

South Linden Avenue & Scott Street Grade Separation Planning Study

South San Francisco City Council Meeting

January 15, 2020



Agenda

- Project Background
- Work Done to Date
- Caltrain Presentation - Planning Context
- Project Alternatives
- Temporary Impacts during Construction
- Advantages & Disadvantages
- Questions/ Comments

South Linden Avenue and Scott Street Grade Separation Planning Study



Work Done to Date

- August 2018 SSF & San Bruno Community Meeting #1 (four alternatives)
- June/September 2018 Council Updates
- August 2019 San Bruno Only Community Meeting #2
- November 2019 San Bruno City Council Update (ped/bike crossing only at Scott St preferred)
- January 2020 SSF City Council Update

South Linden Avenue and Scott Street Grade Separation Planning Study



Why Build a Grade Separation/Why is the Project Needed?

- Improve Traffic Circulation/Mobility
 - Reduce traffic delays caused by gate down times
 - Improve traffic flow across railroad crossing
- Increase Public Safety (vehicular, bicycle, and pedestrian)
 - Eliminates pedestrian, bicyclist and motor vehicle conflicts with the railroad... this eliminates the potential for accidents
 - Improve pedestrian and bicycle access

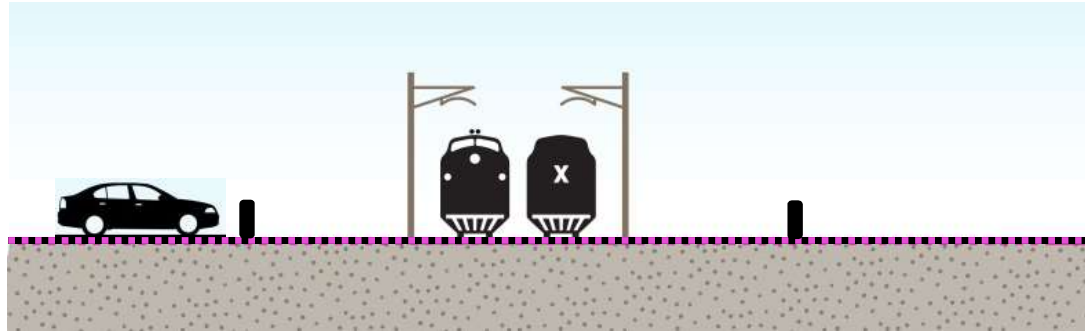
Safer Facility + Less Congestion = *Higher Quality of Life*

South Linden Avenue and Scott Street Grade Separation Planning Study



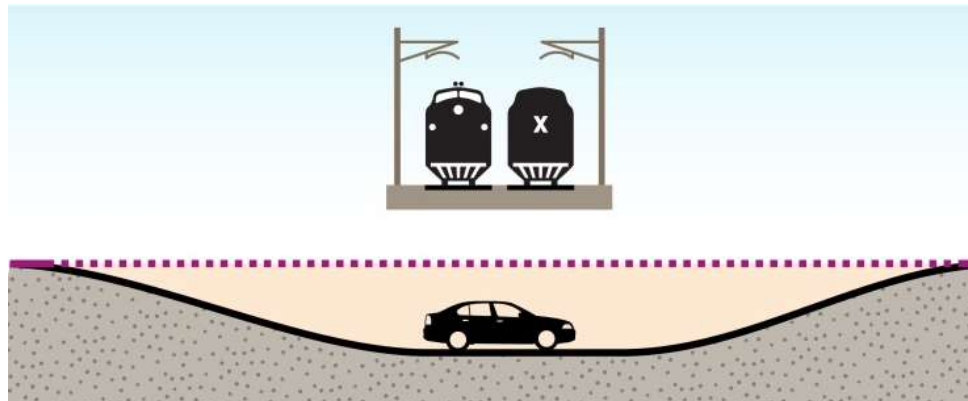
AT- GRADE

- Road and tracks intersect at the same elevation.



GRADE SEPARATION

- Road and tracks intersect at different elevations

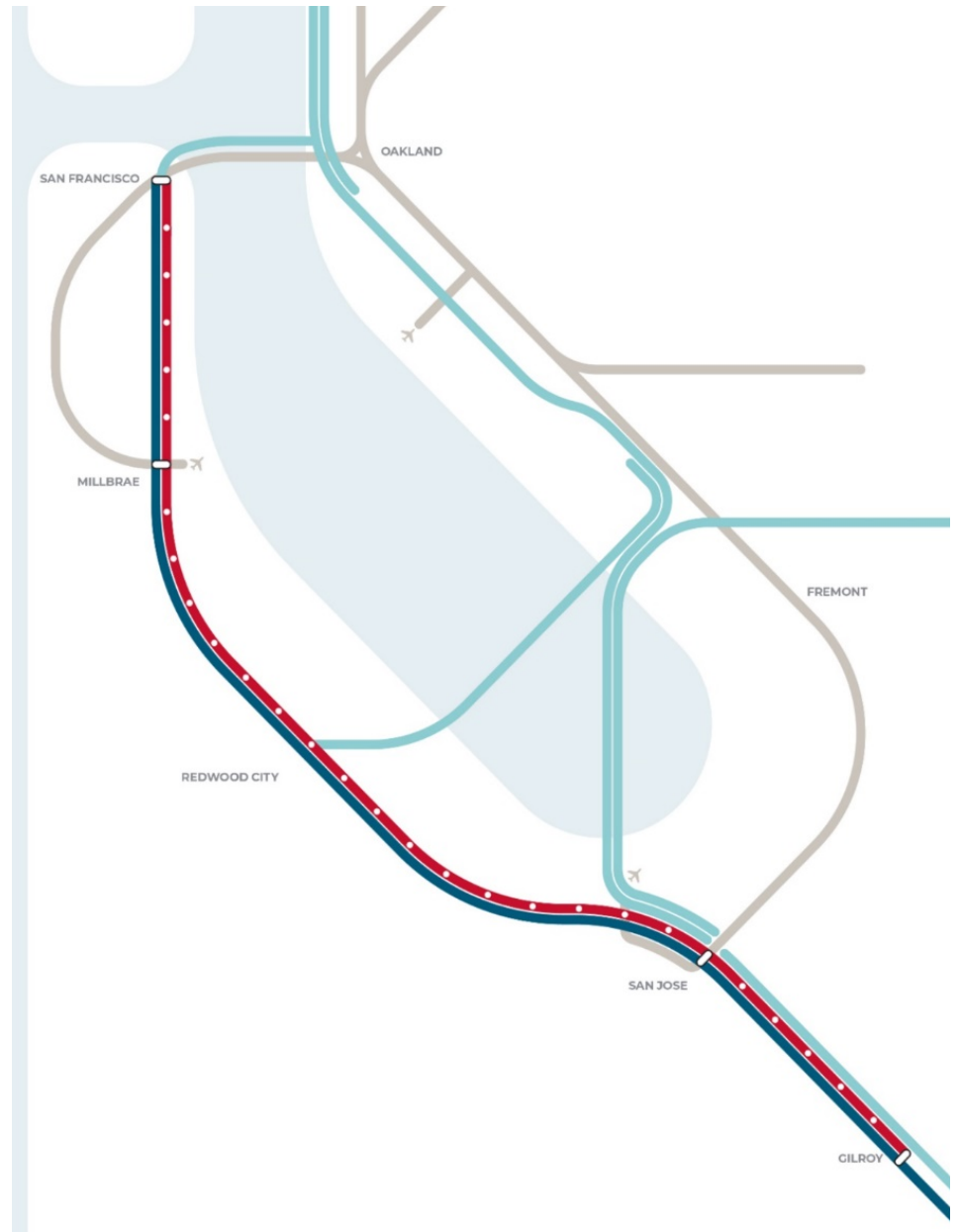


South Linden Avenue and Scott Street Grade Separation Planning Study



Caltrain Corridor: Current Planning Efforts Relevant to South San Francisco

- **Caltrain Business Plan Effort**
- **City-Led Grade Separation Efforts**
- **California High Speed Rail Project**



