



So. Linden Ave. & Scott St. Grade Separation (LSGS) Project
Preliminary Design Refinements

Presentation to BPAC
July 1, 2026



Agenda

1. Introduction
2. Project overview
3. Design Refinement 2D
4. Feedback and next steps

Project Location and Partners

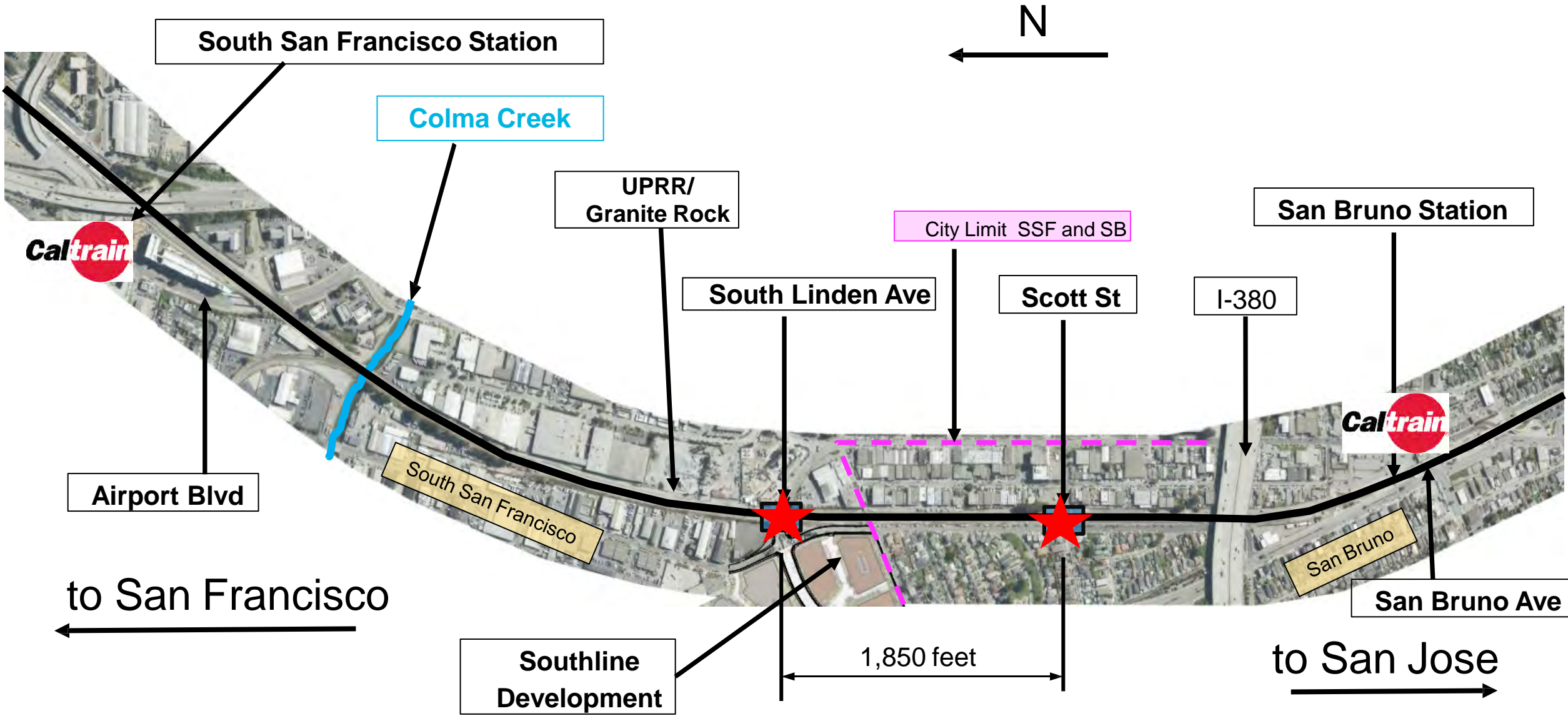
Caltrain is managing the Preliminary Engineering (35%) Design and Environmental Clearance. RSE is prime design consultant



Project Location



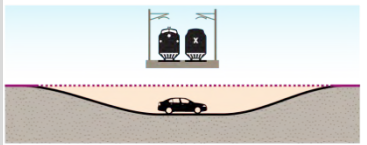

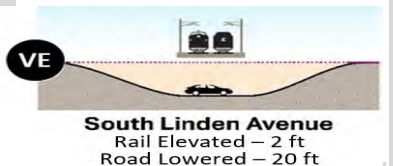
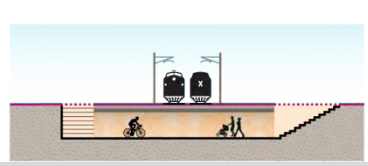
Project Location





Value Engineering (VE)– Optimized Alternative

Jacked (push) Boxes Beneath Railroad
Optimized Alternative (OA) Selected by Caltrain and Cities in Feb. 2025

