

Ravenswood Avenue Railroad Crossing Project

Community Outreach Meeting

Presentation
October 4, 2016

Ravenswood Avenue Railroad Crossing Project



Agenda

- Welcome
- Agenda Review
- Project Background
- Grade Separation Alternatives
- Breakout Stations
- Station Reporting
- Next Steps

Ravenswood Avenue Railroad Crossing Project



Why Are We Here?

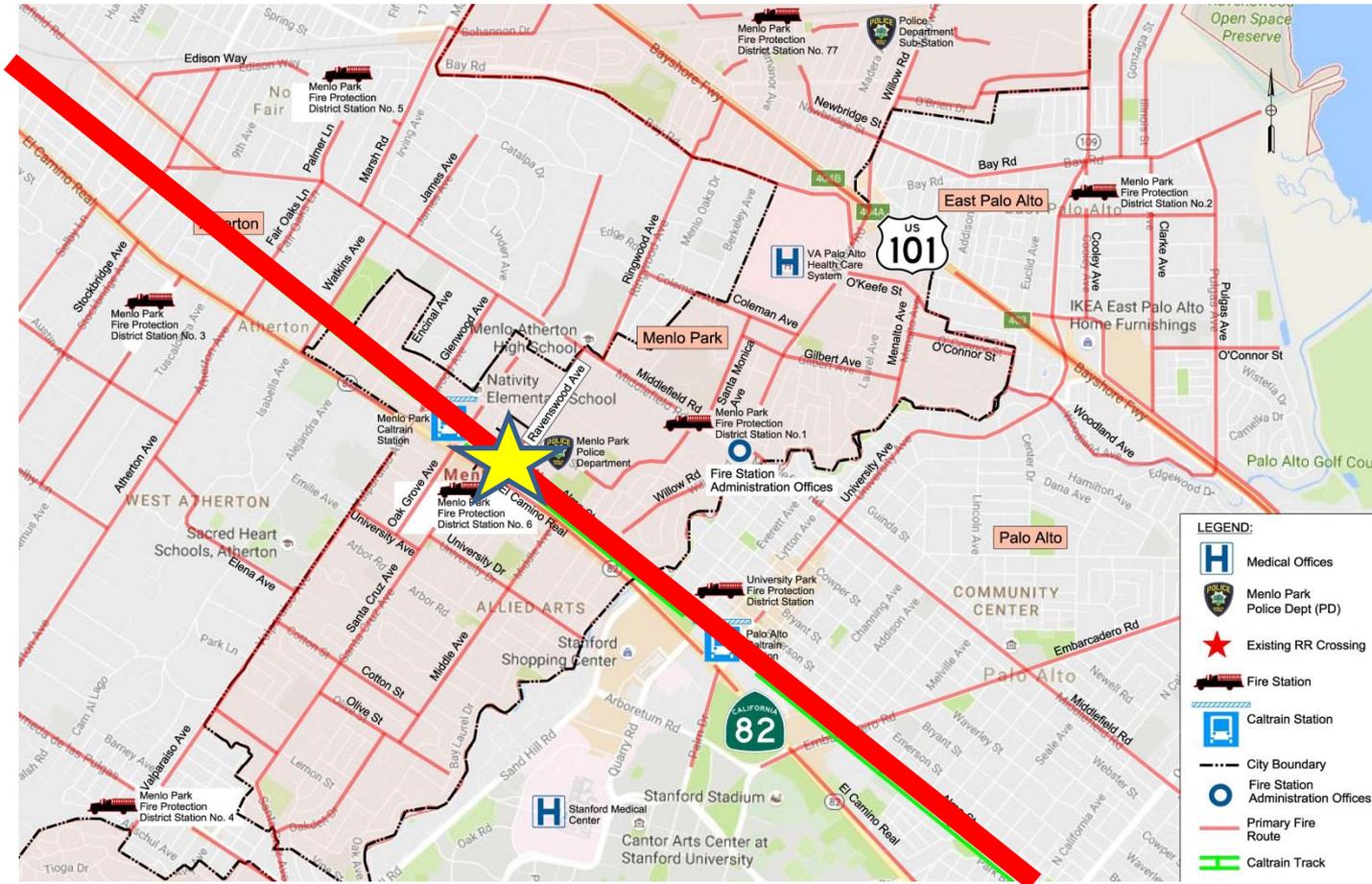
- Improve safety for all modes of travel
- Improve traffic congestion and mobility
- Improve emergency access
- To advance a project that works best for the community



Ravenswood Avenue Railroad Crossing Project



Emergency Response



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Project Scope and Funding

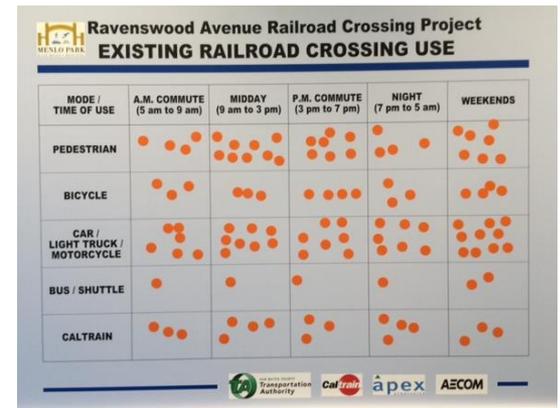
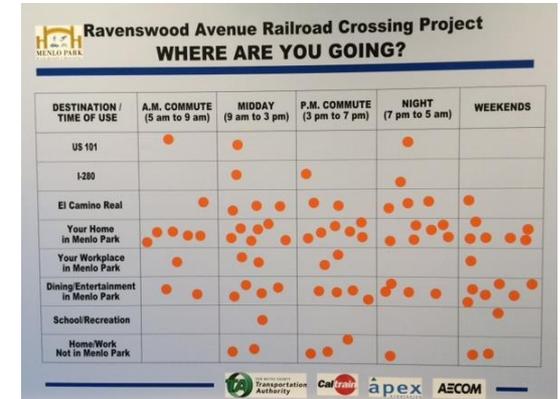
- Project Study Report (PSR)
 - Gather community input
 - Develop and revise conceptual designs
 - Select an alternative
- Measure A grant funds
 - San Mateo County Transportation Authority
 - Grade Separation Program
 - Requirement to allow passing track option

Ravenswood Avenue Railroad Crossing Project



Feedback from 1st Meeting

- Maintaining local street connections
- Noise concerns
- Multi-modal/equal access
- Traffic impacts
- Adjacent property impacts
- Construction impacts
- Aesthetics



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Project Definitions

What is an “at-grade crossing”?

- Also known as a “railroad crossing” ... a location where a roadway and sidewalk cross railroad tracks at grade (same level as the street).
- Drop-down gates and red flashing lights are used to stop traffic when a train approaches.

What is a “grade separation”?

- A structure that allows the public to travel under (or over) the railroad or a railroad to travel under (or over) the roadway.

