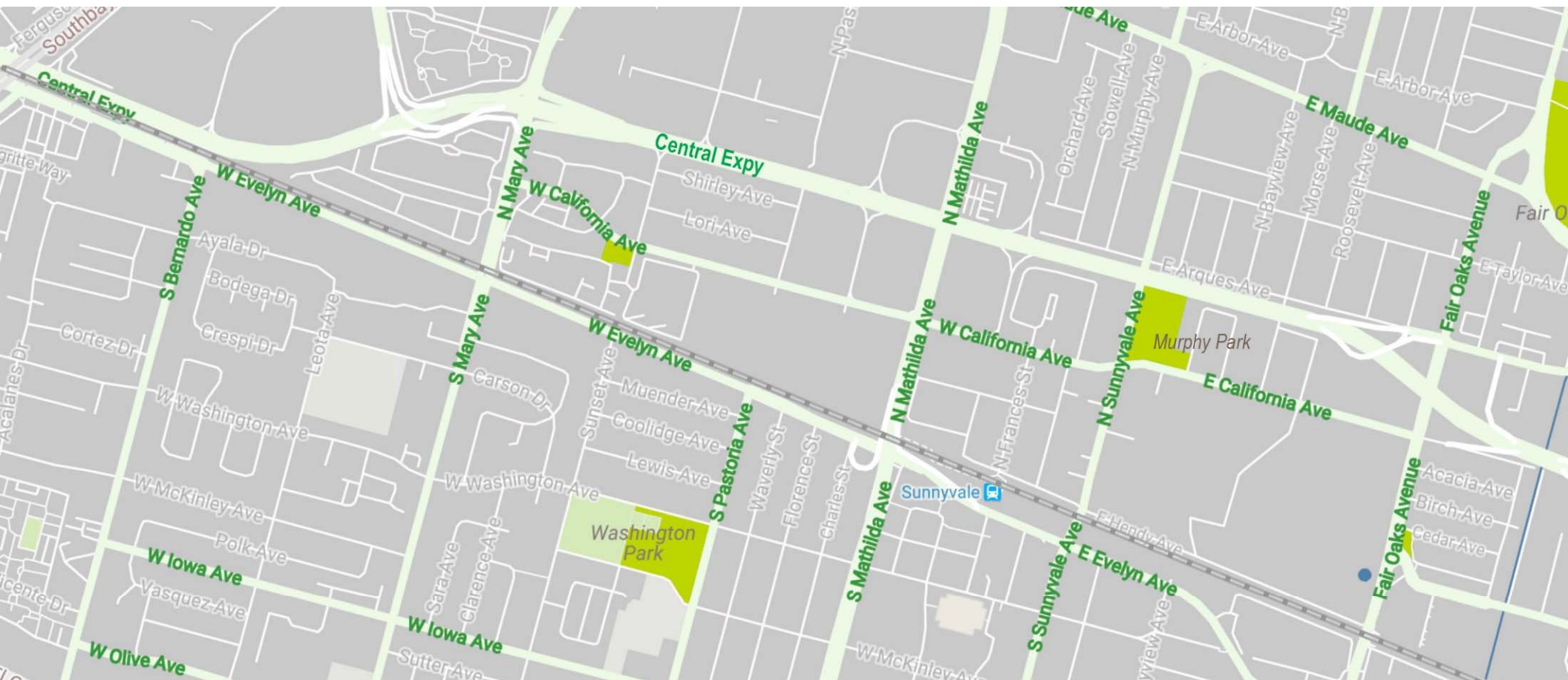




Caltrain Grade Separation Feasibility Study

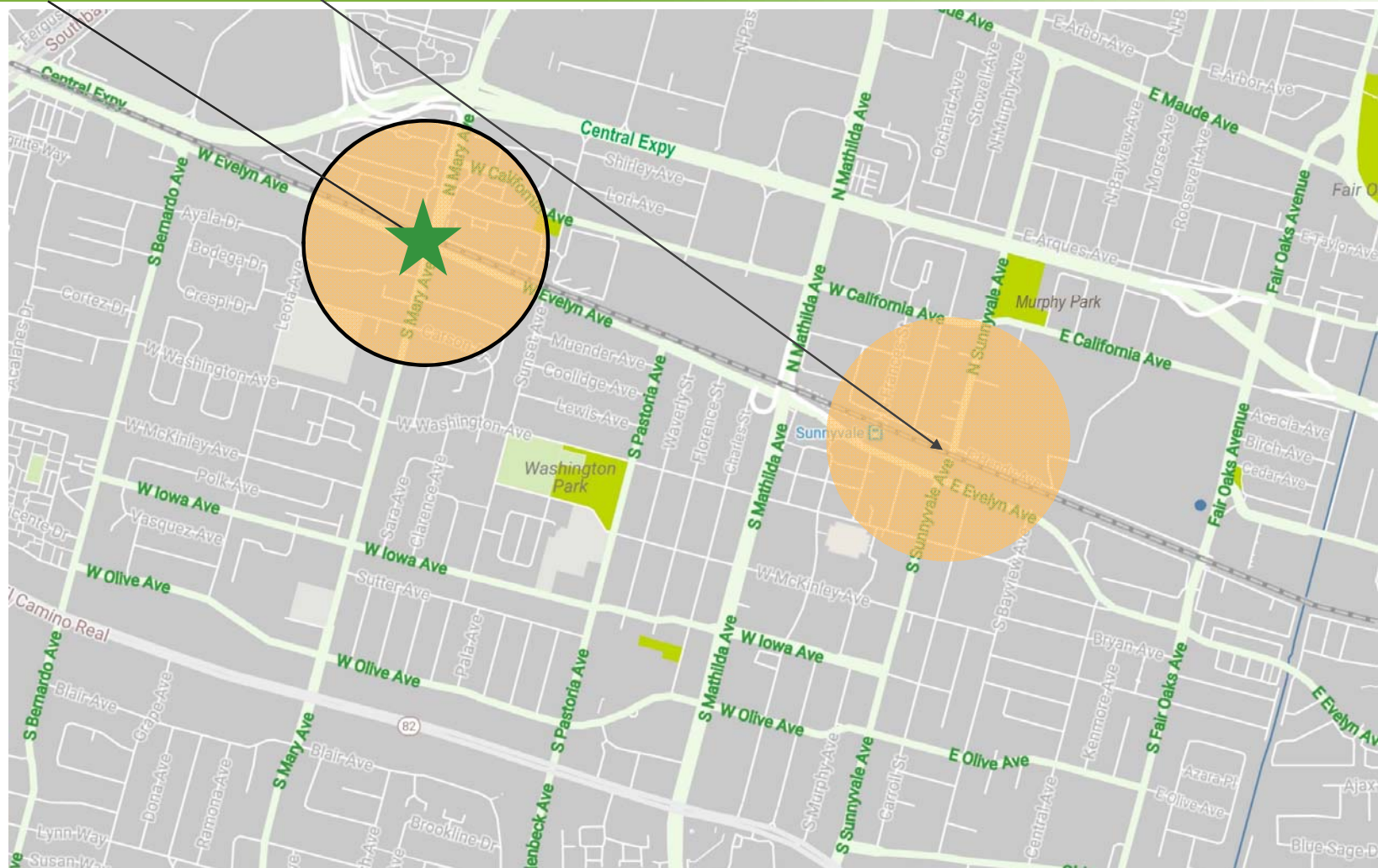
Mary Avenue Railroad Crossing Community Meeting
August 10, 2017