Alt	South Linden Avenue	Scott Street
PSR-Alt1	 <ul style="list-style-type: none"> ▪ Rail Elevated ▪ Roads Lowered 	 <ul style="list-style-type: none"> ▪ Rail Elevated ▪ Road Closed ▪ Ped/Bike Tunnel
OA	 <ul style="list-style-type: none"> ▪ Rail At-Grade ▪ Roads Fully Lowered 	 <ul style="list-style-type: none"> ▪ Rail At-Grade ▪ Road Closed ▪ Ped/Bike Crossing*

Project Schedule

Project Activities	Start Date	Expected Completion
Updated Preliminary Engineering/Environmental Clearance Schedule (35% design)	Feb 2026	June 2027



Jacked Box - OA Design Refinements (DRs)

1. Key Project Goal – separate vehicles, bikes, peds from railroad!
2. Jacked Box OA is now in Design Refinement (DR) Stage
3. Additional key information assembled and analyzed
 - ✓ Forecasted road (vehicles, bikes, peds) and rail traffic
 - ✓ Applicable Caltrain, City and State Standards (e.g. ADA)
 - ✓ Property and business impacts (e.g. Southline)
 - ✓ Geotechnical, Structural, Utility, Drainage
 - ✓ Reliability, Availability, Maintainability, Safety (RAMS)
 - ✓ Constructability, Affordability (reduce box, project footprint)
4. Outcome of DR will allow project to confidently advance to 35%



Design Refinement (DR) Matrix



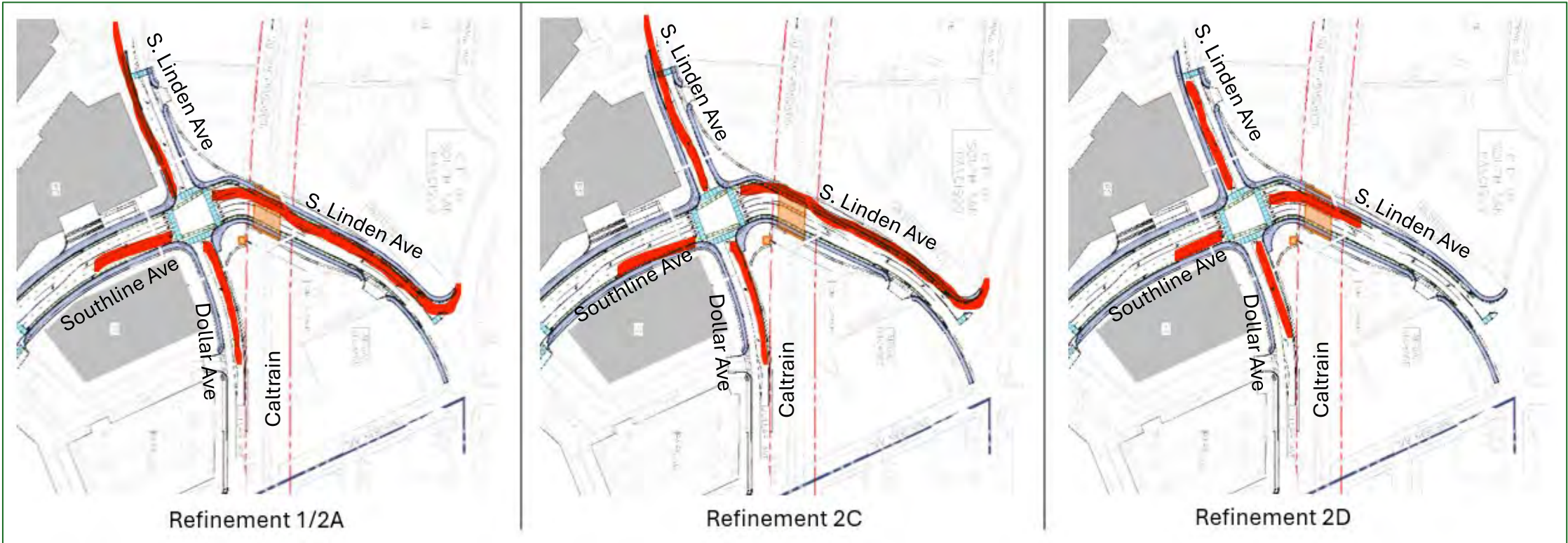
DR#	Key Project Design Element Considered	Box Size	Notes/Decision
1	OA Base Design <ul style="list-style-type: none"> 1 WB & 2 EB lanes at S. Linden Ave at RR Box Structure Elevated Bicycle & Pedestrian paths at both sides of RR Box Structure Bicycle lane and pedestrian sidewalk at same grades as adjacent roadway along lowered Southline Ave Ramp to Scott Underpass – full take of AT&T parcel 	84x23x60 (115,920)	<ul style="list-style-type: none"> Major impacts to Southline (steep driveways and no sidewalk to bldgs.) Major impacts to other nearby businesses. New traffic analysis shows need for 2 WB & 2EB lanes. Current 1 WB & 2 EB is not acceptable.
2A	<ul style="list-style-type: none"> Removal of 15' wide Caltrain Maintenance Road adjacent to one side of RR Tracks 	84x23x45 (86,940)	<ul style="list-style-type: none"> Reduces size of box width only. Carry forward with Caltrain approval.
2B	<ul style="list-style-type: none"> Min. lane configuration (1WB & 1EB) at S. Linden 	60x23x45 (62,100)	<ul style="list-style-type: none"> Eliminated per SSF, due to single EB WB Lane.
2C	<ul style="list-style-type: none"> Separates Sidewalk and Bike paths at Southline, Pedestrian Overpass, 1 WB & 2 EB lane at S. Linden Ave 	60x23x45 (62,100)	<ul style="list-style-type: none"> Addresses Southline impacts. Does not address traffic capacity at 1 EB & 2 WB lanes.
2D	<ul style="list-style-type: none"> Pedestrian overpass and improved lane configuration at S. Linden Ave with (2 WB & 2 EB lanes) and a shared bicycle/pedestrian path along N. side (EB lanes) 	72x23x45 (74,520)	<ul style="list-style-type: none"> Best compromise for Southline, Traffic, Safety, Bike/Ped, Reduced Footprint, Affordability. RECOMMENDED.
3	<ul style="list-style-type: none"> Track Raise with OCS Replacement 	n/a	<ul style="list-style-type: none"> Carry forward with Caltrain approval.
4	<ul style="list-style-type: none"> Dollar/Linden/Southline Grade Separation 	60x23x45	<ul style="list-style-type: none"> Eliminated per SSF due to impacts to traffic.
5	<ul style="list-style-type: none"> Use of Petrucco Verona System 	84x23x60	<ul style="list-style-type: none"> Eliminated per SSF due to impacts to roadway and driveway.
6	<ul style="list-style-type: none"> Box Jacking from West to East 	n/a	<ul style="list-style-type: none"> Constructability improvement.
7	<ul style="list-style-type: none"> Scott Underpass – Only partial take of AT&T parcel 	26x18x60	<ul style="list-style-type: none"> Under consideration by San Bruno. Reduces footprint.

