



## City Council Agenda Item Staff Report

CITY OF SAN BRUNO

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**DATE:** October 9, 2018

**TO:** Honorable Mayor and Members of the City Council

**FROM:** Jovan Grogan, City Manager

**PREPARED BY:** Jimmy Tan, Public Works Director

**SUBJECT:** Receive Update on Planning Study for the South Linden Avenue and Scott Street Caltrain Grade Separation Project and Provide Direction on Scott Street Closure

### **BACKGROUND:**

A grade separation is a method of aligning a junction of two or more surface transport axes at different heights (grades) so that they will not disrupt the traffic flow on other transit routes when they cross each other. For example when a pedestrian bridge is constructed over a roadway, a grade separation has been created between the pedestrian traffic and the vehicle traffic. At South Linden Avenue and Scott Street, a grade separation project would result in the train tracks being separated from the roadway and/or pedestrian/bicycle crossing. Grade separations can be desirable because they improve vehicle traffic flow by removing interruptions caused by passing trains, and they improve safety by eliminating conflicts between trains and pedestrians, bicyclists, and motorists. In the case of Scott Street, creating a grade separated crossing could potentially eliminate the need for trains to blow their horns when passing. An example of an existing grade separation in San Bruno is on San Bruno Avenue and Huntington Avenue where the roadway crosses under the Caltrain tracks.

On April 20, 2016, the City of San Bruno signed a Memorandum of Understanding (MOU) with the San Mateo County Transportation Authority, the City of South San Francisco, and the Peninsula Corridor Joint Powers Board (JPB) to complete a Planning Study for the South Linden Avenue and Scott Street Grade Separation Project. All of the parties that signed the MOU enabling the preparation of the Planning Study have recognized the importance of exploring grade separations as a means of reducing the impacts of increased train service on traffic and safety at the South Linden Avenue and Scott Street railroad crossings.

Since January 2018, San Bruno Public Works engineering staff have been participating on the Project Development Team which was formed to prepare the Planning Study. The team is primarily comprised of representatives from Caltrain, the City of South San Francisco, and the City of San Bruno, along with consultants AECOM and APEX Strategies which were hired by JPB. The project is currently funded through completion of the Planning Study through grants received by both San Bruno and South San Francisco. No funding has been approved yet for the environmental study, design, or construction phases.

ITEM 6.b

## DISCUSSION:

Scott Street is located near the northern city limits of San Bruno. It is a local roadway that passes through part of the Fifth Addition Neighborhood and connects to San Mateo Avenue. See Attachment 1 for a map of the proposed grade separation project area. The railroad crossings at South Linden Avenue and Scott Street are approximately 1,850 feet apart.

Various geometric constraints limit the options available for the grade separation design. There is a rail crossover section between South Linden Avenue and Scott Street. A crossover section enables trains to cross between the northbound and southbound tracks. The crossover section presents a geometric constraint on the design of the grade separation because it must be located on a stretch of track that has a constant slope. Other key geometric constraints are the rail bridge over Colma Creek to the north of South Linden Avenue, and I-380 and the San Bruno Station to the south of Scott Street. The tracks must tie into the existing tracks at those points in order to avoid the need to reconstruct parts of the rail bridge, I-380, or the station. Because of the geometric constraints and the proximity of South Linden Avenue and Scott Street, the designs for the grade separations can affect each other. For these reasons, both crossings are being studied as one project.

Six alternatives were originally developed for evaluation to achieve grade separations at South Linden Avenue and Scott Street. Two alternatives for creating the grade separation project were eliminated during the preliminary design analysis because they were infeasible given the project's geometric constraints. One of the eliminated alternatives was for the train tracks to be raised while South Linden Avenue and Scott Street remain at their existing elevations. The other eliminated alternative was for the train tracks to be lowered while South Linden Avenue and Scott Street remained at their existing elevations.

This left four alternatives for further investigation. The four alternatives are described below and are illustrated in Attachment 2.

- **Alternative 1** – Hybrid Track Raised and Road Lowered
- **Alternative 2** – Hybrid Road Raised and Track Lowered
- **Alternative 3** – Track At-Grade and Road Lowered
- **Alternative 4** – Track At-Grade and Road Raised

Additional design analysis determined that for each of the four alternatives, raising or lowering Scott Street sufficiently to create the necessary vertical clearance between the road and the tracks for vehicular cross travel would result in significant elevation differences between the altered roadways and nearby properties. Properties that are farther from the tracks might require minor driveway modifications, while properties that are closer to the tracks would likely lose their driveway connection completely. This is due to the roadway having to be lowered or raised which creates a vertical separation between the roadway and existing driveways. The results would render the driveway impossible for use for those properties closer to the tracks.

Scott Street had been previously discussed during the evaluation of the grade separation project at San Bruno Avenue. At that time, the City expressed a desire that Scott Street

remains open to vehicle traffic. However, in light of the anticipated property impacts associated with keeping Scott Street open to vehicles, the City needs to determine whether the closure of Scott Street will be feasible.