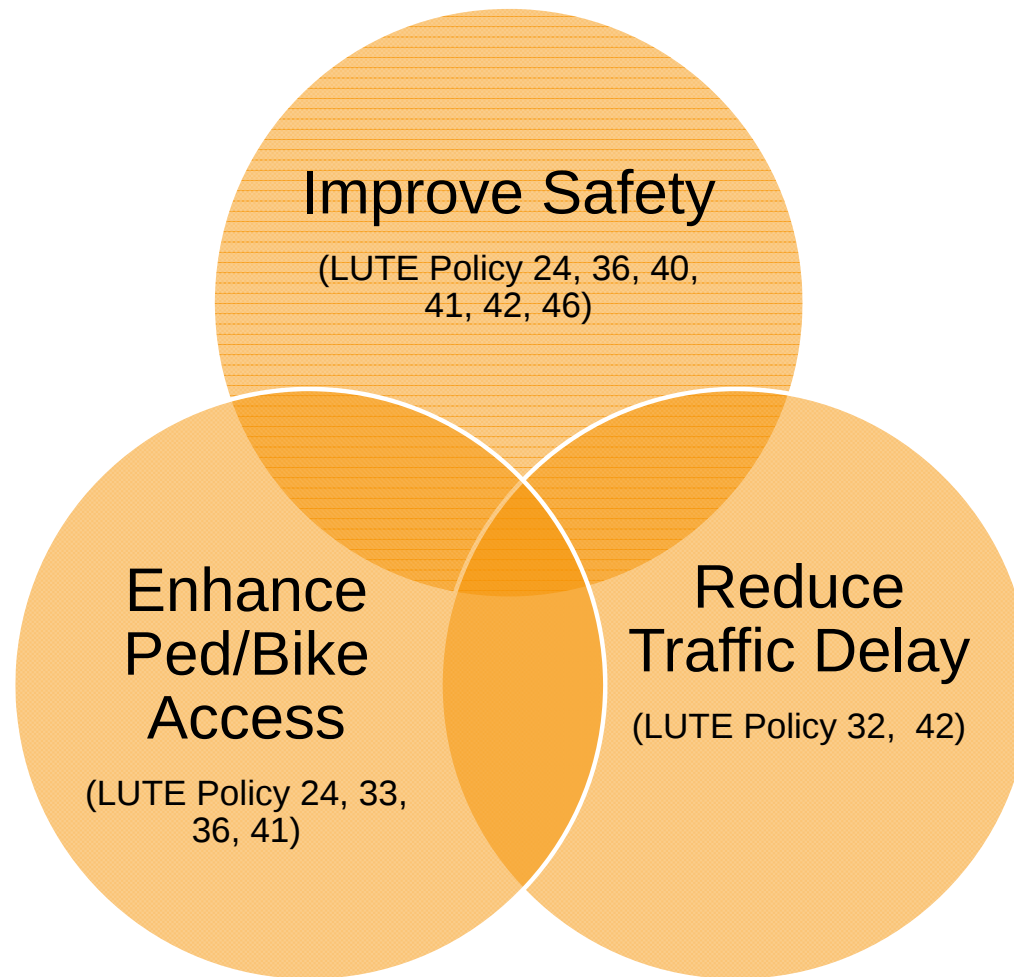
Agenda

- Meeting format review
- Goals and context
- Mary Avenue options
 - ✓ Feedback
- Q and A
- Next steps
- Adjourn

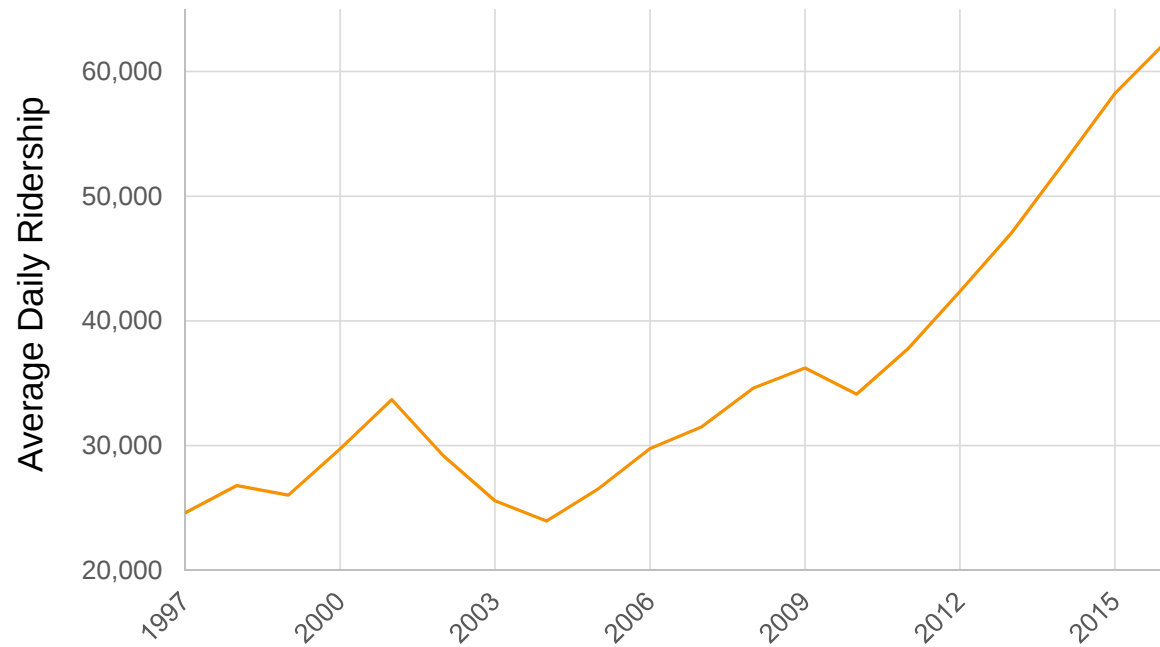
Caltrain Grade Separations



Project Goals



Project Context



76 trains
(2003)

92 trains
(2016)

114 trains
+80-106 HSR
(2040)



Caltrain Grade Separation – VTA Program Description

- \$700 Million
- Projects in cities of:
 - Sunnyvale
 - Mountain View
 - Palo Alto
- Increase safety for
 - Drivers
 - Bicyclists
 - Pedestrians
- Reduce congestion at crossings intersections



Sunnyvale has 2 of the 8 at grade crossings *Solutions that move you*
VTA criteria include cost efficiency and Complete Streets

13

```
graph LR; A[Screening Alternatives] --> B[Impacts]; A --> C[Variants of Screening Alternatives]; B --> D[ ]; C --> E[ ]; D --- D1[• Establish rail and road criteria<br>• Identify existing conditions<br>• Develop cursory design of alternatives]; E --- E1[• Identify impacts and constraints<br>• Bring results to community]; F[• Identify feasible alternatives<br>• Develop variants to minimize impacts<br>• Engage community for input];
```

The flowchart illustrates a three-step process for screening alternatives. It begins with a box labeled "Screening Alternatives". From this box, two arrows branch out: one horizontal arrow pointing to a list of three bullet points, and one L-shaped arrow pointing down and then right to a box labeled "Impacts". From the "Impacts" box, another horizontal arrow points to a second list of two bullet points, and a third L-shaped arrow points down and then right to a box labeled "Variants of Screening Alternatives". Finally, an arrow points from the "Variants of Screening Alternatives" box to a third list of three bullet points.

Screening Alternatives

- Establish rail and road criteria
- Identify existing conditions
- Develop cursory design of alternatives

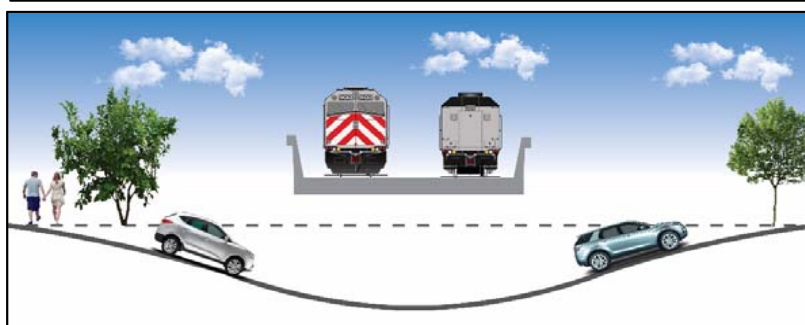
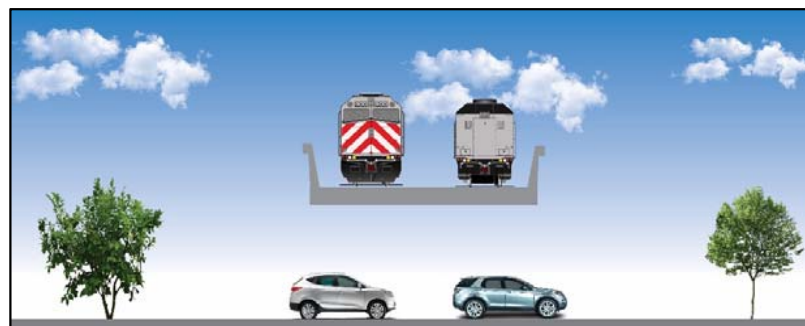
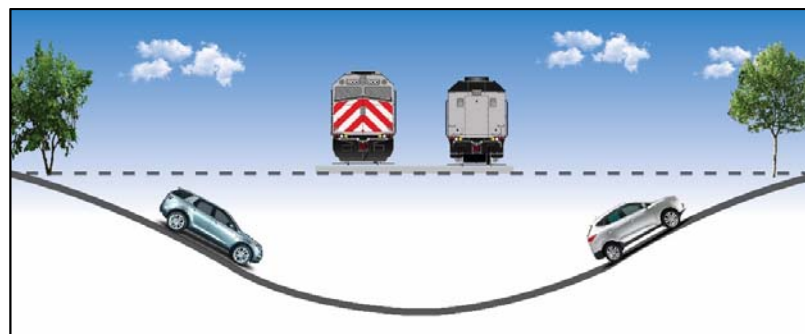
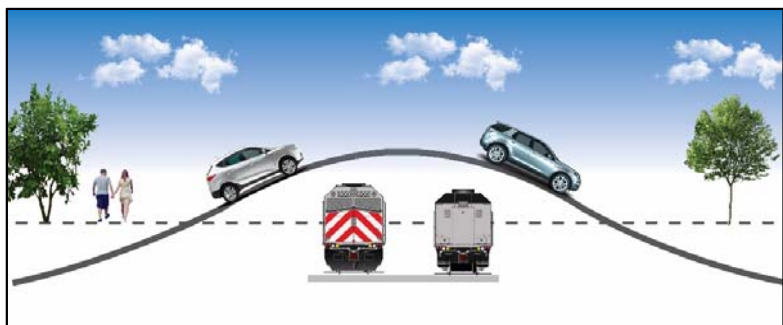
Impacts

- Identify impacts and constraints
- Bring results to community

Variants of Screening Alternatives

- Identify feasible alternatives
- Develop variants to minimize impacts
- Engage community for input