Preliminary Traffic Analysis

Forecasted Vehicle Traffic Volume Increase of 400%

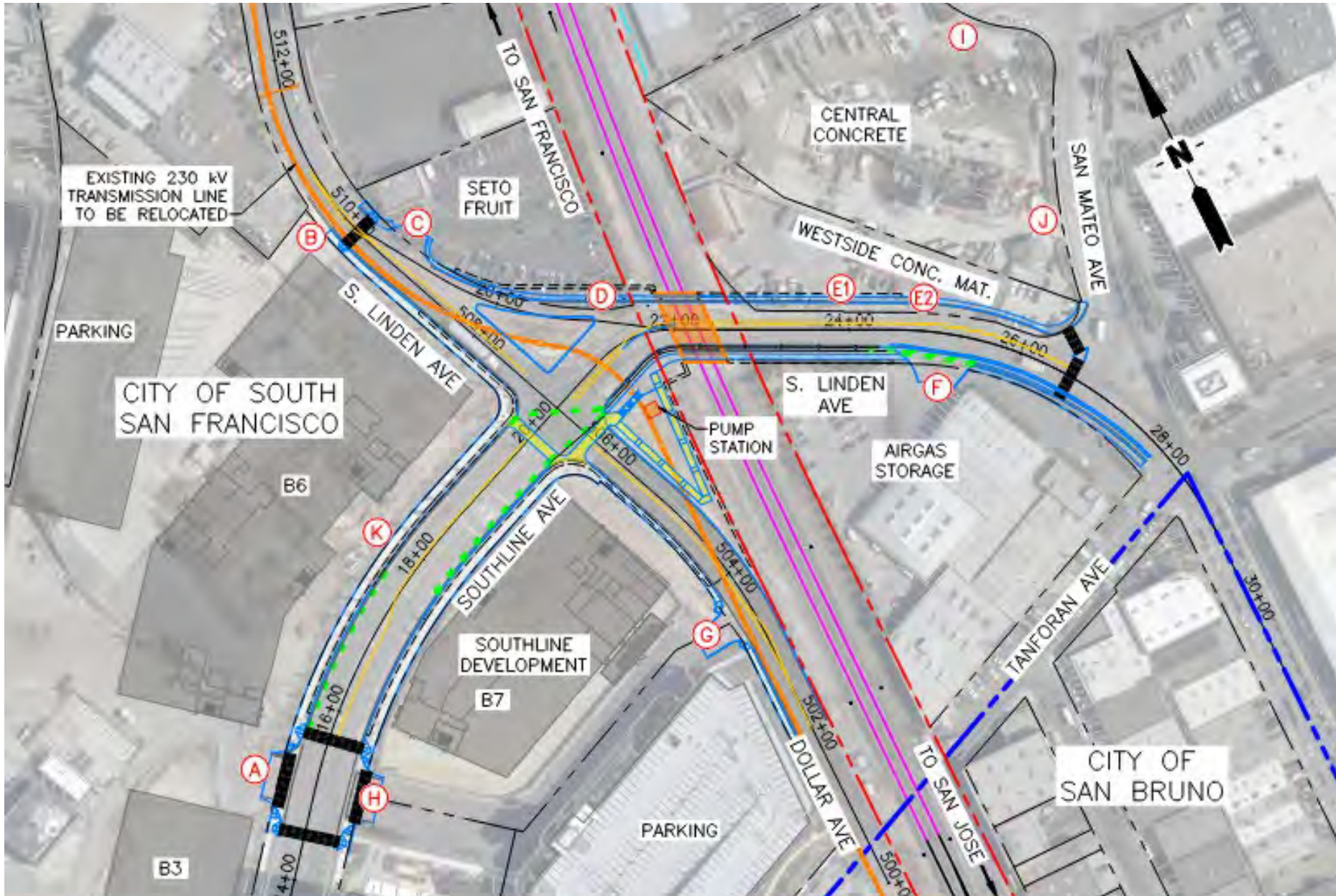
Take away – 2EB & WB lanes required E of RR Tracks to San Mateo

