016 |
| 7/31/2018 | BBI-053-CCO-027 | Signal Cable Relocation (FOs-040 & 051) | $196,114 | 0.56% | $33,536,902 |
| 9/27/2018 | BBI-053-CCO-030 | Delete Spare 115k Disconnect Switches | ($19,000) | (0.05)% | $33,555,902 |
| 9/28/2018 | BBI-053-CCO-031 | Bldg A HVAC and FOB Card Reader Systems | $76,500 | 0.22 % | $33,479,402 |
| 9/28/2018 | BBI-053-CCO-025A | Addition of Shunt Wire at Transverse Utility Crossing Locations - Design | $925,000 | 2.66 % | $32,554,402 |
| 9/28/2018 | BBI-053-CCO-016A | UPRR MT-1 Pole Relocation - Design Changes | $903,000 | 0.00%[2] | - |
| 9/28/2018 | BBI-053-CCO-024A | PG&E Utility Feed Connection to TPS#1 and TPS#2 (Design Only) | $727,000 | 0.00%[2] | - |
| 12/17/2018 | BBI-053-CCO-032 | PS-2 Site Relocation (Design Only) | $291,446 | 0.84% | $32,262,956 |
| 1/17/2019 | BBI-053-CCO-023 | Insulated Rail Joints | $2,694,519 | 0.00%[2] | - |
| 1/17/2019 | BBI-053-CCO-029 | CHSRA Early Pole Relocation (Design Only) | $625,000 | 0.00%[2,3] | - |
| 2/5/2019 | BBI-053-CCO-040A | Increase in Potholing Quantity (unit price contract bid item by 25%) | $1,662,500 | 4.77 % | $30,600,456 |





**Change Order Authority (5% of BBII Contract)** — **5% x $696,610,558 = $34,830,528**

| Date | Change Number | Description | CCO Amount | Change Order Authority Usage[1] | Remaining Authority |
|---|---|---|---|---|---|
| 3/5/2019 | BBI-053-CCO-042A | TPSS-2 VTA/BART Pole Relocation (Design Only) (CNPA funded by VTA) | $110,000 | 0.32%[3] | $30,490,456 |
| 3/11/2019 | BBI-053-CCO-036 | Field Order for Signal Cable Relocation (FO-064) | $86,538 | 0.25% | $30,403,918 |
| 3/20/2019 | BBI-053-CCO-035 | Millbrae Avenue Existing Overhead Barrier | ($40,000) | (0.11)% | $30,443,918 |
| 3/19/2019 | BBI-053-CCO-046 | Training in Design Software and Potholing | $136,611 | 0.39% | $30,307,307 |
| 4/8/2019 | BBI-053-CCO-041 | Grade Crossing Warning System (CN59) – 5 mph Speed Check | $446,982 | 1.28% | $29,860,325 |
| 5/30/2019 | BBI-053-CCO-044 | Additional Daytime Potholing (Increase Quantity by 500 in Segment 4) | $150,000 | 0.43 % | $29,710,325 |
| 6/6/2019 | BBI-053-CCO-048 | Power Metering Devices | $101,908 | 0.29 % | $29,608,417 |
| 6/13/2019 | BBI-053-CCO-045 | Incentive Payment for 2018 | $1,025,000 | 0.00%[2] | - |
| 6/13/2019 | BBI-053-CCO-024B | PG&E Utility Feed Connection to TPS #1 and TPS#2 (Material On Hand) | $1,600,000 | 4.59 % | $28,008,417 |
| 6/24/2019 | BBI-053-CCO-043 | PS-5 Site Relocation (Design Only) | $348,000 | 1.00 % | $27,660,417 |
| 6/24/2019 | BBI-053-CCO-054 | Change Design Sequence for OCS Foundations | $37,500 | 0.11% | $27,622,917 |
| 7/1/2019 | BBI-053-CCO-040B | Increase Quantity for Utilities Potholing (Bid Item #9) | $1,867,700 | 5.36 % | $25,755,217 |
| 7/10/2019 | BBI-053-CCO-033A | Relocation of PS3 (Design) (CNPA funded by BGSP) | $500,000 | 1.44 %[3] | $25,255,217 |
| 8/15/2019 | BBI-053-CCO-047 | CEMOF Slot Drains (Design Only) | $69,000 | 0.20% | $25,186,217 |
| 8/16/2019 | BBI-053-CCO-055 | Sheriff's Deputy in Segment 4B | $4,644 | 0.01% | $25,181,573 |
| 9/3/2019 | BBI-053-CCO-037 | Field Orders for Signal Cable Relocation (FO-053 & FO-059) | $184,576 | 0.53% | $24,996,997 |
| 9/7/2019 | BBI-053-CCO-057 | Mediator with Technical Expertise | $0 | 0.00% | $24,996,997 |
| 9/27/2019 | BBI-053-CCO-061 | Interconnect Renaming of Circuit Numbers | $58,058 | 0.17% | $24,938,939 |
| 9/27/2019 | BBI-053-CCO-063A | Track Access Delays - Quarter 1 2018 (Partial) | $343,496 | 0.99% | $24,595,443 |
| 10/21/2019 | BBI-053-CCO-064 | TPS-2 VTA Pole Height Redesign (CNPA funded by VTA) | $31,000 | 0.09%[3] | $24,564,443 |
| 11/15/2019 | BBI-053-CCO-038 | Field Order for Signal Cable Relocation (FO-079 & FO-085) | $187,764 | 0.54 % | $24,376,680 |
| 11/26/2019 | BBI-053-CCO-025B | Addition of OCS Shunt Wires in Segments 2 & 4 - Wire Assembly Materials Only | $144,370 | 0.41 % | $24,232,310 |
| 12/11/2019 | BBI-053-CCO-065A | Foundation Inefficiencies S2WA5 | $401,501 | 1.15% | $23,830,809 |
| | | **Total** | **$28,451,905** | **31.58%** | **$23,830,809** |

Notes:
1. When the threshold of 75% is reached, staff may return to the Board to request additional authority.
2. Change approved by the Board of Directors – not counted against the Executive Director's Change Order Authority.
3. Third party improvements/CNPA projects that are funded with non-PCEP funds.

### EMU Contract

**Change Order Authority (5% of Stadler Contract)** — **5% x $550,899,459 = $27,544,973**

| Date | Change Number | Description | CCO Amount | Change Order Authority Usage[1] | Remaining Authority |
|---|---|---|---|---|---|
| 09/22/2017 | STA-056-CCO 001 | Contract General Specification and Special Provision Clean-up | $0 | 0.00% | - |
| 10/27/2017 | STA-056-CCO 002 | Prototype Seats and Special Colors | $55,000 | 0.20% | $27,489,973 |
| 11/02/2017 | STA-056-CCO 003 | Car Level Water Tightness Test | $0 | 0.00% | - |
| 12/05/2017 | STA-056-CCO-004 | Onboard Wheelchair Lift 800 Pound Capacity Provisions | $848,000 | 3.08% | $26,641,973 |

**Change Order Authority (5% of Stadler Contract)** **5% x $550,899,459 = $27,544,973**

| Date | Change Number | Description | CCO Amount | Change Order Authority Usage[1] | Remaining Authority |
|---|---|---|---|---|---|
| 11/03/2017 | STA-056-CCO 005 | Design Progression (multiple) | $0 | 0.00% | - |
| 12/12/2017 | STA-056-CCO 006 | Prototype Seats and Special Colors | ($27,500) | (0.10%) | $26,669,473 |
| 01/17/2018 | STA-056-CCO 007 | Multi-Color Destination Signs | $130,760 | 0.47% | $26,538,713 |
| 02/09/2018 | STA-056-CCO-008 | Adjustment to Delivery and LDs due to delayed FNTP | $490,000 | 0.00%[2] | - |
| 02/12/2018 | STA-056-CCO-009 | Ship Cab Mock-up to Caltrain | $53,400 | 0.19% | $26,485,313 |
| 04/17/2018 | STA-056-CCO-010 | Onboard Wheelchair Lift Locations | ($1,885,050) | (6.84%) | $28,370,363 |
| 04/17/2018 | STA-056-CCO-011 | Multiple Change Group 3 and Scale Models | $0 | 0.00% | - |
| 10/29/2018 | STA-056-CCO-012 | Multiple Change Group 4 | $0 | 0.00% | - |
| 10/29/2018 | STA-056-CCO-013 | Wheelchair Lift Installation Redesign | $228,400 | 0.83% | $28,141,963 |
| 12/14/2018 | STA-056-CCO-014 | PTC System Change | $0 | 0.00% | - |
| 12/22/2018 | STA-056-CCO-015 | EMU Option Cars | $172,800,047 | 0.00%[2,3] | - |
| 6/26/2019 | STA-056-CCO-016 | Testing at TTCI (Pueblo Facility) - First Trainset | $3,106,428 | 11.28 % | $25,035,535 |
| 8/27/2019 | STA-056-CCO-017 | Virtual Reality Experience | $400,000 | 1.45 % | $24,635,535 |
| 8/21/2019 | STA-056-CCO-018 | EMI Conducted Emissions Limits | $0 | 0.00% | $24,635,535 |
| 8/8/2019 | STA-056-CCO-019 | Option Car Payment Milestones | $0 | 0.00% | $24,635,535 |
| 8/21/2019 | STA-056-CCO-020 | Multiple No Cost No Schedule Impact Changes Group 5 | $0 | 0.00% | $24,635,535 |
| 10/28/2019 | STA-056-CCO-021 | Plugging of High-Level Doorways | $736,013 | 2.67% | $23,899,523 |
| 11/13/2019 | STA-056-CCO-022 | Add Flip-Up Seats into Bike Cars (CNPA: $1.96M funded by Non-PCEP) | $1,961,350 | 7.12%[3] | $21,938,173 |
| | | **Total** | **$178,896,847** | **20.36 %** | **$21,938,173** |

Notes:

1. When the threshold of 75% is reached, staff may return to the Board to request additional authority.
2. Change approved by the Board of Directors – not counted against the Executive Director's Change Order Authority.
3. Third party improvements/CNPA projects that are funded with non-PCEP funds.

## SCADA Contract

**Change Order Authority (15% of ARINC Contract)** **15% x $3,446,917 = $517,038**

| Date | Change Number | Description | CCO Amount | Change Order Authority Usage[1] | Remaining Authority |
|---|---|---|---|---|---|
| | None to date | | | | |
| | | **Total** | **$0** | **0.00%** | **$517,038** |

Notes:

1. When the threshold of 75% is reached, staff may return to the Board to request additional authority.
2. Change approved by the Board of Directors – not counted against the Executive Director's Change Order Authority.

## Tunnel Modifications Contract

**Change Order Authority (10% of ProVen Contract[1])** **10% x $55,077,777 = $5,507,778**

| Date | Change Number | Description | CCO Amount | Change Order Authority Usage[2] | Remaining Authority |
|---|---|---|---|---|---|
| 3/27/2019 | PROV-070-CCO-003 | Track Access Delay | $25,350 | 0.46 % | $5,482,428 |





**Change Order Authority (10% of ProVen Contract[1])** **10% x $55,077,777 = $5,507,778**

| Date | Change Number | Description | CCO Amount | Change Order Authority Usage[2] | Remaining Authority |
|---|---|---|---|---|---|
| 3/27/2019 | PROV-070-CCO-004 | Additional OCS Potholing Due to Conflict with Existing Utilities | $70,935 | 1.29 % | $5,411,493 |
| 3/27/2019 | PROV-070-CCO-005 | Install Tie Backs and Piles in Boulders at Tunnel 4 | $29,478 | 0.54 % | $5,382,015 |
| 3/28/2019 | PROV-070-CCO-001 | Partnering Meetings (50% PCEP) | $14,443 | 0.26 %[4] | $5,367,572 |
| 4/25/2019 | PROV-070-CCO-002 | Furnish Galvanized E-clips | $37,239 | 0.68 % | $5,330,333 |
| 4/30/2019 | PROV-070-CCO-006 | Additional Rock Bolts and Testing | $22,549 | 0.41 % | $5,307,784 |
| 5/23/2019 | PROV-070-CCO-013 | Late Removal of Leaky Feeder Tunnel 4 (T-4 ) | $21,225 | 0.39 % | $5,286,559 |
| 5/28/2019 | PROV-070-CCO-014 | OCS Piles Utility Conflict at Tunnel-1 South (T-1S) | $16,275 | 0.30 % | $5,270,284 |
| 5/29/2019 | PROV-070-CCO-012 | OCS Piles Utility Conflict at T-4S | $6,871 | 0.12 % | $5,263,413 |
| 5/31/2019 | PROV-070-CCO-016A | Portal Structure Detailing Changes | $84,331 | 1.53 % | $5,179,082 |
| 6/18/2019 | PROV-070-CCO-009 | Creosote Ties Covering (CNPA - Drainage $3,116.00) | $3,116 | 0.06 %[4] | $5,175,966 |
| 6/28/2019 | PROV-070-CCO-008 | Micropiles at South Tunnel-2 South (T-2S) | $41,322 | 0.75 % | $5,134,644 |
| 6/28/2019 | PROV-070-CCO-010 | Salvage Transition Panels (CNPA - Drainage $6,144.00) | $6,144 | 0.11 %[4] | $5,128,500 |
| 6/28/2019 | PROV-070-CCO-011 | Demo PVC and Plug Tunnel-1 South (T-1S) (CNPA - Drainage $4,035.00) | $4,035 | 0.07 %[4] | $5,124,465 |
| 6/28/2019 | PROV-070-CCO-020 | Unidentified SD Conflict with Junction Inlet (CNPA - Drainage $1,976.00) | $1,976 | 0.04 %[4] | $5,122,489 |
| 9/26/2019 | PROV-070-CCO-007 | Canopy Tube Drilling | $89,787 | 1.63% | $5,032,702 |
| 9/26/2019 | PROV-070-CCO-023 | Over-excavate Trapezoidal Ditch at T-1N (CNPA - Drainage $46,914.00) | $46,914 | 0.85%[4] | $4,985,788 |
| 10/4/2019 | PROV-070-CCO-029 | Additional DryFix Pins | $105,000 | 1.91% | $4,880,788 |
| 10/4/2019 | PROV-070-CCO-021 | Out of Sequence Piles | $185,857 | 3.37 % | $4,694,931 |
| 10/30/2019 | PROV-070-CCO-017 | Hard Piping in T-4 (CNPA - Drainage $2,200.00) | $2,200 | 0.04 %[4] | $4,692,731 |
| | | **Total** | **$815,047** | **14.80 %** | **$4,692,731** |

Notes:

1. Tunnel modifications contract ($55,077,777) includes: Notching ($25,281,170), Drainage ($13,196,607) and OCS Installation ($16,600,000).
2. When the threshold of 75% is reached, staff may return to the Board to request additional authority.
3. Change approved by the Board of Directors – not counted against the Executive Director's Change Order Authority.
4. Third Party Improvements/CNPA Projects that are funded with non-PCEP funds.

## CEMOF Modifications Contract

**Change Order Authority (10% of ProVen Contract)** **10% x $6,550,777 = $655,078**

| Date | Change Number | Description | CCO Amount | Change Order Authority Usage[1] | Remaining Authority |
|---|---|---|---|---|---|
| | None to date | | | | |
| | | **Total** | **$0** | **0.00%** | **$655,078** |

Notes:

1. When the threshold of 75% is reached, staff may return to the Board to request additional authority.
2. Change approved by the Board of Directors – not counted against the Executive Director's Change Order Authority.