Initial Screening Alternatives



At-grade Railroad Crossing



Grade Separated Crossing - Overpass



At-grade Railroad Crossing



Grade Separated Crossing - Underpass



Design Criteria

	Roadway	Railroad
Grades	4.75%	1.2% max
Design speed	30 - 45 mph Based on posted speed plus 5 mph	79 mph for shoofly (temp rail) 110 mph for final condition
Bridge depth	5' Supporting roadway	6.75' Supporting railroad
Vertical clearance	Underpass 15.5' over roadway Roadway lowered 22'	Overpass 27' over railroad Roadway 32' above ground

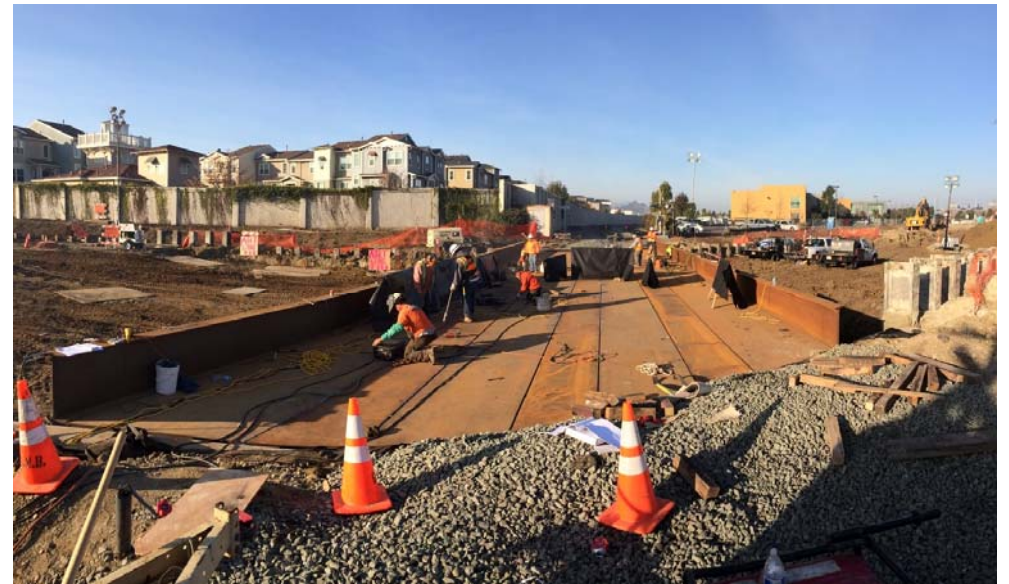
Screening Criteria

Screening Considerations
Safety
Accessibility
Right of Way impacts
Utility impacts
Traffic circulation
Visual and character impacts
Environmental compliance
Construction feasibility
Engineering feasibility
Cost
Fundability
Community support

Grade Separated Crossing - Overpass



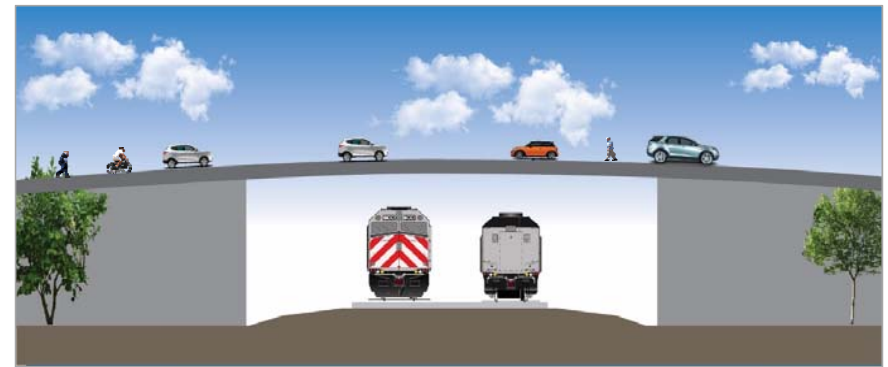
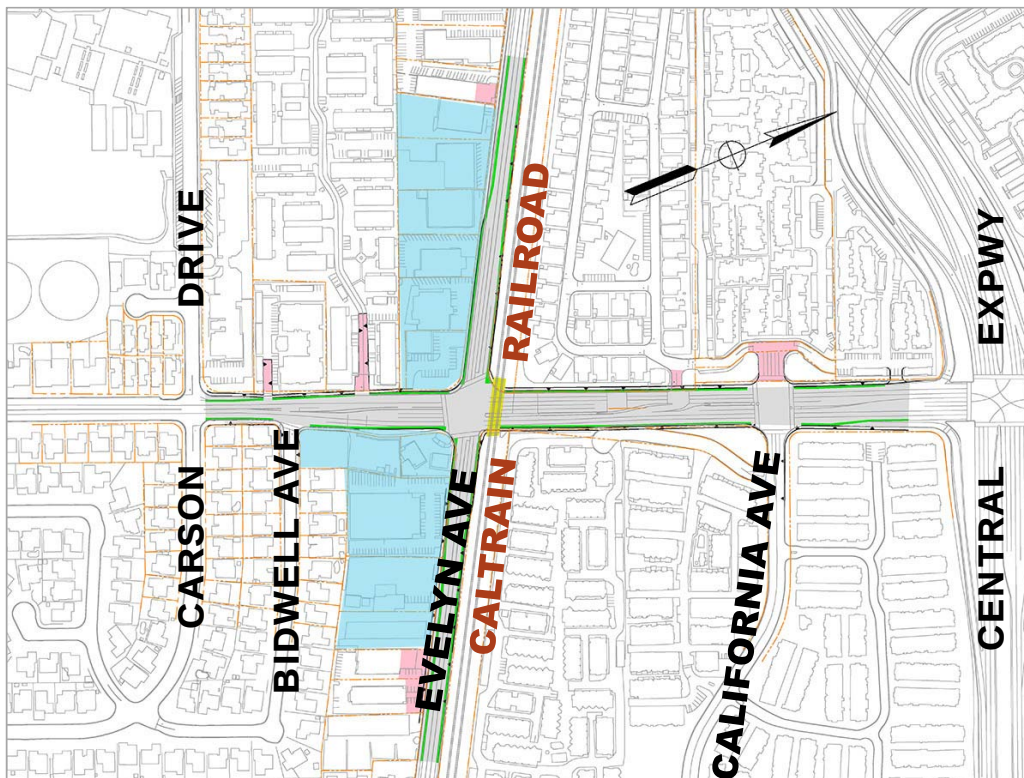
Grade Separated Crossing - Underpass