Safety and Accessibility Benefit - Pedestrian Overpasses over Very Busy/Congested Intersection



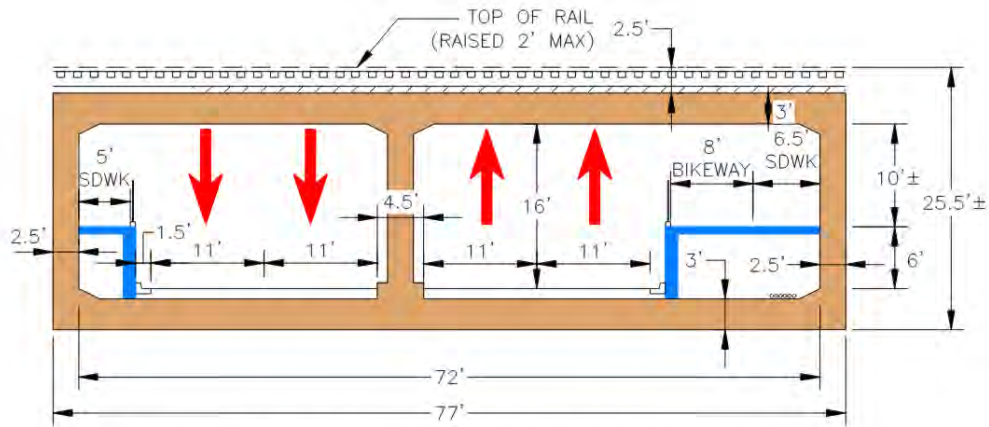
- Refinement 1/2A – Longest queues; WB South Linden and SB Dollar are primary constraints.
- Refinement 2C – Shorter queues than 1/2A due to more green time, but queues remain substantial.
- Refinement 2D – Best performance; **two WB lanes** substantially reduce projected queues.