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Project Area

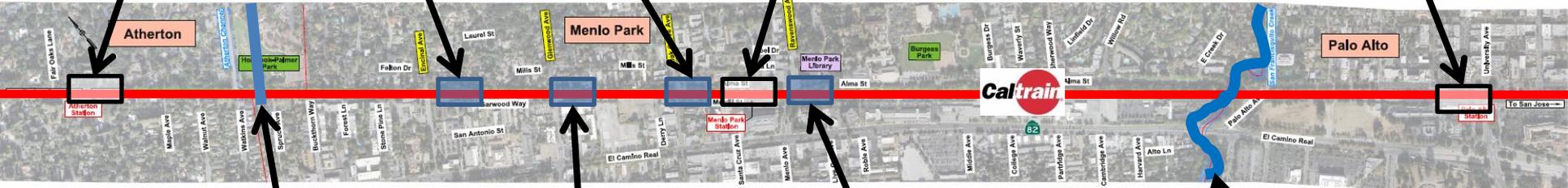
Atherton Caltrain Station

Menlo Park Caltrain Station

Palo Alto Caltrain Station

Encinal Ave

Oak Grove Ave



Atherton Channel

Glenwood Ave

Ravenswood Ave

San Francisco Creek

To San Francisco
←

To San Jose
→

Ravenswood Avenue Railroad Crossing Project



Video of Existing Conditions

(U-Turn on Tracks)



Ravenswood Avenue Railroad Crossing Project



Video of Existing Conditions

(Vehicle Stopped on Tracks)



Ravenswood Avenue Railroad Crossing Project



Video of Existing Conditions

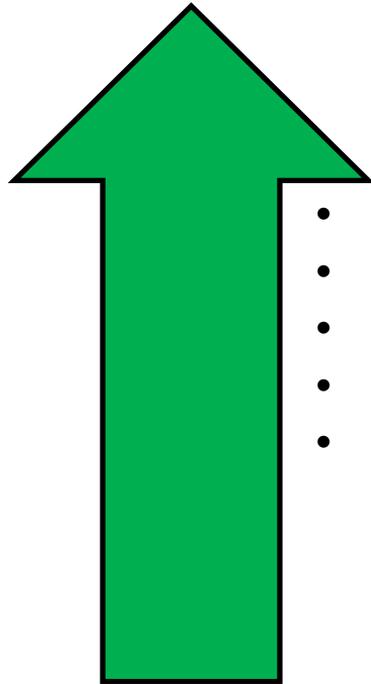
(RR Signal Requires Backup of Vehicle)



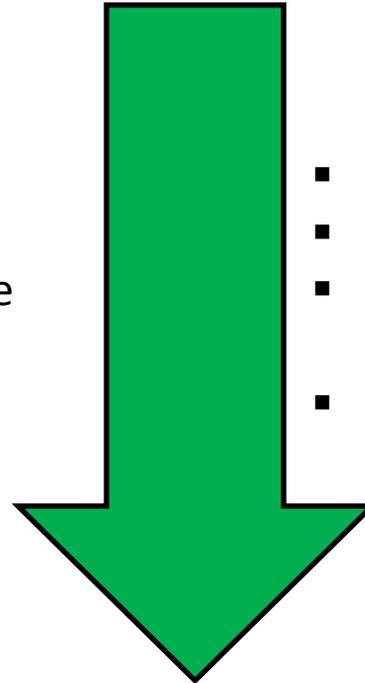
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Grade Separation Benefits



- Safety
- Circulation
- Emergency Response
- Fuel Savings
- Air Quality



- Travel time savings
- Collisions
- Green House Gas Emissions (GHG)
- Criteria Air Pollutants (CAP)

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Key Factors Influencing Noise

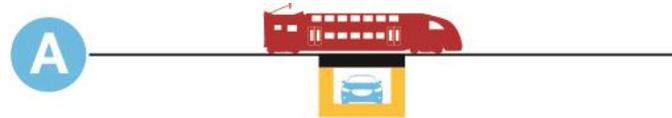
FACTORS	LIKELY IMPACT
Less Frequent Train Horns	↓
Switch to Electric Engines	↓
Gate Noise	↓
Raise Track Elevation	↑
Lower Roadway Elevation	↓
Reduced Roadway Congestion	↓

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Alternatives

- Previous Studies
- Alternatives Evaluated



ALTERNATIVE A: UNDERPASS
(RAVENSWOOD ONLY)



ALTERNATIVE B: HYBRID
(RAVENSWOOD & OAK GROVE)



ALTERNATIVE C: HYBRID
(RAVENSWOOD, OAK GROVE, & GLENWOOD)

Ravenswood Avenue Railroad Crossing Project

A

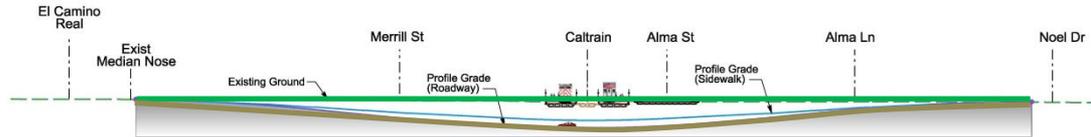


ALTERNATIVE A: UNDERPASS
(RAVENSWOOD ONLY)