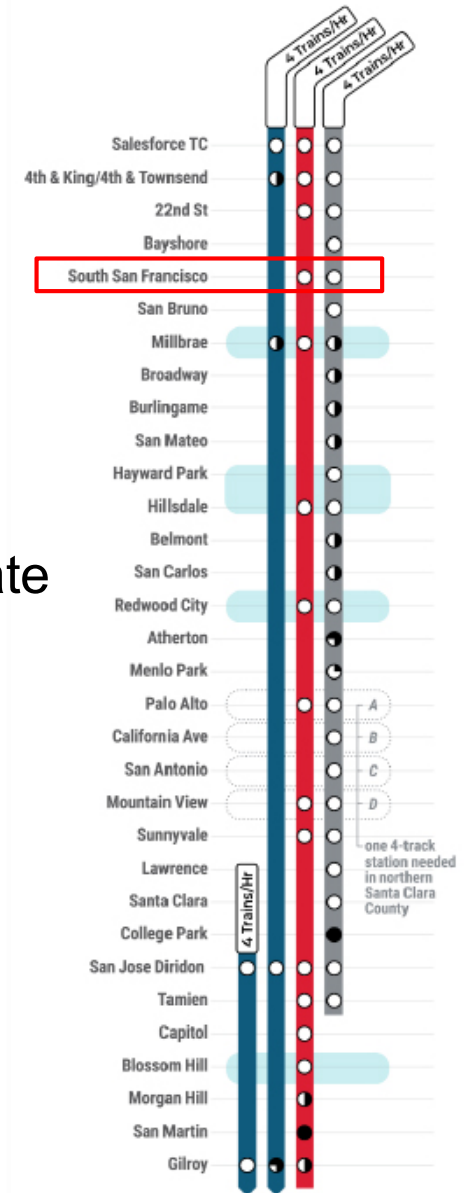
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Caltrain Business Plan Effort

Objectives

- Develop a Long Range Service Vision
 - Planning Horizon through 2040.
 - 3 Scenarios Examines: Baseline, Moderate Growth and High Growth.
 - Long Range Service Vision, based on Moderate Growth Scenario, adopted by JPB Board in October 2019.
 - Accommodates 12 trains per “peak” hour/per direction (TPHPD)
 - 8 Caltrain TPHPD
 - 4 High-Speed Rail TPHPD
- Determine necessary infrastructure upgrades to accommodate the Long Range Service Vision.



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Caltrain Business Plan Effort



Potential Higher Growth Level of Service

- Board also gave direction to continue planning for a “potential higher growth level of service as well as potential new regional and megaregional connections.”
- Higher growth level of service could accommodate up to 16 (TPHPD).
 - 12 Caltrain/Other Rail Services TPHPD
 - 4 High-Speed Rail TPHPD
- A higher growth level of service may include a 4-track section through South San Francisco.

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Caltrain Business Plan Effort

SERVICE CONCEPTS IN SOUTH SAN FRANCISCO

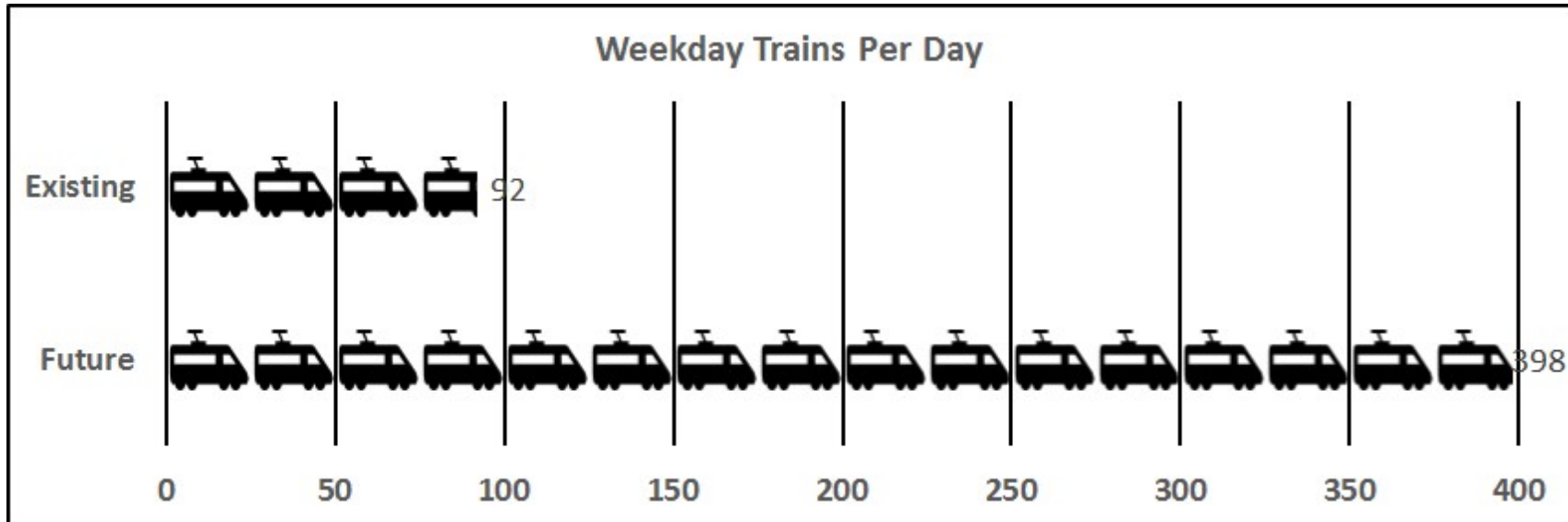


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Caltrain Business Plan Effort

Long Range Service Vision (Adopted Moderate Growth Scenario): Weekday Trains Per Day



Potential Higher Growth Level of Service: Weekday Trains Per Day

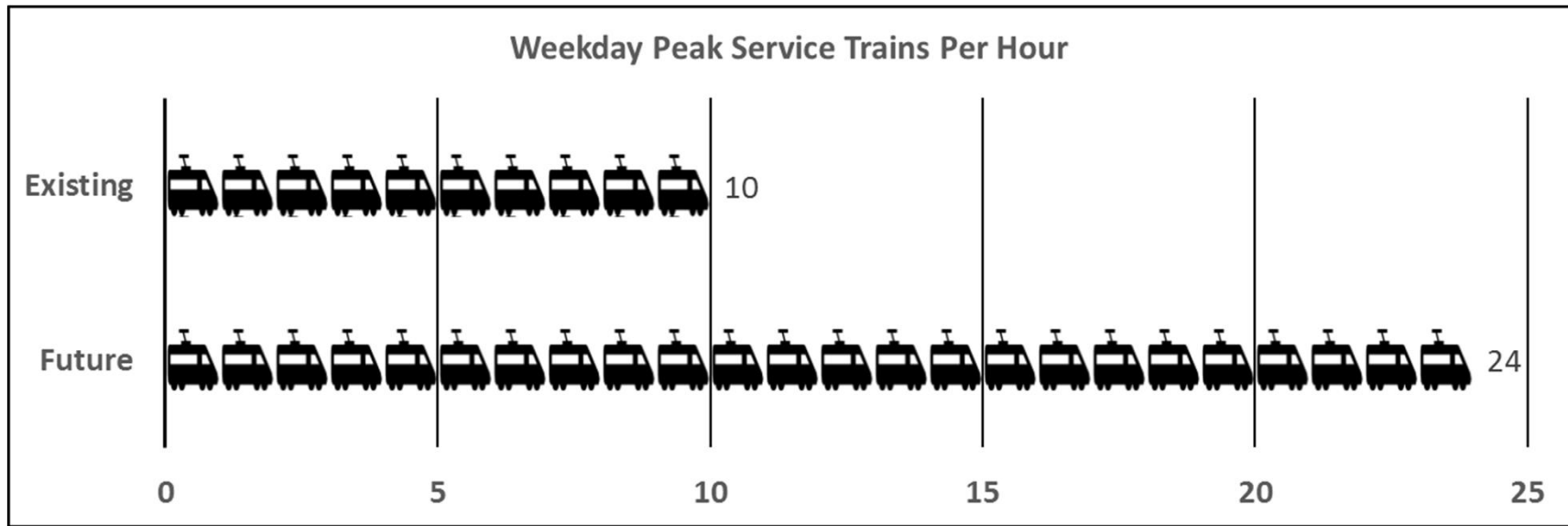
- Could go as high as 478.