DR 2D – Pedestrian Overpass with 2 WB Lanes

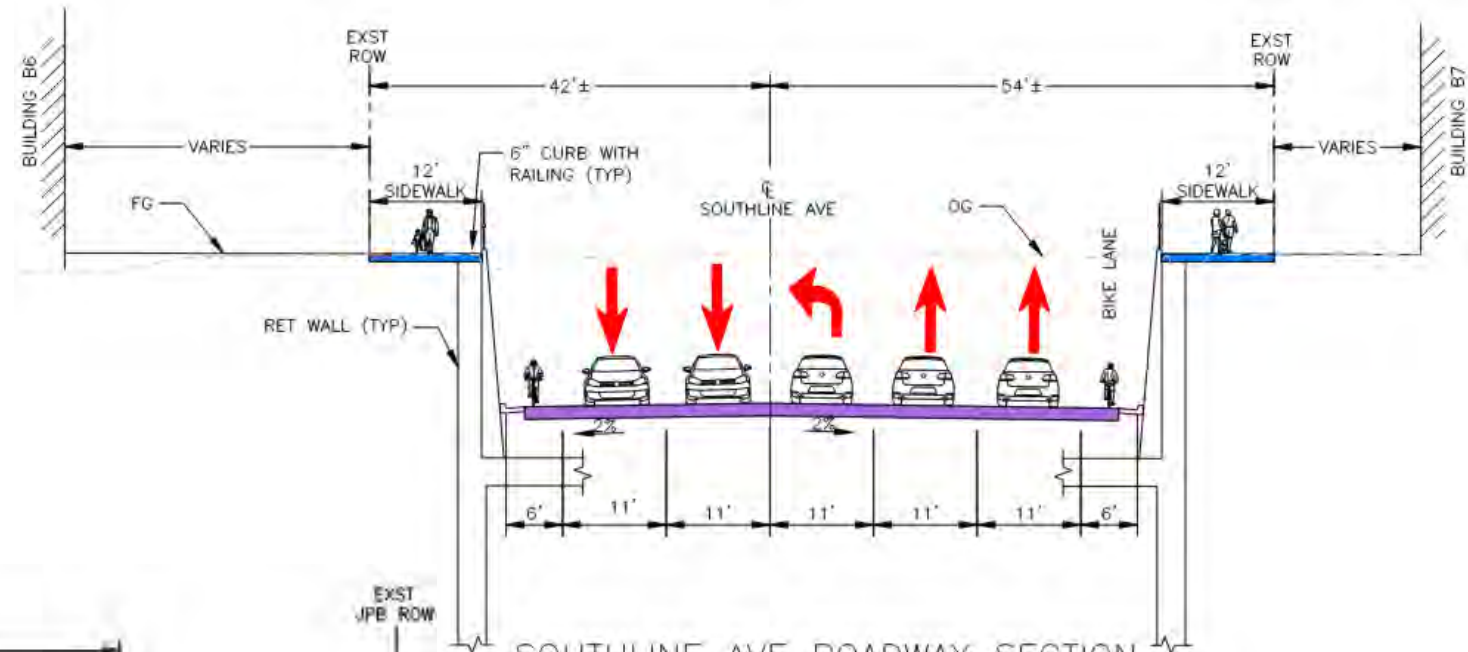


Drwy	Lowered
A/H	0
E	1.2'
F	0.3'
G	0
C	0
B	0

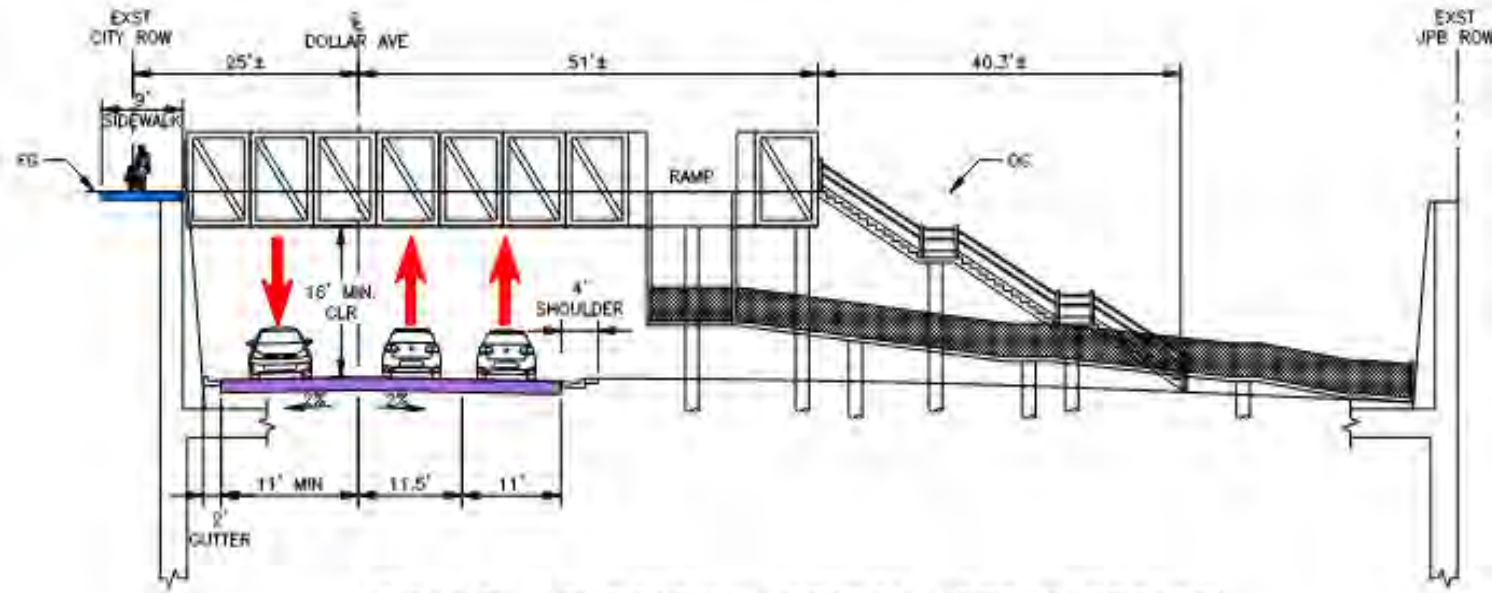
Design Revision (DR) 2D – Sections



BOX SECTION AT S LINDEN AVE
FACING EAST