Alternative A

Maximum Excavation = 22 ft

Ravenwood Ave

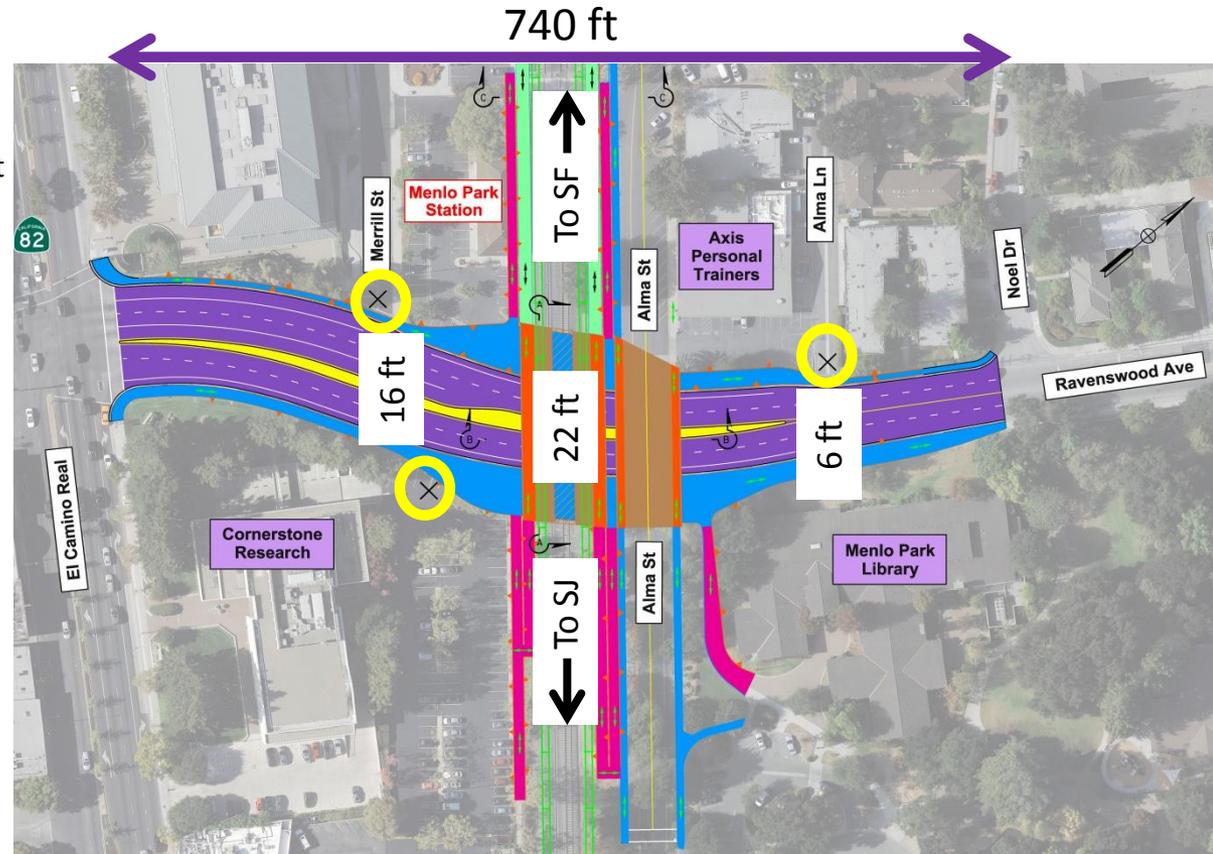


Opportunities

- Highest priority crossing is grade separated
- Minimize visual impact
- Minimize impact to through traffic on Alma St
- Minimize impact to railroad
- Minimize construction disruptions

Constraints

- Options for future grade separations may be limited
- Access at Merrill St, Alma St & Alma Lane are restricted
- Greatest impact to Ravenwood
- Steepest roadway profile (10%)
- Sidewalk access limitations, elevated from roadway



Ravenwood Avenue Railroad Crossing Project





ALTERNATIVE A: UNDERPASS
(RAVENSWOOD ONLY)

Alternative A

Photo Simulation Looking East along Ravenswood



Ravenswood Avenue Railroad Crossing Project

A

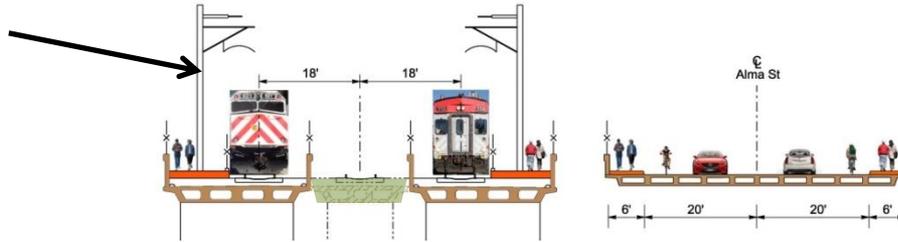
ALTERNATIVE A: UNDERPASS
(RAVENSWOOD ONLY)

Alternative A

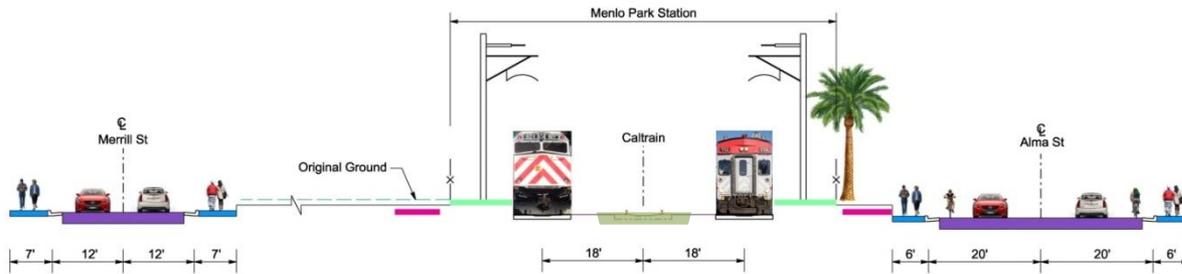


Ravenswood Avenue Looking East

OCS Pole Height ~ 30 ft



Caltrain Station Looking North at Ravenswood



Caltrain Station Looking North – North of Ravenswood

Ravenswood Avenue Railroad Crossing Project



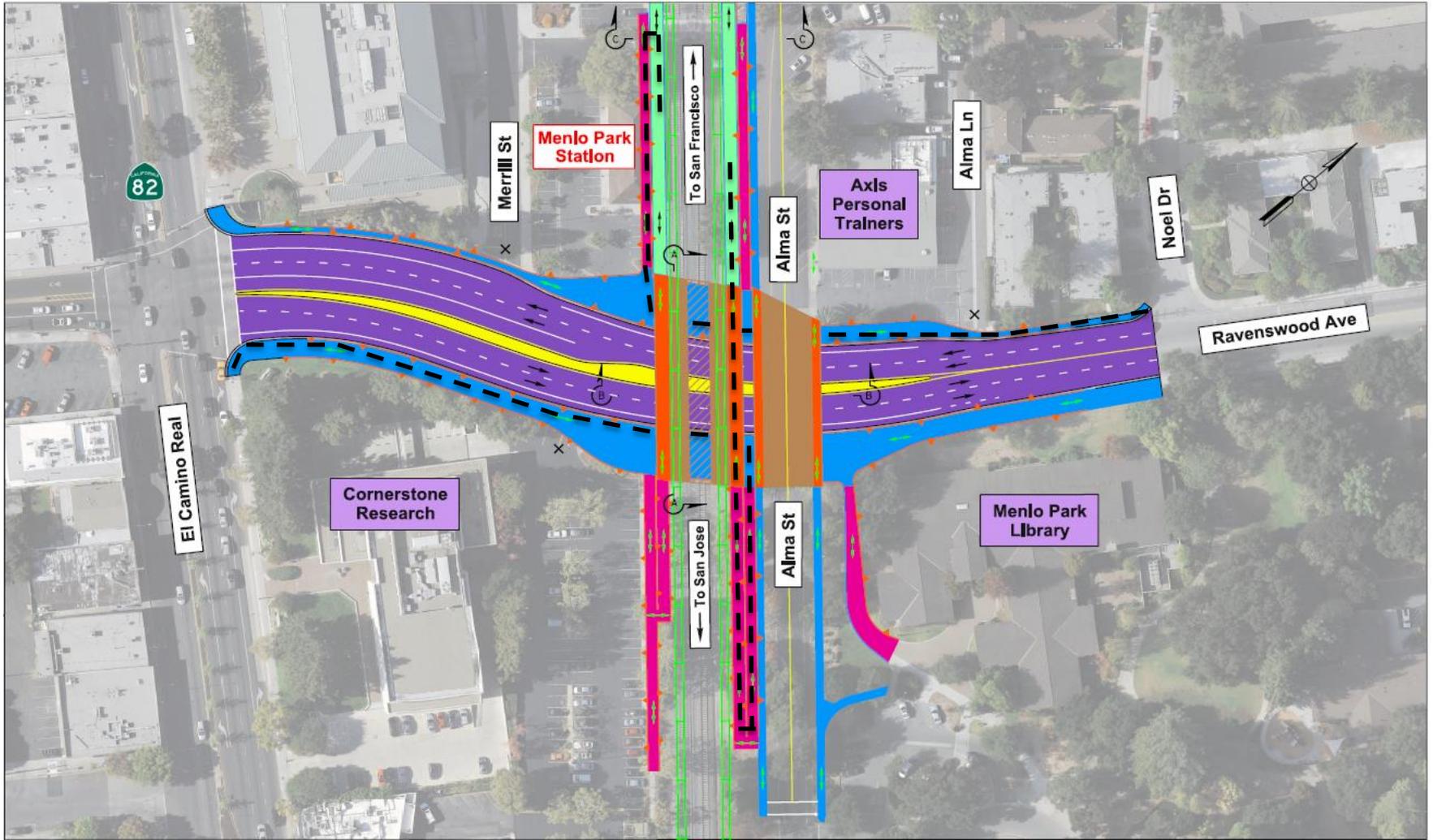
A



Pedestrian Routes

ALTERNATIVE A: UNDERPASS
(RAVENSWOOD ONLY)