The Project Development Team evaluated the four remaining alternatives that appeared to be viable options for achieving grade separation at both South Linden Avenue and Scott Street while at a minimum maintaining pedestrian and bicycle crossings. Under all scenarios, Scott Street would need to be closed to vehicular traffic to preserve private property driveway access and provide for a grade separation. The alternatives are as follows:

- **Alternative 1** – Hybrid Track Raised and Road Lowered (Attachment 3). The clearance between the track and the road is created by raising the track and lowering the road. The road is lowered to pass under the tracks at South Linden Avenue. At Scott Street the tracks will be raised while Scott Street would be closed to vehicles. A pedestrian and bicycle underpass would be provided.
- **Alternative 2** – Hybrid Road Raised and Track Lowered. The clearance between the track and the road is created by raising the road and lowering the track. The road is raised to pass over the tracks at South Linden Avenue. At Scott Street, the tracks will be lowered while Scott Street would be closed to vehicles. Attachment 4 shows an overpass at Scott Street but either an overpass or an underpass could be provided for pedestrians and bicycles.
- **Alternative 3** – Track At-Grade and Road Lowered. The road is lowered to pass under the tracks at South Linden Avenue. The tracks remain at their current elevation and Scott Street would be closed to vehicles to allow for the grade separation. Attachment 5 shows a pedestrian and bicycle underpass at Scott Street, but either an overpass or an underpass could be provided for pedestrians and bicycles.
- **Alternative 4** – Track At-Grade and Road Raised. (See Attachment 6) The road is raised to pass over the tracks at South Linden Avenue. The tracks remain at their current elevation and Scott Street would be closed to vehicles to allow for the grade separation. Attachment 6 shows a pedestrian and bicycle overpass at Scott Street, but either an overpass or an underpass could be provided for pedestrians and bicycles.

Recent developments in the project alternatives evaluation have clarified that under Alternatives 3 and 4, it would be possible to separate the grade at South Linden Avenue and maintain Scott Street as is. However, there are several advantages and disadvantages to maintaining the at-grade crossing, which are as follows:

Advantages:

- The crossing would remain open to vehicle traffic. Vehicles can continue to use Scott Street to cross the railroad tracks, which improves traffic circulation between the Fifth Addition Neighborhood and the commercial properties located east of the railroad tracks.
- No impacts to surrounding properties related to construction improvements.
- No visual or noise impacts that could result from an elevated track.

Disadvantages:

- The greatest level of safety is achieved in rail crossings through grade separation. The level of safety would not be improved by maintaining Scott as an at-grade crossing because conflicts between trains and roadway users would not be eliminated. More conflicts could occur as train traffic increases in the future.
- Traffic on Scott Street would continue to be disrupted by train traffic. More disruption and traffic delay would likely occur as train traffic increases in the future.
- Trains would continue to blow their horns when passing Scott Street. There may be an increase in noise as train traffic increases in the future.
- Due to the proximity and interconnectedness of the South Linden Avenue and Scott Grade crossing, maintaining the at-grade crossing at Scott Street could result in disproportionately greater impacts on the design and construction of the grade separation at South Linden Avenue.
- San Bruno's role in the joint grade separation project with South San Francisco would significantly change, potentially affecting the funding for the continuation of the planning study.
- If the grade is separated at South Linden Avenue without including Scott Street, and there is desire to separate the grade at Scott Street in the future, the design options available for Scott Street could become more limited than if the two grade separations are designed together. The cost of the grade separation could potentially be more expensive as a shoofly would need to be constructed.
- Future grant funding options for a grade separation at Scott Street as a standalone project could be more limited and more difficult to obtain than as a joint project with South Linden Avenue.

The Project Development Team has a community outreach plan that includes multiple community meetings and City Council briefings. The first community meeting was held on August 16<sup>th</sup> at the South San Francisco Conference Center. The meeting was open to residents from both South San Francisco and San Bruno. At the community meeting representatives from Apex Strategies and AECOM presented the four alternatives that would allow for grade separation at Scott Street. Residents were given an opportunity to ask questions and provide feedback on the alternatives. The primary comments related to Scott Street were as follows.

- One resident commented that, based on some calculations they had performed, they believed it was possible to create a grade separation at Scott Street that would maintain vehicle access without significantly impacting the properties nearby. One of the Project Development Team members from AECOM spoke with that resident at

length after the presentation and determined that the resident's approach did not take the aforementioned constraints of the I-380 viaduct into consideration. Otherwise, there appeared to be little concern from the residents over closing Scott Street to vehicle traffic.

- Residents expressed a strong desire that, whatever form the pedestrian crossing takes, they want it to be safe and clean. As such, they preferred not to have an undercrossing that would be enclosed and out-of-sight which could also be an attractive place for homeless people to stay. They also expressed a desire that the crossing not be a place where bird droppings would collect as it currently happens on San Mateo Avenue under the San Bruno station. CalTrain is currently assessing how to mitigate the bird dropping issues.
- A resident also expressed a preference for the tracks to be lowered rather than raised because they felt the visual and noise impact would be reduced.

The Project Development Team is continuing to execute its community outreach plan. Community outreach will continue from tonight's briefing with another community meeting hosted by the City of San Bruno tentatively planned to occur sometime between the later part of November and middle of December. Another briefing for the City Council is planned for January 2019. A final community meeting is planned for April 2019, during which discussion will be focused on selection of the preferred alternative for the project. It is then expected that both South San Francisco and San Bruno staff will seek approval of the preferred alternative from their respective City Councils in May of 2019. At that point the project will be ready to proceed to the Environmental Study phase.

**FISCAL IMPACT:**

There is no fiscal impact associated with receiving this update.

**ALTERNATIVES:**

None.

**RECOMMENDATION:**

Receive update on Planning Study for the South Linden Avenue and Scott Street Caltrain Grade Separation Project and provide direction on Scott Street closure.