Mary Avenue

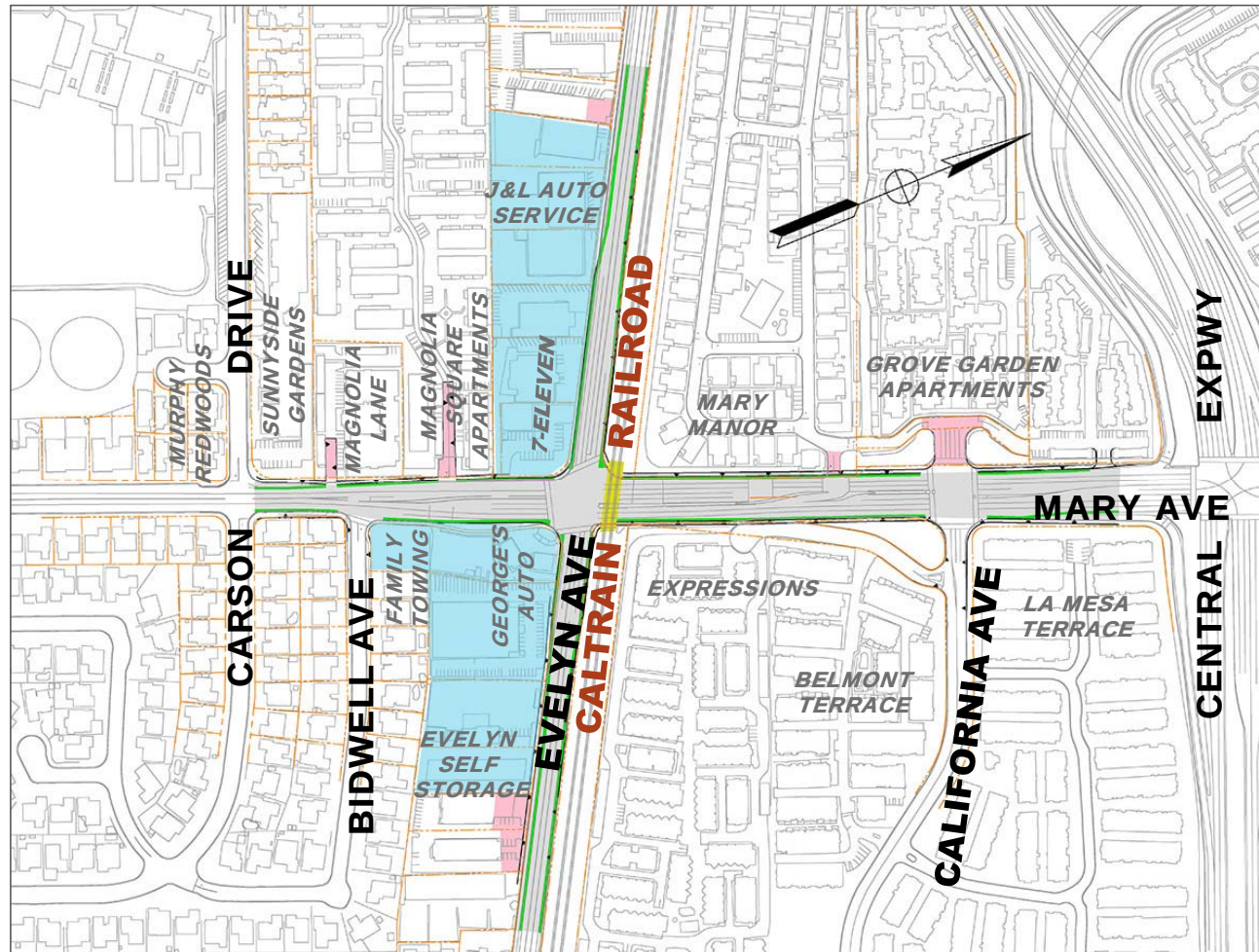


Mary Avenue Overpass

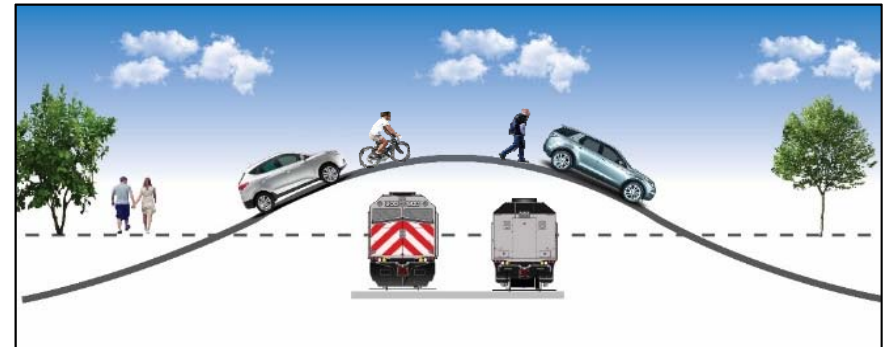
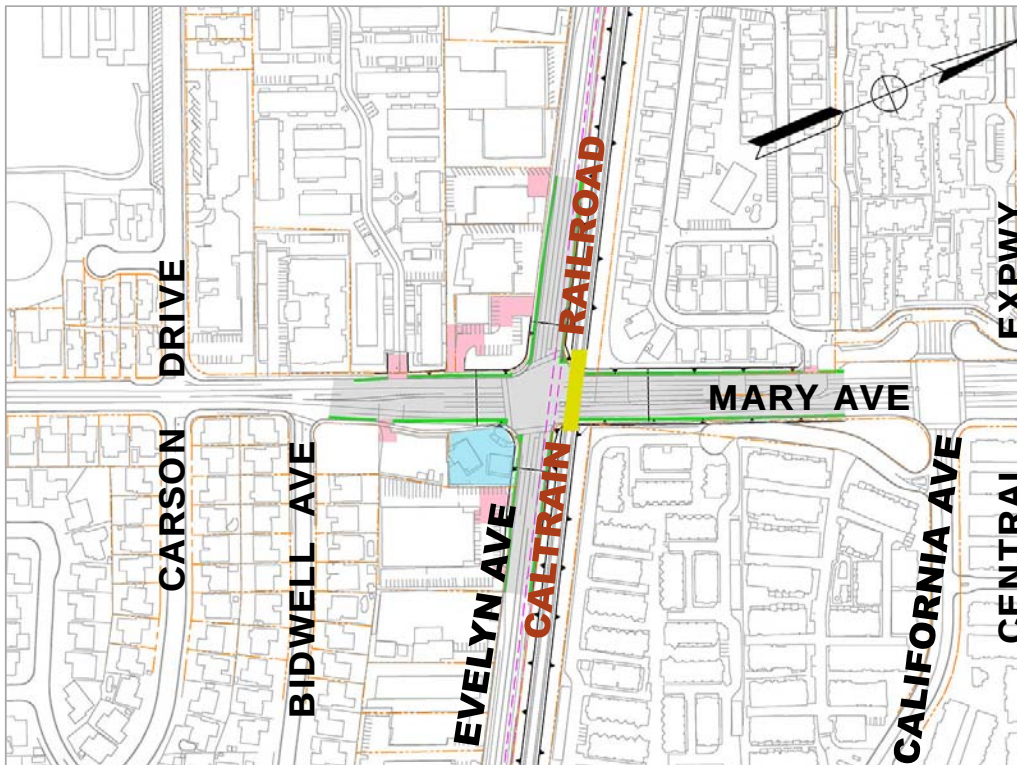


Mary Ave elevated	Evelyn Ave elevated
✗ Potential acquisition of 12+ parcels	✗ Significant bridge cost
✗ Modifications to 7+ driveways	✓ No rail construction required