Ravenswood Ave



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ALTERNATIVE A: UNDERPASS
(RAVENSWOOD ONLY)

Alternative A

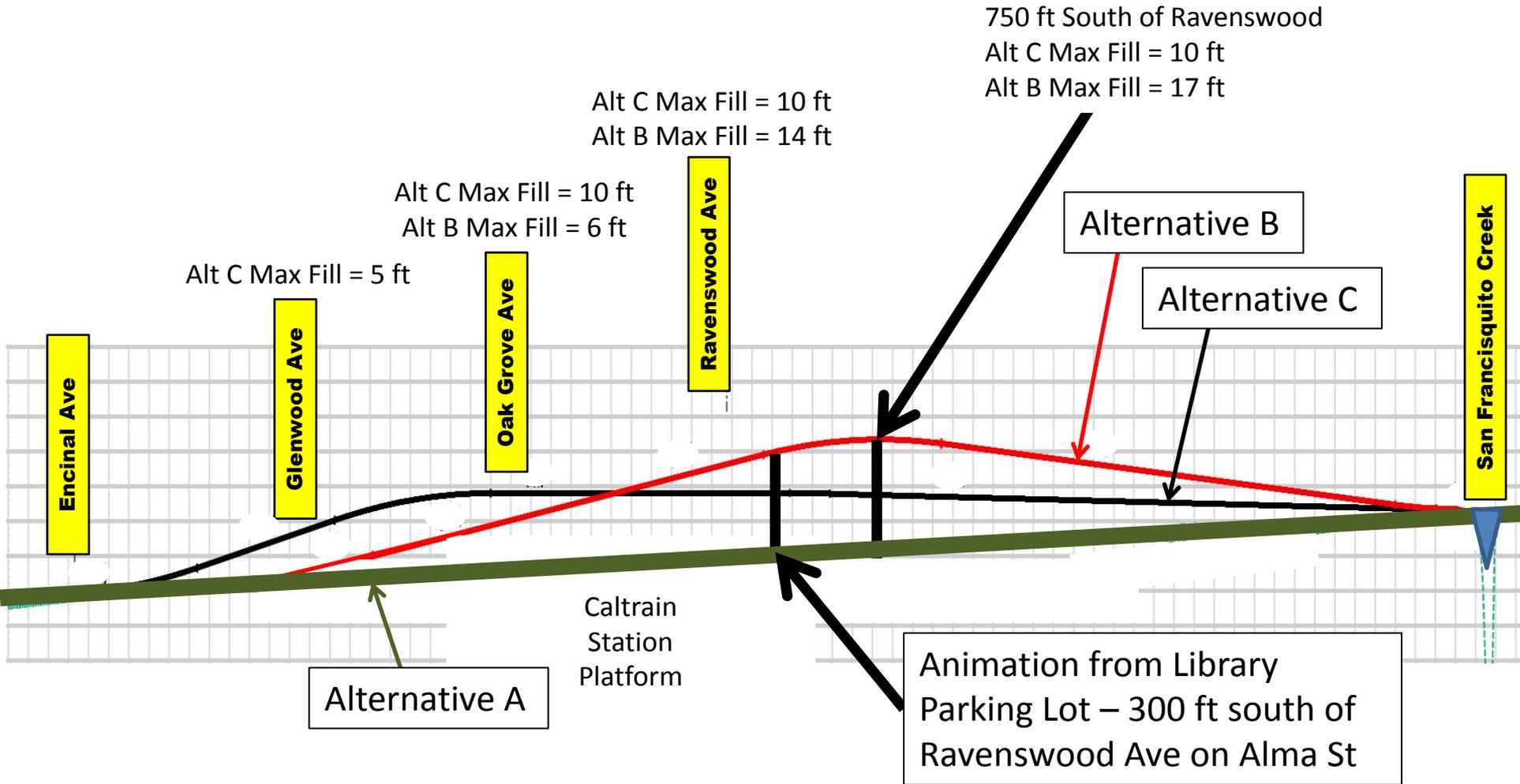
Photo Simulation Looking East along Ravenswood



Ravenswood Avenue Railroad Crossing Project



Railroad Profiles



Ravenswood Avenue Railroad Crossing Project

Animation from Library Parking Lot



Alternative A



Ravenswood Avenue Railroad Crossing Project



Animation from Library Parking Lot



Alternative B



Ravenswood Avenue Railroad Crossing Project



Animation from Library Parking Lot



Alternative C



Ravenswood Avenue Railroad Crossing Project





Alternative B

Ravenswood Ave

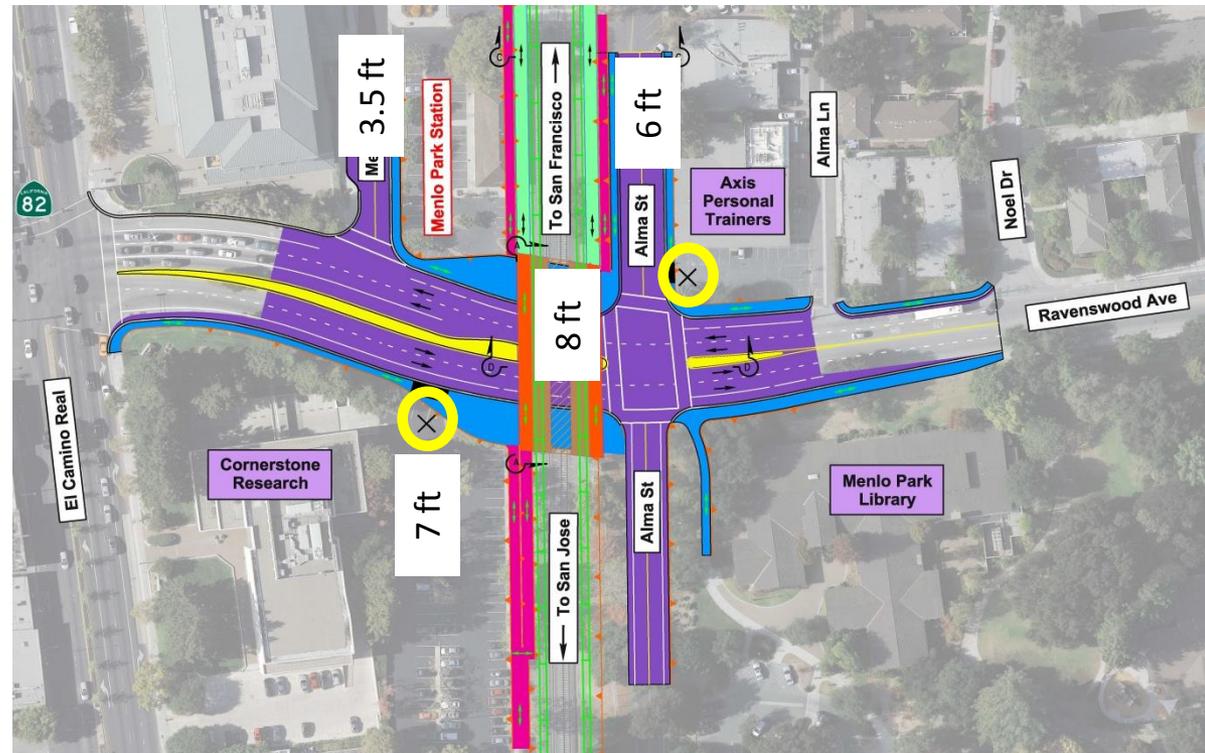
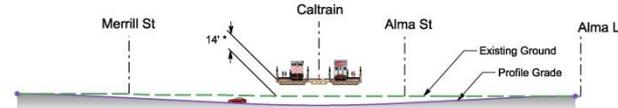
Maximum Excavation = 8 ft
 Fill at Ravenswood = 14 ft