AMTRAK AEM-7 Contract

| Change Order Authority (Lump Sum) | | | | | Up to $150,000 |
|---|---|---|---|---|---|
| **Date** | **Change Number** | **Description** | **CCO Amount** | **Change Order Authority Usage[1]** | **Remaining Authority** |
| 10/25/2019 | AMTK-066-CCO-001 | Change to Amtrak Contract for Test Locomotives | (72,179) | (48.12%) | 222,179 |
| | | **Total** | **(72,179)** | **(48.12%)** | **$222,179** |

Notes:
[1] When the threshold of 75% is reached, staff may return to the Board to request additional authority.



Peninsula Corridor Electrification Project
Monthly Progress Report

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# Appendix F – Risk Table

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**Listing of PCEP Risks and Effects in Order of Severity**

| ID | RISK DESCRIPTION | EFFECT(S) |
|---|---|---|
| 313 | Contractor incorrect sequencing of utility locates, preliminary design, final design, and foundation construction may result in inefficiencies in construction, redesign, and reduced production rates. | Delay and additional cost for rework. |
| 303 | Extent of differing site conditions and associated redesign efforts results in delays to the completion of the electrification contract and increases program costs. | More differing site conditions and longer to resolve.<br><br>Extends construction of foundations and the OCS system and results in less efficient construction of foundations. |
| 314 | The contractor may not complete and install signal design including CWT modifications within budget and schedule. | Delay and additional cost for rework. |
| 242 | Track access does not comply with contract-stipulated work windows. | Contractor claims for delays, schedule delays and associated costs to owner's representative staff. |
| 223 | Major program elements may not be successfully integrated with existing operations and infrastructure in advance of revenue service. | Proposed changes resulting from electrification may not be fully and properly integrated into existing system.<br><br>Rework resulting in cost increases and schedule delays |
| 257 | Potential that modifications to the PTC database and signal software are not completed in time for cutover and testing. | Failure to follow the Configuration Management process will result in delays to completing PCEP signal cutovers. This could delay milestone completion as well as project substantial completion. |
| 267 | Additional property acquisition is necessitated by change in design. | New project costs and delays to schedule. |
| 273 | Contractor generates hazardous materials, that necessitates proper removal and disposal in excess of contract allowances and expectations. | Delay to construction while removing and disposing of hazardous materials resulting in schedule delay, increased construction costs, and schedule delay costs. |
| 308 | Rejection of DVR for ATF and static wires results in cost and schedule impacts to PCEP. | Delay and delay claims |



Peninsula Corridor Electrification Project
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| ID | RISK DESCRIPTION | EFFECT(S) |
|---|---|---|
| 298 | Changes to PTC implementation schedule could delay completion of the electrification work. Cost and schedule of BBII contract could increase as a result of change in PTC system | 1. Changes in datafiles could affect what Balfour provides; could delay timing for testing; could change books that FRA had to review.<br>2. Full integrated testing between EMU and wayside cannot be conducted without PTC in place.<br>3. Delays to completion of signal system could result in conflicts with PTC testing and PCEP<br>construction and integrated testing.<br>4. Potential for track access impacts due to PTC testing. |
| 309 | Potential that vehicles will not receive timely notification from FRA of compliance with acceptable alternate crash management standards | Delays to completion of construction and additional cost to changes in design. |
| 209 | TASI may not have sufficient number of signal maintainers for testing. | • Delays to construction/testing.<br>• Delays to completion of infrastructure may delay acceptance of vehicles |
| 10 | Potential for Stadler's sub-suppliers to fall behind schedule or delays in parts supply chain result in late completion of vehicles. | • Delay in obtaining parts / components.<br>• Cost increases. (See Owner for allocation of costs)<br>• Schedule increase - 3 months (See Owner for allocation of damages associated with this Risk) |
| 240 | Property not acquired in time for contractor to do work.<br><br>Property Acquisition not complete per contractor availability date<br><>Fee<br><>Easement<br><>Contract stipulates that if parcels are not available by contract date, there is only a delay if parcels are not available by the time contractor completes the Segment | • Potential delays in construction schedule |
| 244 | Determine that there is sufficient storage for both EMU and Diesel fleets while maintaining Yard/Vehicle operability. | Potential delay in completion of Test & Commissioning due to vehicle movements & logistics |
| 263 | Collaboration across multiple disciplines to develop a customized rail activation program may fail to comprehensively address the full scope of issues required to operate and maintain an electrified railroad and decommission the current diesel fleet. | Delay in testing of EMUs. Delay in Revenue Service Date. Additional costs for Stadler and BBII due to overall schedule delays. |

| ID | RISK DESCRIPTION | EFFECT(S) |
|---|---|---|
| 302 | May not have a 110-mph electrified section of track that will be ready for testing for final acceptance of vehicle. | Contract with Stadler implies readiness of Electrification Project and track upgrades for EMU testing Delays in testing may increase Caltrain costs. |
| 312 | Project executed the OCS Option; increase in procurement durations for necessary OCS Parts (Conductor Rail) has led to an associated increase in costs and schedule duration for the overall project | Additional cost to project, primarily from additional bus bridges. |
| 315 | Increased oversight and schedule risk associated with Stadler plan to move car shell manufacturing to a new Switzerland facility. And to implement second shift of sub-assembly production in Altenrhein.AC106 | Increased PCEP oversight costs possible trainset delivery schedule slippage |
| 67 | Relocation of overhead utilities must precede installation of catenary wire and connections to TPSs. Relocation work will be performed by others and may not be completed to meet BBII's construction schedule. | Delay in progress of catenary installation resulting in claims and schedule delay |
| 115 | Other capital improvement program projects compete with PCEP for track access allocation and requires design coordination (design, coordination, integration). | Schedule delay as resources are allocated elsewhere, won't get track time, sequencing requirements may delay PCEP construction, track access requirements must be coordinated. |
| 136 | UP reviews of BBI design may extend project duration. | Delays to completion of design and claims for delay. |
| 261 | EMU electromechanical emissions and track circuit susceptibility are incompatible. | Changes on the EMU and/or signal system require additional design and installation time and expense. |
| 277 | Inadequate D-B labor to support multiple work segments | Additional cost and time |
| 281 | BBI's ability to complete base scope for signal/pole adjustments may be required to remedy sight distance impediments arising from modifications to original design. | Add repeater signals, design duct bank would result in increased design and construction costs. |
| 285 | Potential for inflation, (except with respect to Maintenance Option) to increase contractor costs. | Higher cost |
| 286 | Potential for wage escalation, (except for Maintenance Option) to increase contractor costs. | Higher cost |
| 287 | Design changes may necessitate additional implementation of environmental mitigations not previously budgeted. | Increased cost for environmental measures and delays to construct and overall delay in construction schedule |





| ID | RISK DESCRIPTION | EFFECT(S) |
|---|---|---|
| 295 | ProVen may not be able to complete termination structures prior to Balfour completing Segment 1. | Delays to completion of construction and associated claims costs. |
| 296 | BBII needs to complete interconnection and traction power substations be sufficiently complete to accept interim power | Delay in testing and increased costs |
| 304 | Solution to FRA concerns over bike storage impeding path to emergency exit windows path results in increased costs and potential rework. | Protracted negotiations with FRA to achieve original design |
| 13 | Vehicle manufacturer could default. | Prolonged delay to resolve issues (up to 12 months)<br><br>Increase in legal expenses<br><br>Potential price increase to resolve contract issue |
| 12 | Potential for electromagnetic interference (EMI) to private facilities with sensitive electronic equipment caused by vehicles. | • Increased cost due to mitigation<br>• Potential delay due to public protests or environmental challenge. |
| 56 | Lack of operations personnel for testing. | • Testing delayed.<br>• Change order for extended vehicle acceptance. |
| 88 | Construction safety program fails to sufficiently maintain safe performance. | Work stoppages due to safety incidents resulting in schedule delay and additional labor costs. |
| 161 | Unanticipated costs to provide alternate service (bus bridges, etc.) during rail service disruptions. | Cost increase. |
| 183 | Installation and design of new duct bank takes longer because of UP coordination | Schedule - Delay. May need to use condemnation authority to acquire easement.<br><br>Cost - Additional cost for PG&E to make connections increasing project costs |
| 247 | Timely resolution of 3rd party design review comments to achieve timely approvals | Delay to completion of design and associated additional labor costs. |
| 270 | OCS poles or structures as designed by Contractor fall outside of JPB row | Additional ROW Take, additional cost and time |
| 294 | UP does not accept catenary pole offsets from centerline of track necessitating further negotiation or relocation of poles | Delay to construction and additional costs for redesign and ROW acquisition. |

| ID | RISK DESCRIPTION | EFFECT(S) |
|---|---|---|
| 82 | Unexpected restrictions could affect construction progress:<br><> night work<br><> noise<br><> local roads<br><> local ordinances | • Reduced production rates.<br>• Delay |
| 241 | Segment 4 substantially complete (Segment 4, TPS-2, Interconnect) may not be installed prior to scheduled exercising of EMUs | Inability to exercise EMUs |
| 253 | Risk that existing conditions of Caltrans-owned bridges will not support bridge barriers. The existing bridge conditions and structural systems are unknown and may not support mounting new work<br><br>Design will need to prove new barriers will not impact existing capacity of the bridges prior to Caltrans's approval for construction. Without approval of design and issuance of permit, there is risk to the schedule for the work and also budget if during design existing bridge will require some upgrades due to the introduction of new attachments. | Delays to issuance of permit for construction while negotiating and executing an operation and maintenance agreement for equipment installed on bridges; existing bridge deficiencies could result in additional costs to PCEP. |
| 11 | Risks in achieving acceptable vehicle operations performance:<br><> software problems<br><> electrical system problems<br><> mechanical problems<br><> systems integration problems<br><br>Increased issues lately with vehicles regarding system integration and compatibility. | Cost increase.<br><br>Delays vehicle acceptance<br><br>Potential spill-over to other program elements |
| 16 | Inter-operability issues with diesel equipment. | Cost increase. |
| 31 | New cars possibly not reliable enough to be put into service as scheduled | Operating plan negatively impacted |
| 78 | Need for unanticipated, additional ROW for new signal enclosures. | Delay while procuring ROW and additional ROW costs. |
| 171 | Electrification facilities could be damaged during testing. | Delay in commencing electrified operations. |





| ID | RISK DESCRIPTION | EFFECT(S) |
|---|---|---|
| 190 | Track roughness and cant could present problems for European vehicles which are accustomed to a higher class of track bed maintenance.<br><br>Becomes problematic with concept of specifying "off-the-shelf" design. | Vehicle cost increase.<br><br>Vehicle delivery delay. |
| 251 | Subcontractor and supplier performance to meet aggressive schedule<br><>Potential issue meeting Buy America requirements | Delay to production schedule resulting in increased soft costs and overall project schedule delay. |
| 271 | Need for additional construction easements beyond that which has been provided for Contractor proposed access and staging | Additional cost and time |
| 272 | Final design based upon actual Geotech conditions | Could require changes |
| 289 | Coordination and delivery of permanent power for power drops for everything except traction power substations along alignment | Can't test resulting in delays to schedule and associated additional project costs. |
| 291 | Order/manufacture of long lead items prior to 100% IFC design document that proves to be incorrect | Design change and/or delays |
| 292 | Potential that UPS will not fit in the spaces allotted to communications work within the buildings. | Requisite backup capacity units under design criteria could result in the need for larger unit than originally planned resulting in design and fabrication changes and associated schedule delays and costs. |
| 311 | Although project recordable injuries remain below the industry average, there have been numerous small impact incidents occurring that could potentially lead to a more serious event occurring. | The occurrence of a high impact safety event could result in project rework, construction delays, and increased project costs. |
| 316 | PTC system "freeze periods" during revenue service demonstration periods may delay Balfour activities including: cutovers at new locations, taking signals out of service, making software changes in a location, and spicing into fiber. | Delays and additional costs associated with interruption of efficient workflow. |
| 317 | JPB may not make timely acquisition of resources to staff rail activation plan with key personnel. | Delay in operating electrified railroad - delay of RSD. |

| ID | RISK DESCRIPTION | EFFECT(S) |
|---|---|---|
| 19 | Potential for vehicle delivery to be hampered by international conflict; market disruption; labor strikes at production facility. | Delay in production of vehicle with associated cost implications. |
| 21 | EMU production delay. Possible that there are quality issues, failed factory tests, poor integration / control of suppliers. | Schedule Increase - up to 6 months (6 months float already built into 36 month schedule) |
| 27 | Vehicle power consumption may not meet requirements.<br><br><>System impact study and load flow show no issues | Issue with PG&E. Can't run full acceleration. |
| 42 | Full complement of EMUs not available upon initiation of electrified revenue service | Late delivery impacts revenue service date. |
| 55 | Failure to pass Qualification Testing. | Cost Increase - minimal<br><br>Schedule delay |
| 61 | Latent defects in EMU vehicles. | Unbudgeted costs incurred from legal actions.<br><br>Repairs take trains out-of-service. |
| 101 | PG&E may not be able to deliver permanent power for the project within the existing budget and in accordance with the project schedule | Additional project costs; potential delay to revenue service date |
| 150 | Number of OCS pole installation is significant. Any breakdown in sequencing of operations or coordination of multiple crews will have a substantial effect on the project. | Delay. |
| 245 | Failure of BBI to submit quality design and technical submittals in accordance with contract requirements<br>• $3-$5M/month burn rate for Owner's team during peak | Delays to project schedule and additional costs for preparation and review of submittals. |
| 252 | Failure of BBI to order/manufacture long lead items prior to 100% IFC design document approval by JPB | Delays to project schedule and additional cost for contractor and JPB staff time. |
| 306 | Possible legal challenge and injunction to any changes in PCEP requiring subsequent CEQA or NEPA environmental clearance documentation/actions. | Worst case: a judge issues an injunction, which would prohibit any work ONLY on the project scope of the environmental document. Impact to the project from cost and schedule impact depends on if work is on the critical or becomes on the critical path. |



Peninsula Corridor Electrification Project
Monthly Progress Report

| ID | RISK DESCRIPTION | EFFECT(S) |
|---|---|---|
| 8 | Requests for change orders after vehicles are in production | Delays to manufacturing of vehicles and additional design and manufacturing costs. |
| 23 | Manufacturer cannot control vehicle weight to meet specifications. | Increased operating cost. |
| 25 | Potential that vehicles cannot meet requirements for "Mean Time to Repair" (MTTR). | Increased maintenance cost. |
| 32 | Failure to come up to speed on stakeholder safety requirements:<br><> FTA<br><> FRA<br><> CPUC | Takes longer than expected to gain FRA/FTA concurrence on waiver and/or level boarding requirements. |
| 51 | Damage during delivery of first six EMUs. | Schedule delay |
| 53 | Failure to meet Buy America requirements.<br><br>(Contractor definition of component v. sub-component may not be accepted by Caltrain / FTA.) | Potential need for negotiations that might lead to delay of project award.<br><br>(BA is not negotiable) |
| 54 | Infrastructure not ready for vehicles (OCS, TPS, Commissioning site / facility). | Increases cost if done off property |
| 69 | Potential need for additional construction easements. Especially for access and laydown areas.<br><br>Contractor could claim project is not constructible and needs more easements after award. | Increased cost<br><br>Delay |
| 87 | Unanticipated HazMat or contaminated hot spots encountered during foundation excavations for poles, TPSS, work at the yards. | Increased cost for clean-up and handling of materials and delay to schedule due to HazMat procedures. |
| 106 | Potential that DB contractor will have insufficient field resources (personnel or equipment) to maintain aggressive schedule.<br><br>Multiple segments will need to be under design simultaneously.<br><br>Labor pool issue. 32 qualified linemen will be needed. Potential there is not enough available. Big storm damage anywhere in US will draw from the pool to make line repairs.<br><br>Possible shortages with other specialty crafts as well. | Delay. |

| ID | RISK DESCRIPTION | EFFECT(S) |
|---|---|---|
| 151 | Public could raise negative concerns regarding wheel/rail noise. | Increased cost to mitigate:<br><> grind rails<br><> reprofile wheels<br><> sound walls |
| 182 | Compliance with Buy America requirements for 3rd party utility relocations.<br><br><>Utility relocations covered under existing Caltrain agreements that require utilities to move that will not have effect on project cost - will not be Buy America<br><>Installation of new equipment inside PG&E substations that will provide all PG&E customers, about 1/6 of that provides power to our system - is upgrade that benefits all customers subject to Buy America requirements, is it 1/6th, or 100%<br><>Risk is substation not relocations<br><>Substation equipment is available domestically, has 6 month longer lead time and increased cost of 20% | • Increased cost<br>• Delay |
| 192 | Environmental compliance during construction.<br>- Potential impact to advancing construction within the vicinity of any cultural finds that are excavated.<br>- Failure to meet the commitments contained within the PCEP EA, FEIR and permit conditions | • Delay<br>• Cost increase |
| 195 | Introduction of electrified train service will require training of first responders in working in and around the rail corridor. The new vehicles will be considerably quieter than the existing fleet and the presence of high voltage power lines will require new procedures for emergency response. A new training program will need to be developed and disseminated for:<br>• Fire, police, and first responders<br>• Local communities<br>• Schools | Safety hazards resulting in incidents that delay construction and increase labor cost. Delays in RSD until training is completed as requirement of safety certification process. |