Mary Avenue Overpass

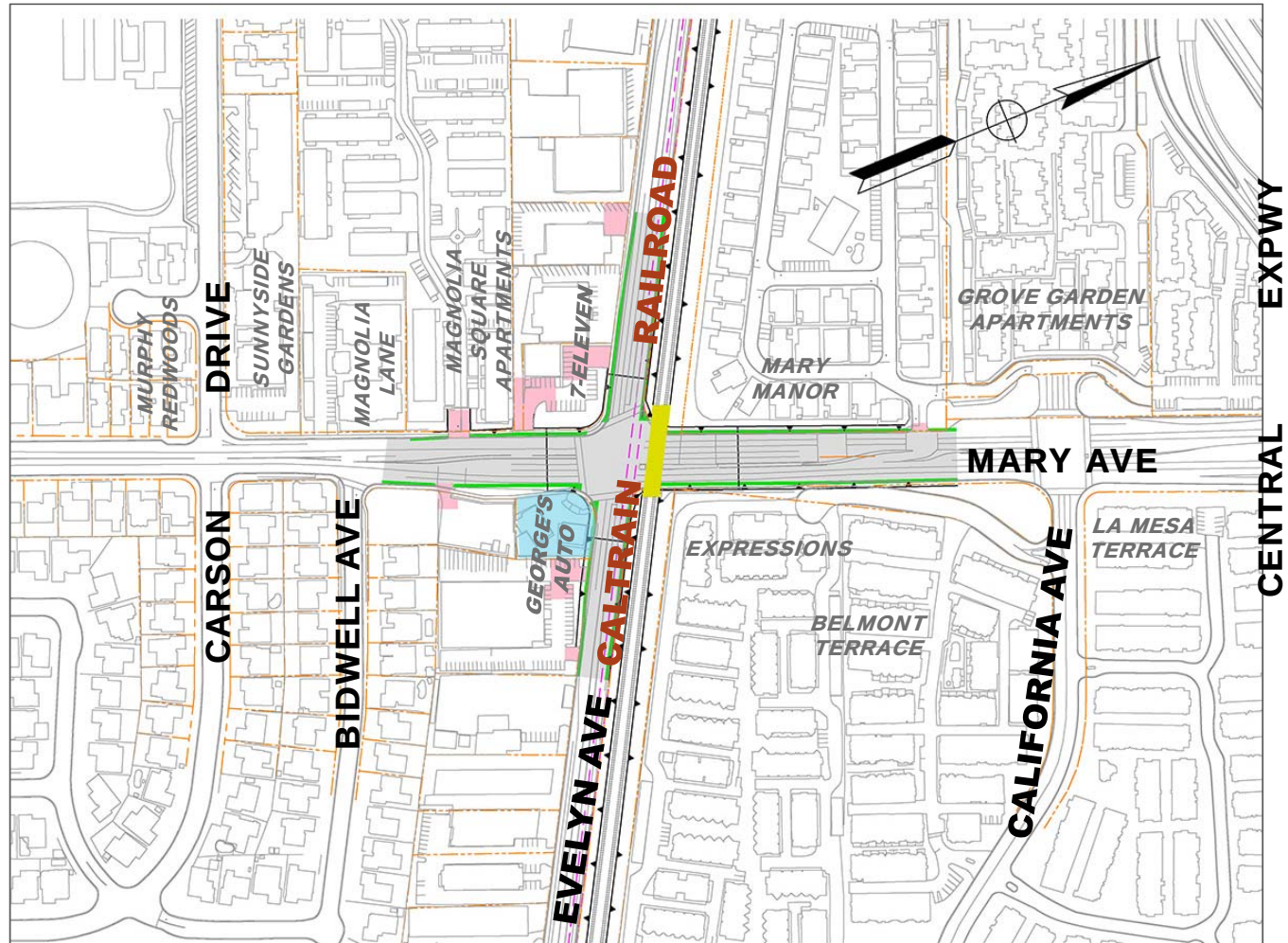


Mary Avenue Split Overpass

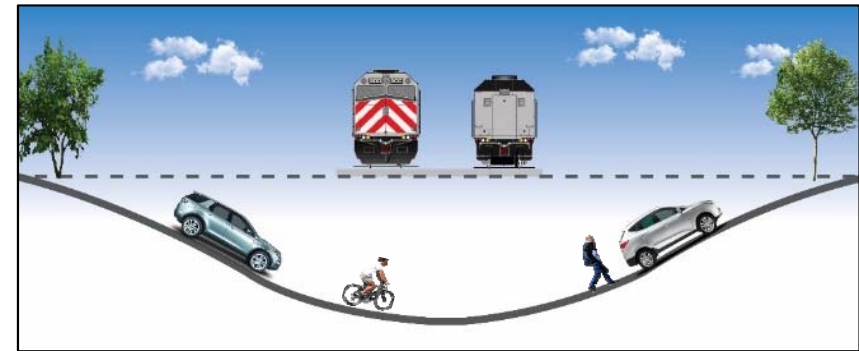
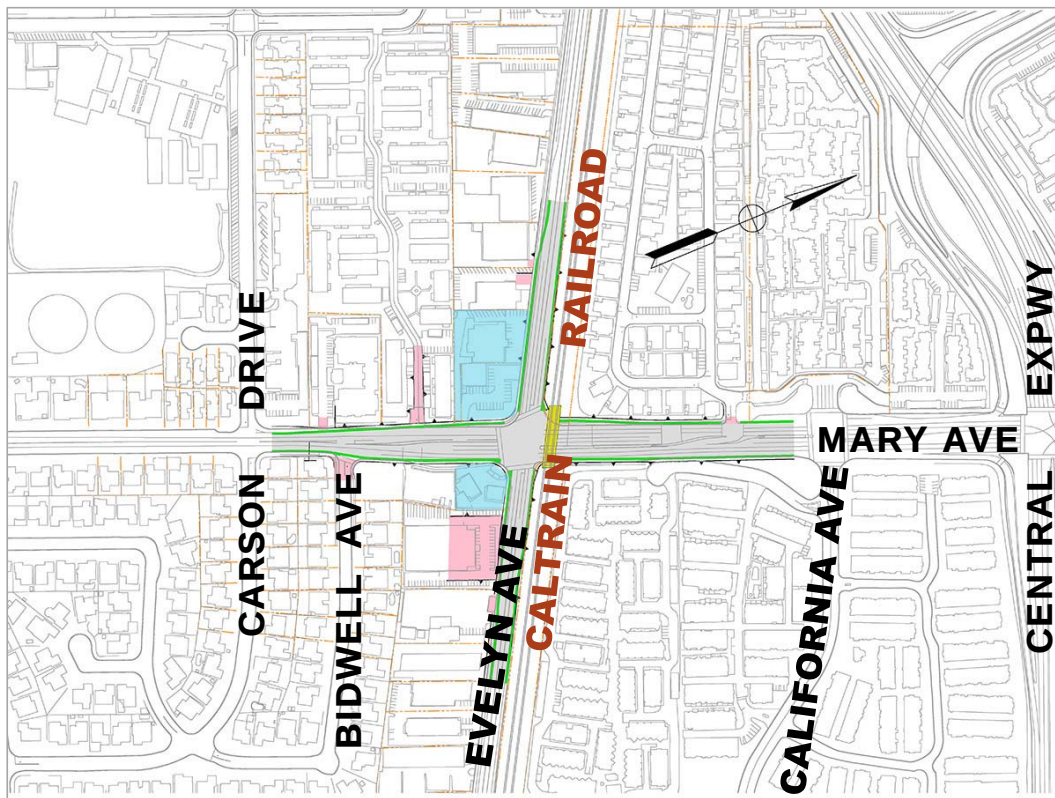


Mary Ave partially elevated	Evelyn/Hendy partly elevated	Railroad partially depressed
✗ Potential acquisition of 1+ parcels	Mary/Evelyn intersection elevated	✗ Rail construction required
✗ Modifications to 7+ driveways		✗ Significant rail cost

Mary Avenue Split Overpass



Mary Avenue Underpass



Mary Ave depressed

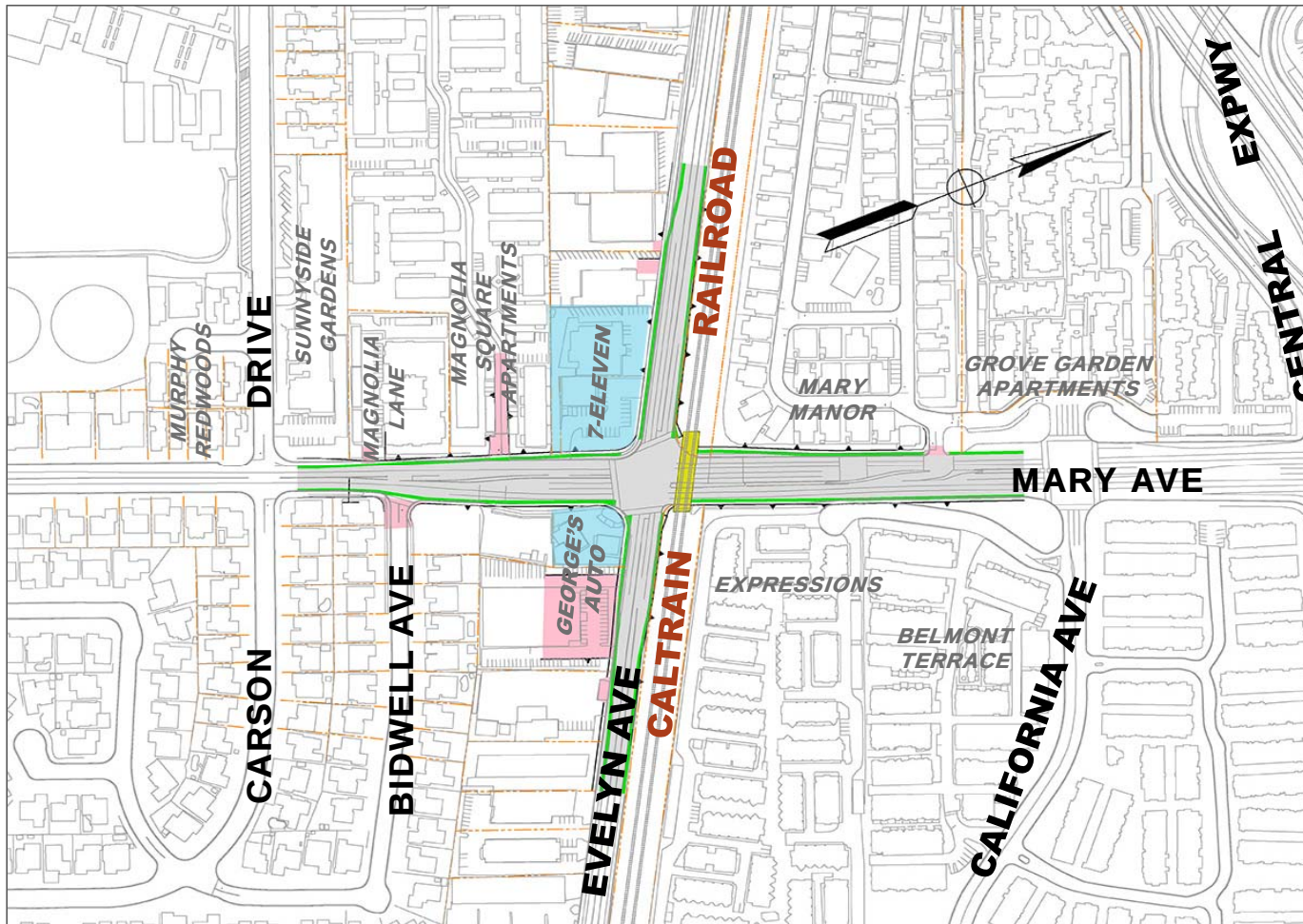
Potential acquisition of 3+ parcels

X Modifications to 8+ driveways

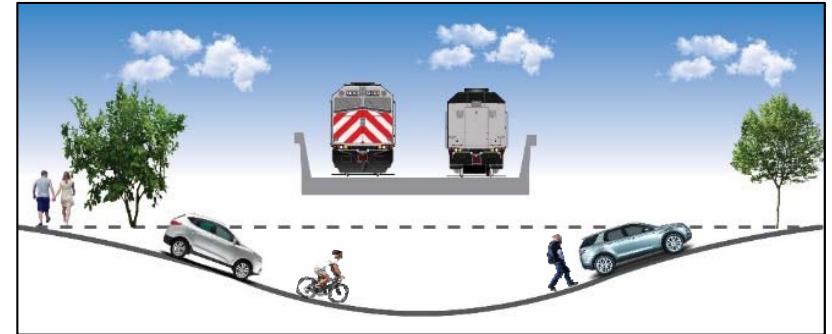
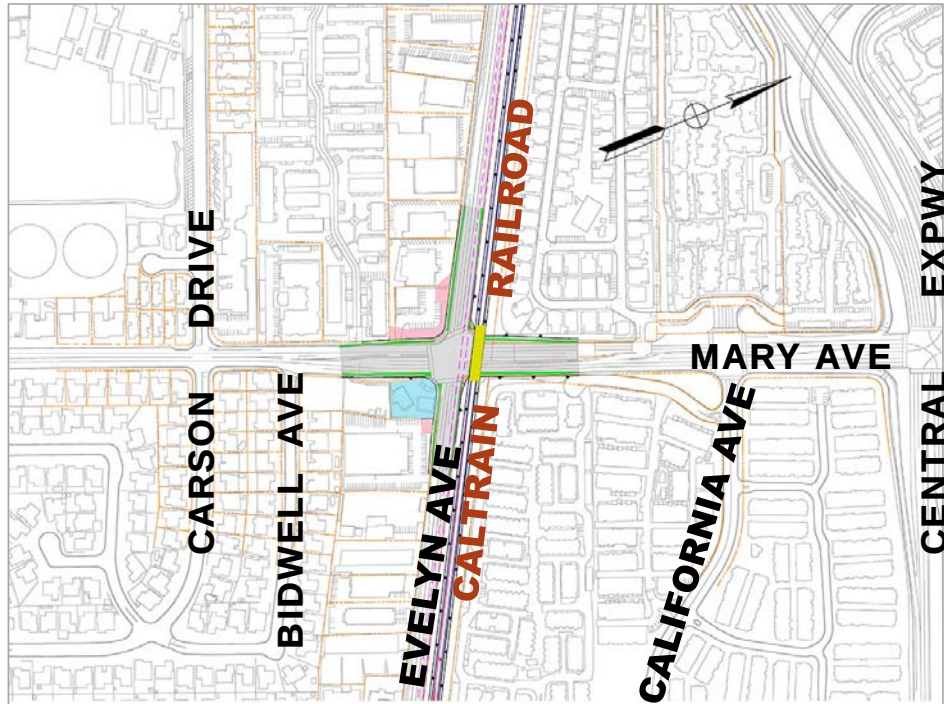
Evelyn Ave depressed