Opportunities

- Two crossings are grade separated
- Access at Merrill St, Alma St, Alma Lane is maintained
- Minimize impact to Ravenswood
- Add full access back at Alma St/ Ravenswood intersection

Constraints

- Highest rail elevation near Burgess Park
- More access impacts at Oak Grove compared to Alternative C
- Impacts access fronting Oak Grove, Alma St and Merrill St



Ravenswood Avenue Railroad Crossing Project



B



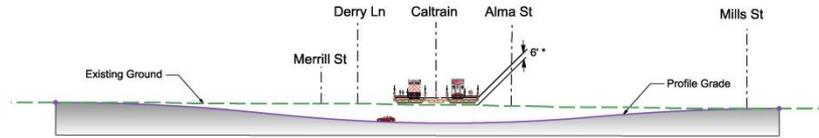
ALTERNATIVE B: HYBRID
(RAVENSWOOD & OAK GROVE)

Alternative B

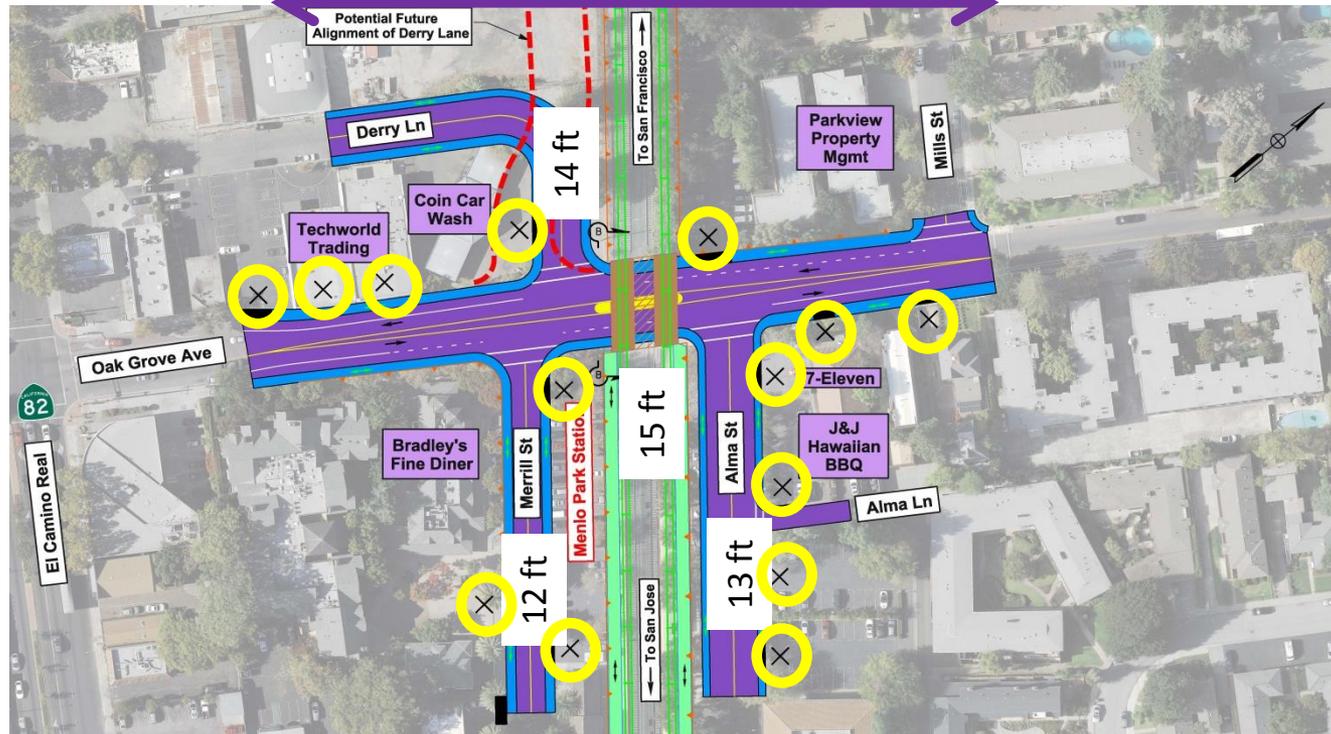
Oak Grove Ave

Maximum Excavation = 15 ft

Fill at Oak Grove = 6 ft



600 ft



Ravenswood Avenue Railroad Crossing Project



Alternative B

Photo Simulation Looking East along Ravenswood



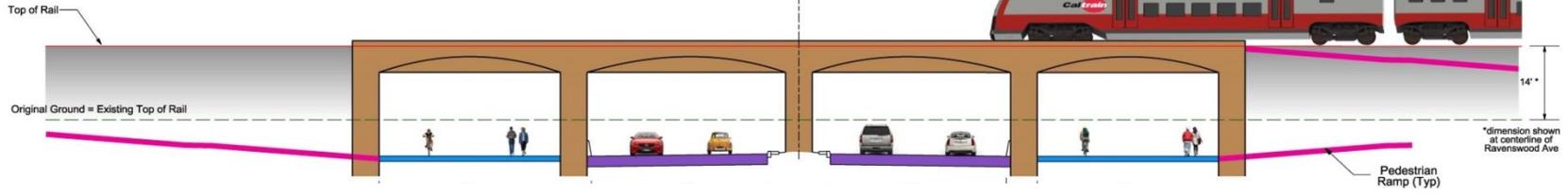
Ravenswood Avenue Railroad Crossing Project