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Caltrain Business Plan Effort

Long Range Service Vision (Adopted Moderate Growth Scenario): Number of Weekday Trains at “Peak” Hours



Potential Higher Growth Level of Service

- Could go as high as 32 trains/peak hour.

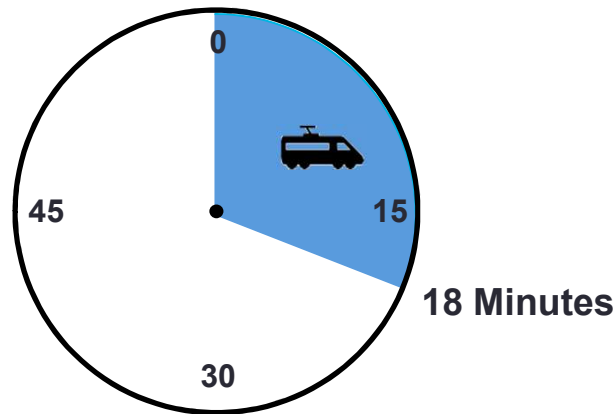
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Caltrain Business Plan Effort

Gate Down Times at Peak Hours at South Linden Avenue in South San Francisco

Gate Down
(Minutes per Hour)



Future
(Moderate Growth Scenario)

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City-Led Grade Separation Efforts

- Currently, numerous City-led grade separation projects underway and at various stages of development.
- Cities currently compete with each other for limited funding and priority.

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City-Led Grade Separation Efforts



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City-Led Grade Separation Efforts



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California High Speed Rail Project

Project-Level EIR/EIS Underway for San Francisco-San Jose Section

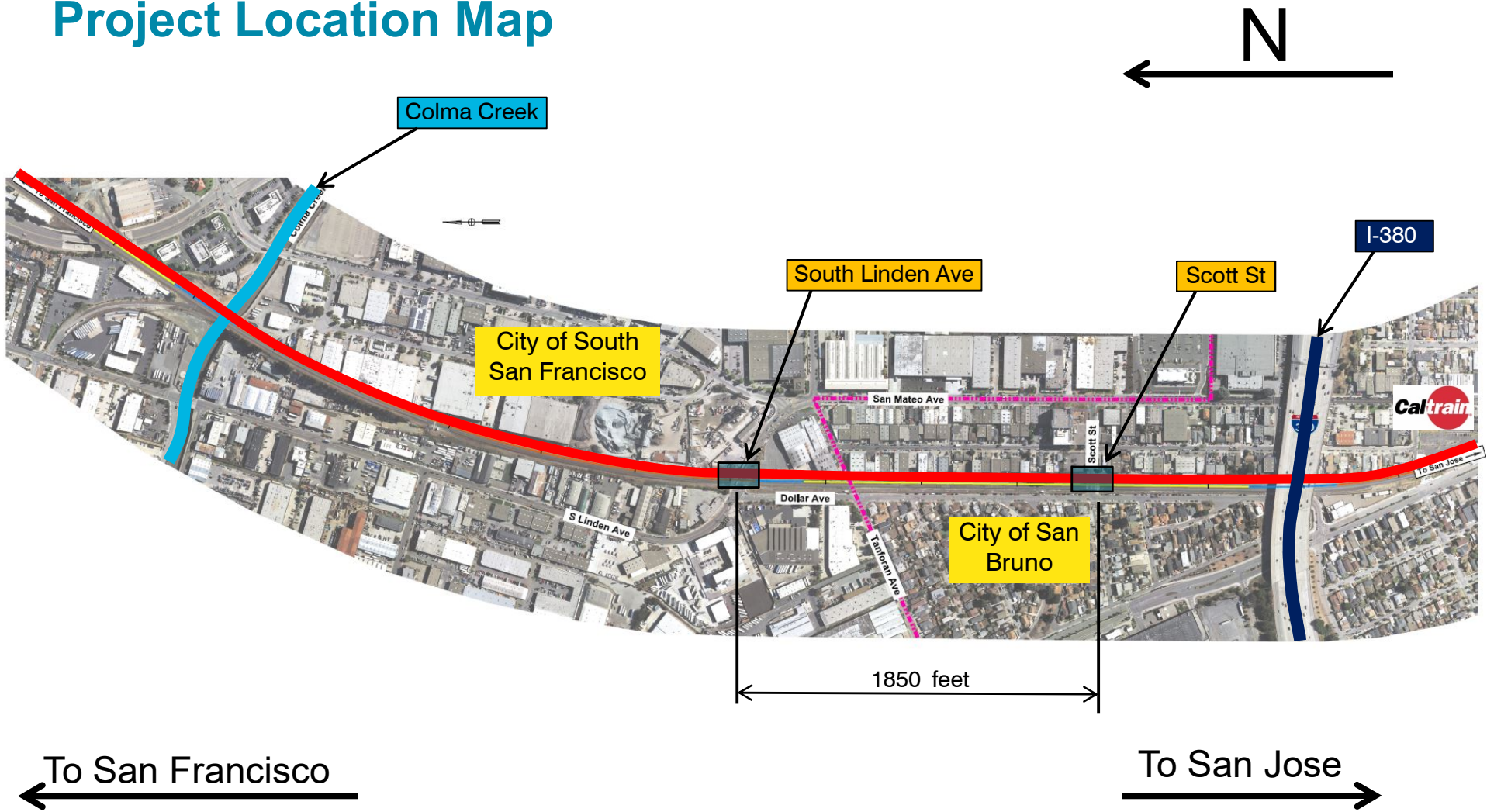
- On September 17, California High-Speed Rail Authority Adopted Alternative A as their preferred alternative.