Peninsula Corridor Electrification Project
Monthly Progress Report

| ID | RISK DESCRIPTION | EFFECT(S) |
|---|---|---|
| 237 | JPB needs an agreement with each city in which catenary will be strung over an existing grade crossing (17 in all) under GO 88 (grade crossings). These agreements must be executed subsequent to installing overhead catenary. JPB is preparing a response to CPUC while working with the cities. Delays in reaching agreement could have impacts on schedule and budget. | Not completing the grade crossing diagnostics and getting agreement from the cities on the results can result in delays to necessary approvals for the project and revenue service. |
| 248 | 3rd party coordination<br><>Jurisdictions, Utilities, UP, Contractors<br><>D/B needs to provide timely information to facilitate 3rd party coordination<br><>Risk is for construction | Delays in approvals resulting in project schedule delays and associated costs. |
| 250 | Potential for municipalities to request betterments as part of the electrification project. | Delay to project schedule in negotiating betterments as part of the construction within municipalities and associated increased cost to the project as no betterments were included in the project budget. |
| 254 | Potential that bridge clearance data are inaccurate and that clearances are not sufficient for installation of catenary. | Results in additional design and construction to create sufficient clearance. |
| 259 | Work on 25th Avenue Grade Separation Project could delay Balfour construction schedule. | • Increased cost for BBI as catenary construction in this section was anticipated to be constructed under the 25th Avenue Grade Separation Project.<br>• Potential delays in construction schedule<br>• Risk is delay to BBI |
| 266 | Verizon poles in conflict with OCS may not be removed in advance of OCS installation. | Delay in progress of catenary installation resulting in claims and schedule delay |
| 274 | JPB as-built drawings and existing infrastructure to be used as basis of final design and construction is not correct | Additional cleanup of as-builts after PCEP construction |
| 275 | DB fails to verify as-built drawings and existing infrastructure | Additional cleanup of as-builts after PCEP construction |
| 278 | Failure of D/B contractor and subcontractors and suppliers to meet Buy America requirements | Delays while acceptable materials are procured and additional costs for delays and purchase of duplicative equipment. |
| 282 | Failure to maintain dynamic envelope and existing track clearances consistent with requirements. | Redesign entailing cost and schedule impacts. |
| 284 | Compliance with project labor agreement could result in inefficiencies in staffing of construction. | Increase in labor costs and less efficient construction resulting in schedule delays. |
| 290 | Delays in agreement and acceptance of initial VVSC requirements database. | Delay to design acceptance |

| ID | RISK DESCRIPTION | EFFECT(S) |
|---|---|---|
| 293 | Readiness of 115kV interconnect for temporary power to support testing | Delay in testing |
| 297 | Cost and schedule of Stadler contract could increase as a result of this change in PTC system<br><br>Delay of PTC may delay acceptance of EMUs. | 1) Full integrated testing between EMU and wayside cannot be conducted without PTC in place.<br><br>2) Delay in EMU final design for PTC and potential PTC interfaces. Need to finalize braking system sequence priority. |

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# Appendix G – MMRP Status Log