✓ No permanent rail impact

Mary Avenue Underpass



Mary Avenue Split Underpass



Mary Ave partially depressed

Potential acquisition of 1+ parcels

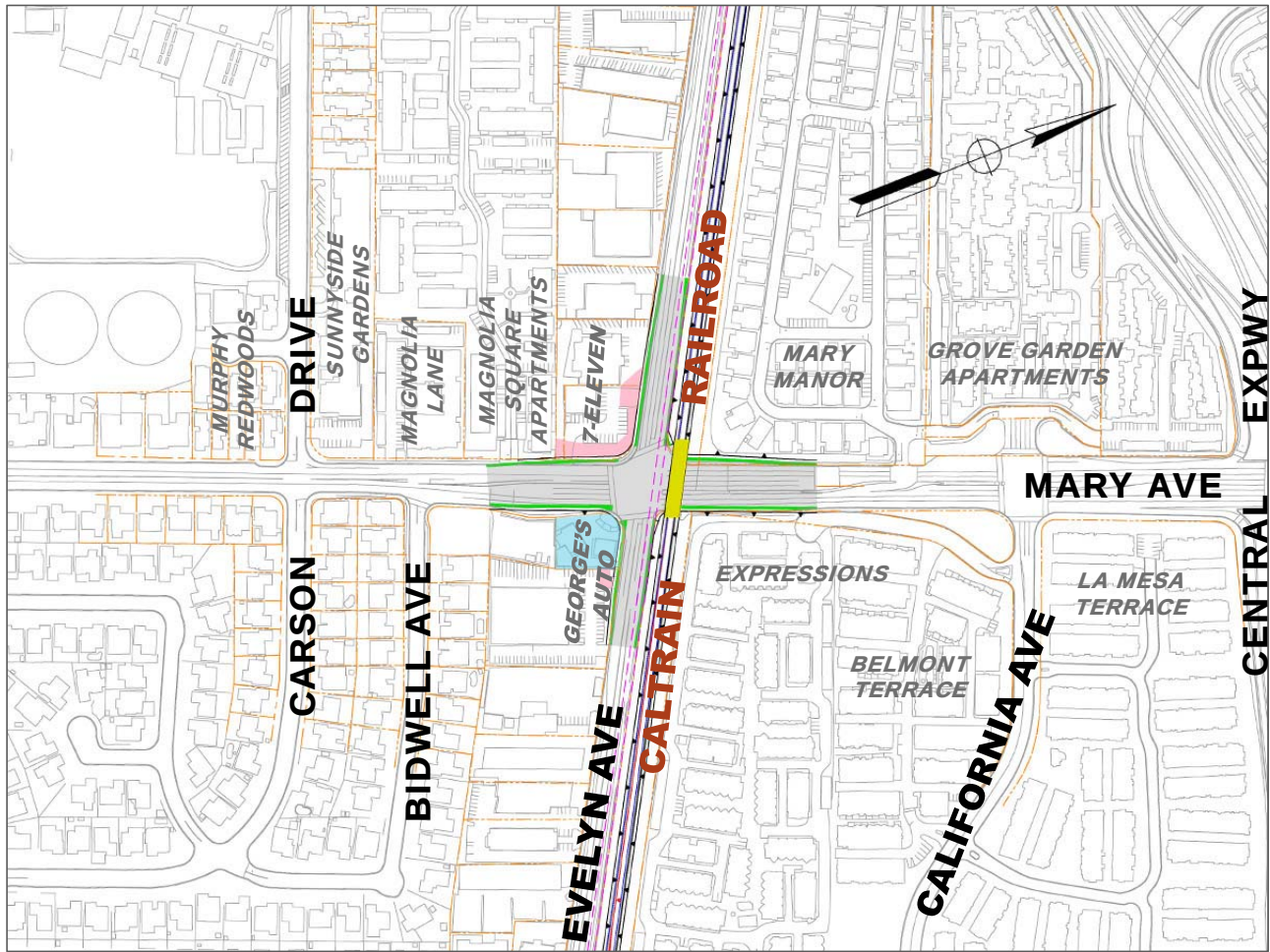
Modifications to 3+ driveways

Rail partially elevated

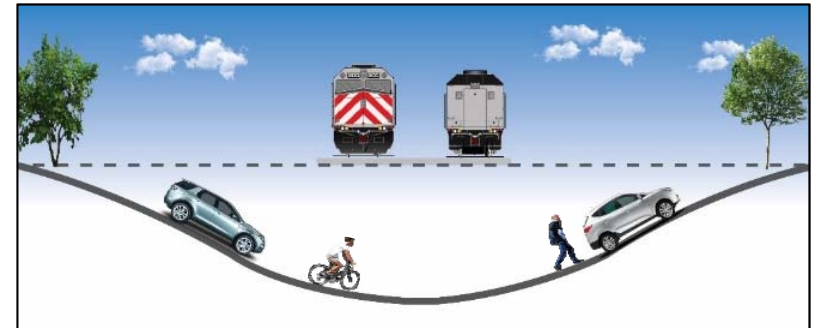
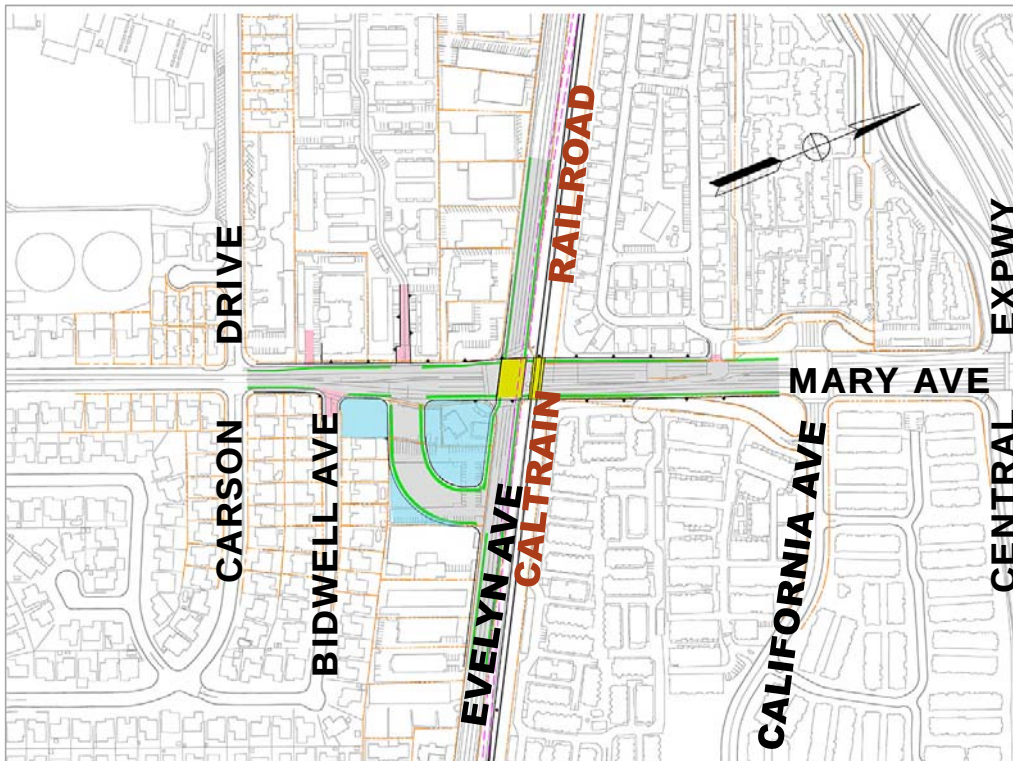