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Project Location Map

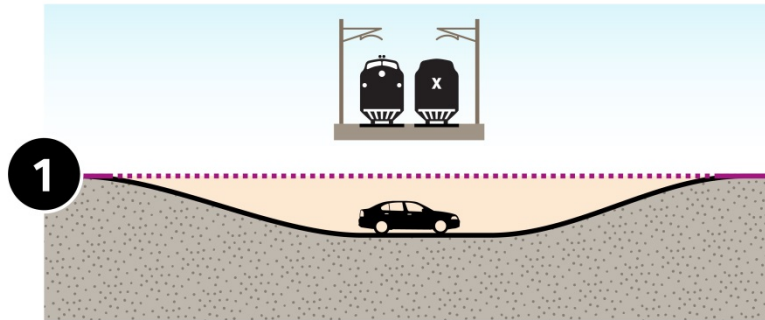


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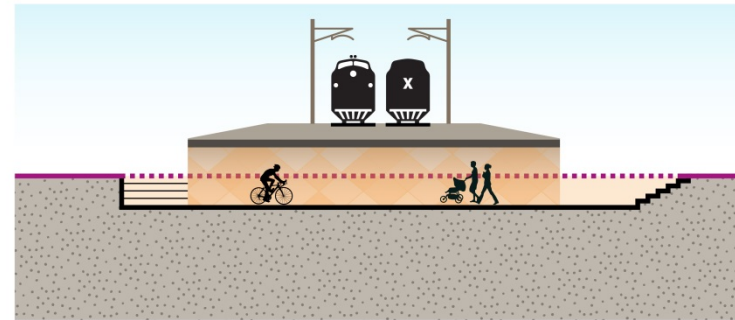
Four Alternatives to Evaluate

Alternative 1: Hybrid (Track Raised, Roadway Lowered)



South Linden Avenue

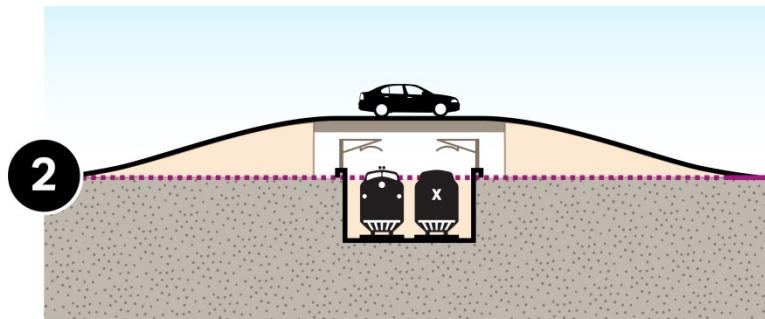
Rail Partially Elevated/Roadway Partially Lowered



Scott Street

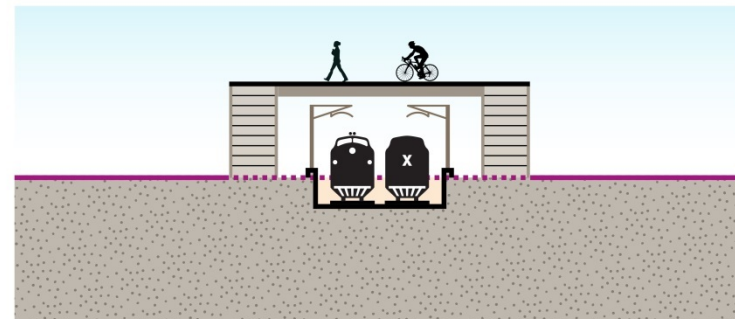
Rail Partially Elevated with a Pedestrian/Bike Underpass

Alternative 2: Hybrid (Track Lowered, Roadway Raised)



South Linden Avenue

Rail Lowered, Roadway Elevated



Scott Street

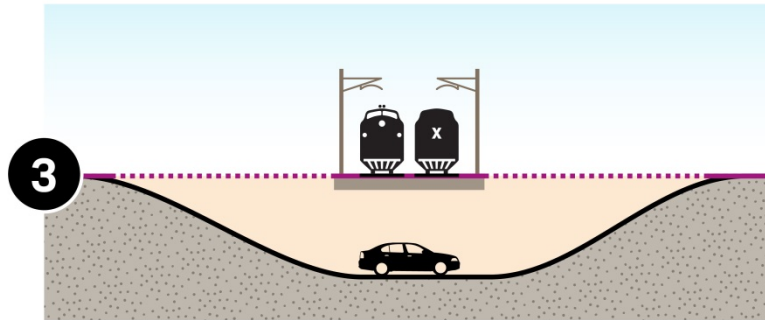
Rail Lowered with a Ped/Bike Overpass or Underpass

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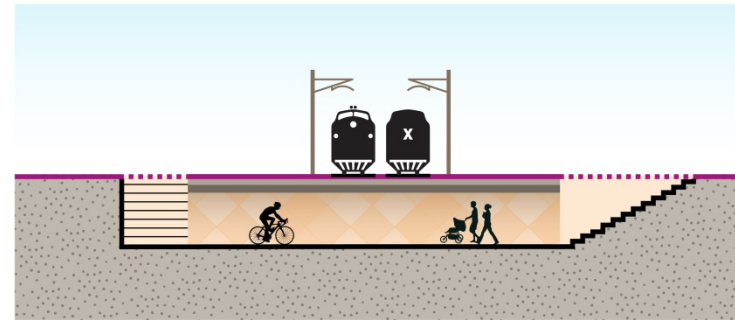


Four Alternatives to Evaluate

Alternative 3: Rail at grade with Roadway Underpass

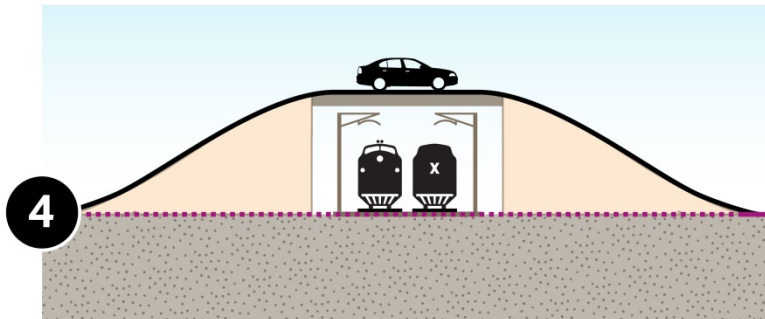


South Linden Avenue
Rail at-grade, Roadway Lowered

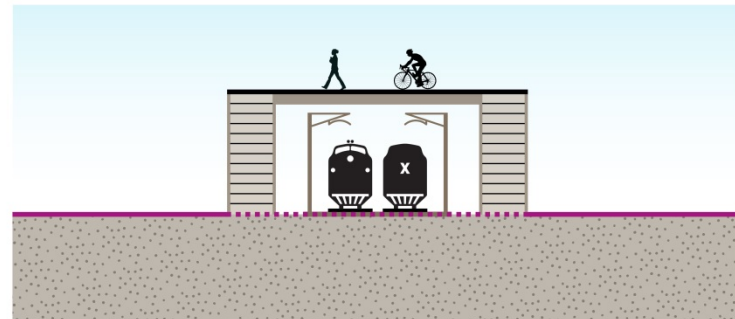


Scott Street
Rail at-grade with a **Ped/Bike Overpass or Underpass**

Alternative 4: Rail at grade with Roadway Overpass



South Linden Avenue
Rail at-grade, Roadway Elevated



Scott Street
Rail at-grade with a **Ped/Bike Overpass or Underpass**

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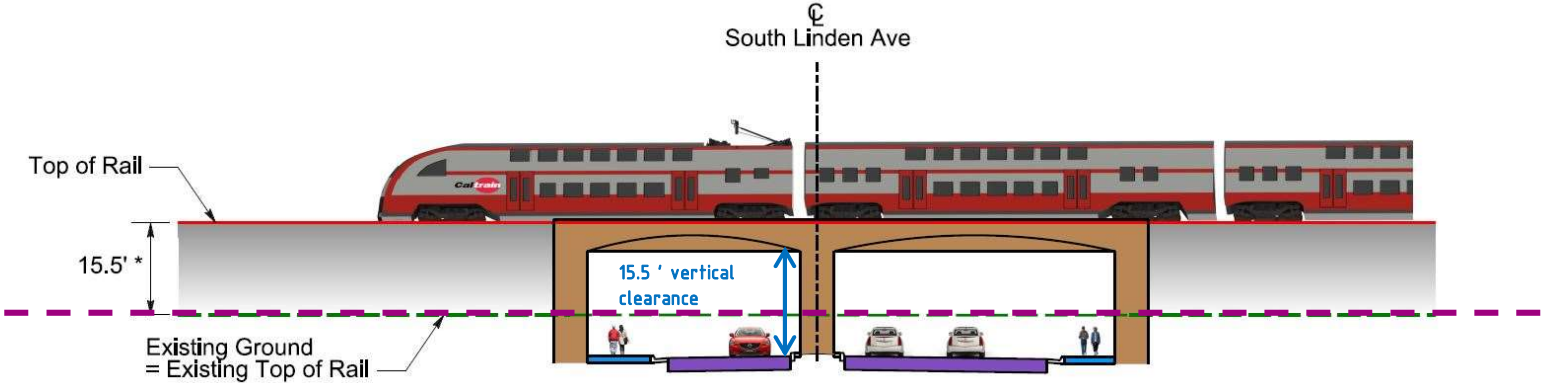
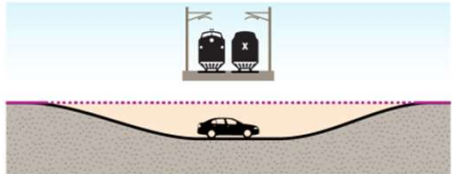
Alternative 1: Hybrid (Track Raised, Roadway Lowered) South Linden Avenue Layout