**DISTRIBUTION:**

1. None

**ATTACHMENTS:**

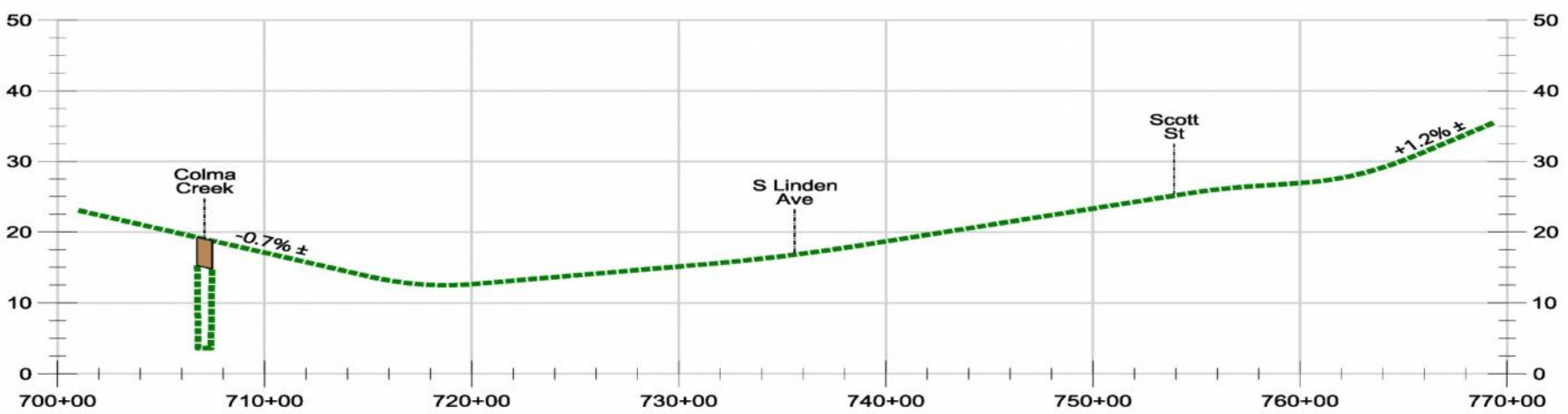
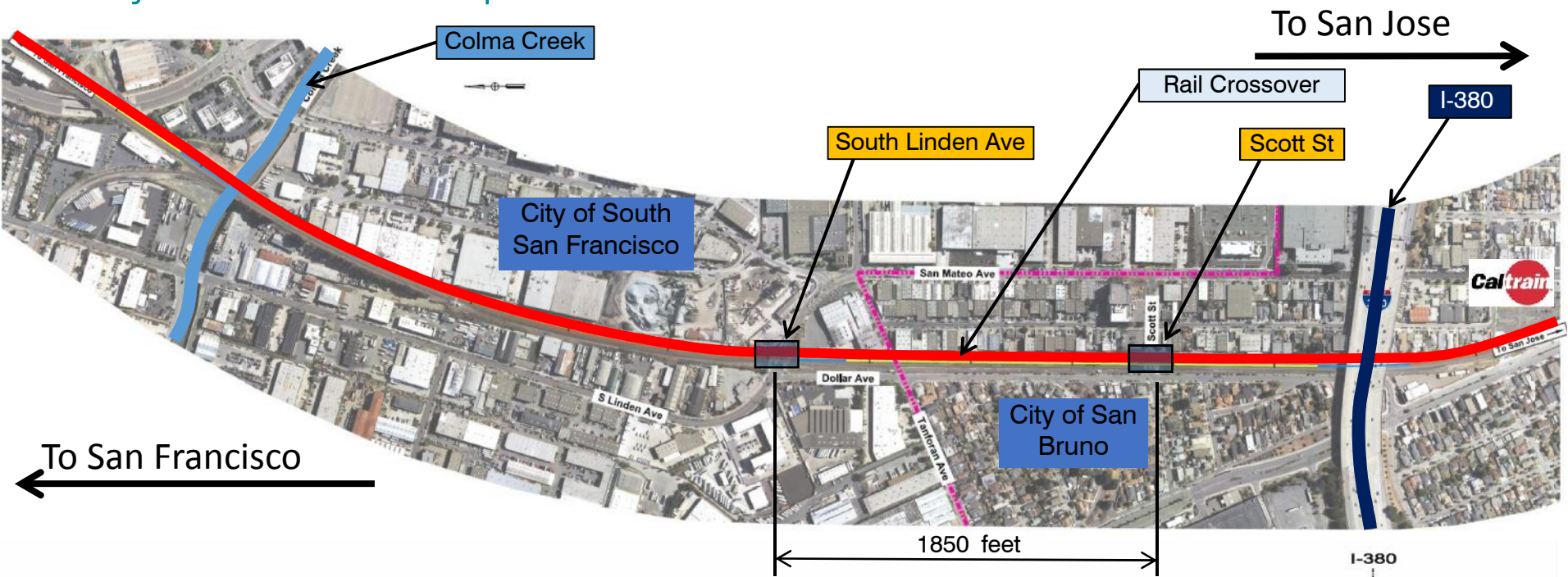
1. Project Location Map
2. Four Alternatives to Evaluate
3. Alternative 1: Hybrid Track Raised and Road Lowered
4. Alternative 2: Hybrid Road Raised and Track Lowered

5. Alternative 3: Track At-Grade and Road Lowered
6. Alternative 4: Track At-Grade and Road Raised
7. Scott Street Overpass/Underpass Concept 1
8. Scott Street Overpass/Underpass Concept 2