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**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **AES-2a: Minimize OCS construction activity on residential and park areas outside the Caltrain ROW.** | X | X | | | Ongoing | The OCS proposed construction schedule has been provided to the JPB. OCS construction began the week of October 2, 2017. The D-B has utilized the potholing process to assist in locating conflicts in the 35% design and attempting to relocate OCS pole locations within the ROW. |
| **AES-2b: Aesthetic treatments for OCS poles, TPFs in sensitive visual locations, and Overbridge Protection Barriers.** | X | | | | Ongoing | The design requirements indicated in the measure have been implemented as described, and coordination with the specific jurisdictions regarding pole colors and design is ongoing. Coordination with the JPB & local jurisdiction regarding Overbridge Protection Barriers and TPFs is ongoing. |
| **AES-4a: Minimize spillover light during nighttime construction.** | | X | | | Ongoing | OCS construction began the week of October 2, 2017; and the BBI community relations lead has notified nearby residents of upcoming construction. During construction, lighting is faced inward, towards the railroad tracks, and any complaints will be documented and addressed by the BBI community relations lead. |
| **AES-4b: Minimize light spillover at TPFs.** | X | | | | Upcoming | The design requirements indicated in the measure are being utilized in the design and construction process. |
| **AQ-2a: Implement BAAQMD basic and additional construction mitigation measures to reduce construction-related dust.** | X | X | | | Ongoing | The Dust Mitigation Plan was submitted to the JPB and approved. The requirements in the Dust Mitigation Plan will be implemented throughout the construction period and documented in daily reports. |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **AQ-2b: Implement BAAQMD basic and additional construction mitigation measures to control construction-related ROG and NOX emissions.** | X | X | | | Ongoing | The Equipment Emissions Control Plan was submitted to the JPB and approved. The requirements in the Equipment Emissions Control Plan will be implemented throughout the construction period and documented in daily reports. |
| **AQ-2c: Utilize clean diesel-powered equipment during construction to control construction-related ROG and NOX emissions.** | X | X | | | Ongoing | The Equipment Emissions Control Plan was submitted to the JPB and approved. The requirements in the Equipment Emissions Control Plan will be implemented throughout the construction period and documented in daily reports. |
| **BIO-1a: Implement general biological impact avoidance measures.** | X | X | | | Ongoing | Worker Environmental Awareness Training is provided to all project-related personnel before they work on the project. All measures as described will be implemented throughout the construction period and documented in daily reports. |
| **BIO-1b: Implement special-status plant species avoidance and revegetation measures.** | X | X | X | | Complete | Not applicable. Subsequent habitat assessment and avoidance of Communication Hill eliminated any potential to affect special-status plant species. The measure is not needed. |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **BIO-1c: Implement California red-legged frog and San Francisco garter snake avoidance measures.** | X | X | | | Ongoing | Pre-construction surveys are occurring no more than 7 days prior to the initiation of construction activities nearby/adjacent to potential habitat for CRLF and SFGS. The Wildlife Exclusion Fencing Plans for Segments 1 and 4 were submitted and approved by the wildlife agencies, and installation and monitoring of wildlife exclusion fencing is ongoing. No CRLF / SFGS or sign of each species has been observed to date on the Project. |
| **BIO-1d: Implement western pond turtle avoidance measures.** | X | X | | | Ongoing | Pre-construction surveys are occurring no more than 7 days prior to the initiation of construction activities nearby/adjacent to potential habitat for WPT. No WPT or WPT sign have been observed to date on the Project. |
| **BIO-1e: Implement Townsend's big-eared bat, pallid bat, hoary bat, and fringed myotis avoidance measures.** | X | X | | | Ongoing | Pre-construction surveys are occurring no more than 7 days prior to the initiation of construction activities with the potential to disturb bats or their habitat. No special-status bats or sign have been observed to date on the Project. |
| **BIO-1f: Implement western burrowing owl avoidance measures.** | X | X | | | Ongoing | Protocol surveys for Western Burrowing Owl have been conducted from April–July, in 2017, 2018, and 2019, at previously identified potentially suitable habitat locations. Note that all of these locations are in Construction Segment 4 (southern Santa Clara and San Jose). No Burrowing Owls have been observed during the surveys conducted to date. Survey reports for the 2017, 2018, and 2019 surveys have been |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| | | | | | | submitted to the JPB for the project record. In addition, pre-construction surveys of the potential BUOW habitat areas in Segment 4 are ongoing, and they occur no more than 7 days prior to the onset of construction activities. Surveys for the 2020 breeding season will commence in April 2020. |
| **BIO-1g: Implement northern harrier, white-tailed kite, American peregrine falcon, saltmarsh common yellowthroat, purple martin, and other nesting bird avoidance measures.** | X | X | | | Ongoing | Nesting Bird surveys were conducted from February 1 through September 15, in 2017, 2018 and 2019, prior to project-related activities with the potential to impact nesting birds. No Nesting Bird Surveys occurred during this reporting period. Nesting Bird Surveys will recommence at the beginning of the 2020 nesting season (February 1, 2020). As of the end of the reporting period, there are no active nests observed on the Project. |
| **BIO-1h: Conduct biological resource survey of future contractor-determined staging areas.** | X | X | | | Ongoing | The agency-approved Qualified Biologist has conducted surveys of the staging areas currently being used for construction activities. No special-status species or other potentially sensitive biological resources were observed. The agency-approved Qualified Biologist will continue to survey ahead of the initiation of activities at planned staging areas as the Project moves into new construction areas. |
| **BIO-1i: Minimize impacts on Monarch butterfly overwintering sites.** | X | X | | | Ongoing | The agency-approved Qualified Biologist has periodically monitored the project limits to evaluate the presence of Monarch butterfly overwintering sites. No Monarch butterfly overwintering sites have |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| | | | | | | been observed on the Project to date. |
| **BIO-1j: Avoid nesting birds and bats during vegetation maintenance.** | | | | X | Upcoming | To be completed during Project operation. |
| **BIO-2: Implement serpentine bunchgrass avoidance and revegetation measures.** | X | X | X | | Complete | Not applicable. Subsequent habitat assessment and avoidance of Communication Hill eliminated any potential to affect serpentine bunchgrass. This measure is no longer needed. |
| **BIO-3: Avoid or compensate for impacts on wetlands and waters.** | X | X | X | | Complete | The JPB has compensated for unavoidable wetland impacts by purchasing adequate credits from a wetlands mitigation bank approved by USACE and SFRWQCB. |
| **BIO-5: Implement Tree Avoidance, Minimization, and Replacement Plan.** | X | X | X | | Ongoing | Tree removal and pruning activities were initiated in August 2017, and are ongoing, under the guidance of the BBI Arborist, and in accordance with the Tree Avoidance, Minimization, and Replacement Plan. Tree Removal and Pruning status is provided to the JPB on a regular basis. |
| **BIO-6: Pay *Santa Clara Valley Habitat Plan* land cover fee (if necessary).** | X | | | | Complete | Not applicable. The SCVHP does not apply to the Project because TPS2, Option 1 was not selected and OCS does not extend to Communication Hill. This measure is not needed. |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **CUL-1a: Evaluate and minimize impacts on structural integrity of historic tunnels.** | X | | | | Upcoming | To be implemented prior to construction in tunnels. |
| **CUL-1b: Minimize impacts on historic decorative tunnel material.** | X | | | | Upcoming | To be implemented prior to construction in tunnels. Historic American Engineering Record (HAER) documentation was completed in October 2018, pursuant to this measure. |
| **CUL-1c: Install project facilities in a way that minimizes impacts on historic tunnel interiors.** | X | | | | Upcoming | To be implemented prior to construction in tunnels. |
| **CUL-1d: Implement design commitments at historic railroad stations** | X | | | | Complete | The Qualified Architectural Historian completed and submitted the HABS Level III documents to the JPB for all seven of the historic stations. Pole placement has been designed to minimize the visual impact to historic stations and all design changes are reviewed by the Environmental Compliance Lead to ensure the mitigation measure is being implemented as the design of the project progresses. |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **CUL-1e: Implement specific tree mitigation considerations at two potentially historic properties and landscape recordation, as necessary.** | X | X | | | Complete | It was determined that the project is not acquiring any ROW at either of the subject properties so all tree effects would be within the JPB ROW. Therefore, the APE does not include these two historic properties. This measure is no longer needed. |
| **CUL-1f: Implement historic bridge and underpass design requirements.** | X | | | | Ongoing | This measure is being implemented as described during the design process and will be incorporated into the final design. The four bridges that are included in the MMRP are rail bridges crossing over another feature. Design of the OCS system is taking into account that there are requirements that restrict the design. Thus far, the designs for Construction Segments 2 & 4 are in process and designs are not yet complete. The D-B will forward to the Architectural Historian once complete. |
| **CUL-2a: Conduct an archaeological resource survey and/or monitoring of the removal of pavement or other obstructions to determine if historical resources under CEQA or unique archaeological resources under PRC 21083.2 are present.** | X | | | | Ongoing | Periodic inspections of ground surface areas along the alignment, in conjunction with cultural monitoring as-needed of project activities in culturally sensitive areas are ongoing. The Archaeological Final Report will be provided at the conclusion of construction activities. |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **CUL-2b: Conduct exploratory trenching or coring of areas where subsurface project disturbance is planned in those areas with "high" or "very high" potential for buried site.** | X | | | | Ongoing | Exploratory trenching and subsurface testing of all potentially culturally sensitive areas occurred prior to the initiation of construction activities in those areas. The results will be included in the Archaeological Final Report. No cultural resources requiring the development of a treatment plan were observed. A Native American monitor has been present for all exploratory trenching and subsurface testing work. |
| **CUL-2c: Conduct limited subsurface testing before performing ground-disturbing work within 50 meters of a known archaeological site.** | X | | | | Ongoing | Exploratory trenching and subsurface testing of all potentially culturally sensitive areas occurred prior to the initiation of construction activities in those areas. The results will be included in the Archaeological Final Report. No cultural resources requiring the development of a treatment plan were observed. A Native American monitor has been present for all exploratory trenching and subsurface testing work. |
| **CUL-2d: Conduct exploratory trenching or coring of areas within the three zones of special sensitivity where subsurface project disturbance is planned.** | X | | | | Ongoing | Exploratory trenching and subsurface testing of all potentially culturally sensitive areas occurred prior to the initiation of construction activities in those areas. The results will be included in the Archaeological Final Report. No cultural resources requiring the development of a treatment plan were observed. A Native American monitor has been present for all exploratory trenching and subsurface testing work. |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **CUL-2e: Stop work if cultural resources are encountered during ground-disturbing activities.** | **X** | **X** | | | Ongoing | No prehistoric or historic-period cultural materials have been observed during cultural monitoring. |
| **CUL-2f: Conduct archaeological monitoring of ground-disturbing activities in areas as determined by JPB and SHPO.** | | **X** | | | Ongoing | Cultural monitoring as-needed of project activities in culturally sensitive areas is ongoing. The Archaeological Final Report will be provided at the conclusion of construction activities. |
| **CUL-3: Comply with state and county procedures for the treatment of human remains discoveries.** | | **X** | | | Ongoing | No human remains have been observed to date on the Project. |
| **EMF-2: Minimize EMI effects during final design, Monitor EMI effects during testing, commission and operations, and Remediate Substantial Disruption of Sensitive Electrical Equipment.** | **X** | **X** | **X** | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. Designs are submitted and reviewed/commented on by JPB. Monitoring EMI effects will occur post construction. |
| **GEO-1: Perform a site-specific geotechnical study for traction power facilities.** | **X** | | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. Geotechnical studies are being conducted by Parikh under subcontract with PGH Wong. Studies and results are submitted to |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| | | | | | | JPB as completed. |
| **GEO-4a: Identification of expansive soils.** | **X** | | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design by the D-B as described. Geotechnical studies are being conducted by Parikh under subcontract with PGH Wong. Studies and results are submitted to JPB as completed. |
| **GEO-4b: Mitigation of expansive soils.** | **X** | | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design by the D-B as described. Geotechnical studies are being conducted by Parikh under subcontract with PGH Wong. Studies and results are submitted to JPB as completed. |
| **HAZ-2a: Conduct a Phase II Environmental Site Assessment prior to construction.** | **X** | | | | Complete | A Phase II Environmental Assessment was completed prior to construction by the JPB consultant, and the results were provided to BBI, and the required mitigation is being implemented prior to the initiation of construction activities. |
| **HAZ-2b: Implement engineering controls and best management practices during construction.** | **X** | **X** | | | Ongoing | D-B field activities are being monitored daily for significant color changes or odors which may indicate contamination. |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **HYD-1: Implement construction dewatering treatment, if necessary.** | X | X | | | Ongoing | Facilities & BMPs are in place to deal with this requirement should it arise in the OCS foundations. |
| **HYD-4: Minimize floodplain impacts by minimizing new impervious areas for TPFs or relocating these facilities.** | X | | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. The TPFs in Construction Segments 2 & 4 are currently in final design and design for TPFs in Construction Segments 1 & 3 has begun. The design minimizes hardscape only to required structure foundations; yard areas are to receive a pervious material. |
| **HYD-5: Provide for electrical safety at TPFs subject to periodic or potential flooding.** | X | | | X | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. The TPFs in Construction Segments 2 & 4 are currently in final design and design for TPFs in Construction Segments 1 & 3 has begun. The design plan currently raises the TPFs above the floodplain. |
| **HYD-7: Implement sea level rise vulnerability assessment and adaptation plan.** | | | | X | Ongoing | The JPB has initiated this measure and preparation of the sea level rise vulnerability assessment and adaptation plan is underway. |
| **NOI-1a: Implement Construction Noise Control Plan.** | X | X | | | Ongoing | The Noise and Vibration Control Plan has been submitted and is being implemented. Field activity is monitored per the Plan. If allowable noise levels are near or exceed allowable noise levels, mitigation such as blankets are used from that point forward. |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **NOI-1b: Conduct site-specific acoustical analysis of ancillary facilities based on the final mechanical equipment and site design and implement noise control treatments where required.** | X | | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. PGH Wong has completed analysis and design and issued for JPB review. |
| **NOI-2a: Implement Construction Vibration Control Plan.** | X | X | | | Ongoing | The Noise and Vibration Control Plan has been submitted and is being implemented. Field activity is monitored per the Plan. |
| **PSU-8a: Provide continuous coordination with all utility providers.** | X | X | | | Ongoing | The design requirements indicated in the measure will be implemented through the final design as described. Coordination with utility providers is ongoing and there have not been any service interruptions thus far. |
| **PSU-8b: Adjust OCS pole foundation locations.** | X | | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. |
| **PSU-8c: Schedule and notify users about potential service interruptions.** | X | X | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. There have not been any service interruptions thus far. |
| **PSU-9: Require application of relevant construction mitigation measures to utility relocation and transmission line construction by others.** | X | X | | | Ongoing | JPB has initiated coordination with PG&E regarding transmission line construction. PG&E is currently raising overcrossing lines in Segment 2. |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **TRA-1a: Implement Construction Road Traffic Control Plan.** | **X** | **X** | | | Ongoing | The D-B has begun traffic control design and permit applications with the City of Millbrae, Burlingame and San Mateo. Other communities will follow. Designs have been completed for all cross-over bridges in Segments 2 & 4 and submitted. |
| **TRA-1c: Implement signal optimization and roadway geometry improvements at impacted intersections for the 2020 Project Condition.** | **X** | **X** | | | Upcoming | This measure has not started |
| **TRA-2a: Implement construction railway disruption control plan.** | **X** | **X** | | | Ongoing | Minimization of railway disruption is being coordinated by the Site Specific Work Plan. A Construction Railway Disruption Control Plan was prepared to document the measures that are being implemented. |
| **TRA-3b: In cooperation with the City and County of San Francisco, implement surface pedestrian facility improvements to address the Proposed Project's additional pedestrian movements at and immediately adjacent to the San Francisco 4th and King Station.** | **X** | **X** | **X** | | Upcoming | This measure has not started. |
| **TRA-4b: Continue to improve bicycle facilities at Caltrain stations and partner with bike share programs where available** | | | | **X** | Ongoing | The JPB adopted the Caltrain Bicycle Parking Management Plan in November 2017, and staff have been working to implement the Plan's recommendations to improve |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **following guidance in Caltrain's Bicycle Access and Parking Plan.** | | | | | | wayside bike parking facilities along the corridor. Staff have also been coordinating with local jurisdictions that have launched bikeshare pilot programs to safely site bicycles near Caltrain stations. |
| **NOI-CUMUL-1: Implement a phased program to reduce cumulative train noise along the Caltrain corridor as necessary to address future cumulative noise increases over FTA thresholds** | | | | **X** | Upcoming | This measure will be implemented during project operation. |
| **NOI-CUMUL-2: Conduct project-level vibration analysis for Blended System operations and implement vibration reduction measures as necessary and appropriate for the Caltrain corridor** | | | | **X** | In Progress | CHSRA is conducting this analysis as part of the EIR/EIS for the San Francisco to San Jose section. |
| **TRA-CUMUL-1: Implement a phased program to provide traffic improvements to reduce traffic delays near at-grade crossings and Caltrain stations** | | | | **X** | Upcoming | This measure will be implemented during project operation. |
| **TRA-CUMUL-2: Implement technical solution to allow electric trolley bus transit across 16th Street without OCS conflicts in cooperation with SFMTA.** | **X** | | | | Complete | Not applicable. SFMTA has elected to not electrify the 16th Street crossing. This measure no longer applies. |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **Mitigation Measure TRA-CUMUL-3: As warranted, Caltrain and freight operators will partner to provide Plate H clearance as feasible between San Jose and Bayshore.** | | | | X | Upcoming | This measure will be implemented during project operation. |
| **AES-2a: Minimize OCS construction activity on residential and park areas outside the Caltrain ROW.** | X | X | | | Ongoing | The OCS proposed construction schedule has been provided to the JPB. OCS construction began the week of October 2, 2017. The D-B has used the potholing process to assist in locating conflicts in the 35% design and attempting to relocate OCS pole locations within the ROW, thereby avoiding parks and residential areas. |
| **AES-2b: Aesthetic treatments for OCS poles, TPFs in sensitive visual locations, and Overbridge Protection Barriers.** | X | | | | Ongoing | The design requirements indicated in the measure have been implemented as described, and coordination with the specific jurisdictions regarding pole colors and design, TPFs, and Overbridge Protection Barriers, is ongoing. |
| **AES-4a: Minimize spillover light during nighttime construction.** | | X | | | Ongoing | OCS construction began the week of October 2, 2017. The BBI community relations lead has notified nearby residents of upcoming construction. During construction, lighting is faced inward, towards the railroad tracks, and any complaints will be documented and addressed by the BBI community relations lead. |
| **AES-4b: Minimize light spillover at TPFs.** | X | | | | Upcoming | The design requirements indicated in the measure are being used in the design process of the TPFs. |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **AQ-2a: Implement BAAQMD basic and additional construction mitigation measures to reduce construction-related dust.** | X | X | | | Ongoing | The Dust Mitigation Plan was submitted to the JPB. The requirements in the Dust Mitigation Plan will be implemented throughout the construction period and documented in daily reports. |
| **AQ-2b: Implement BAAQMD basic and additional construction mitigation measures to control construction-related ROG and NOX emissions.** | X | X | | | Ongoing | The Equipment Emissions Control Plan was submitted to the JPB. The requirements in the Equipment Emissions Control Plan will be implemented throughout the construction period and documented in daily reports. |
| **AQ-2c: Utilize clean diesel-powered equipment during construction to control construction-related ROG and NOX emissions.** | X | X | | | Ongoing | The Equipment Emissions Control Plan was submitted to the JPB. The requirements in the Equipment Emissions Control Plan will be implemented throughout the construction period and documented in daily reports. |
| **BIO-1a: Implement general biological impact avoidance measures.** | X | X | | | Ongoing | Worker Environmental Awareness Training is provided to all project-related personnel before they work on the project. All measures as described will be implemented throughout the construction period and documented in daily reports. |
| **BIO-1b: Implement special-status plant species avoidance and revegetation measures.** | X | X | X | | Complete | Not applicable. Subsequent habitat assessment and avoidance of Communication Hill eliminated any potential to affect special-status plant species. The measure is not needed. |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **BIO-1c: Implement California red-legged frog and San Francisco garter snake avoidance measures.** | X | X | | | Ongoing | Pre-construction surveys are occurring no more than 7 days prior to the initiation of construction activities nearby/adjacent to potential habitat for CRLF and SFGS. The Wildlife Exclusion Fencing Plan for Segments 2 and 4 was submitted and approved by the wildlife agencies, and installation and monitoring of wildlife exclusion fencing is ongoing. No CRLF / SFGS or sign of each species has been observed to date on the Project. A separate Wildlife Exclusion Fencing Plan will be submitted for Segments 1 and 3, prior to initiation of construction activities in those segments. |
| **BIO-1d: Implement western pond turtle avoidance measures.** | X | X | | | Ongoing | Pre-construction surveys are occurring no more than 7 days prior to the initiation of construction activities nearby/adjacent to potential habitat for WPT. No WPT or WPT sign have been observed to date on the Project. |
| **BIO-1e: Implement Townsend's big-eared bat, pallid bat, hoary bat, and fringed myotis avoidance measures.** | X | X | | | Ongoing | Pre-construction surveys are occurring no more than 7 days prior to the initiation of construction activities with the potential to disturb bats or their habitat. No special-status bats or sign have been observed to date on the Project. |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **BIO-1f: Implement western burrowing owl avoidance measures.** | X | X | | | Ongoing | Protocol surveys for Western Burrowing Owl were conducted from April 2017 through July 2017 at previously identified potentially suitable habitat locations. Note that all of these locations are in Construction Segment 4 (southern Santa Clara and San Jose). No Burrowing Owls were observed during the surveys. Construction in Segment 4 is anticipated to occur in 2018. Prior to construction activities in Segment 4, pre-construction surveys of the potential habitat areas will occur no more than 7 days prior to the onset of construction activities. In addition, protocol surveys were initiated in March 2018, and were completed in June 2018, at the previously identified potentially suitable habitat locations, which will allow work to occur during the 2019 breeding season, if necessary. No Burrowing Owls were observed during the 2018 surveys. |
| **BIO-1g: Implement northern harrier, white-tailed kite, American peregrine falcon, saltmarsh common yellowthroat, purple martin, and other nesting bird avoidance measures.** | X | X | | | Ongoing | Nesting Bird surveys were conducted from February 1 through September 15, 2017 prior to project-related activities with the potential to impact nesting birds. No active nests were observed during this reporting period. Nesting Bird surveys were initiated on February 1, 2018 and continued throughout the reporting period. Active nests were observed during this reporting period, and no-disturbance buffers were implemented to avoid any impacts to active nests, and all project activities which occurred nearby active nests were monitored by agency-approved |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| | | | | | | biological monitors. |
| **BIO-1h: Conduct biological resource survey of future contractor-determined staging areas.** | **X** | **X** | | | Ongoing | The agency-approved Qualified Biologist has conducted surveys of the staging areas currently being used for construction activities. No special-status species or other potentially sensitive biological resources were observed. The agency-approved Qualified Biologist will continue to survey ahead of the initiation of activities at planned staging areas as the Project moves into new construction areas. |
| **BIO-1i: Minimize impacts on Monarch butterfly overwintering sites.** | **X** | **X** | | | Ongoing | The agency-approved Qualified Biologist has periodically monitored the project limits to evaluate the presence of Monarch butterfly overwintering sites. No Monarch butterfly overwintering sites have been observed on the Project to date. |
| **BIO-1j: Avoid nesting birds and bats during vegetation maintenance.** | | | | **X** | Upcoming | To be completed during Project operation. |
| **BIO-2: Implement serpentine bunchgrass avoidance and revegetation measures.** | **X** | **X** | **X** | | Complete | Not applicable. Subsequent habitat assessment and avoidance of Communication Hill eliminated any potential to affect serpentine bunchgrass. This measure is no longer needed. |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **BIO-3: Avoid or compensate for impacts on wetlands and waters.** | **X** | **X** | **X** | | Complete | The JPB has compensated for unavoidable wetland impacts by purchasing adequate credits from a wetlands mitigation bank approved by USACE and SFRWQCB. |
| **BIO-5: Implement Tree Avoidance, Minimization, and Replacement Plan.** | **X** | **X** | **X** | | Ongoing | Tree removal and pruning activities were initiated in August 2017, and are ongoing, under the guidance of the BBI Arborist, and in accordance with the Tree Avoidance, Minimization, and Replacement Plan. Tree Removal and Pruning status is provided to the JPB on a weekly basis. |
| **BIO-6: Pay *Santa Clara Valley Habitat Plan* land cover fee (if necessary).** | **X** | | | | Complete | Not applicable. The SCVHP does not apply to the Project because TPS2, Option 1 was not selected and OCS does not extend to Communication Hill. This measure is not needed. |
| **CUL-1a: Evaluate and minimize impacts on structural integrity of historic tunnels.** | **X** | | | | Upcoming | To be implemented prior to construction in tunnels. |
| **CUL-1b: Minimize impacts on historic decorative tunnel material.** | **X** | | | | Upcoming | To be implemented prior to construction in tunnels. |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **CUL-1c: Install project facilities in a way that minimizes impacts on historic tunnel interiors.** | X | | | | Upcoming | To be implemented prior to construction in tunnels. |
| **CUL-1d: Implement design commitments at historic railroad stations** | X | | | | Complete | The Qualified Architectural Historian completed and submitted the HABS Level III documents to the JPB for all seven of the historic stations. Pole placement has been designed to minimize the visual impact to historic stations and all design changes are reviewed by the Environmental Compliance Lead to ensure the mitigation measure is being implemented as the design of the project progresses. |
| **CUL-1e: Implement specific tree mitigation considerations at two potentially historic properties and landscape recordation, as necessary.** | X | X | | | Complete | It was determined that the project is not acquiring any ROW at either of the subject properties so all tree effects would be within the JPB ROW. Therefore, the APE does not include these two historic properties. This measure is no longer needed. |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **CUL-1f: Implement historic bridge and underpass design requirements.** | X | | | | Ongoing | This measure is being implemented as described during the design process and will be incorporated into the final design. The four bridges that are included in the MMRP are rail bridges crossing over another feature. Design of the OCS system is taking into account that there are requirements that restrict the design. Thus far, the designs for Construction Segments 2 & 4 are in process and designs are not yet complete. The D-B will forward to the Architectural Historian once complete. |
| **CUL-2a: Conduct an archaeological resource survey and/or monitoring of the removal of pavement or other obstructions to determine if historical resources under CEQA or unique archaeological resources under PRC 21083.2 are present.** | X | | | | Ongoing | Periodic inspections of ground surface areas along the alignment, in conjunction with cultural monitoring as-needed of project activities in culturally sensitive areas are ongoing. The Archaeological Final Report will be provided at the conclusion of construction activities. |
| **CUL-2b: Conduct exploratory trenching or coring of areas where subsurface project disturbance is planned in those areas with "high" or "very high" potential for buried site.** | X | | | | Ongoing | Exploratory trenching and subsurface testing of all potentially culturally sensitive areas occurred prior to the initiation of construction activities in those areas. The results will be included in the Archaeological Final Report. No cultural resources requiring the development of a treatment plan were observed. A Native American monitor has been present for all exploratory trenching and subsurface testing work. |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **CUL-2c: Conduct limited subsurface testing before performing ground-disturbing work within 50 meters of a known archaeological site.** | X | | | | Ongoing | Exploratory trenching and subsurface testing of all potentially culturally sensitive areas occurred prior to the initiation of construction activities in those areas. The results will be included in the Archaeological Final Report. No cultural resources requiring the development of a treatment plan were observed. A Native American monitor has been present for all exploratory trenching and subsurface testing work. |
| **CUL-2d: Conduct exploratory trenching or coring of areas within the three zones of special sensitivity where subsurface project disturbance is planned.** | X | | | | Ongoing | Exploratory trenching and subsurface testing of all potentially culturally sensitive areas occurred prior to the initiation of construction activities in those areas. The results will be included in the Archaeological Final Report. No cultural resources requiring the development of a treatment plan were observed. A Native American monitor has been present for all exploratory trenching and subsurface testing work. |
| **CUL-2e: Stop work if cultural resources are encountered during ground-disturbing activities.** | X | X | | | Ongoing | No prehistoric or historic-period cultural materials have been observed during cultural monitoring. |
| **CUL-2f: Conduct archaeological monitoring of ground-disturbing activities in areas as determined by JPB and SHPO.** | | X | | | Ongoing | Cultural monitoring as-needed of project activities in culturally sensitive areas is ongoing. The Archaeological Final Report will be provided at the conclusion of construction activities. |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **CUL-3: Comply with state and county procedures for the treatment of human remains discoveries.** | | X | | | Ongoing | No human remains have been observed to date on the Project. |
| **EMF-2: Minimize EMI effects during final design, Monitor EMI effects during testing, commission and operations, and Remediate Substantial Disruption of Sensitive Electrical Equipment.** | X | X | X | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. Designs are submitted and reviewed/commented on by JPB. Monitoring EMI effects will occur post construction. |
| **GEO-1: Perform a site-specific geotechnical study for traction power facilities.** | X | | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. Geotechnical studies and results are submitted to JPB as completed. |
| **GEO-4a: Identification of expansive soils.** | X | | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. Geotechnical studies and results are submitted to JPB as completed. |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **GEO-4b: Mitigation of expansive soils.** | X | | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. Geotechnical studies and results are submitted to JPB as completed. |
| **HAZ-2a: Conduct a Phase II Environmental Site Assessment prior to construction.** | X | | | | Complete | A Phase II Environmental Assessment was completed prior to construction by the JPB consultant, and the results were provided to BBI, and the required mitigation is being implemented prior to the initiation of construction activities. |
| **HAZ-2b: Implement engineering controls and best management practices during construction.** | X | X | | | Ongoing | Field activities are being monitored daily for significant color changes or odors which may indicate contamination. In addition, an assessment of two existing subsurface pipes by a certified Asbestos Consultant occurred during this reporting period, and a specification describing the methods for removal and disposal is currently in progress. |
| **HYD-1: Implement construction dewatering treatment, if necessary.** | X | X | | | Ongoing | Facilities & BMPs are in place to deal with this requirement should it arise in the OCS foundations. |
| **HYD-4: Minimize floodplain impacts by minimizing new impervious areas for TPFs or relocating these facilities.** | X | | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. The TPFs in Construction Segments 2 & 4 are currently in final design and design for TPFs in Construction Segments 1 & 3 has begun. The design minimizes |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| | | | | | | hardscape only to required structure foundations; yard areas are to receive a pervious material. |
| **HYD-5: Provide for electrical safety at TPFs subject to periodic or potential flooding.** | X | | | X | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. The TPFs in Construction Segments 2 & 4 are currently in final design and design for TPFs in Construction Segments 1 & 3 has begun. The design plan currently raises the TPFs above the floodplain. |
| **HYD-7: Implement sea level rise vulnerability assessment and adaptation plan.** | | | | X | Ongoing | The JPB has initiated this measure and preparation of the sea level rise vulnerability assessment and adaptation plan is underway. |
| **NOI-1a: Implement Construction Noise Control Plan.** | X | X | | | Ongoing | The Noise and Vibration Control Plan has been submitted and is being implemented. Field activity is monitored per the Plan. If allowable noise levels are near or exceed allowable noise levels, mitigation such as blankets are used from that point forward. |
| **NOI-1b: Conduct site-specific acoustical analysis of ancillary facilities based on the final mechanical equipment and site design and implement noise control treatments where required.** | X | | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. Design is still in process and a noise study is currently being performed. |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **NOI-2a: Implement Construction Vibration Control Plan.** | X | X | | | Ongoing | The Noise and Vibration Control Plan has been submitted and is being implemented. Field activity is monitored per the Plan. |
| **PSU-8a: Provide continuous coordination with all utility providers.** | X | X | | | Ongoing | The design requirements indicated in the measure will be implemented through the final design as described. Coordination with utility providers is ongoing and there have not been any service interruptions thus far. |
| **PSU-8b: Adjust OCS pole foundation locations.** | X | | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. |
| **PSU-8c: Schedule and notify users about potential service interruptions.** | X | X | | | Ongoing | The design requirements indicated in the measure are being implemented through the final design as described. There have not been any service interruptions thus far. |
| **PSU-9: Require application of relevant construction mitigation measures to utility relocation and transmission line construction by others.** | X | X | | | Ongoing | JPB has initiated coordination with PG&E regarding transmission line construction. PG&E is currently raising overcrossing lines in Segment 2. |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **TRA-1a: Implement Construction Road Traffic Control Plan.** | X | X | | | Ongoing | The D-B has begun traffic control design and permit applications with cities in Segments 2 and 4. Designs have been completed and approved for all cross-over bridges in Segments 2 and 4. |
| **TRA-1c: Implement signal optimization and roadway geometry improvements at impacted intersections for the 2020 Project Condition.** | X | X | | | Upcoming | This measure has not started |
| **TRA-2a: Implement construction railway disruption control plan.** | X | X | | | Ongoing | Minimization of railway disruption is being coordinated by the Site Specific Work Plan. A Construction Railway Disruption Control Plan was prepared to document the measures that are being implemented. |
| **TRA-3b: In cooperation with the City and County of San Francisco, implement surface pedestrian facility improvements to address the Proposed Project's additional pedestrian movements at and immediately adjacent to the San Francisco 4th and King Station.** | X | X | X | | Upcoming | This measure has not started. |
| **TRA-4b: Continue to improve bicycle facilities at Caltrain stations and partner with bike share programs where available** | | | | X | Ongoing | The JPB adopted the Caltrain Bicycle Parking Management Plan in November 2017, and staff have been working to implement the Plan's recommendations to improve |