South Linden Avenue and Scott Street Grade Separation Planning Study



Alternative 1: Hybrid (Track Raised, Roadway Lowered) South Linden Avenue Typical Section



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Example of Hybrid Alternative

- Holly Street, San Carlos
- Issues
 - Long embankments
 - Raised tracks
 - Improved connectivity
 - Reduced impact to adjacent properties



South Linden Avenue and Scott Street Grade Separation Planning Study



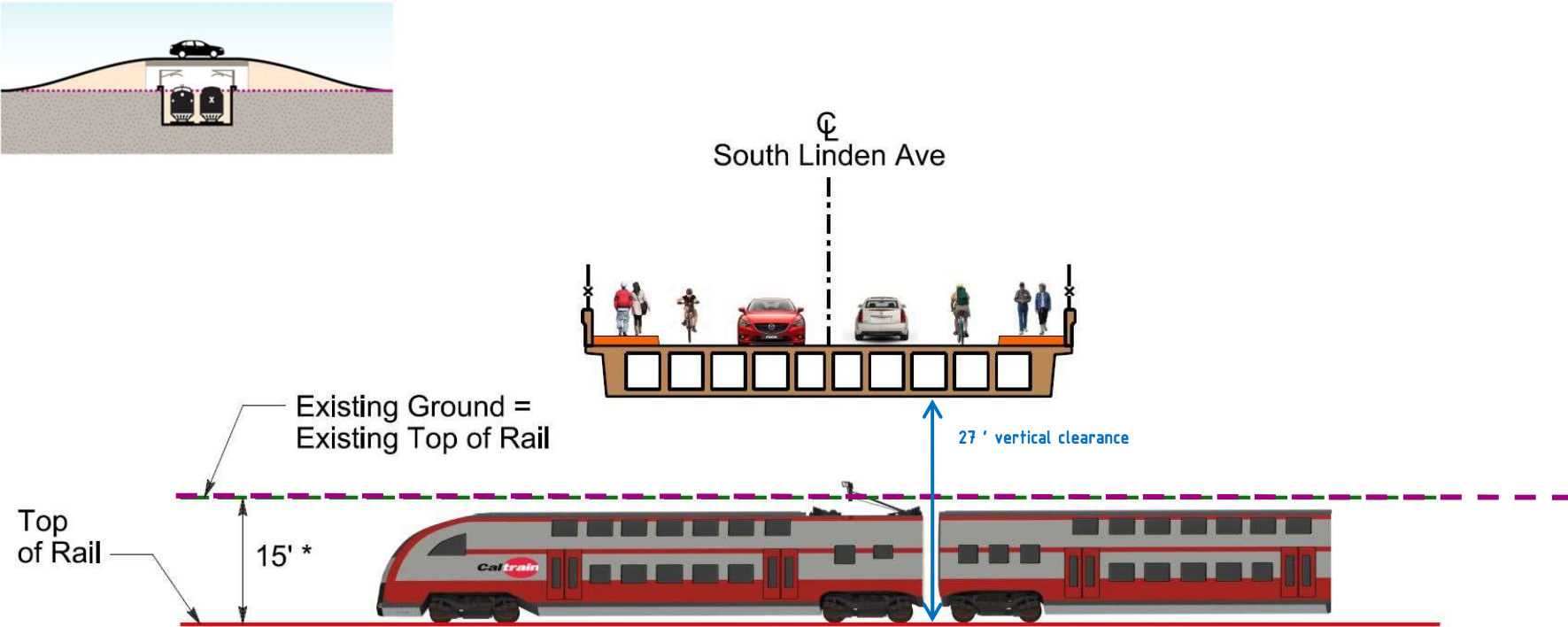
Alternative 2: Hybrid (Track Lowered, Roadway Raised) South Linden Avenue Layout



South Linden Avenue and Scott Street Grade Separation Planning Study



Alternative 2: Hybrid (Track Lowered, Roadway Raised) South Linden Avenue Typical Section



* Elevation difference between the proposed and existing top of rail at the centerline of South Linden Avenue



Alternative 3: Rail at grade with Roadway Underpass

South Linden Avenue Layout

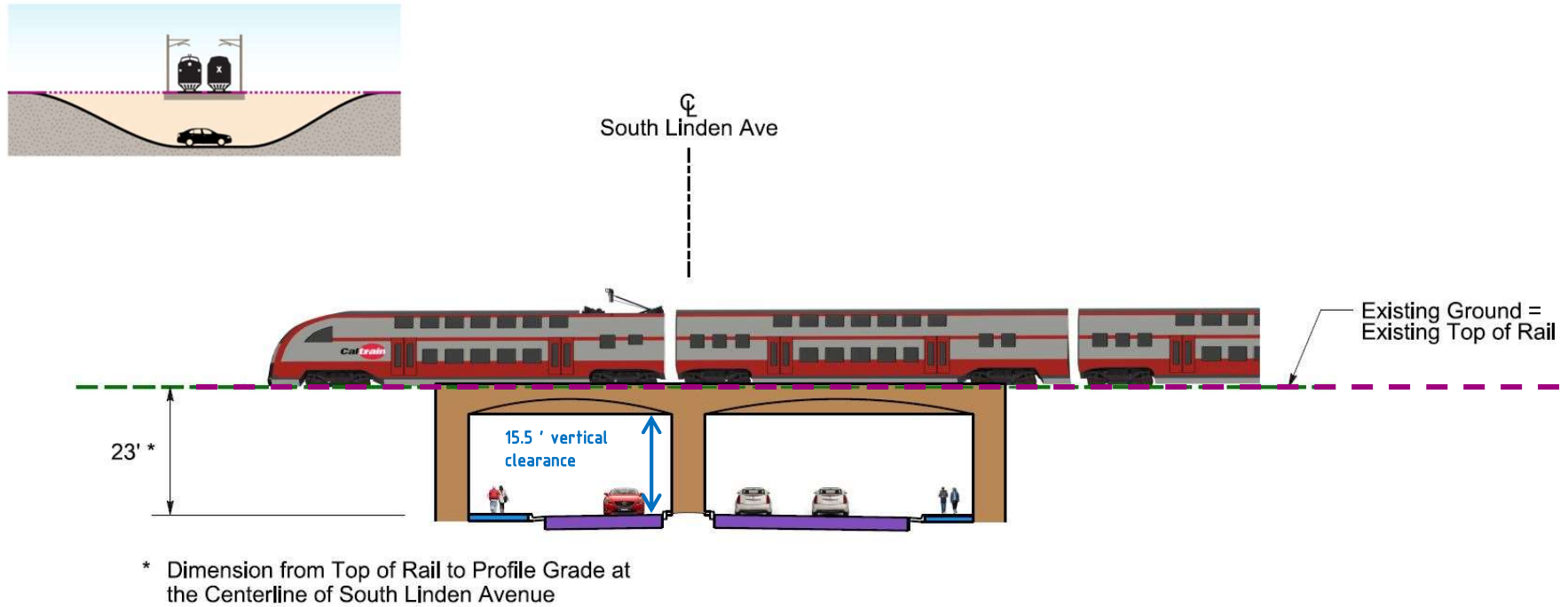


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Alternative 3: Rail at grade with Roadway Underpass