Significant rail cost

Mary Avenue Split Underpass



Mary Avenue Underpass with Jughandle



Mary Ave depressed

Potential acquisition of 3+ parcels

Modifications to 1+ driveways

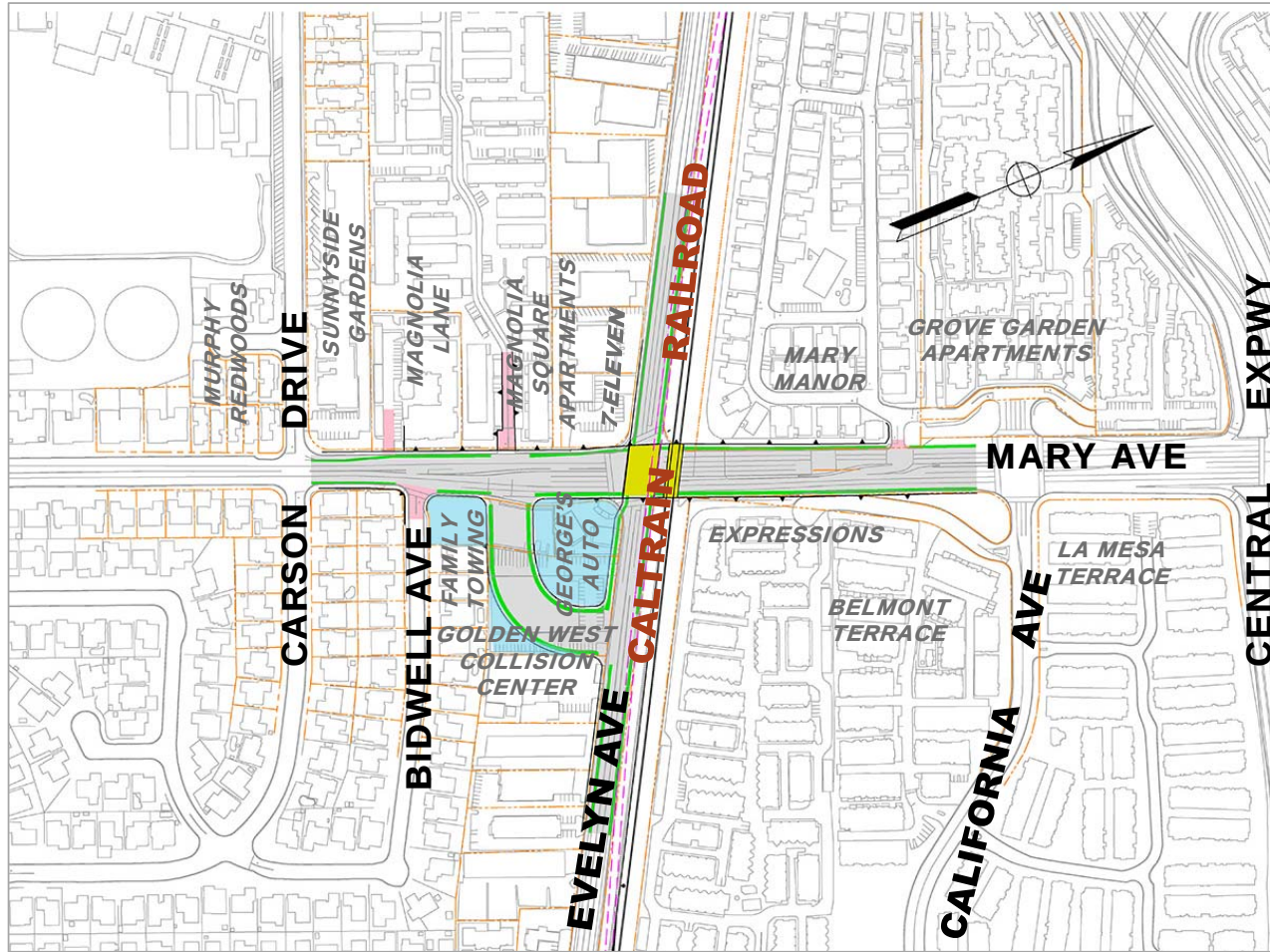
Evelyn Ave remains at-grade

Relocate Mary/Evelyn intersection



No permanent rail impact

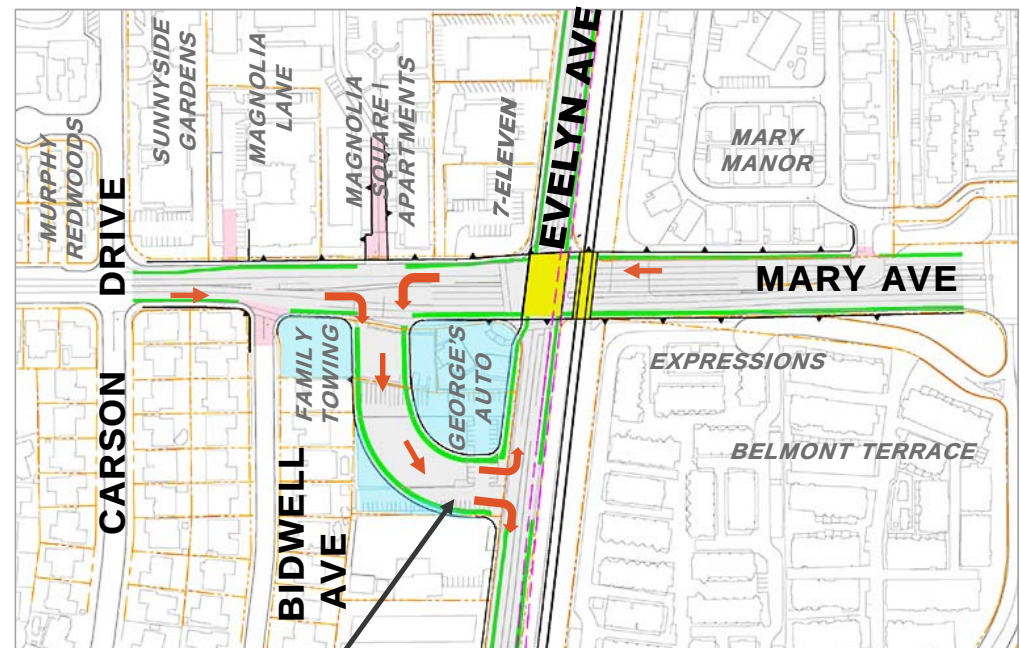
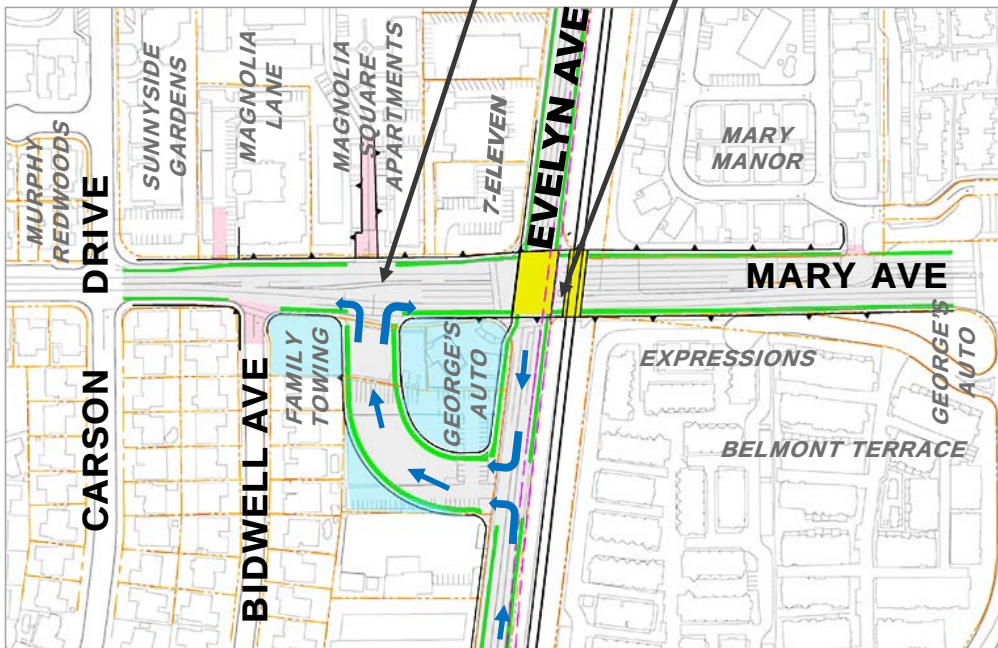
Mary Avenue Underpass with Jughandle