**DATE PREPARED:**

September 28, 2018

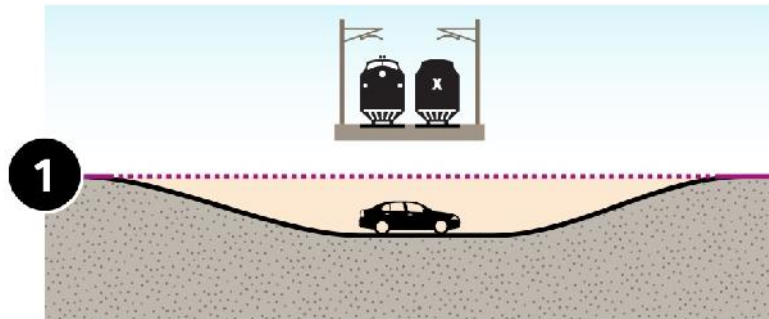
# Project Location Map



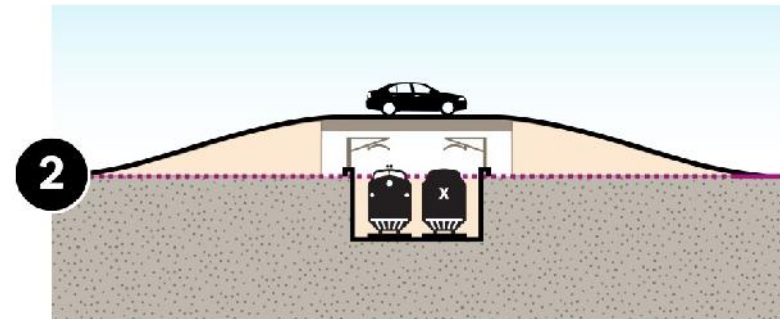
Vertical scale is exaggerated

# Four Alternatives to Evaluate

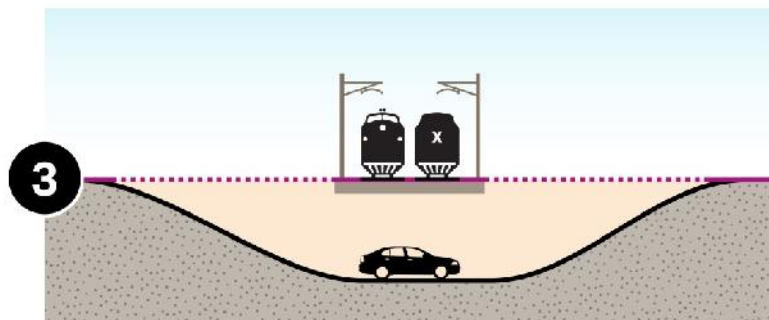
**Alt 1: Hybrid - Track Raise/Road Lower**



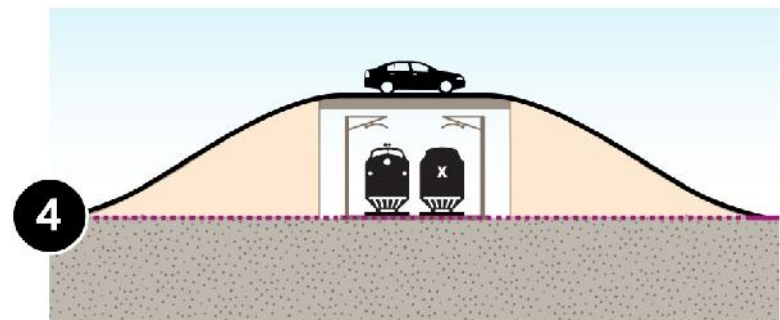
**Alt 2: Hybrid - Road Raise/Track Lower**