South Linden Avenue Typical Section



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Example of Underpass Alternative

- Jefferson Avenue, Redwood City
- Issues
 - Retaining walls
 - Limits access to adjacent properties
 - Side street connectivity

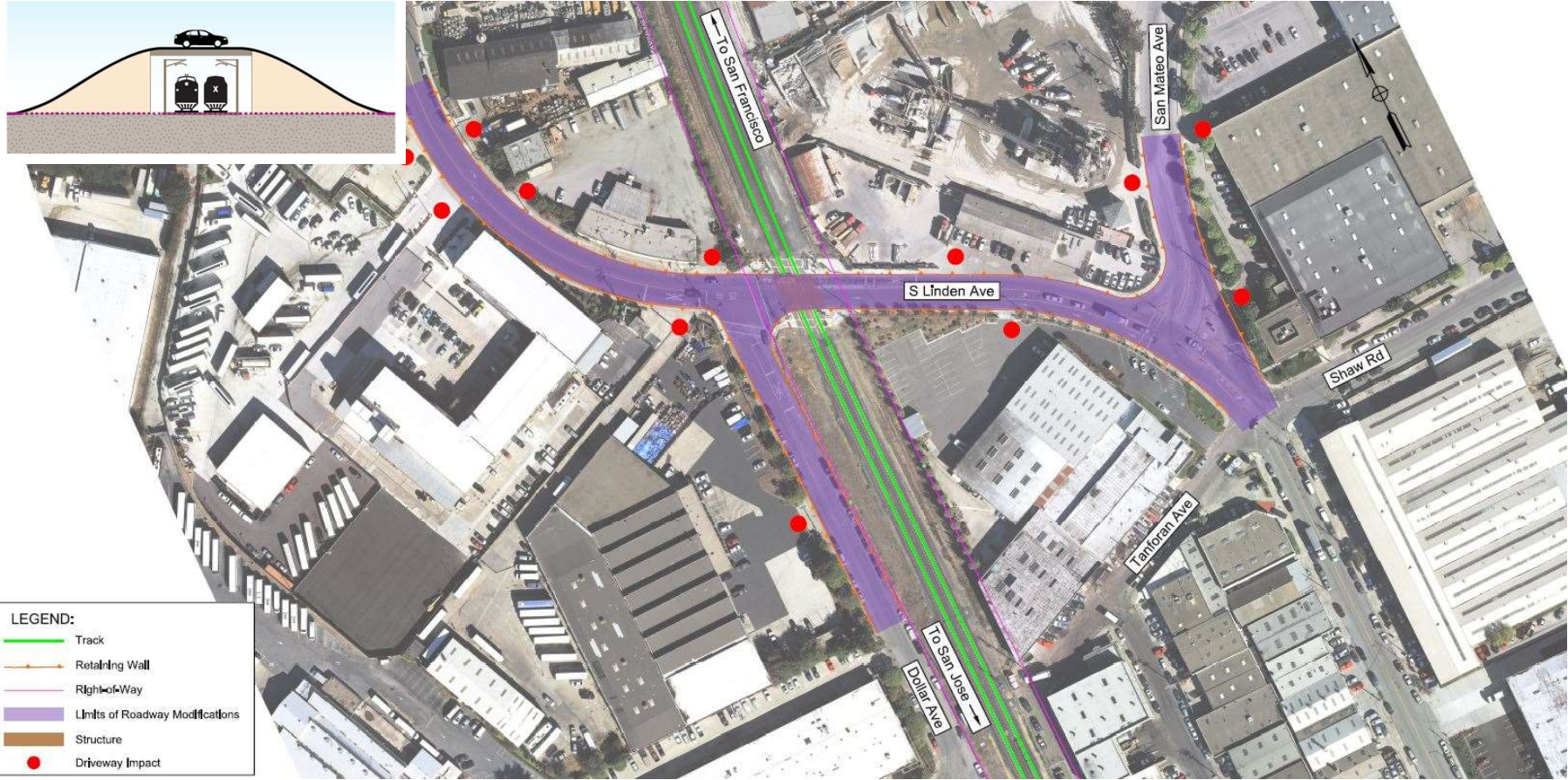


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Alternative 4: Rail at grade with Roadway Overpass

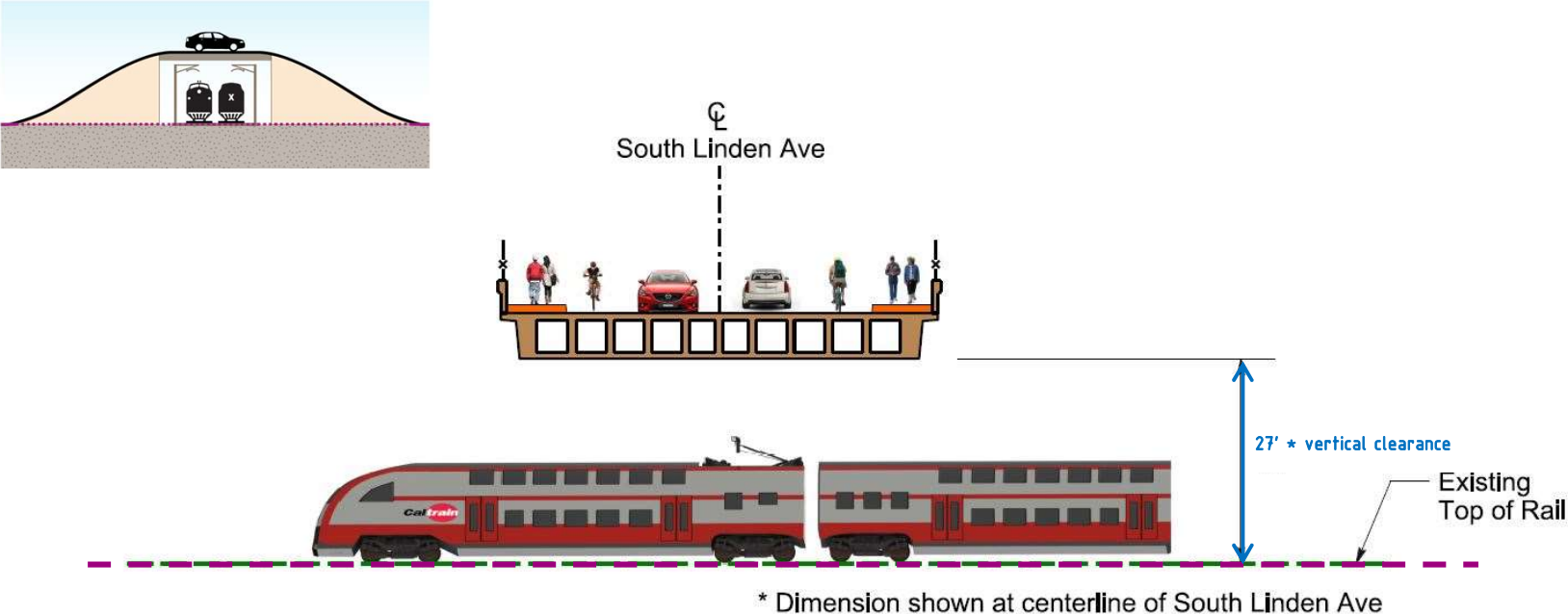
South Linden Avenue Layout



South Linden Avenue and Scott Street Grade Separation Planning Study



Alternative 4: Rail at grade with Roadway Overpass South Linden Avenue – Typical Section