Mary Avenue Underpass with Jughandle

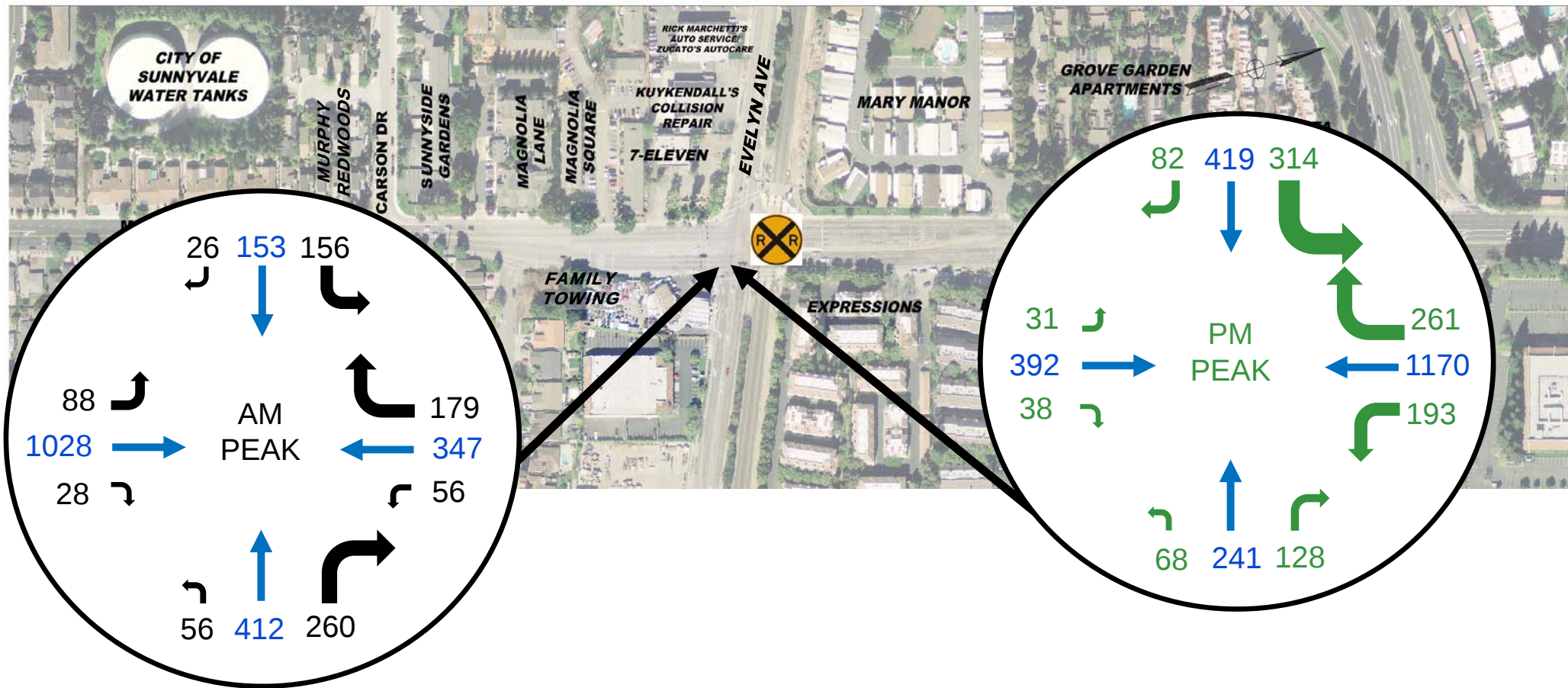
Mary Ave/Evelyn Ave Connection

Mary Ave Underpass

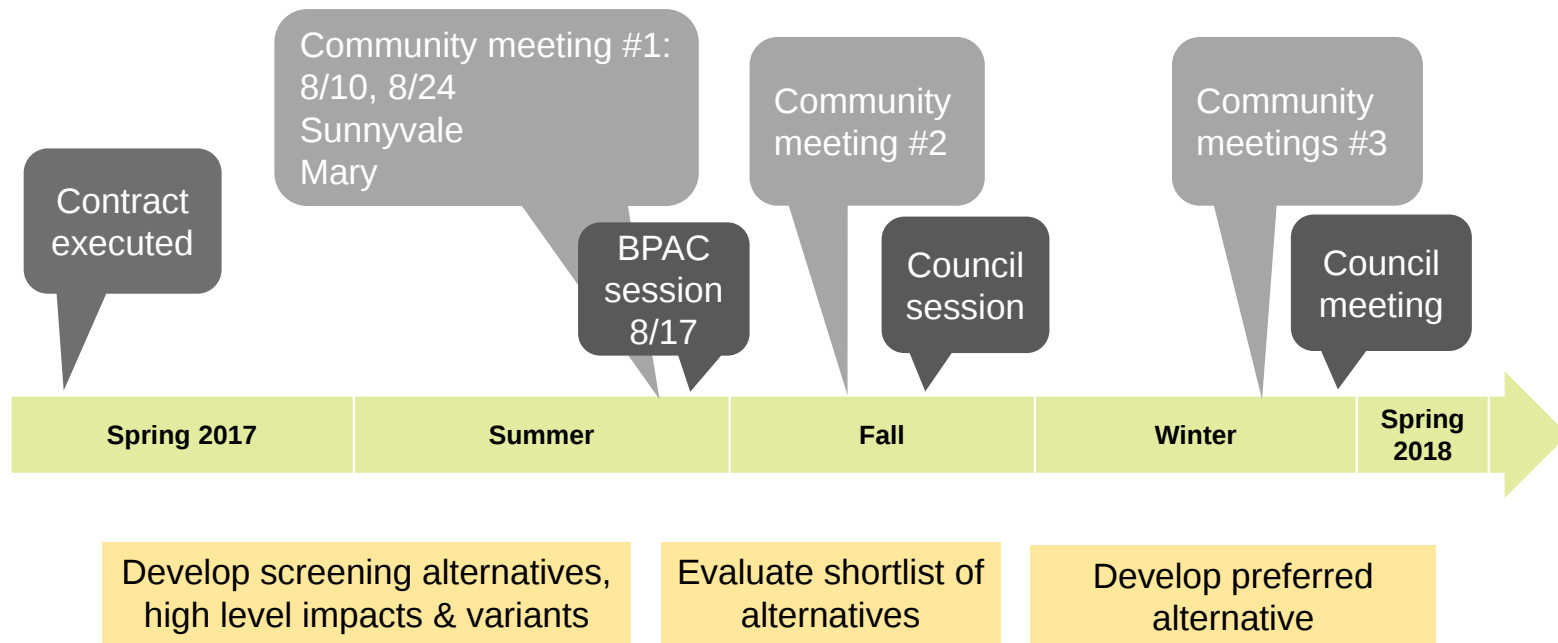


On/Off-Ramp Connection

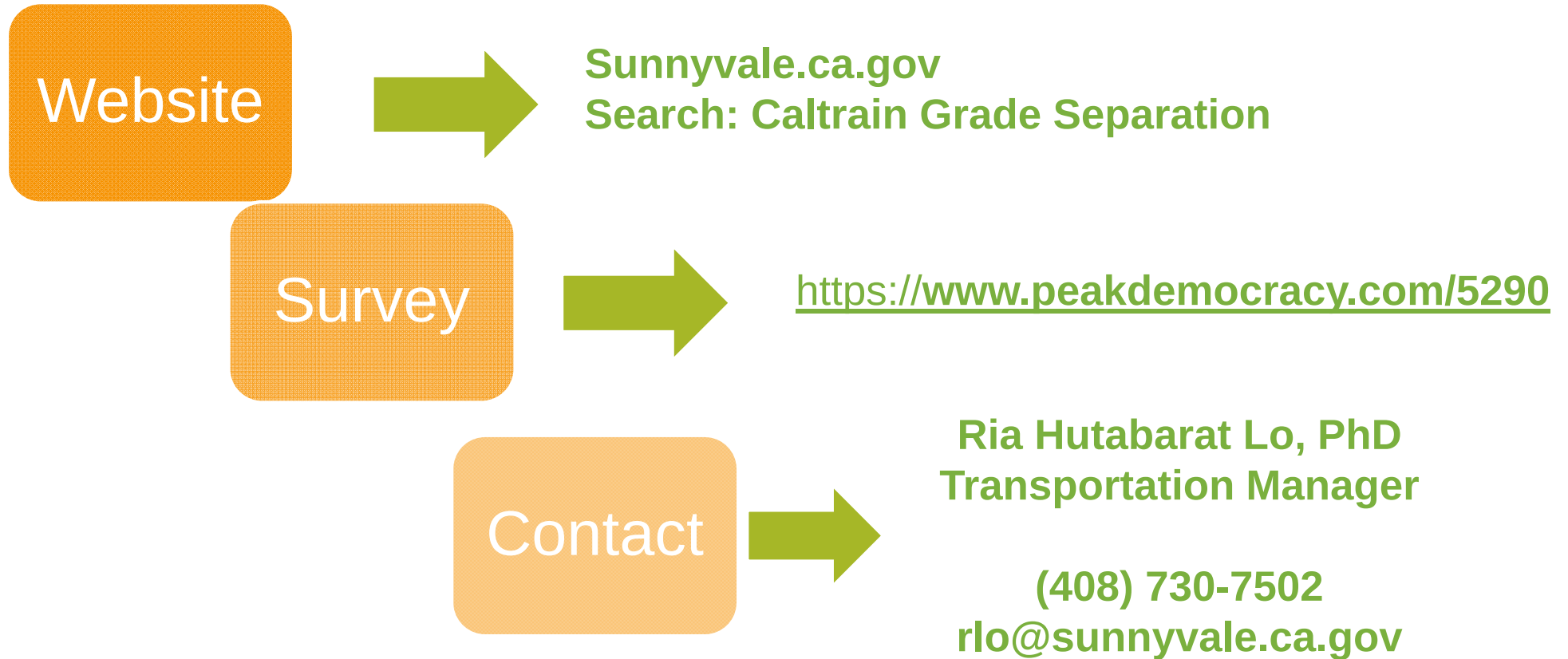
Mary Avenue Underpass with Jughandle – Traffic Counts



Schedule and Next Steps



Information



Thank You!



Sunnyvale

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