B



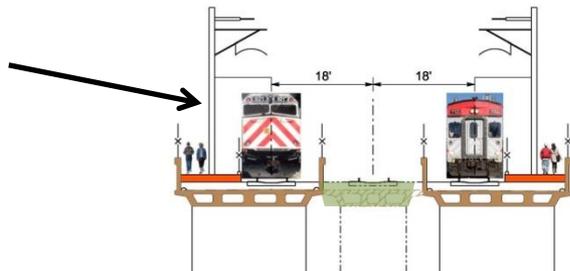
ALTERNATIVE B: HYBRID
(RAVENSWOOD & OAK GROVE)

Alternative B

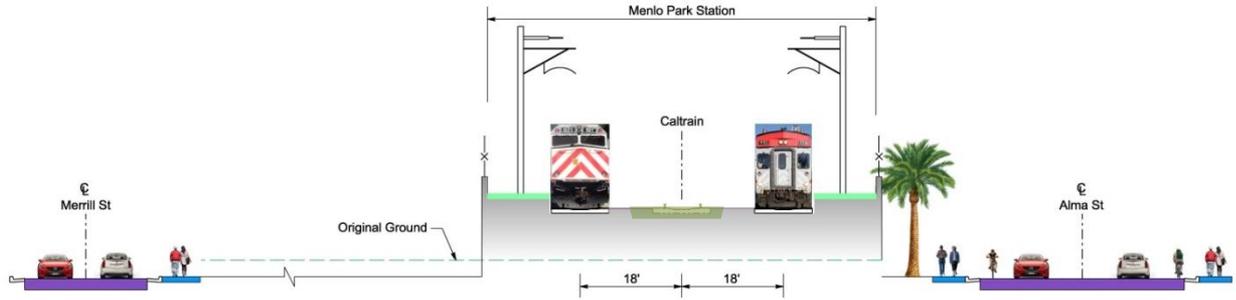


Ravenswood Avenue Looking East

OCS Pole Height ~ 30 ft



Caltrain Station Looking North at Ravenswood



Caltrain Station Looking North – North of Ravenswood

Ravenswood Avenue Railroad Crossing Project



B



ALTERNATIVE B: HYBRID
(RAVENSWOOD & OAK GROVE)

Alternative B

Railroad

To San Francisco



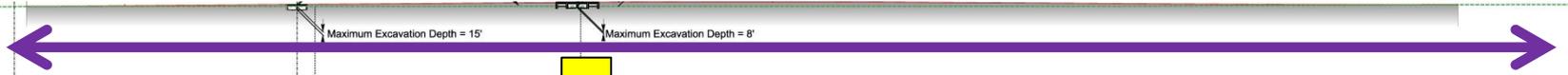
To San Jose



Max Fill = 6 ft
Max Excavation = 15 ft

Max Fill = 14 ft
Max Excavation = 8 ft

5,400 ft



Maximum Excavation Depth = 15'

Maximum Excavation Depth = 8'



Ravenswood Avenue Railroad Crossing Project

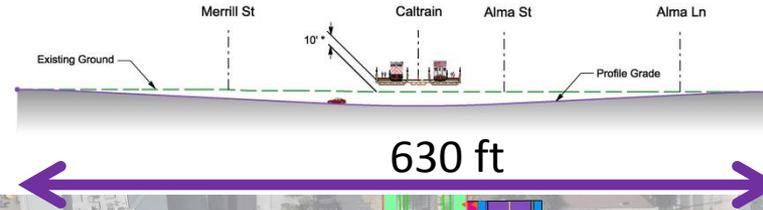




Alternative C

Ravenswood Ave

Maximum Excavation = 12 ft
Fill at Ravenswood = 10 ft

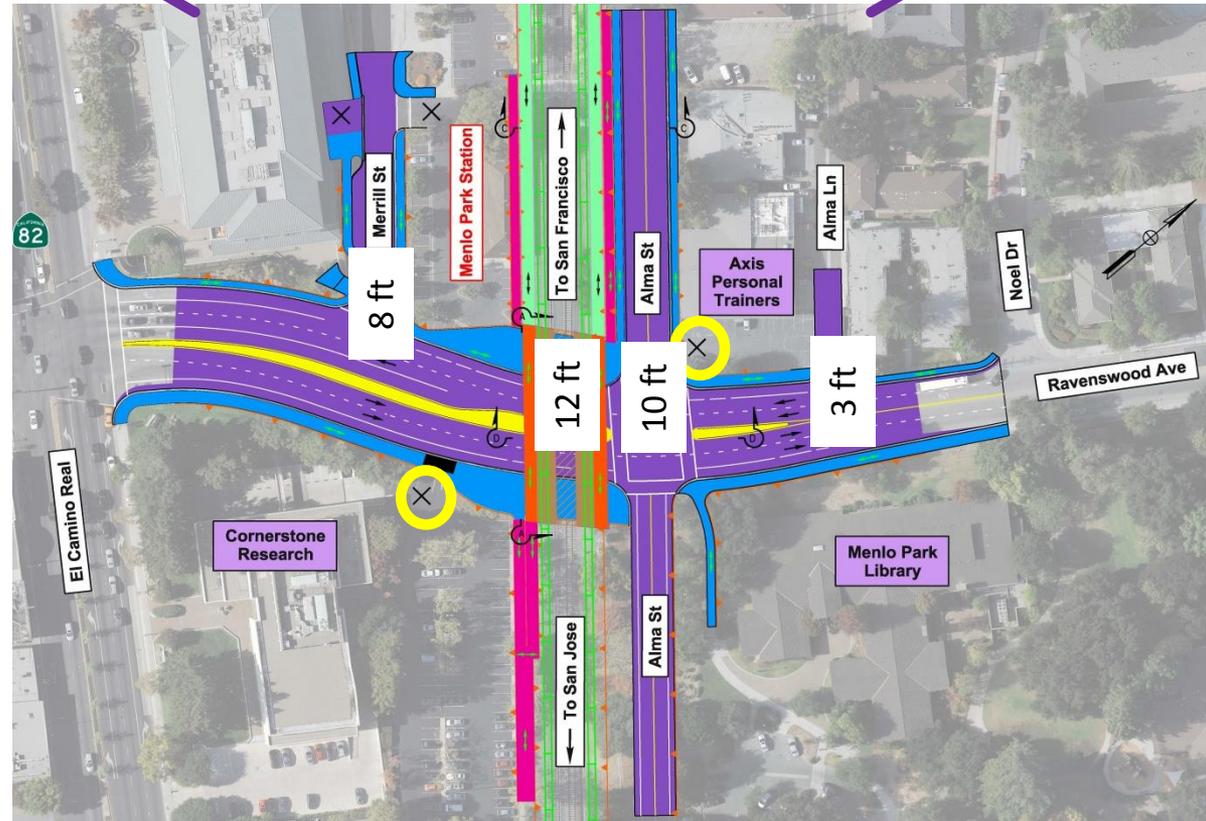


Opportunities

- Three crossings are grade separated
- Access at Merrill St, Alma St & Alma Lane is maintained
- Lesser impacts at Oak Grove compared to Alternative B
- Lower maximum rail elevation than Alternative B
- Add full access back at Alma St/ Ravenswood intersection

Constraints

- Access modifications at most properties overall
- Rail is elevated at Glenwood (approximately 5 feet)