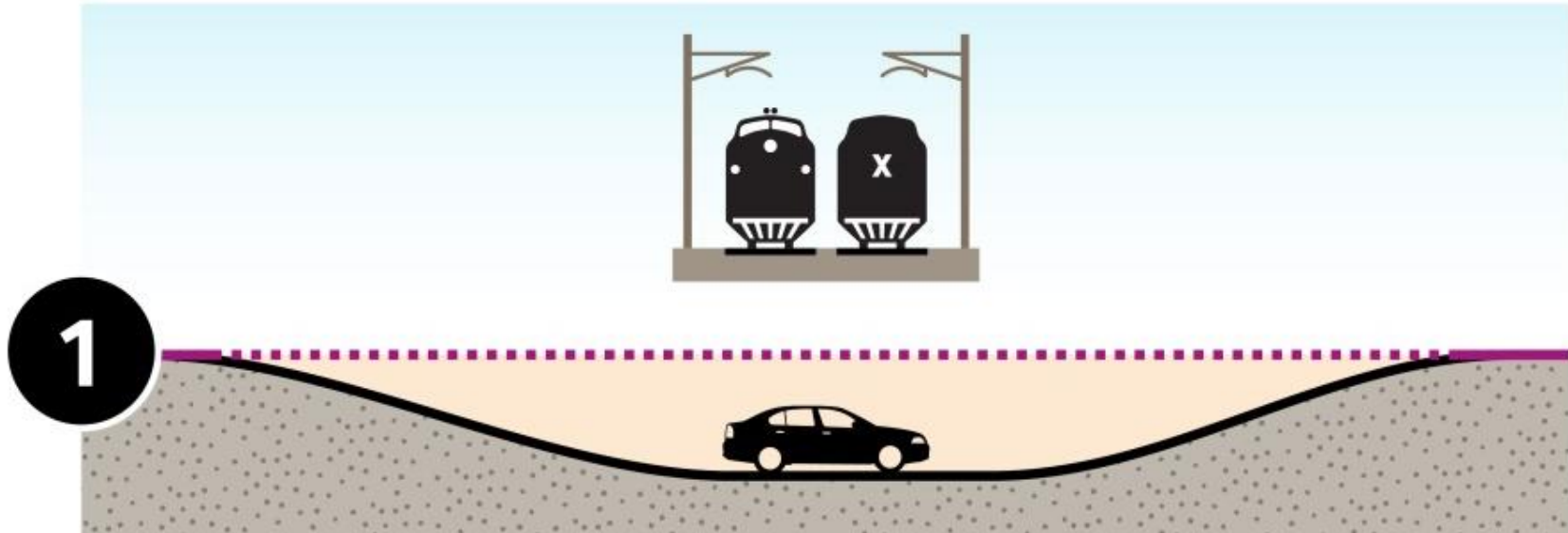
**Alt 3: Road Under**



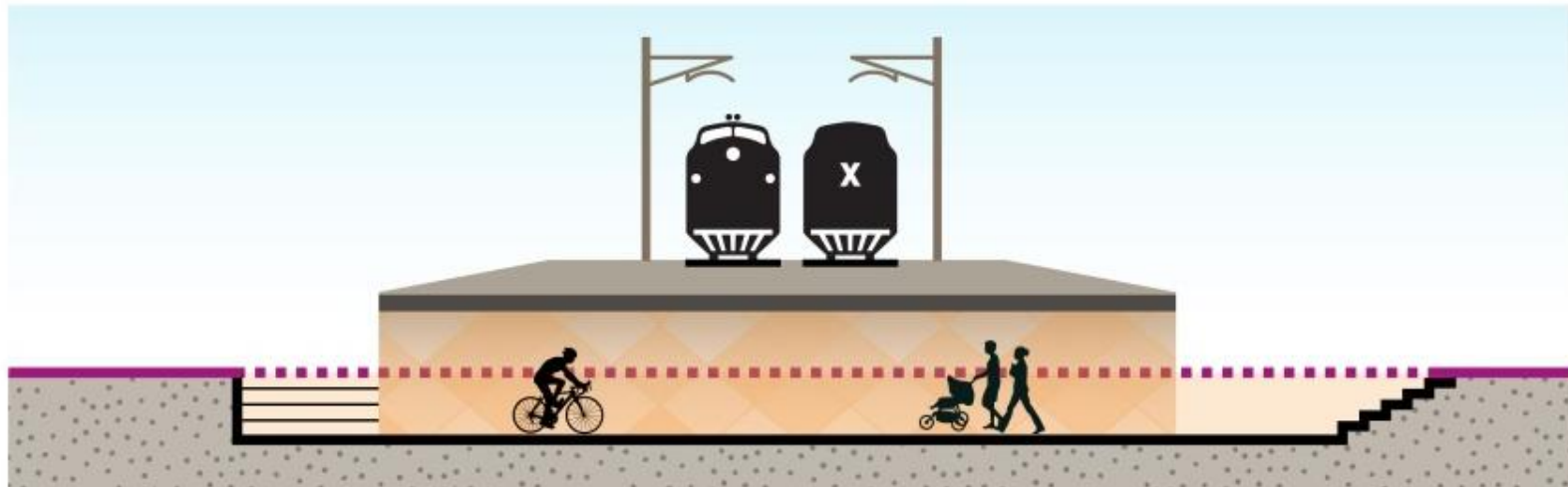
**Alt 4: Road Over**



# Alternative 1: Hybrid Track Raised and Road Lowered

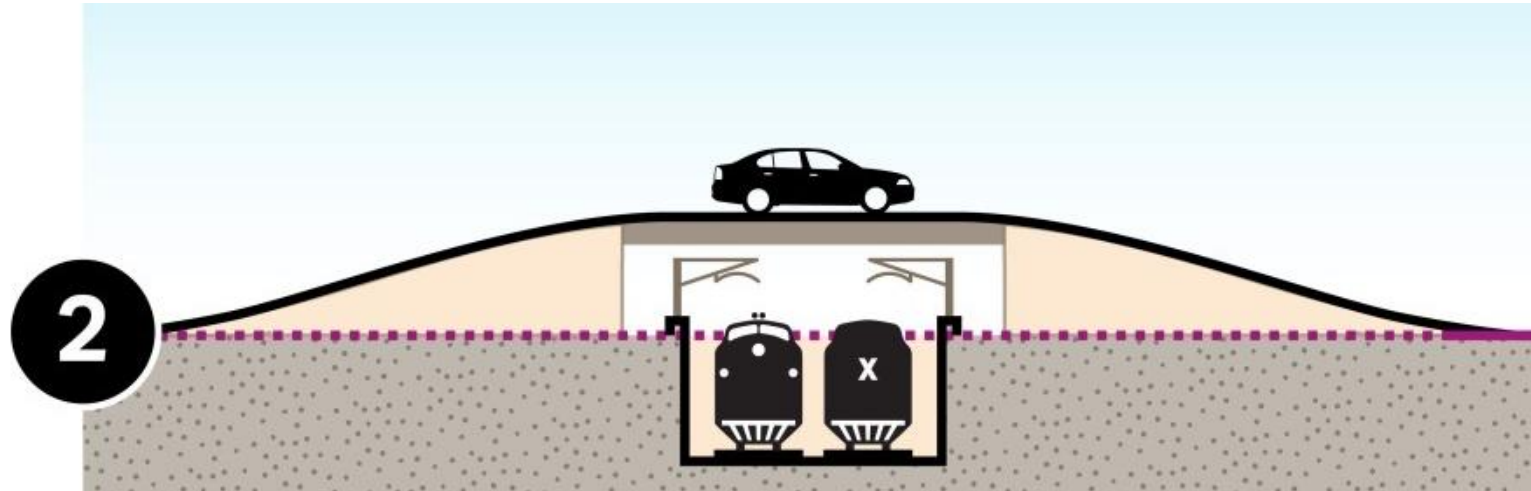