**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **following guidance in Caltrain's Bicycle Access and Parking Plan.** | | | | | | wayside bike parking facilities along the corridor. Staff have also been coordinating with local jurisdictions that have launched bikeshare pilot programs to safely site bicycles near Caltrain stations. |
| **NOI-CUMUL-1: Implement a phased program to reduce cumulative train noise along the Caltrain corridor as necessary to address future cumulative noise increases over FTA thresholds** | | | | **X** | Upcoming | This measure will be implemented during project operation. |
| **NOI-CUMUL-2: Conduct project-level vibration analysis for Blended System operations and implement vibration reduction measures as necessary and appropriate for the Caltrain corridor** | | | | **X** | In Progress | CHSRA is conducting this analysis as part of the EIR/EIS for the San Francisco to San Jose section. |
| **TRA-CUMUL-1: Implement a phased program to provide traffic improvements to reduce traffic delays near at-grade crossings and Caltrain stations** | | | | **X** | Upcoming | This measure will be implemented during project operation. |
| **TRA-CUMUL-2: Implement technical solution to allow electric trolley bus transit across 16th Street without OCS conflicts in cooperation with SFMTA.** | **X** | | | | Complete | Not applicable. SFMTA has elected to not electrify the 16th Street crossing. This measure no longer applies. |





**Mitigation Monitoring and Reporting**

| Mitigation Measure | Mitigation Timing | | | | Status | Status Notes |
|---|---|---|---|---|---|---|
| | Pre-Construction | Construction | Post-Construction | Operation | | |
| **Mitigation Measure TRA-CUMUL-3: As warranted, Caltrain and freight operators will partner to provide Plate H clearance as feasible between San Jose and Bayshore.** | | | | **X** | Upcoming | This measure will be implemented during project operation. |

**AGENDA ITEM# 6 (b)**
**February 6, 2020**

**PENINSULA CORRIDOR JOINT POWERS BOARD**
**STAFF REPORT**

TO: Joint Powers Board

THROUGH: Jim Hartnett
Executive Director

FROM: Michelle Bouchard
Chief Operating Officer, Rail

SUBJECT: **CALTRAIN POSITIVE TRAIN CONTROL PROJECT UPDATE – January 2020**

## ACTION

Staff Coordinating Council recommends that the Board receive the Positive Train Control (PTC) report for January 2020.

## SIGNIFICANCE

Staff will provide monthly updates covering PTC related activities during the previous month and provide a preview of activities anticipated to take place during the current month.

## BUDGET IMPACT

There is no budget impact.

## MONTHLY UPDATE

### 1. Project Schedule - Major Milestones for Caltrain PTC Implementation:

| Key Project Activity | Expected Completion | Progress as of 01/25/20 | Progress On Track? | Mitigation Required or Approvals Needed |
|---|---|---|---|---|
| Approval of Designated Revenue Service Demonstration (RSD) Test Request | May 31st | Completed | Completed | Formal conditional approval received on September 10. Team incorporating FRA conditions in test plan to ensure compliance to approval. |
| Approval of revised project PTC Implementation Plan (PTCIP) and Request for Amendment (RFA) | May 31st | Completed | Completed | Formal approval received on May 16, 2019 for PTCIP and RFA Rev. 10. |
| Pilot Installations (4) Completed | June 20th | Completed | Completed | All pilots completed |
| Submit Designated RSD Application | Oct 15th | Completed | Completed | RSD Application submitted and in review by FRA. |
| Submit Full Track RSD Application | June 7th | Completed | Completed | Formal RSD request for full track was submitted to the FRA on June 14, 2019 |
| Complete Critical Feature Verification & Validation (V&V) for Designated Track RSD | Oct 30th | Completed | Completed | |
| Complete Designated RSD Training | Nov 14th | Completed | Completed | Training for designated RSD personnel completed |
| Complete Required Vehicle Installations | Dec 3rd | Completed | Completed | (44) Installs required for RSD completed, punch list items being addressed by Wabtec. |
| Meet FRA Statutory Requirements and Substitute Criteria | Dec 31 | Completed | Completed | Met FRA December 31, 2018 deadline |
| Obtain Alternative Schedule approval from FRA | Mar 15th 2019 | Completed | Completed | Received FRA's approval on February 6, 2019. |
| Completion of Remaining Vehicle Installation (all 67 units) | April 30, 2019 | Completed (64 Units ) | Completed (64 Units ) | Except two F40PH 3Cs Rehab vehicles that are going through overhaul and one wrecked vehicle. |
| Full RSD - Complete Remaining Critical Feature V&V | Jan 2019 | Completed | Completed | |
| Full RSD – Complete Wayside Interface Unit (WIU) V&V | March 15, 2019 | Completed | Completed | Completed on March 15, 2019 |

| Key Project Activity | Expected Completion | Progress as of 01/25/20 | Progress On Track? | Mitigation Required or Approvals Needed |
|---|---|---|---|---|
| Full RSD – Complete Lab Integrated End to End Testing (LIEE) | June 30, 2019 | Completed | Completed | LIEE Cycle 3 was completed ahead of schedule on June 12, 2019 |
| Full RSD – Complete Field Integrated Testing (FIT) | August 2019 | Completed | Completed | Full track FIT has completed on June 30, 2019 |
| Full RSD – Complete Field Qualification Testing (FQT) | September 2019 | Completed | Completed | Full track FQT has completed on July 14, 2019 |
| *Commence Full RSD – Caltrain ROW | October 2019 | Completed | Completed | Caltrain has successfully entered RSD on September 07, 2019. |
| Complete Lab Integrated End to End Testing for Interoperability with UPRR (LIEE-I) | October 2019 | Completed | Completed | LIEE-I with UPRR was completed on October 15. |
| *Complete Interoperability Testing with UPRR - Both ROW | December 2019 | Completed | Completed | Interoperable Test with UPRR on both territories were completed on Nov 5th, 2019 |
| *Complete Interoperability Testing with Tenant Railroads - ACE | April 30 2020 | Completed | Completed | Interoperable Test with ACE was completed on Nov 17, 2019. |
| *Complete Interoperability Testing with Tenant Railroads - AMTRAK | April 30 2020 | Plan | Yes | Scheduled Interoperable field testing is planned on Feb 7/8/9 |
| Achieve Interoperability with UPRR | Dec 31, 2019 | Completed | Completed | Accomplished on December 9, 2019 |
| Achieve Interoperability with other Tenants | April 30, 2020 | Plan | Ahead of Schedule | Accomplished Interoperable with ACE on December 9, 2019. |
| Submit Caltrain PTC Safety Plan to the FRA | June 01, 2020 | Plan | Yes | |
| Complete Caltrain PTC Implementation | December 2020 | Plan | Yes | |

***Key project milestones for 2019/2020 have incentive payments as part of a contract negotiation concluded on May 7, 2020.***

## 1. Major Wabtec activities for January 2020:

- Caltrain commenced Revenue Service Demonstration (RSD) on September 7, 2019. Caltrain commenced Interoperable Operations with UPRR and ACE on December 7, 2019.
- Continued to provide technical support for RSD trouble shooting and addressed defect items with support from WABTEC PTC help-desk.
- ITCM Test Federation has been achieved with railroads via 4-Tunnel configuration. Team is continuing 8-Tunnel configuration effort to achieve Federation with Amtrak and the remaining railroads for PTC Interoperability Implementation.
- Performed network core switches installation and configuration test effort at CCF/BCCF.
- Continued BCCF/CCF Cutover planning effort and finalization of cutover plan and procedure.
- Completed Lab Regression Testing for on-board software 17.4.1/17.4.2.
- Completed field regression testing planning effort for the 9023 subdiv file.
- Completed fiber redundancy path cutover test.
- Competed Relay Gap Analysis.
- Completed RSD commencement acceptance close out effort.
- Continue PTC Virtualization Design effort with Caltrain team.
- Completed LIEE-I with Amtrak successfully.
- Completed subdiv 9023 field validation effort.

## 2. Vehicle Installation:

Wabtec completed installation of (44) I-ETMS modules on the Caltrain locomotives and cab cars as required in Caltrain's Implementation Plan and statutory criteria requirements in early November of 2018. Wabtec has completed installations on the remaining Caltrain fleet (23 additional locomotives and cab cars) on April 8, 2019. This excludes three

locomotives that are off property for overhaul, or have just recently completed overhaul, and one damaged cab car. Project resumed two of three previously off-property equipment this month. Table below provides the overall status of 67-vehicle installation as of January 25, 2020.

| I-ETMS On-Board Installation Progress (As of 1/25/20) | | | |
|---|---|---|---|
| **Equipment** | **Completed** | **In Progress** | **Pending** |
| F40 | 21 | 1 | 1 |
| MP36 | 6 | 0 | 0 |
| Bombardier Cab | 9 | 0 | 0 |
| NS Gallery Cab | 26 | 0 | 1 |
| MP1500 | 2 | 0 | 0 |
| **Total** | **64** | **1** | **2** |
| **%** | **96%** | **1%** | **3%** |

### 3. Other Key Activities for January of 2020:

This section reports on PTC project general progress and issues being performed and tracked in addition to the Wabtec contract during the current reporting month.