Ravenswood Avenue Railroad Crossing Project

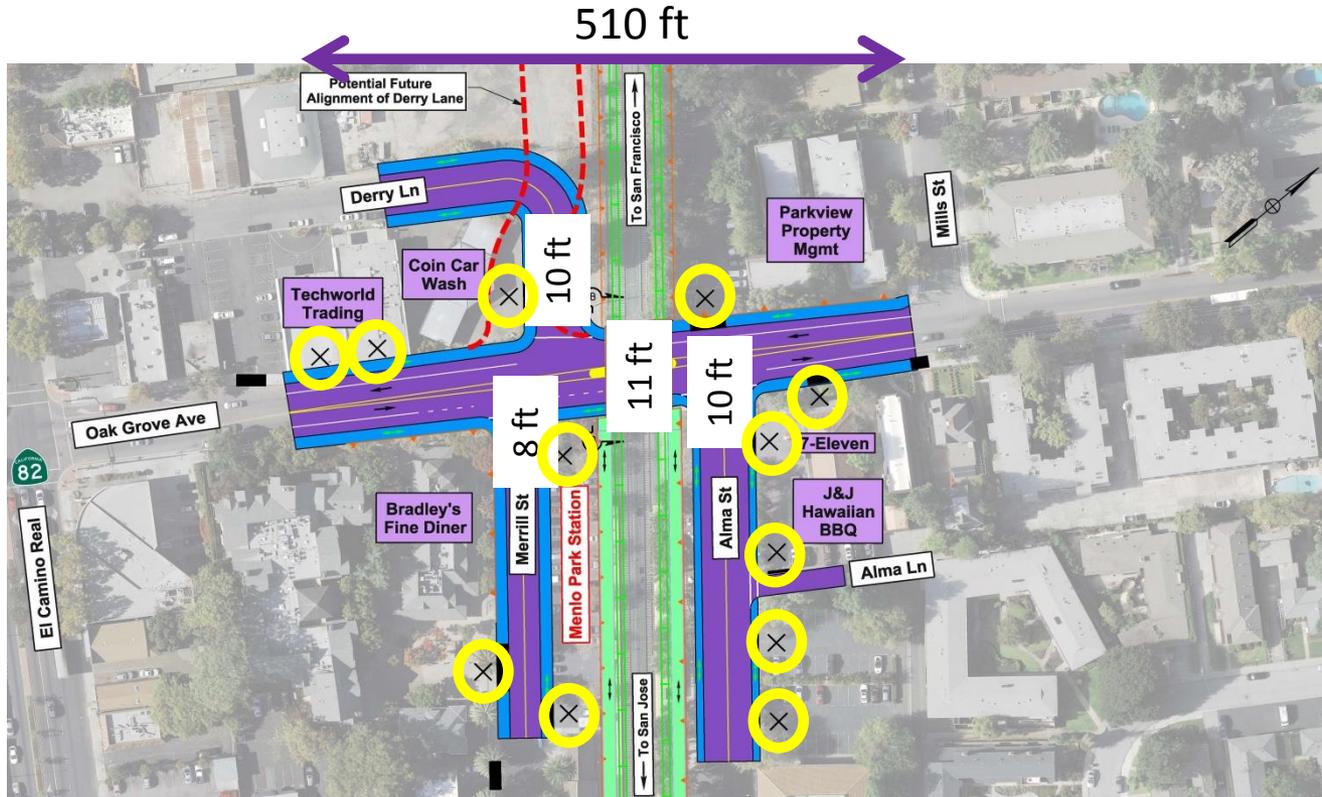
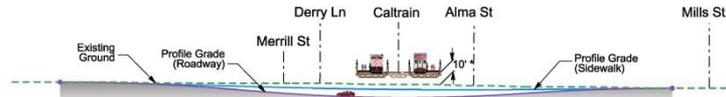