South Linden Ave: Track Raised and Road Lowered

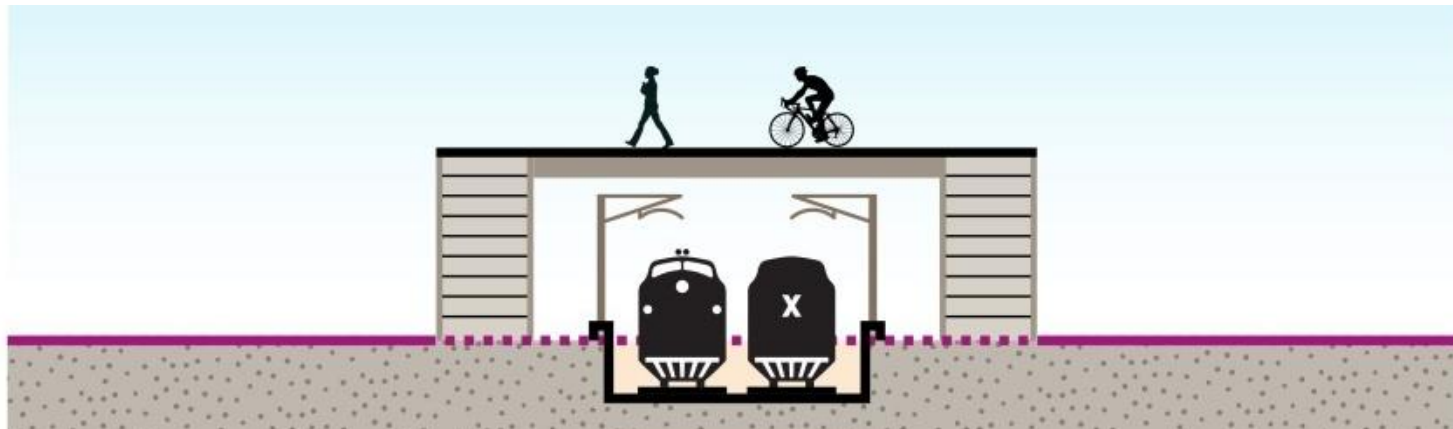


Scott Street: Ped/Bike Underpass

## Alternative 2: Hybrid Road Raised and Track