- Caltrain has received approval from the FRA to enter extended Revenue Service Demonstration (RSD) on January 7, 2020 after initial RSD commenced on September 7, 2019. Caltrain is currently running all revenue trains with PTC.
- Herzog Technology Incorporated (HTI) Data collection team and PTC project team are producing PTC daily, weekly and monthly reporting to the FRA per the RSD conditional approval requirements.
- PTC helpdesk continues to support PTC operation since commencement of RSD with support from Tier 1 and Tier 2 support staff for PTC Operations. Post RSD weekly meetings and defect-tracking meetings are held to continue monitoring PTC system roll out and address any critical anomalies and defects by system engineering (Tier 2) and WABTEC/ARINC as needed. TASI started providing 24/7 helpdesk coverage in mid-January 2020.
- Caltrain commenced Interoperable Operations with UPRR and ACE on December 9, 2019.
- UPRR, Caltrain and ACE are meeting on the weekly basis to address any technical and operational issues related to PTC interoperable operations.
- Continued coordination with Amtrak on LIEE-1 and Field Interoperability Testing that is scheduled in February 2020.
- Continued managing ARINC under newly established long-term maintenance and support service agreement for Rail Operations Control System (ROCS), Passenger Predictive Train Arrival/Departure System (PADS) and Voice Radio Dispatching System (RDS), the three major systems residing in the CCF and BCCF that support Rail Operations.
- Reviewed Work Directive Proposals from ARINC for BCCF/CCF Cutover effort.
- The PTC project continues its coordination efforts with the Electrification and EMU programs via regularly scheduled status meetings. Ad hoc meetings to discuss topics requiring in-depth or immediate decisions are held as needed. Data sharing of fiber audit results and testing schedules (sharing of track and time) is ongoing to ensure both teams coordinate needs.
- Caltrain Configuration Control Board (CCB) continued review and approval of configuration changes that impact Rail Operations systems and infrastructure by following Caltrain Configuration Management Plan and Process. Staff has recommended Talon as the CM tool.

- **o** Caltrain Systems team actively involved in PTC Interoperable Change Management process through Interoperable Change Approval Board (ICAB) chaired by AAR.

**4. Change Order Log:**

The additional scope items negotiated with Wabtec totaling $1.42 M are needed to support the new milestone schedule approved by FRA in December. They relate to interoperability and the communications system. The funds for this scope were taken from potential change budget as part of original board approved $89.41 project budget. This is the only change order for this contract. This change order was reviewed and approved by the Change Management Board in May. The contract amendment one (1) that reflects this change order is executed. There are no new change orders in January 2020.

**5. Risk Management**:

Caltrain and Wabtec have agreed to share the management of an identified list of risk items that were identified during the contract negotiations. The total cost allocated to these risks is $1.9M to be shared amongst both parties. Unrealized risks will result in cost savings to Caltrain.

To date no risks have been identified requiring use of the risk funds. Caltrain and Wabtec jointly review the shared risk register as the project progresses.

There are also risks to be monitored outside the Wabtec specific contract that the project team monitors and mitigates as necessary. The following table captures the top risks both external (outside the Wabtec contract) and internal (specific to the Wabtec contract):

| Risk Item | Type | Mitigation Action |
|---|---|---|
| FRA process changes | External | Maintain close and open relationship with key FRA contacts to ensure all submittals are done correctly and within required time frame to achieve approvals required to achieve full system certification. |
| Interoperability delays | External | Caltrain is working with UPRR and tenants to ensure agreed to interoperability schedule dates are maintained – Risks are mitigated, Interoperability with UPRR and ACE were achieved and Amtrak is scheduled in February 2020. |
| Track access delays | Internal | Ensure field test schedule is maintained by coordinating all fieldwork in combination with other capital project's needs, particularly the PCEP project. |
| Back Office Server (BOS) documentation scope creep | Internal | Ensure standard documentation supplied by Wabtec meets requirements of Caltrain specification criteria |
| Key Exchange Server Solution | Internal | Implementation of Caltrain Key Exchange Server timely to support Interoperability Testing with UPRR. KES production test was completed in October 2019. The Long-term communication MPLS solution will be implemented in early 2020. |
| Maintenance of existing Assets Data | Internal | Coordinated with Operations and TASI to ensure all assets transfer including all documentation were done and |

| Risk Item | Type | Mitigation Action |
|---|---|---|
| Communications, Wayside Infrastructure and on-board equipment | | handed off to Operations/TASI. PTC infrastructure are maintained by TASI and Project team continue to provide support as Tier 2/Tier 3 to ensure PTC is reliable for PTC Revenue Service Operations. |

**6. FRA Coordination Status:**

- Continued weekly calls with FRA review team
- Continued RSD daily, Weekly and Monthly Report to the Test Monitor
- Submitted field regression testing plan for new on-board software
- Plan to meet with FRA in February 2020 in Washington D.C.

**7. Caltrain Roadmap to Full RSD and Interoperability:**

- Caltrain has achieved Full Track commencement of Revenue Service Demonstration (RSD). Completing interoperability is the next big milestone in order to achieve overall system certification.
  1. Alternative Schedule was approved on February 6, 2019.
  2. Caltrain completed all field validation by the 1st quarter of 2019.
  3. Caltrain completed Laboratory Integrated Testing for full track in April of 2019.
  4. Caltrain submitted the full track RSD application in June 2019 and received conditional approval of RSD in July 2019.
  5. Caltrain completed Field Integrated Testing (FIT) and Field Qualification Testing (FQT) for full track and has commenced RSD on September 7, 2019.
  6. Caltrain completed training TASI personnel to support full track RSD and PTC operations.
  7. Caltrain continues to roll out PTC trains; all 92 trains per weekday are under PTC as of the end of 2019.
  8. Caltrain completed Interoperability Laboratory Testing with UPRR on August 12, 2019 for cycle one and subsequently cycle two on October 15, 2019.
  9. Caltrain has received Interoperability Test Request Conditional Approval from the FRA.
  10. Caltrain completed Interoperability Field Testing with UPRR on November 5 2019 and has achieved Interoperability with UPRR on December 9, 2019.
  11. Caltrain has completed Interoperability Testing with ACE and started PTC Operations on December 9, 2019. Caltrain will commence Interoperability Testing with Amtrak in February of 2020. Caltrain will achieve interoperability requirements with all tenants by April 2020.
  12. Caltrain will complete submission of the final PTC Safety Plan by June 2020 and receive full system certification by December 2020.

## 8. Cost – Spend vs Budget with Actuals and Accruals through December 2019

| | (A) | (B) | (C) | (D) | (E) | (F) = (C - E) | (G) = ( D / E) |
|---|---|---|---|---|---|---|---|
| Project Cost Analysis | Original Budget (US$MM) | Approved Changes (Contractor) (US$MM) | Project Current Budget (US$MM) | Expended and Accruals To-Date (US$MM) | Estimated at Completion (EAC) (US$MM) | Variance at Completion (US$MM) | % Expended of EAC |
| CBOSS PTC Project (Jan 2008 - Feb 2018) | $ 231.00 | | $ 239.88 | $ 202.26 | $ 202.26 | | |
| Caltain PTC Project (March 1, 2018 - June 30,2020): | | | | | | | |
| Integrator WABTEC Contract | $ 43.01 | $ 1.42 | $ 44.44 | $ 31.69 | $ 44.44 | $ - | 71.32% |
| Other Contractors | $ 6.00 | $ - | $ 6.00 | $ 1.74 | $ 6.00 | $ - | 29.02% |
| Potential Changes | $ 2.00 | $ (1.42) | $ 0.58 | | $ 0.58 | $ - | |
| Potential Incentive - WABTEC | $ 2.00 | $ - | $ 2.00 | $ 1.50 | $ 2.00 | $ - | 75.00% |
| Other Program Costs | $ 30.34 | $ - | $ 30.34 | $ 15.27 | $ 28.53 | $ 1.81 | 53.53% |
| Project Contingency | $ 6.06 | $ - | $ 6.06 | | $ 6.06 | $ - | |
| Total PTC Project | $ 89.41 | $ - | $ 89.41 | $ 50.20 | $ 87.60 | $ 1.81 | 57.31% |

Note:

1). Expended and Accruals To-Date is through December 31, 2019;

2). Integrator Wabtec Contract Value includes Shared Risk with Not to Exceed Total of $1.91MM;

3). Other Contractors amount includes ROCS Modification and potential fiber fixes;

4). Potential Changes amount is set for future project change orders as result of WABTEC assessment and survey for the communications and office subsystems;

5). Potential incentive amount reflects what is in the WABTEC conformed agreement;

6). Other Program Costs includes JPB project oversight costs, TASI support and Other Direct Cost for PTC project delivery;

7). Project contingency includes a) contingencies for WABTEC contract per Board Staff Report; b) JPB project team cost contingency;

8). CBOSS PTC project budget and actual cost are highlighted to reflect prior March 1st, 2018 CBOSS project financial data.

9). Negotiated additional scope items are included in WABTEC's contract amendment 1. There is no budget impact since project has budgeted adequate potential change for the amount of $2MM (note no. 4 above) for added scope items. Current Project budget for WABTEC contract is updated to reflect added scope items.

## 9. Upcoming Key Activities in February 2020:

- Continue ITCM 8 tunnel Test and production Federation with remaining railroads.
- Continue to support PTC RSD Roll out with Operations and TASI.
- Continue BCCF/CCF cutover planning effort.
- Continue Data Collection and PTC log analysis for PTC RSD daily and weekly reports to the FRA following RSD conditional approval requirements.
- Continue to provide Tier 2 PTC System Engineering support for tracking anomalies and addressing defect resolutions with Tier 3.
- Continue Interoperability Operational coordination with UPRR, ACE via weekly calls.
- Continue Interoperability coordination with Amtrak upcoming field test planning.
- Continue MP1500 locomotive Brake Testing effort that will conclude Brake Testing following newly issued PTC rules.
- Continue, PTC Virtualization and ATCS work.
- Perform CFV for new subdivision file.
- Perform field regression testing for new on-board software once Caltrain confirms which version is suitable for Caltrain.
- Perform KES long term MPLS circuit installation

Prepared By: Matt Scanlon, Deputy Director, Systems - 650.622.7819

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**CITIZENS ADVISORY COMMITTEE (CAC)**
**PENINSULA CORRIDOR JOINT POWERS BOARD (JPB)**
**SAN MATEO COUNTY TRANSIT DISTRICT ADMINISTRATIVE BUILDING**
Bacciocco Auditorium, 2nd Floor
1250 San Carlos Avenue, San Carlos CA 94070

**MINUTES OF JANUARY 15, 2020**

**MEMBERS PRESENT:** A. Brandt, A. Dagum, L. Klein, M. Romo, P. Leung, P. Flautt, R. Kutler, R. Valenciana (Vice Chair), B. Shaw (Chair)

**MEMBERS ABSENT:** None

**STAFF PRESENT:** C. Kwok, R. Bolon, J. Navarrete, J. Navarro

Chair Brian Shaw called the meeting to order at 5:47 p.m. and led the Pledge of Allegiance.

**REPORT OF NOMINATING COMMITTEE**
**ELECTION OF CHAIR AND VICE CHAIR OFFICERS**
Vice Chair R. Valenciana reported that the nominating committee nominated Chair B. Shaw and Member A. Brandt for Chair and Vice Chair, respectively. Both accepted the nominations.

Motion/Second: Valenciana / Klein
Ayes: Dagum, Romo, Leung, Flautt, Kutler
Absent: None

Chair B. Shaw was re-elected Chair
Member A. Brandt was elected Vice Chair

**APPROVAL OF MINUTES OF DECEMBER 18, 2019**
Motion/Second: Flautt / Klein
Ayes: Brandt, Dagum, Leung, Kutler, Romo, Valenciana, Shaw
Absent: None

**PUBLIC COMMENT**
Jeff Carter, Millbrae, stated that Millbrae City Council passed an ordinance, endorsing seamless Bay Area. This is about coordinating transit schedules and fares in the Bay Area. It is especially needed in Millbrae where there is Bart, Caltrain and Samtrans. He stated that connecting between Caltrain and Bart is difficult as the first train pulls in at 05:36 in the morning and Bart leaves at 05:34. He stated that the connection needs to be looked at to have better transit coordination. Jeff then stated that he supports

Caltrain looking into closing Atherton station. Lastly, he stated that residents oppose the set-out track because the perception is that it will be a maintenance yard however, the set-out track will be used to park maintenance equipment on occasion, or a broken down locomotive but will not occur 24/7, and will not destroy the neighborhood.

**CHAIRPERSON'S REPORT**

Chair Brian Shaw reported that the audio recordings from the CAC meetings are now available on the Caltrain website.

**COMMITTEE COMMENTS**

Member Rosalind Kutler requested staff to update the accessibility page on the website. She stated that there is an opportunity to showcase what staff is doing for people with disabilities with the new trains and platforms and highlight improvements as opposed to having it a static page. She also stated that people with disabilities include those with emotional and mental health issues and hopes that these considerations are part of the future planning with things like safety. In addition, she requested staff to ensure conductors have the training they need to interact with all persons with disabilities.

Member Larry Klein was happy to see some decisions being made as far as looking at adding housing at the different Caltrain stations and some of the decisions being made at the Board. He stated that adding housing at the stations makes a lot of sense as far as density and walkability from the location standpoint. He then stated that he was disappointed about Sunnyvale not being one of the possible cities included although Sunnyvale has been adding a lot of density of housing and office space downtown. The main reason because of the electrification equipment put in the middle of the Sunnyvale parking lot and has kept Sunnyvale from having housing at that location. Member Klein asked for staff to look at other issues, going forward, from a much longer vision, not what's most expedient from electrification with the use of parking lots and land that's owned by Caltrain.

Member Adrian Brandt stated that he had the opportunity to listen to the recording of last month's meeting and suggested the recordings be housed under the CAC section. He stated that he understands that there is an RFP out for website redesign, so that might be something that could be addressed once that successfully goes through the process. He then stated that he was also pleased to see that the Board Members suggested staff to look at air rights and building over the tracks and stations such as it is done in other places in the world. He then stated that in regards to last month's meeting, regarding the right of way cleanup topic, he has noticed a lot of old wires and old utility poles and suggested staff to look at that as part of the Right of Way clean up, over time. Member Brandt then commented on a recent press article about the Dumbarton Rail Corridor that reported a disappointingly low ranking from MTC. He stated that it appears that some of the Board Members remarked that there was not enough emphasis on the regional connections. He stated that the Dumbarton Corridor be rebuilt compatible with standard trains to allow trains coming in from the Central Valley, in the future, interline, where trains from outside the system slide into the system

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at Redwood City and take a train slot and provide direct service, one seat service, to places like Palo Alto or other major employment centers without having to transfer multiple times to go across the Dumbarton Corridor.

Member Anna Dagum stated that she is excited to see future housing and rail development near the Redwood City station as there has been a need for a long time.