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Example of Overpass Alternative

- San Antonio Road, Mountain View
- Issues
 - Requires 30 ft bridge
 - Overpass length: 1,100 ft
 - Requires raising El Camino Real
 - Major visual impacts
 - Largest footprint

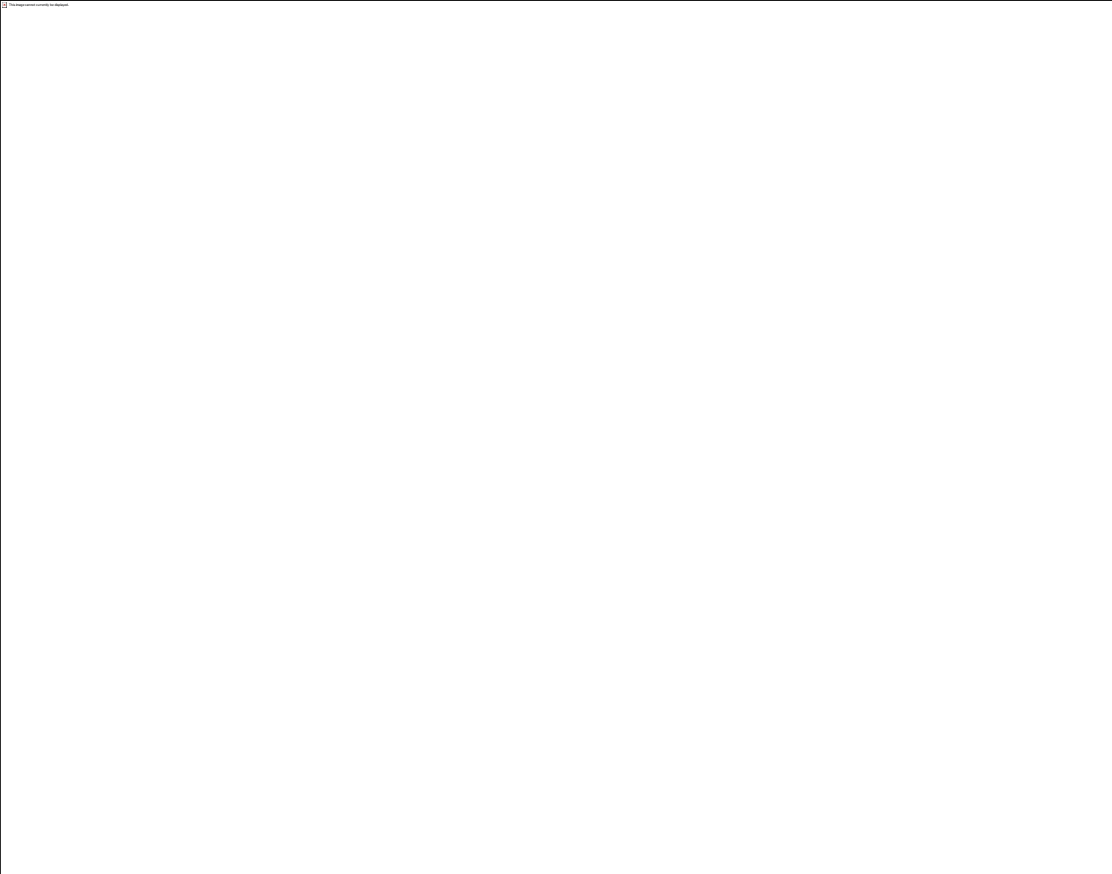


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What Is a Shoofly?

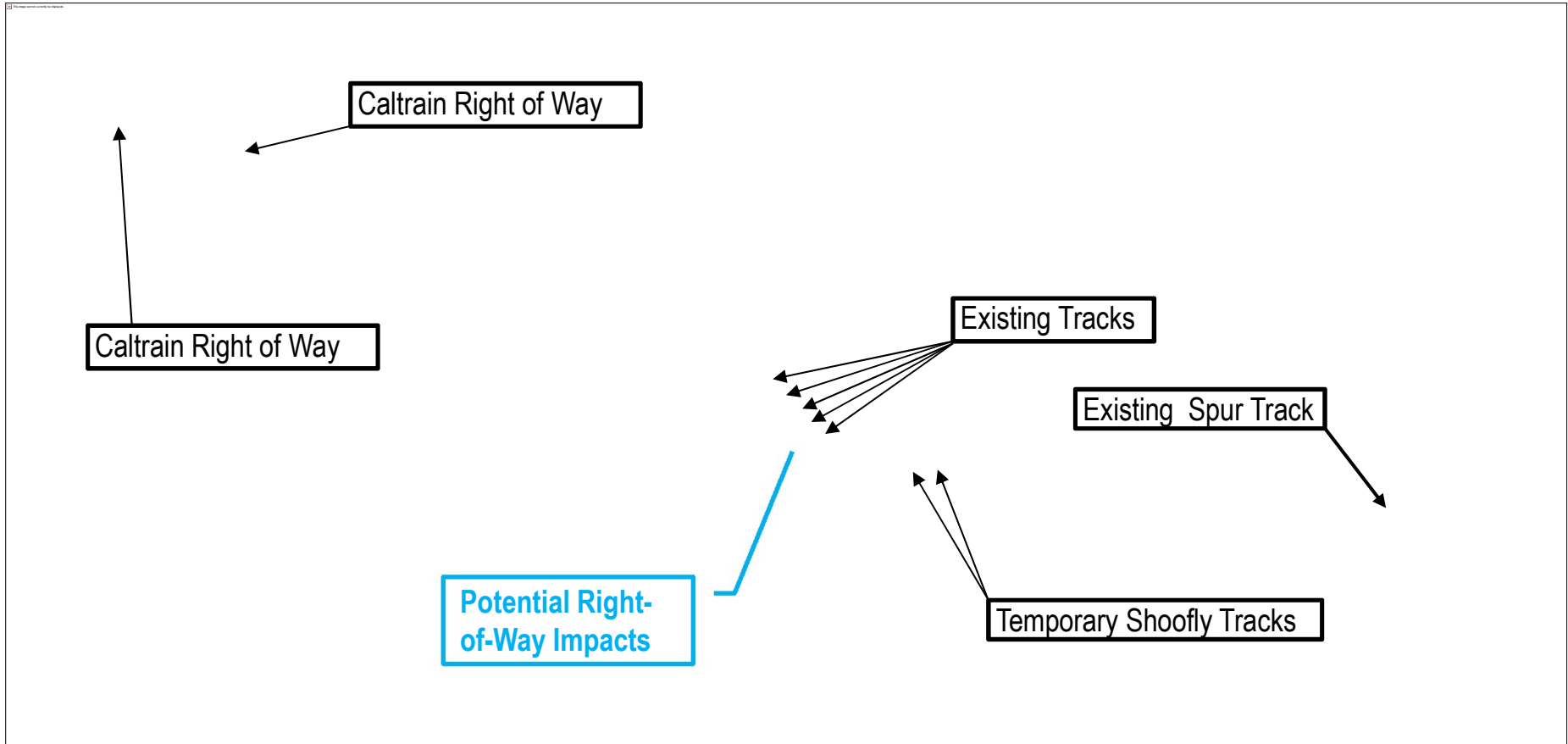
A shoofly track is a temporary track around a construction site or other obstruction, allowing for continuous railroad operation during construction.