Alternative C

Oak Grove Ave

Maximum Excavation = 11 ft
Fill at Oak Grove = 10 ft



Ravenswood Avenue Railroad Crossing Project

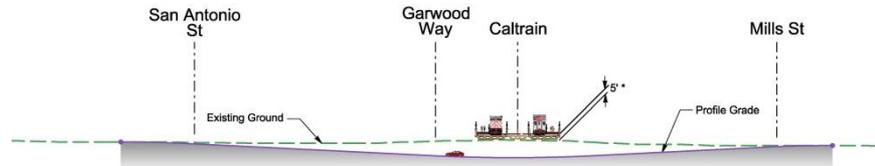




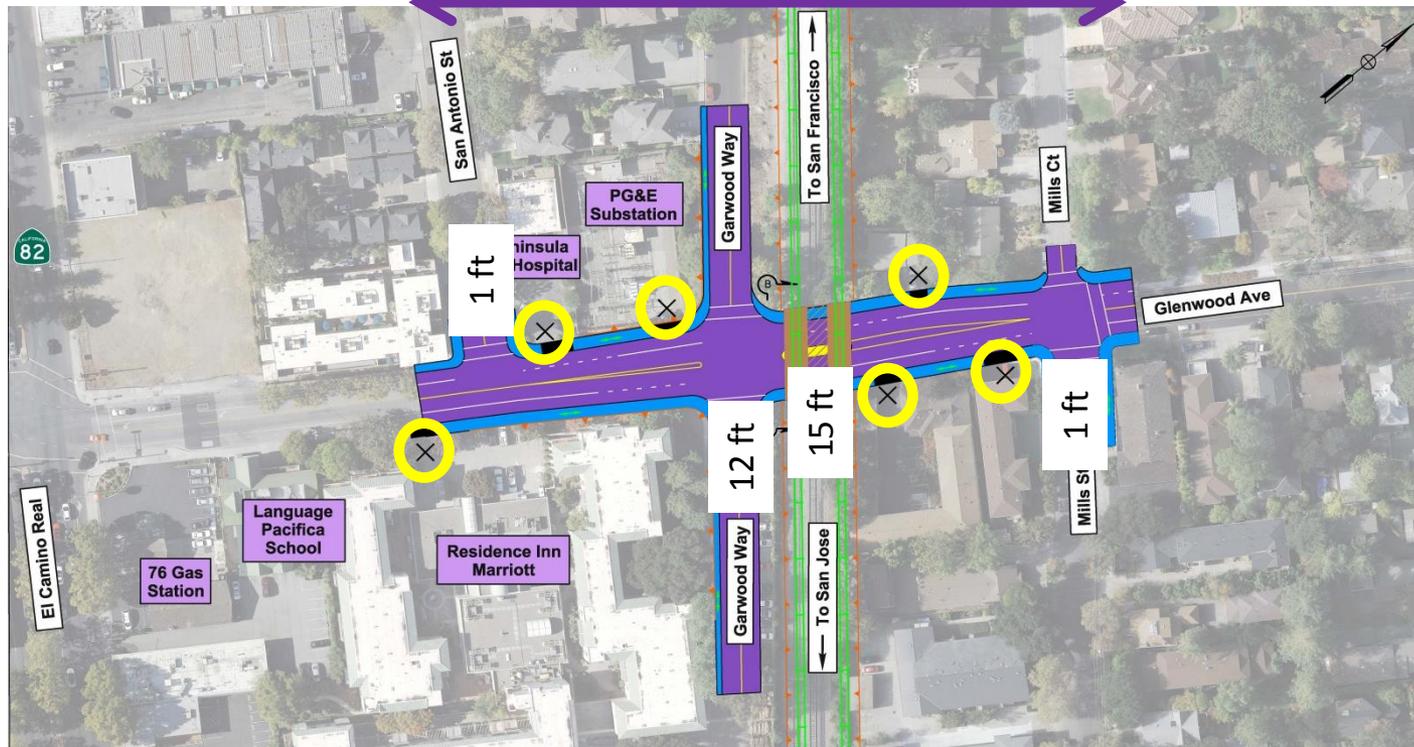
Alternative C

Glenwood Ave

Maximum Excavation = 15 ft
Fill at Glenwood = 5 ft



590 ft



Ravenswood Avenue Railroad Crossing Project



Alternative C

Simulation Looking East along Ravenswood



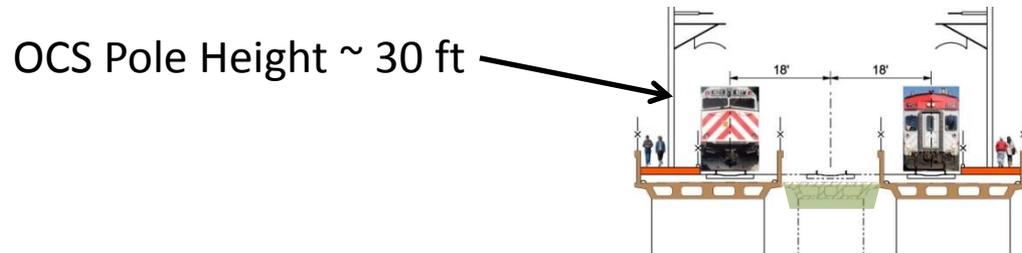
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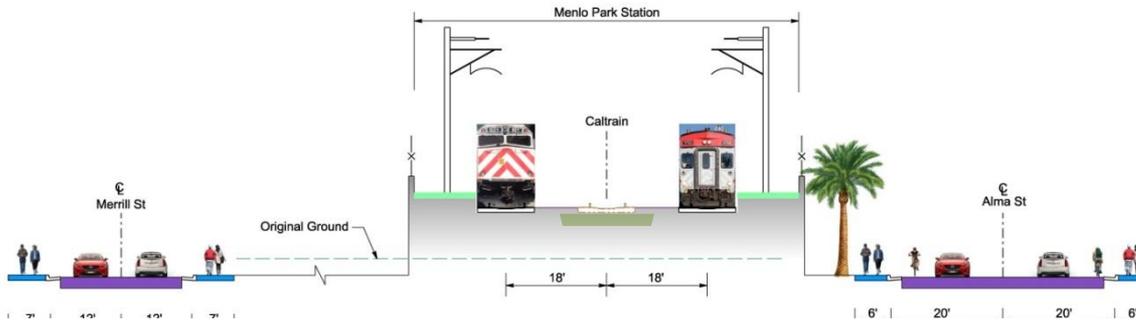
Alternative C



Ravenswood Avenue Looking West



Caltrain Station Looking North at Ravenswood



Caltrain Station Looking North – North of Ravenswood

Ravenswood Avenue Railroad Crossing Project





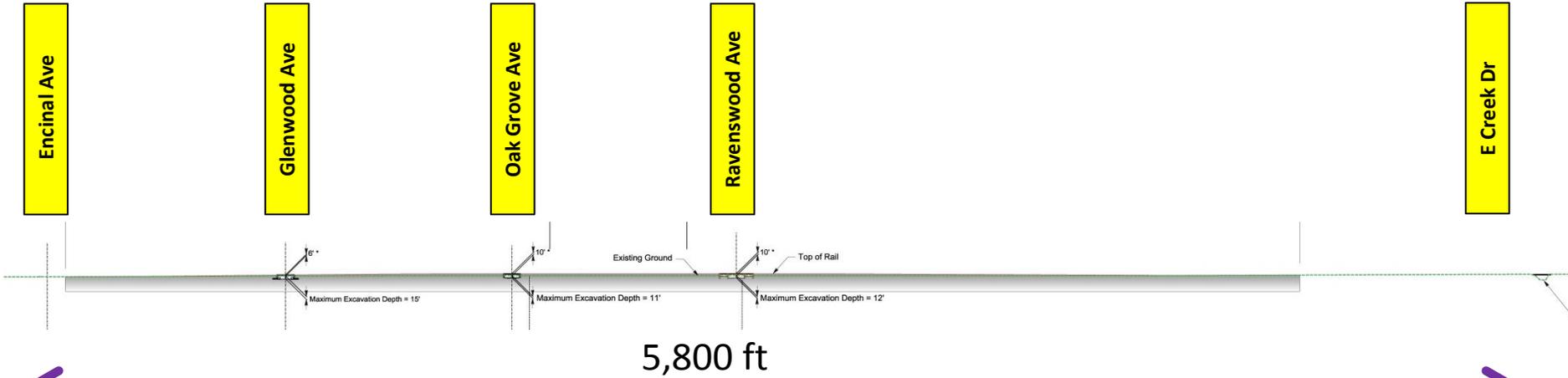
Alternative C

Railroad

Max Fill = 5 ft
Max Excavation = 15 ft

Max Fill = 10 ft
Max Excavation = 11 ft

Max Fill = 10 ft
Max Excavation = 12 ft



Ravenswood Avenue Railroad Crossing Project



Summary of Alternatives



ALTERNATIVE A: UNDERPASS
(RAVENSWOOD ONLY)

- Grade Separation of Ravenswood Only
- Railroad Remains at Grade



ALTERNATIVE B: HYBRID
(RAVENSWOOD & OAK GROVE)

- Grade Separation of Ravenswood & Oak Grove
- Railroad begins to rise just south of Glenwood



ALTERNATIVE C: HYBRID
(RAVENSWOOD, OAK GROVE, & GLENWOOD)

- Grade Separation of Ravenswood, Oak Grove and Glenwood
- Railroad begins to rise just south of Encinal

Ravenswood Avenue Railroad Crossing Project

Meeting Summary

Reporting back from break-out sessions

Next Steps:

- Incorporate Feedback
- Evaluate Constructability
- Develop Cost Estimates

Next meeting in **Early 2017**

For More Information:

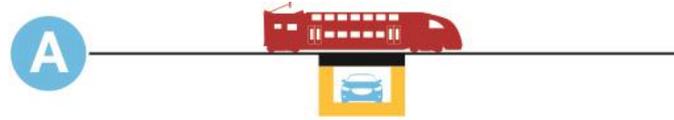
Visit Us at: <http://www.menlopark.org/Ravenswood>

Email Us at: Transportation@menlopark.org

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Breakout Stations



**ALTERNATIVE A: UNDERPASS
(RAVENSWOOD ONLY)**



**ALTERNATIVE B: HYBRID
(RAVENSWOOD & OAK GROVE)**



**ALTERNATIVE C: HYBRID
(RAVENSWOOD, OAK GROVE, & GLENWOOD)**

MISCELLANEOUS STATION

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Report Out

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Thank You

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