Lowered

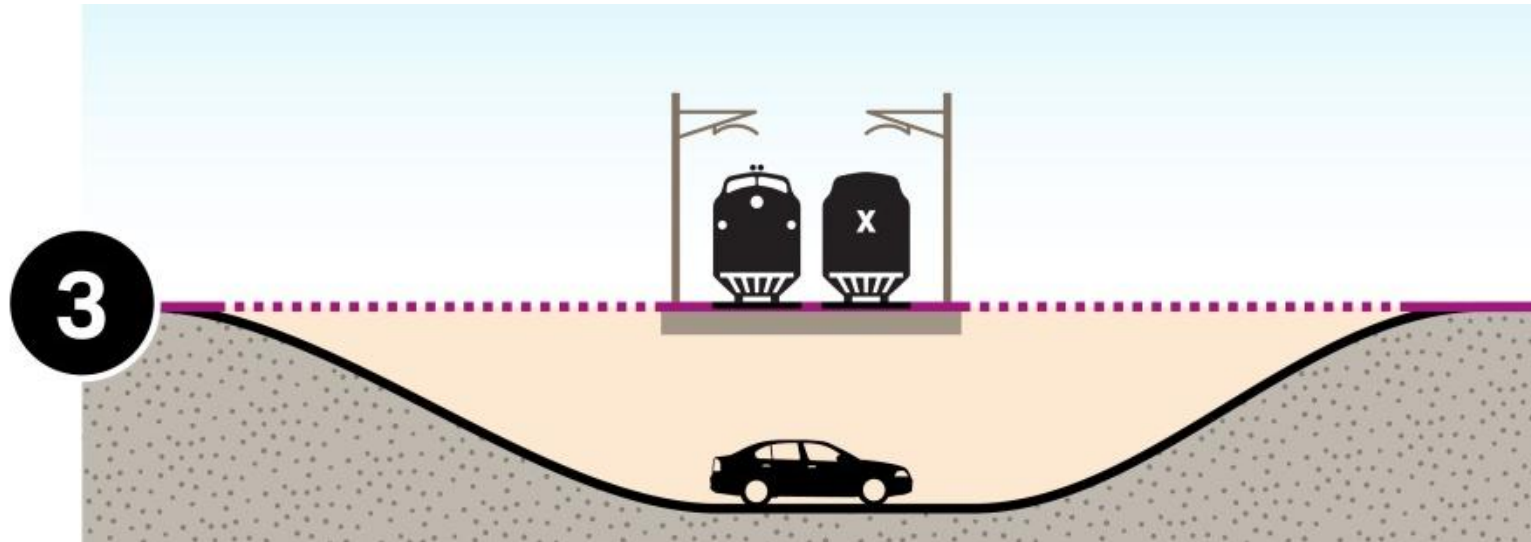


South Linden Ave: Road Raised and Track Lowered

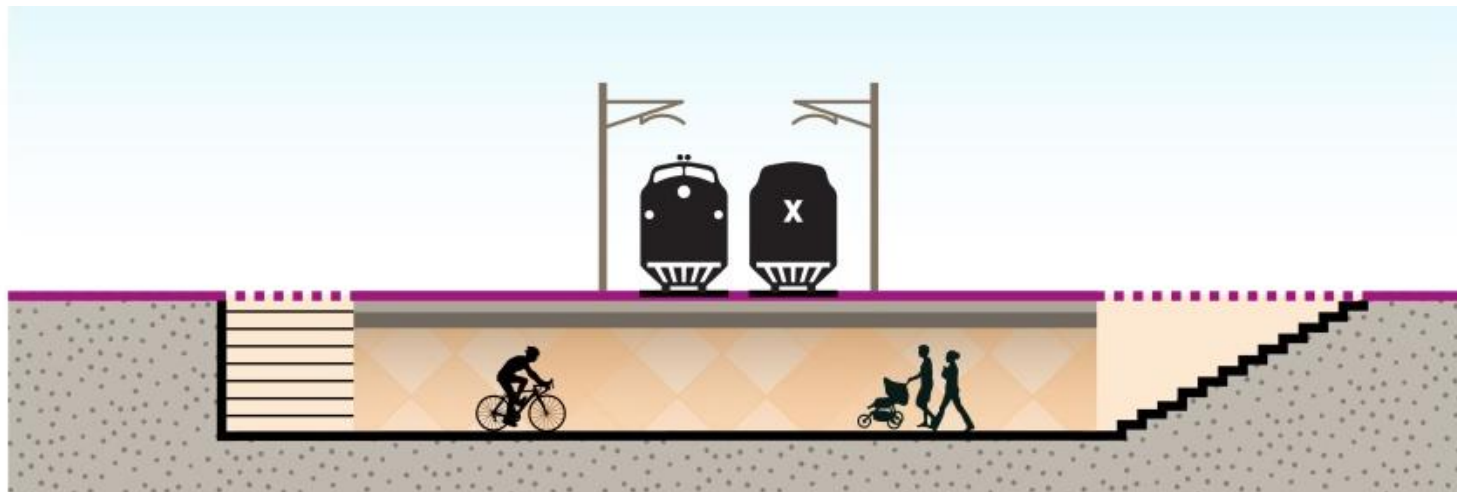


Scott Street: Ped/Bike Overpass (Underpass also ok)