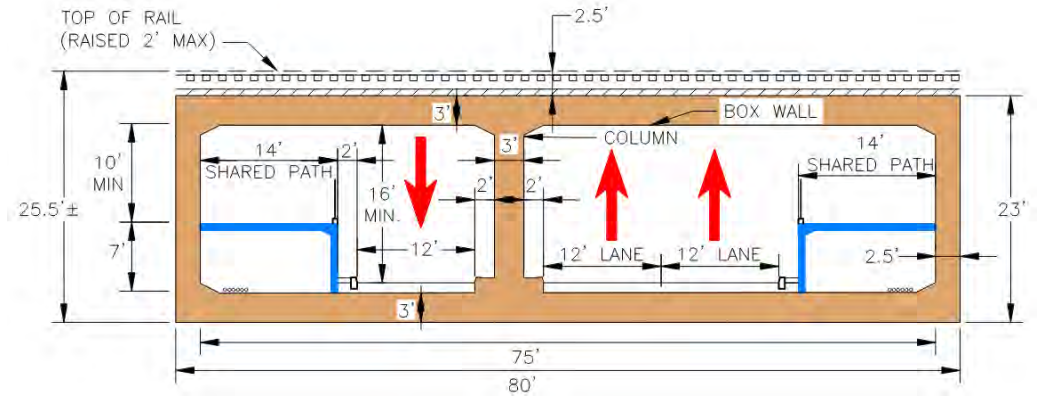


SOUTHLINE AVE ROADWAY SECTION
LOOKING EAST

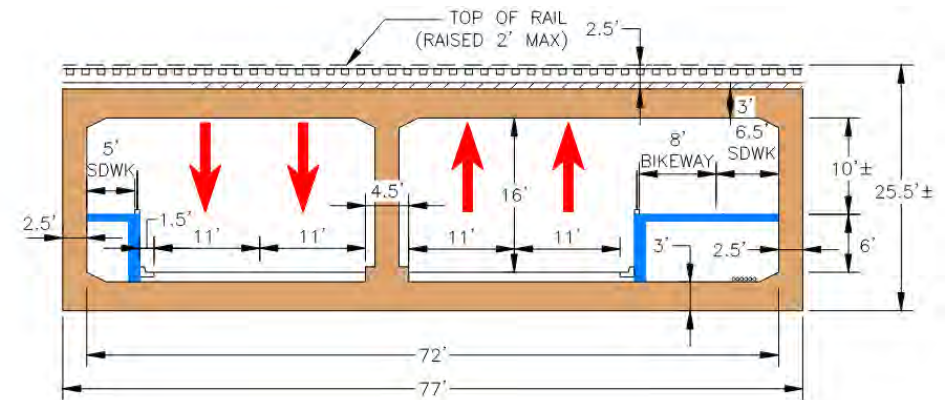


DOLLAR AVE ROADWAY SECTION (PED OVERPASS)
FACING NORTH

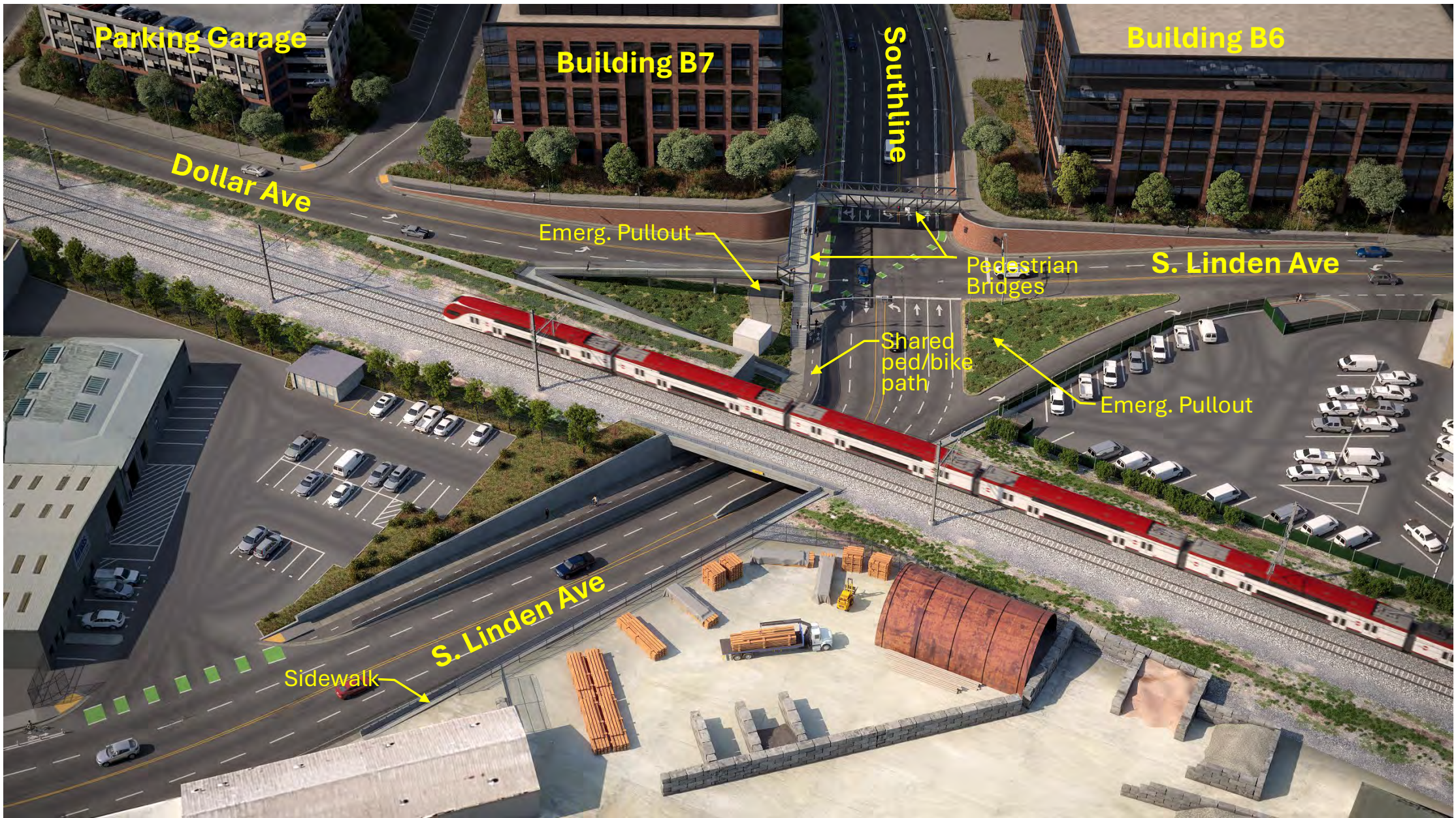
DR 2D – Compatibility with San Francisco Bay Trail Plan