Member Patrick Flautt asked for the agenda process and how the items to be scheduled are prioritized. Chair Shaw responded that there is a meeting every month with the chair, vice chair and staff to agendize two or three items to be presented at the following CAC meeting. He stated that some of them items are based upon approval processes that go to the Board, the budget and outreach items from the Government Affairs department. Other items are scheduled updates based upon information availability and rely on staff to report. Topics are put on the list of Items to be Agendized and staff determines whether there is sufficient information to present to the CAC. Member Flautt requested four previously mentioned proposed agenda items to be added to the list. He stated that the first item is the request for business cards for all CAC members, the second, official email addresses for all CAC members and hosted on a separate server, the third item, to obtain paid access to Caltrain for all CAC members. He stated that the advisory body of the citizens should be incentivized to ride the line. Lastly, he requested social media interlink to interface with the social media team at Caltrain to have visibility on the CAC decisions in a short video format. He requested a presentation from that body on what the possibilities are. He then requested an additional two items for considerations for future agenda items. Member Flautt requested, to, at least within a year's time, a full audit of ridership engagement on social media and the processes and procedures on how staff harvests that data and who is taking in what and where it is going. He suggested a suggestion box to collect data and have a pulse on people who ride our line. Lastly, he asked the committee whether they were interested in having a quarterly presentation from an outside party with interest in Caltrans ridership or policies, once a quarter and slot twenty to thirty minutes for someone to present to the CAC, in addition to his previous suggestion made at the December meeting of having the Caltrain Bicycle Advisory Committee report to the CAC. Chair Shaw stated that there could be a list in parallel to the items to be agendized list. Member Flautt then stated that South County and the City of Gilroy support the Rail Corridor Use Plan and suggested a discussion on the usage of this land even if it is in another jurisdiction. More affordable housing is needed.

**CALTRAIN MOBILE UPDATE**

Christiane Kwok, Manager, Fare Program Operations, presented the Caltrain Mobile Update.

The full Power Point presentation can be found on caltrain.com

Committee Comments:

Member Flautt asked for the parking enforcement process. Ms. Kwok responded that the data from the TVM has been merged with the data from the Mobile App and is

provided to Turbo Data, Caltrain's citation equipment vendor. The parking enforcement officer drives around and checks whether parking spaces are paid for through the Turbo Data device, the same citation machine that is used for fare evasion citations on the trains. The data is real time information and refreshes every five minutes.

Member Adrian Brandt asked what the codes KX represents and Ms. Kwok responded that those are security features.

Chair Shaw asked what is the proof of parking purchase beyond the data, do they receive an email? Ms. Kwok confirmed that the customer receives an email as proof of purchase.

Member Anna Dagum asked whether the customer can purchase a parking for a future date. Ms. Kwok responded that the customer may not, and the only exception is for Bay to Breakers.

Member Adrian Brandt asked to confirm that when a customer purchases a parking pass on the app, that it is good for 24 hours or just for that day. Ms. Kwok confirmed that the mobile parking tickets are good for 24 hours from the moment of purchase. Member Brandt then asked whether there is a way, on the app, to get your history of purchases. Ms. Kwok responded that there is a limit of how long the history is available, but yes the customer can pull from the app to view history. She will follow-up with the committee on the parameters at a later date. Member Brandt suggested staff to consider pay by license plate. Mr. Joe Navarro, Deputy Chief, Rail Operations, responded that staff will be considering that option.

Public Comments:
Jeff Carter, Millbrae, asked staff whether it would be possible, in the future, to have the monthly pass included in the mobile app. He then asked whether the raw numbers are available for the statistical graphs reflected in the Power Point.

**25TH AVENUE GRADE SEPARATION / (HILLSDALE) UPDATE**
Rafael Bolon, Project Manager, presented the 25th Avenue Grade Separation update presentation.

The full PowerPoint presentation can be found on caltrain.com

Mr. Joe Navarro, Deputy Chief, Rail Operations, asked Mr. Bolon to update the Committee on the recent meetings held with the City of San Mateo and the local residents about the parking/set-out track. Mr. Bolon advised that a lot of things had to be relocated to facilitate this project. The purpose and need for this project are safety improvements, east-west connectivity, enhanced pedestrian and bicycle pathways and a new station number. But as part of that, there were things that had to be moved, some utilities had to be relocated and there was an existing parking / set out track which was located at Bay Meadows, roughly where Anna Furniture is located off El

Camino, there was a set out track located to the West of our existing mainline tracks. It was a pretty well used track because it had very good a rubber tire access. Unfortunately, if you look where the grade separation is now, the track moved all the way to the West and buried the site that was that track and a new one needed to be built. The project was designed before the location of the parking/set-out track was decided. The place that met all of Caltrain's operational needs, in the very urbanized corridor was between 10th and 14th at the West side of the existing tracks. A committee was organized made up of the City of San Mateo, JPB Engineering and Operations and Caltrain began a study to look at all alternative locations. There were a total of 29. Some of those locations were physically impossible to build and there were many others that while possible, the city ruled non-financially viable, they were just way too expensive. So it really narrowed it down to essentially two options. One was 9th - 14th on the West side where originally proposed, the other one was laying it further South, towards Hayward Park. That site has subsequently been reexamined because it cuts through some important businesses along the, the Caltrain right away, including a preschool. Based on that, the city is no longer recommending that option and recommending the original option with mitigation. There will be a City Council meeting on Tuesday, a study session at 5:30 pm, with the city of San Mateo to discuss the option of recommending its original location. Mr. Navarro added that there was public misconception that the parking/set out tracks would be a maintenance facility. Staff has since clarified of the operational use and the need of the set out track. It will be the only siding located at mid-point that will be electrified in case an emergency relief tow is needed for a crippled EMU. It will be placed there for a couple of hours to be towed or operate on its own at a restricted speed. The parking/set out tracks will not be used as maintenance facility or for storing equipment.

Committee Comments:
Vice Chair Ricardo Valenciana asked how close the set-out tracks are to residential housing are. Mr. Bolon responded that in general approximately in the range of 60 feet on average, behind fencing.

Member Rosalind Kutler expressed appreciation for the communication with the community.

Member Larry Klein stated that a lot of cities along the peninsula are looking at different Grade Separation options and asked whether there are any lessons learned that can be passed to Palo Alto, Mountain View, Sunnyvale, and other cities that are looking at the same issues. Mr. Bolon responded that the biggest issues in building had to do with utilities. This project was accelerated to work with the electrification timeline. The project moved forward with the utilities not fully relocated and has been a lesson learned. Another big takeaway is that there is a huge advantage in doing more than one grade separation at a time. Member Klein asked staff to formalize what those recommendations are and pass them to each of the cities that are looking at grade separation.

Member Adrian Brandt asked when looking to the future with the business plan, how is quad tracking being accommodated or thought about. Mr. Bolon responded that it

was actually looked at from the start and did not get the funding, however the project was designed to accommodate four tracks.

Public Comments:
Jeff Carter, Millbrae, appreciated the comment response to Adrian about expanding to four tracks because it is important to allow Caltrain to be able to expand to four tracks in the future to run a good combination of express and local trains to increase ridership and serve the public. Jeff also stated that it is great combining grade separations to save cost and to speed up the process. Palo Alto, Menlo park, Sunnyvale, Mountain View, Redwood city, and Burlingame are looking at this and will improve safety with Caltrain versus vehicles or pedestrians. Jeff also thanked staff for the clarification on the set-out tracks and explained for what it really is, not a maintenance area. There was a lot of misinformation out there.

Drew responded to the lessons learned piece and said that the Hillsdale station is near Hillsdale and that the whole station moved up, a third of a mile and that five hundred residents and a hundred apartment buildings were impacted by that move North. He said that the whole access to the South was not incorporated well and moved closer to Hayward Park and further away from Belmont. For riders that reside South, it is less safe because riders have cross more roads than before to get to the new station and all aspects of safety should be considered for future projects. Drew also commented on the set-out tracks, and stated that the track will need to be ripped out and done again in twenty years because of grade separation over 9th and it will be in the way. He stated that it is a solution for now, but if it had been studied at a higher level earlier, it could have been part of the funding for this project. He said that it is a money issue, in part, as there are other places the set-out track could be built but the land needs to be purchased.

**STAFF REPORT UPDATE**
Joe Navarro, Deputy Chief, Rail Operations, reported:
(The full report can be found on caltrain.com)

**On-time Performance (OTP) –**

- **December:** The December 2019 OTP was 92.5% compared to 92.2% for December 2018.
    - **Vehicle on Tracks –** There were seven days, December 4, 5, 18, 20, 21, 23, 31, with a vehicle on the tracks that caused train delays.
    - **Mechanical Delays –** In December 2019 there were 860 minutes of delay due to mechanical issues compared to 343 minutes in December 2018.
    - **Trespasser Strikes –** There were two trespasser strikes on December 2 and 11, one resulting in a fatality.

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- **November:** The November 2019 OTP was 93.3% compared to 93.9% for November 2018.

Mr. Navarro demonstrated the "turtles" the size of a cellular phone with a solid laser light that will be installed at grade crossings to help prevent vehicles from turning down the tracks. Chair Shaw asked where else are these "turtles" being used and Mr. Navarro stated that Caltrain is the first to pilot them.

Mr. Navarro reported that the wireless communication devices piloted onboard with the conductors went well. Staff will work on distributing these devices to all personnel onboard the trains. These devices will give the opportunity for the conductors to report real time information to passengers. For example when bicycle cars are full or when trains are standing room only or any issues on the train. This will also eliminate a lot of the paperwork that is generated on a daily basis. The crew usually carries a paper packet that includes Rules and General Orders. Staff will be working on consolidating all of that information and making it available through a storage folder on the wireless communication device. Mr. Navarro stated that this processes is being developed.

**SF Weekend Caltrain Closure:**

- Weekends between February 22, 2020 and March 29, 2020, trains will not serve the San Francisco or 22nd Street stations. Crews will be installing the Overhead Contact System (drop tubes and wires) as part of the Caltrain Electrification Project. Trains will terminate at Bayshore Station. Free bus service will be available for Caltrain riders from Bayshore Station to 22nd Street and San Francisco stations during regular weekend Caltrain service.

  Buses are ADA accessible and will have limited capacity for luggage and bikes onboard. In addition to the free bus service provided, there are other transit alternatives to get to SF that may work better for some passengers.

Committee comment:
Chair Shaw asked whether there will need to be future tunnel shut downs. Mr. Navarro responded that there may be some future shutdowns, one weekend or two, for Marin and Napoleon Bridge Rehabilitation Project.

Member Brandt requested an update on the yellow fluorescent highlight strips on the schedule board. Mr. Navarro stated that staff continues to work with the graphic design team and currently a green highlight over the station name is being considered. He stated that with the upcoming schedule changes, staff will be looking at incorporating the highlight in late May.

Public comment:
None

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**JPB CAC Work Plan**

February 19, 2020

- Customer Satisfaction Survey
- CalMod/Electrification Update
- Transit Oriented Development

March 18, 2020

-
-

Items to be scheduled

- Schedule Audit – requested by Member Lauren Fernandez on 3/6/18
- Go Pass cost per ride factors – requested by Chair, Brian Shaw on 6/19/19
- Distance based fares – requested by Chair, Brian Shaw on 6/19/19
- San Mateo County Climate Action Plan – requested by Member Rosalind Kutler on 10/16/19
- JPB Operating & Capital Budgets FY2021 – to be scheduled for May 2020
- MTC Means-Based Discount Fare program update
- Transit Oriented Development – requested by Martin Romo on 12/18/19
- Caltrain connections with other agencies – requested by Member Rosalind Kutler on 12/18/19
- Prioritize customer complaints (contractor) – requested by Member Patrick Flautt on 12/18/19
- Update on grade crossing pilot six months after installation – requested by Member, Patrick Flautt on 12/18/19
- Summary video of the CAC meetings by the Social Media Officer – requested by Chair, Brian Shaw on 12/18/19
- Grade Crossing Improvements to be scheduled for a future meeting

**DATE, TIME AND LOCATION OF NEXT REGULAR MEETING:**
February 19, 2020 at 5:40 p.m., San Mateo County Transit District Administrative Building, 2nd Floor Bacciocco Auditorium, 1250 San Carlos Avenue, San Carlos, CA.

Adjourned at 7:30 pm

**AGENDA ITEM #8**
**FEBRUARY 6, 2020**

**PENINSULA CORRIDOR JOINT POWERS BOARD**
**STAFF REPORT**

TO: Joint Powers Board

THROUGH: Jim Hartnett
Executive Director

FROM: Michelle Bouchard
Chief Operating Officer, Rail

SUBJECT: **DELEGATION OF AUTHORITY TO THE EXECUTIVE DIRECTOR TO EXECUTE REVENUE-NEUTRAL AGREEMENTS FOR CALTRAIN SPECIAL EVENT SERVICE**

## ACTION

Staff Coordinating Council proposes the Board delegate authority to the Executive Director, or his designee, to execute revenue-neutral agreements, and related amendments to:

1. Mitigate the Peninsula Corridor Joint Powers Board (JPB)'s financial risk when operating Special Event Service for a venue or event
2. Help ensure adequate Caltrain service (consisting of regular Caltrain service and Special Event Service) at a venue or for an event
3. Establish partnership between the JPB and event venues and hosts to encourage patrons' use of Caltrain.

This delegation would apply to agreements to support Caltrain Special Event Service to venues and events along the Caltrain Corridor including, but not limited to Oracle Park (e.g. Caltrain Giants Service), Chase Center (e.g. Caltrain Warriors Service), Levi's Stadium (e.g. Caltrain 49ers Service), and SAP Center (e.g. Caltrain Sharks Service).

## SIGNIFICANCE

The Board of Directors (Board) has granted the Executive Director a delegation of authority for execution of relatively small-value procurement contracts; contracts to secure grant funds, intergovernmental cooperation, community partnerships and the like; and certain real estate transactions. Staff recommends expanding the JPB's existing delegation of authority to allow the Executive Director, or his designee, to execute agreements for Special Event Service.

To ensure transparency and inform the Board of new agreements and amendments executed pursuant to the new delegation, summary updates will be provided to the Board.

**BUDGET IMPACT**

There is no budget impact associated with this action. The resulting authorized transactions will be budget-neutral.

**BACKGROUND**

Caltrain operates special event service to major public events at venues and events along the Caltrain Corridor including, but not limited to, Oracle Park, Chase Center, Levi's Stadium, and SAP Center.

Historically, Caltrain has provided Special Event Service for events at various venues and events along the Caltrain Corridor with no guarantee of ridership or ticket revenue, placing the JPB at financial risk.

Prepared by: Catherine David, Principal Planner – Rail Operations 650.508.6471

**RESOLUTION NO. 2020 – XX**

**BOARD OF DIRECTORS, PENINSULA CORRIDOR JOINT POWERS BOARD**

**STATE OF CALIFORNIA**

*** * ***

**DELEGATING AUTHORITY TO THE EXECUTIVE DIRECTOR TO EXECUTE REVENUE-NEUTRAL AGREEMENTS FOR CALTRAIN SPECIAL EVENT SERVICE**

**WHEREAS**, the Peninsula Corridor Joint Powers Board (JPB) has adopted resolutions and ordinances under which the Executive Director is authorized to execute procurement contracts up to specified amounts; funding agreements, grant agreements, cooperative agreements, and other interagency agreements; and certain types of real estate contracts; and

**WHEREAS,** the Staff Coordinating Council recommends that the Executive Director, or his designee, be authorized to enter into agreements and amendments to provide Caltrain Special Event Service in coordination with venues or events along the Caltrain corridor; and

**WHEREAS,** this delegation of authority applies only to agreements that will be revenue-neutral to the JPB, to mitigate the JPB's financial risk when operating Caltrain Special Event Service to a venue or event, to help ensure adequate Caltrain service (consisting of regular Caltrain service and Special Event Service) to a venue or event, and to establish a partnership between the JPB and event venues and hosts to encourage patrons' use of Caltrain; and

**WHEREAS,** the Board of Directors shall be informed of any and all agreements and amendments entered into under this authority.