1. Existing track condition.
2. Construct shoofly tracks adjacent to the existing tracks and cutover railroad operations onto the shoofly tracks.
3. Construct the new railroad bridge on the new permanent tracks.
4. Cutover railroad operations back to the new permanent tracks and remove the shoofly tracks.



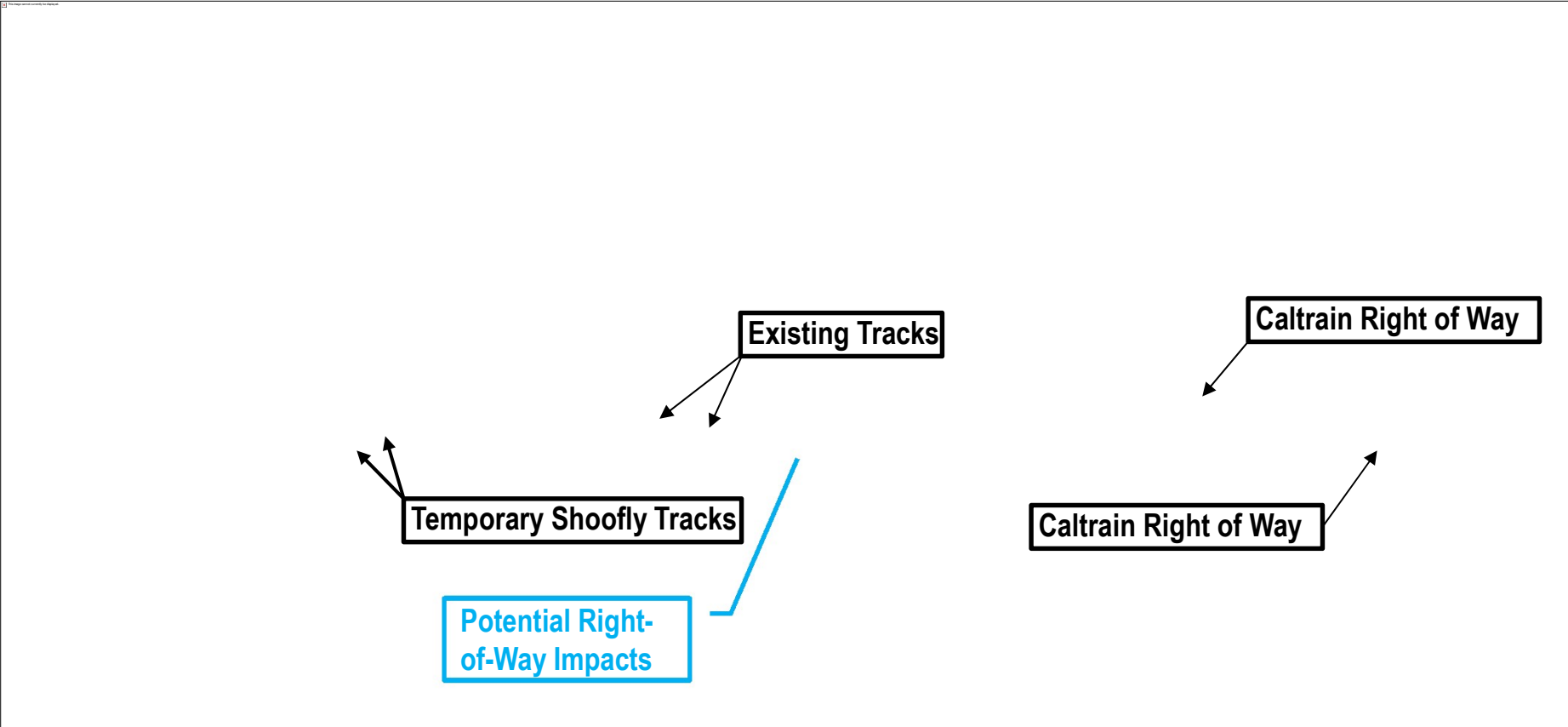
Potential Right-of-Way Impacts for Temporary Tracks



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Potential Right-of-Way Impacts for Temporary Tracks



South Linden Avenue and Scott Street Grade Separation Planning Study



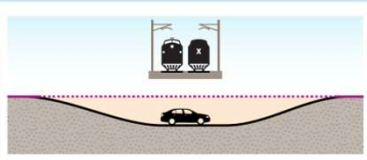
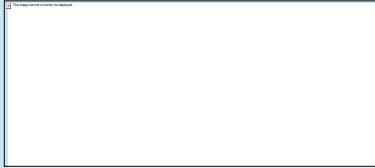
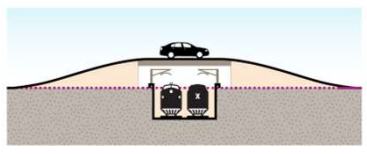
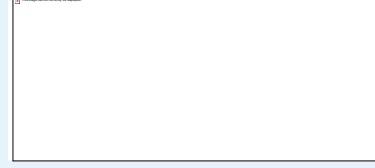
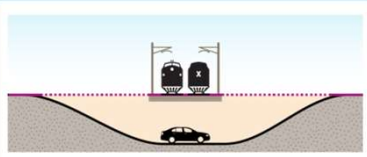
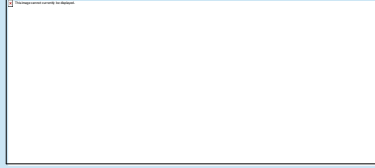


Cross Section at Dollar Ave/Herman St during Construction



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Summary of Alternatives

Alt	South Linden Avenue	Scott Street
1	 <ul style="list-style-type: none"> ▪ Rail Elevated ▪ Roads Lowered 	 <ul style="list-style-type: none"> ▪ Rail Elevated ▪ Road Closed ▪ Ped/Bike Crossing*
2	 <ul style="list-style-type: none"> ▪ Rail Lowered ▪ Roads Elevated 	 <ul style="list-style-type: none"> ▪ Rail Lowered ▪ Road Closed ▪ Ped/Bike Crossing*
3	 <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*
4	 <ul style="list-style-type: none"> ▪ Rail At-Grade ▪ Roads Fully Elevated 	 <ul style="list-style-type: none"> ▪ Rail At-Grade ▪ Road Closed ▪ Ped/Bike Crossing*

* A Ped/Bike Underpass (Tunnel) or an Overcrossing can be designed for this alternative

South Linden Avenue and Scott Street Grade Separation Planning Study



Advantages & Disadvantages

Alternative	Advantages	Disadvantages
	<ul style="list-style-type: none"> ▪ Least Property Impacts ▪ Lowest Cost (Probable) 	<ul style="list-style-type: none"> ▪ Shoofly Required*
	<ul style="list-style-type: none"> ▪ Reduces Train Noise (Rail Elevation Lowered) 	<ul style="list-style-type: none"> ▪ More Property Impacts than Alt 1 ▪ Shoofly Required* ▪ High Cost
	<ul style="list-style-type: none"> ▪ Rail Remains At-Grade 	<ul style="list-style-type: none"> ▪ More Property Impacts than Alt 1 ▪ Limits Access to Adjacent Properties ▪ Greatest Impacts to Sidestreets ▪ Shoofly Required* ▪ High Cost
	<ul style="list-style-type: none"> ▪ Rail Remains At-Grade ▪ No Shoofly Required 	<ul style="list-style-type: none"> ▪ Greatest Property Impacts ▪ Visual impacts ▪ Highest Cost (Probable)

* Shoofly will result in disruption to traffic on Dollar/ Herman during construction

South Linden Avenue and Scott Street Grade Separation Planning Study



Next Steps

- Spring 2020 Community Meeting #3
(feedback on alternatives)
- May 2020 City Council Updates
(select preferred alternative)
- December 2020 Finalize Project Study Report

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Questions/Comments?

Thank You