Box Section at S. Linden Ave
Facing East
Base Design



Design Refinement 2D





DR2D Rendering – Aerial View Looking North



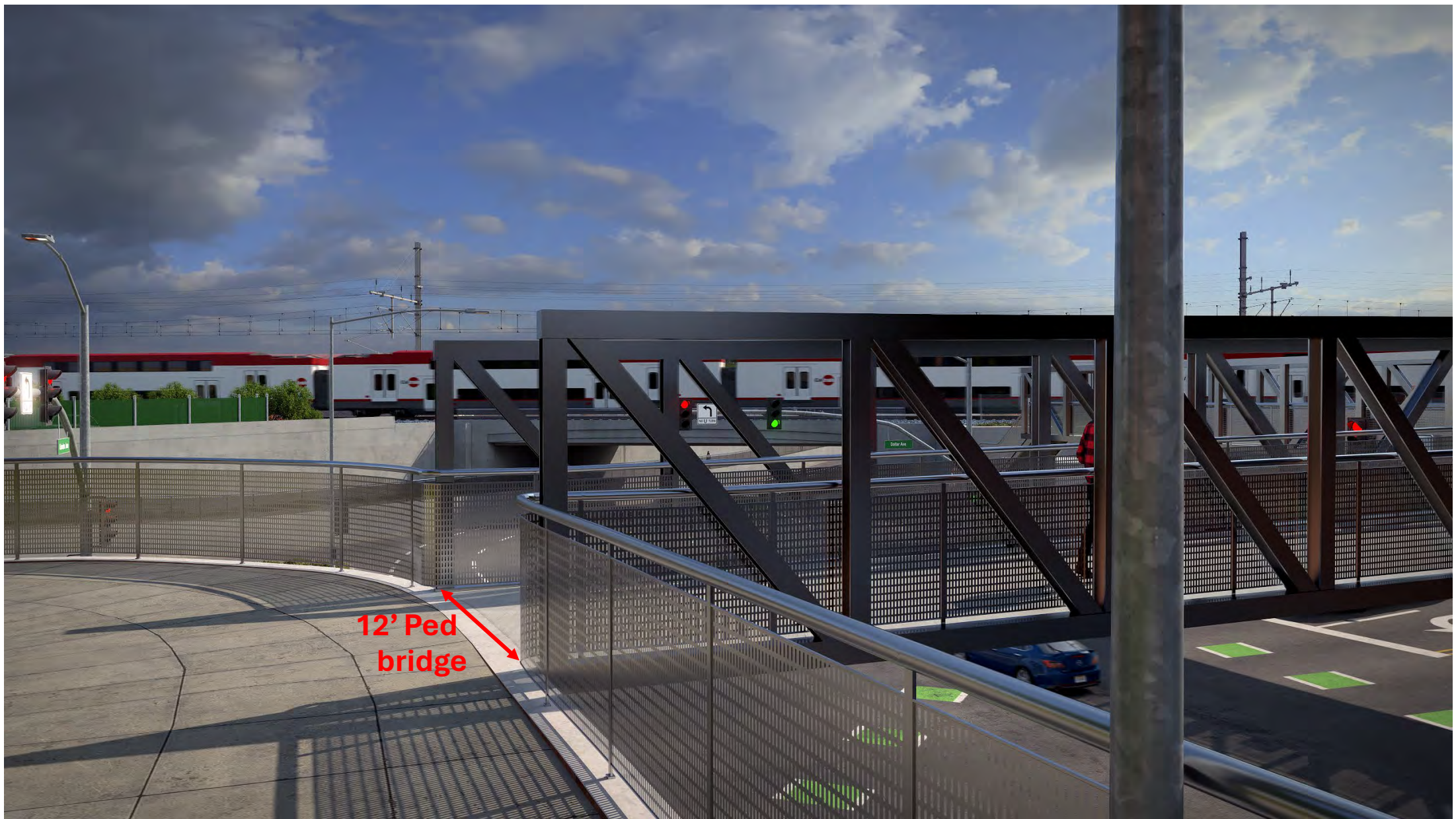
DR2D Rendering – Ground View Looking East