**NOW, THEREFORE, BE IT RESOLVED** that the Board of Directors of the Peninsula Corridor Joint Powers Board hereby delegates authority to the Executive Director, or his

designee, to execute all revenue-neutral agreements and related amendments to operate Caltrain Special Event Service as described above.

Regularly passed and adopted this 6th day of February, 2020 by the following vote:

AYES:

NOES:

ABSENT:

Chair, Peninsula Corridor Joint Powers Board

ATTEST:

JPB Secretary

**AGENDA ITEM #9**
**FEBRUARY 6, 2020**

**PENINSULA CORRIDOR JOINT POWERS BOARD**
**STAFF REPORT**

TO: Joint Powers Board

THROUGH: Jim Hartnett
Executive Director

FROM: April Chan
Chief Officer, Planning/Grants/TA

SUBJECT: Caltrain Transit-Oriented Development Policy

## ACTION

The Work Program – Legislative – Planning (WPLP) Committee recommends that the Board adopt the attached Caltrain Transit-Oriented Development (TOD) Policy for approval at its February 6, 2020 meeting.

## SIGNIFICANCE

The TOD Policy is one of four interrelated planning and policy efforts that will collectively inform and guide the future use of Peninsula Corridor Joint Powers Board (JPB) property. The other three planning and policy efforts include the Caltrain Business Plan, the Caltrain Station Management Toolbox (Toolbox), and the Caltrain Rail Corridor Use Policy (RCUP).

## BUDGET IMPACT

There is no impact on the budget.

## BACKGROUND

Staff has previously presented components of the TOD Policy for input and discussion to the full Board of Directors (Board) and the WPLP Committee. At these meetings, staff obtained valuable Board and WPLP Committee direction and feedback on the goals and objectives associated with the TOD Policy. These meetings are summarized below:

- At the March 2019 Board Meeting, staff made a presentation that included the following items:
  - Background and context on current uses of JPB property
  - Update on four interrelated planning and policy efforts to guide future use of JPB property
  - High-level Board discussion of potential goals and objectives for the TOD Policy
  - Staff solicitation of feedback from the Board on the purpose and goal of the TOD Policy

- At the September 2019 WPLP Committee meeting, staff further discussed the purpose and goals of TOD Policy which were revised to reflect comments made by the Board at the March meeting. Staff discussed the connection of the TOD Policy to the Business Plan, summarized previous Board comments and provided a series of policy objectives for input by the WPLP Committee.

- At the November 2019 WPLP Committee meeting, staff provided an update on the TOD Policy, discussed potentially developable sites identified as part of the RCUP process and explained three general categories of sites.

- At the December 2019 WPLP Committee meeting, staff presented the draft TOD Policy and presented information about the cost of providing affordable housing above and beyond what is required by local requirements.

- At the January 2020 WPLP Committee meeting, staff presented the draft final TOD Policy and discussed affordable housing goals, the cost impacts of developing replacement transit parking and the cost of addressing hazardous material in a TOD development site.

At its January 2020 meeting, the WPLP Committee recommended that the Board approve the TOD Policy with one change, increasing the residential TOD development to offer at least 30 percent affordable housing units onsite instead of the 20 percent recommended by staff, as further discussed below.

The final draft TOD Policy is based on feedback obtained in the above-referenced meetings and includes the following goals and objectives:

- It is important to maximize development potential.
  - Work with cities, private partners, non-profits.
  - Do not be constrained by the existing density limits in the surrounding community.
- Entering into long-term leases with revenue participation makes sense.
  - It is important to retain control of property over the long term.
- Focus on complete communities, but recognize that not every project needs to be mixed use.
  - Work with communities to ensure the use(s) on each JPB property makes sense within that community.
  - Community partners can help meet specific community needs.
- Focus on environmental sustainability and reducing private vehicle travel.
  - Consider green development standards such as a solar requirement or banning natural gas.
  - Encourage east-west connections to Caltrain station areas.
  - Consider shared parking in developments.
- Consider affordable housing.
  - Recognize the importance of affordable housing and understand there are trade-offs.

– Reliable revenue sources are good, but the JPB should consider tradeoffs between providing affordable housing vs. maximizing revenue.

The TOD Policy includes the following recommendations for development of affordable housing as part of TOD projects:

1. Require residential TOD to provide affordable housing onsite: Residential development will be required to offer at least 30 percent of units onsite at below-market rents. At least 10 percent of units will be targeted to households with incomes of no more than 50 percent of Area Median Income (AMI), at least 10 percent of units will be targeted to households with incomes of no more than 80 percent of AMI, and at least 10 percent of the until will be targeted to households with incomes of no more than 120 percent of AMI.
    a. The initial staff recommendation was that the agency target 20 percent of units at below-market rates split evenly between household with includes of no more than 80 percent AMI and household with no more than 50 percent AMI.
2. Partner with developers to leverage other sources of affordable housing funds: Where possible, the JPB will encourage the use of outside sources of funding and financing to deliver affordable housing, such as Low Income Housing Tax Credits.
3. Explore creative ways to utilize smaller opportunity sites for affordable housing: The JPB will explore ways to utilize small or irregularly-shaped parcels for affordable housing, particularly sites that offer limited opportunity for commercially-viable market-rate housing development.

Prepared by: Brian W. Fitzpatrick 650.508.7781

**RESOLUTION NO. 2020 –**

**BOARD OF DIRECTORS, PENINSULA CORRIDOR JOINT POWERS BOARD**
**STATE OF CALIFORNIA**

*** * ***

**ADOPTING THE CALTRAIN TRANSIT-ORIENTED DEVELOPMENT POLICY**

**WHEREAS**, the Peninsula Corridor Joint Powers Board (JPB) administers the Caltrain system and is owner of various properties along the Caltrain rail corridor; and

**WHEREAS,** the JPB, working closely with stakeholders in both the public and private sectors, launched a significant undertaking in 2017 to develop a JPB Transit-Oriented Development (TOD) Policy, with the aim of creating a Board-adopted policy that expresses the JPB's goals and strategic objectives for joint development and commercial business on its property; and

**WHEREAS**, the JPB adopted a long-range service vision, as part of the Caltrain Business Plan, on October 3, 2019, with articulates a long-term vision and business strategy for the system to the year 2040; and

**WHEREAS**, it is anticipated that significant portions of the JPB's property holdings on the rail corridor will be needed to support achievement of the Caltrain 2040 Long-Term Service Vision with growth in train operations and infrastructure investments; and

**WHEREAS,** staff has developed the Caltrain Rail Corridor Use Policy to provide a policy framework to guide decision-making regarding the compatibility of proposed non-railroad uses with the railroad's current and future needs; and

**WHEREAS,** built on the Business Plan and Rail Corridor Use Policy, the TOD Policy aims to address four important issues related to TOD projects: revenue objectives and

business terms, affordable housing requirements, land use targets, and a process for creating appropriate balance of access to stations; and

**WHEREAS,** the TOD Policy does not have a binding legal effect on the JPB and is therefore not considered a "project" under the terms of the California Environmental Quality Act; and

**WHEREAS,** Staff Coordinating Council recommends, and the Executive Director concurs, that the Board adopt the attached TOD Policy.

**NOW, THEREFORE, BE IT RESOLVED** that the Board of Directors of the Peninsula Corridor Joint Powers Board hereby adopts the Caltrain TOD Policy, attached hereto as Exhibit A; and

**BE IT FURTHER RESOLVED** that the Board of Directors authorizes the Executive Director, or his designee, to take any actions necessary to implement the TOD Policy.

Regularly passed and adopted this 6th day of February, 2020 by the following vote:

AYES:

NOES:

ABSENT:

_____

Chair, Peninsula Corridor Joint Powers Board

ATTEST:

_____

JPB Secretary

# Caltrain Transit-Oriented Development (TOD) Policy

## PURPOSE

This TOD Policy expresses the Peninsula Corridor Joint Powers Board's (JPB) goals and strategic objectives for TOD projects. These goals and objectives will form the policy basis of the Joint Development Guidelines, an administrative document which will provide additional details about the process and requirements for property asset management, including strategic development and, in some cases, acquisition of new properties for development.

While the TOD Policy and the Joint Development Guidelines set forth JPB's goals and objectives for such development, each actual development project and its terms will be negotiated by staff and every transaction will be subject to final approval by the Peninsula Corridor Joint Powers Board of Directors, at their sole and complete discretion.

## BACKGROUND

The JPB's primary roles are to operate Caltrain passenger rail service and manage the Caltrain corridor and assets to support current and future rail operations. As defined by the Caltrain Rail Corridor Use Policy (RCUP), a subset of the real estate assets that the JPB owns and manages have been identified as not being required for current or future railroad uses and therefore have the potential to be developed as TOD projects.

In contrast with many other rail transit agencies, the JPB owns a limited number of properties that are suitable and available for development. First, Caltrain is a legacy system that has operated on the Peninsula since 1863. This means the available properties in station areas, particularly parking lots, tend to be smaller in scale than those of other Bay Area transit systems that were developed more recently and were designed to accommodate large park-and-ride facilities. Additionally, when JPB purchased the Caltrain right of way from Southern Pacific Railroad (SP) in 1991, the transaction included only the basic property required to operate the railroad due to funding constraints. SP held onto a number of the best development sites and other wider areas of the right of way. Further, Caltrain's recently-adopted Long-Term Service Vision, developed through the Caltrain Business Plan process, envisions a substantially expanded and different service pattern than exists today, requiring many infrastructure improvements that, either temporarily or permanently, will consume space on JPB property that might otherwise be used for TOD. Over time, it is possible that additional sites may be identified as available for TOD, through the RCUP process, as individual capital projects are planned, designed and delivered.

The TOD Policy applies to properties that are owned by the JPB in fee simple and are available for development independent from a capital project as identified by RCUP.

## TOD GOALS

In advancing TOD, the JPB seeks to achieve the following overarching goals:

- **Sustainable Transportation.** Promote Caltrain ridership and sustainable transportation modes.

- **Value Creation.** Create value for the JPB, consistent with the JPB's overall business strategy, which can be reinvested into the railroad's core mission of providing rail transportation service.
- **Equity.** Provide an appropriate balance of land uses, equity in access, and other benefits that align with the priorities of the local community.
- **Complete Communities.** Establish station areas as complete communities in partnership with other stakeholders.

## STRATEGIC OBJECTIVES

Below are strategic objectives for private-public TOD projects on JPB properties. Under each objective is a list of strategies that may be used to advance that objective.

### Encourage transit-supportive development

1. **Include transit-supportive uses.** TOD on JPB property should encourage transit ridership and enable daily activities that do not require a car. Parking to serve private development should be limited to discourage vehicle trips in favor of other modes, including walking, biking and transit.
2. **Maximize density of development**. TOD should seek the maximum possible density (as measured in floor area or number of dwelling units) in keeping with station area plans and/or community objectives, provided that such plans recognize and reflect the scarcity and value of land in immediate proximity to high capacity transit and are consistent with promotion of transit ridership.

### Generate revenue streams to offset operating costs

1. **Favor long-term ground leases.** The JPB favors long-term ground leases for joint development, with terms of 55 to 75 years. Sale of property may be considered in exceptional situations where TOD goals are best served, such as when assembling JPB property with adjacent properties not owned by the JPB or when properties are not large enough to warrant a ground lease.
2. **Receive fair market value for land**. In general, business terms should ensure JPB receives compensation that reflects the fair market value of land.
3. **Participate in project revenues**. JPB should participate in the success of development through participation rents, typically by collecting a percentage of gross revenues generated by the project each year, with a base ground rent as the floor. JPB should also participate in the refinance or sale of TOD projects.
4. **Solicit development proposals using a competitive process**. JPB favors a request for qualifications process to solicit competitive proposals for development. Unsolicited offers may be considered only in special cases to meet specific JPB objectives. For example, if a site is too small, has limited access, or is unable to be developed independently, a competitive process may not be availing. In such cases, staff will evaluate unsolicited offers to determine if an unsolicited approach is warranted and if the proposed project is consistent with JPB's objectives as set forth in this policy.
5. **Secure business terms that protect JPB investment**. Standard business terms for TOD ground leases should ensure that fee ownership and base rent are not subordinated. Leases should also include provisions that limit the JPB's risk exposure, such as performance benchmarks, indemnity and insurance protections, completion guarantees, quality assurances and operating covenants.

Leverage capital projects land acquisition for future TOD

1. **Pursue strategic land acquisition in conjunction with capital projects**. Where capital projects require the temporary use of property (for staging construction equipment, for example), the JPB, where appropriate, should seek to acquire, rather than lease, the property if it will have potential as a TOD opportunity site once it is no longer needed for the capital project. Additionally, if acquisition of a portion of a property leaves the remainder as an uneconomic remnant to the owner, the JPB may offer to purchase the entire site.

Contribute to complete communities in station areas

1. **TOD should complement uses in the surrounding area**. Development should consider the site context and complement other uses in the surrounding area, including a mix of uses where appropriate and financially feasible, provided that such plans are consistent with promotion of transit ridership.
2. **Seek community participation**. Development proposals should consider station area plans and community preferences for use provided that such plans are consistent with promotion of transit ridership. Creation of solicitation documents and the developer selection process should include participation by the local jurisdiction.
3. **Implement high quality, context-sensitive urban design standards.** The JPB will seek developments with high-quality urban design that facilitate station access and the use of other sustainable transportation modes that are complementary to Caltrain operations and station needs.

Support environmental sustainability and alternatives to private vehicle travel

1. **Ensure development projects are environmentally sound and energy efficient.** JPB encourages infrastructure and urban design solutions that minimize the environmental footprint of the construction and operation of the development. JPB should favor development proposals that will achieve high standards of energy efficiency and environmental sensitivity, such as LEED[1] certification.
2. **Limit onsite parking for private development**. In general, TOD on JPB property should discourage vehicle trips by providing limited parking for the private development. JPB encourages creative parking strategies with TOD projects such as unbundled parking , shared parking facilities, and/or transportation demand management, as consistent with community and Caltrain objectives.
3. **Include a balance of station access options at each site, as consistent with Caltrain's access plans and policies.** The extent to which TOD will include new parking facilities to replace existing Caltrain transit patron parking will be studied for each site and determined on a case-by-case basis. The amount of replacement patron parking will balance Caltrain station parking needs with objectives to facilitate non-vehicular access modes and generate TOD density and revenue. The JPB will seek to partner with other transit and transportation providers to provide a variety of access options, with focus on pedestrian and bicycle access.

[1] Leadership in Energy and Environmental Design

Provide affordable housing

1. **Require residential TOD to provide affordable housing onsite.** Residential development will be required offer at least 30 percent of units onsite at below-market rents. At least 10 percent of units will be targeted to households with incomes of no more than 120 percent of Area Median Income (AMI), at least 10 percent of units will be targeted to households with incomes of no more than 80 percent of AMI and at least 10 percent of units will be targeted to households with incomes of no more than 120 percent of AMI.
2. **Partner with developers to leverage other sources of affordable housing funds.** Where possible, the JPB will encourage the use of outside sources of funding and financing to deliver affordable housing, such as Low Income Housing Tax Credits.
3. **Explore creative ways to utilize smaller opportunity sites for affordable housing.** JPB will explore ways to utilize small or irregularly-shaped parcels for affordable housing, particularly sites that offer limited opportunity for commercially viable market rate housing development.

Encourage high labor standards and contribute to workforce development

1. **Require prevailing wage for labor.** JPB requires prevailing wage compliance for all TOD projects.
2. **Encourage project labor agreements.**