## Alternative 3: Track At-Grade and Road Lowered

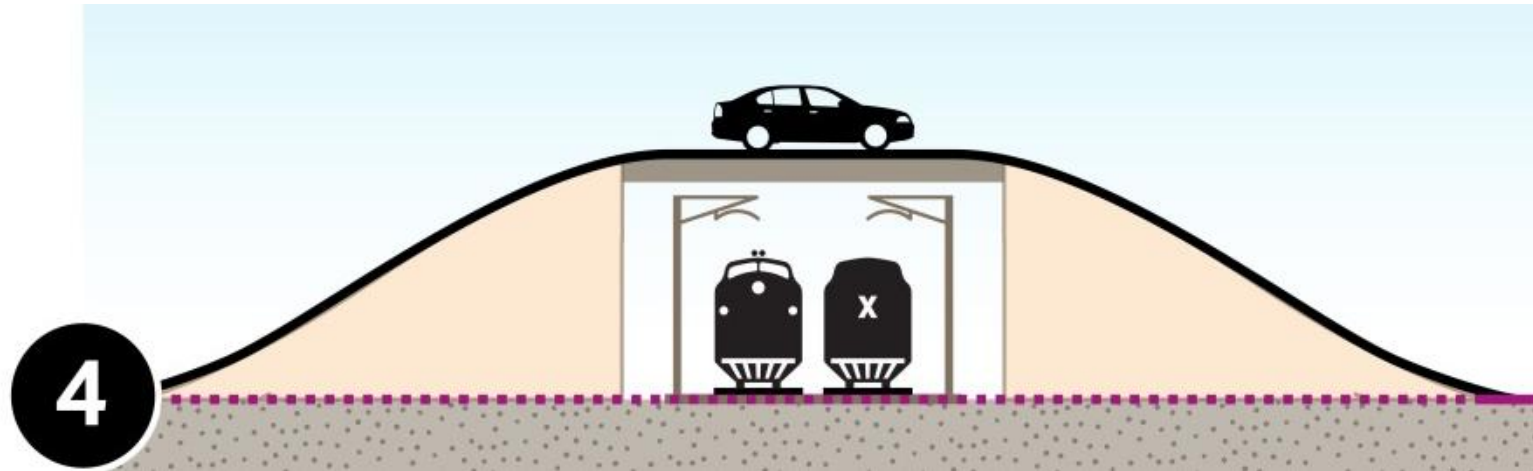


South Linden Ave: Track At-Grade and Road Lowered

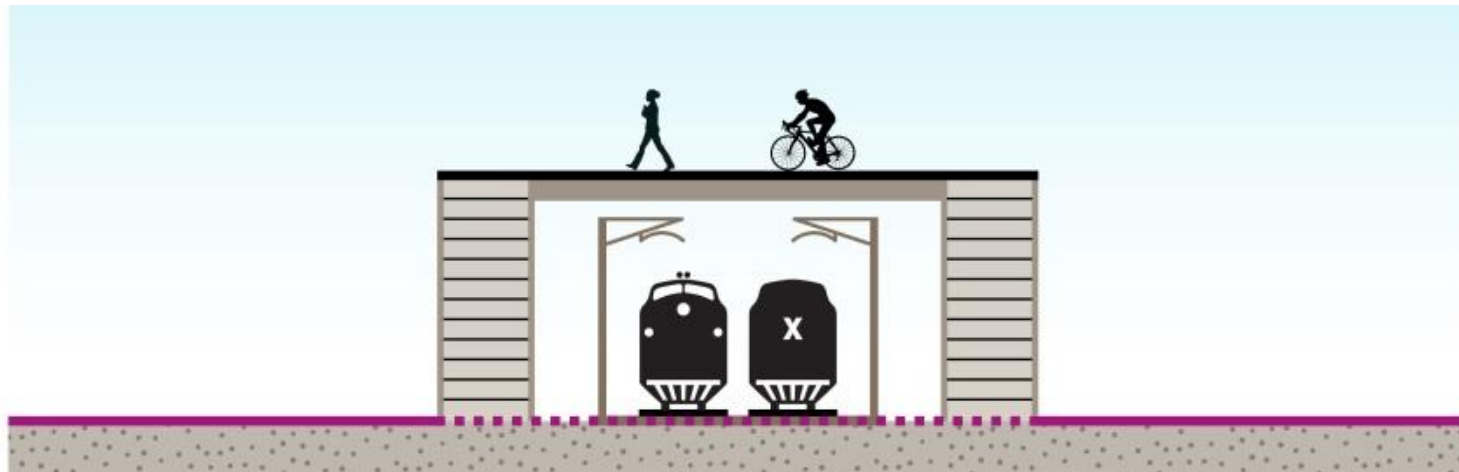


Scott Street: Ped/Bike Underpass (Overpass also ok)

## Alternative 4: Track At-Grade and Road Raised

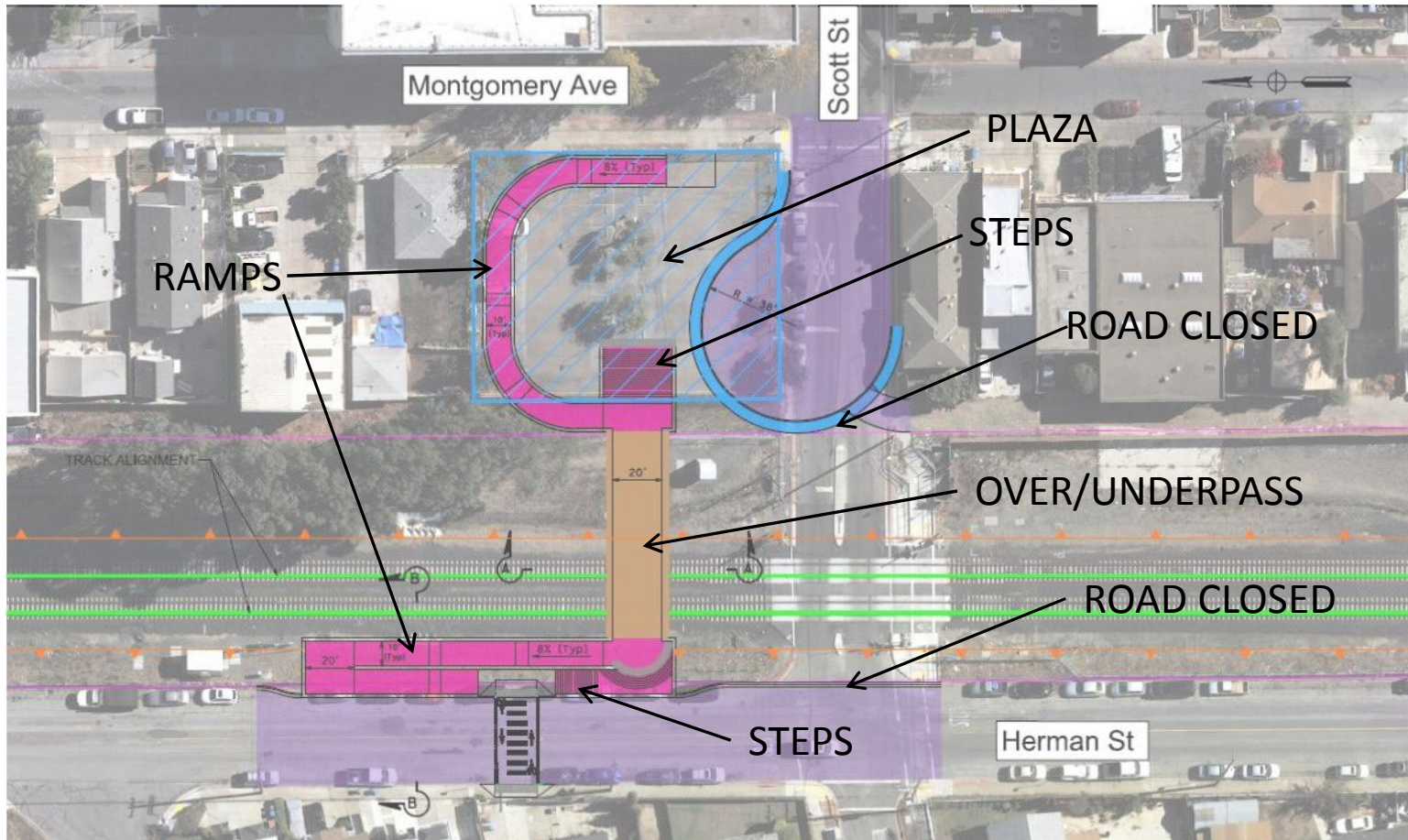


South Linden Ave: Track At-Grade and Road Raised



Scott Street: Ped/Bike Overpass (Underpass also ok)

# Scott St with Overpass or Underpass Concept 1



# Scott St with Overpass or Underpass Concept 2