DR 2D Rendering – Ground View at Bldg 6 Entrance







DR2D Rendering – Driveway G on Dollar Ave

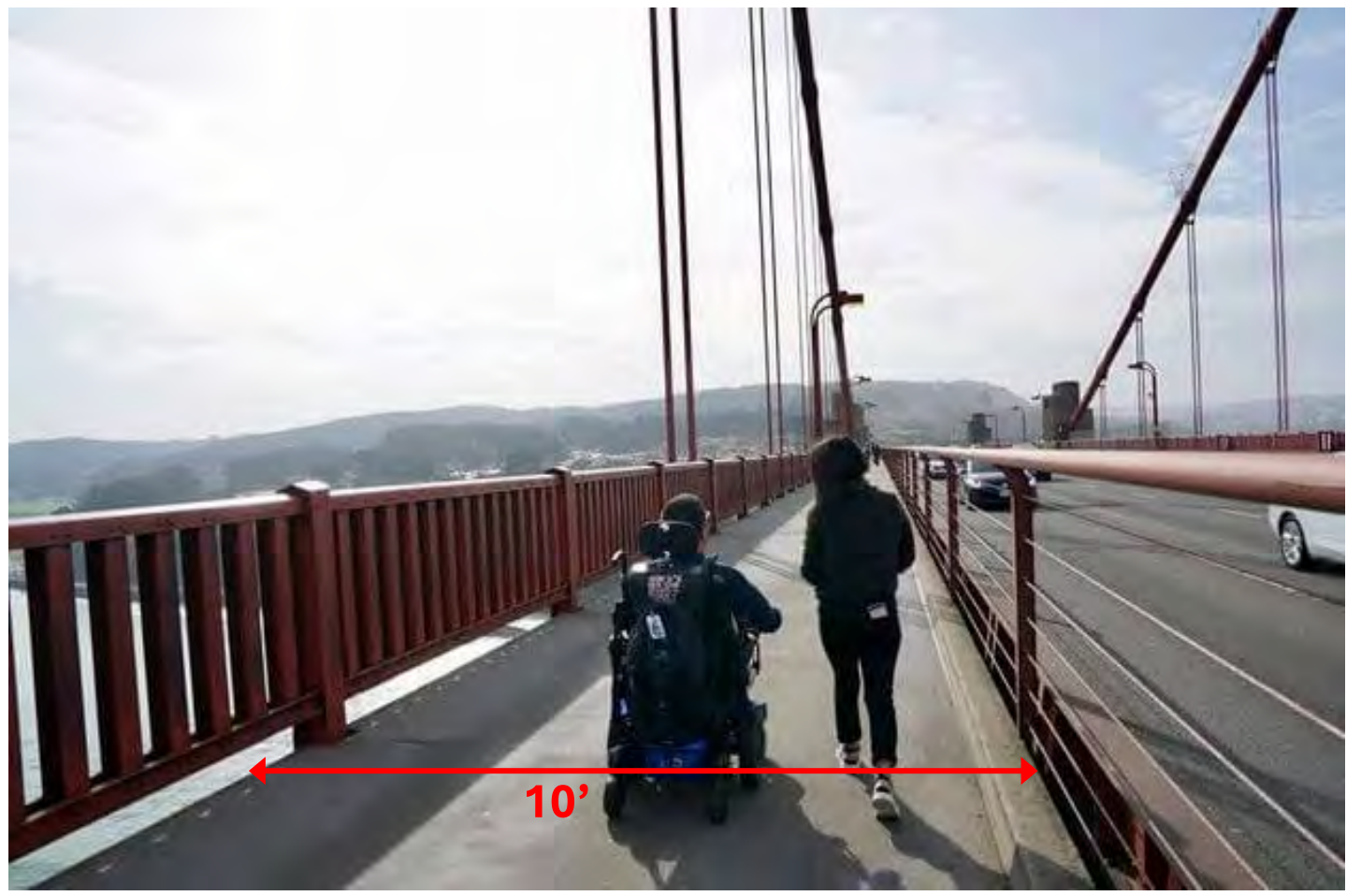


DR2D Rendering – Ground View Looking West





Example – Pedestrian and Wheelchair on Bridge





Design Refinement Summary

1. Jacked Box Optimized Alternative selected by Council Feb 2025
2. Jacked Box Alternative now in Design Refinement (DR) Stage
3. Design Refinement (DR) addresses functionality, safety, other
4. **A preferred design - 2D has developed from the process**
5. Key benefits of 2D
 - Separating vehicles, bikes and peds from rail traffic!
 - Separating pedestrian movements and improve safety (Southline Ave)
 - Dedicated pedestrian and bike friendly and safe paths (S. Linden Ave)
 - Addresses the project 400 % traffic volume growth (2 WB Lanes)
 - Minimize impacts to Southline Development
6. **Forecasted unacceptable traffic congestion if track crossings remain as is!**



Other Design Elements

Other Safety and Functionality Requirements to be Addressed

- Integrate lighting on pedestrian bridge and roadway structures
- Access for FD/PD adjacent to pedestrian bridge
- RR Underpass drainage
- Stormwater pump stations and flood warning systems
- Retaining wall aesthetics
- Coordination with SamTrans and other local bus/shuttle services for current or expanding bus routes and design to accommodate bus turning movements and bus stops.



Open Discussion

Upcoming Meetings

- **07/08/2026 - SSF City Council (CC)**

THANK YOU
FOR JOINING US TODAY



LSGS Design Refinements
BPAC

City of South San Francisco