Ravenswood Avenue Railroad Crossing Project

Community Outreach Meeting

Presentation

October 4, 2016

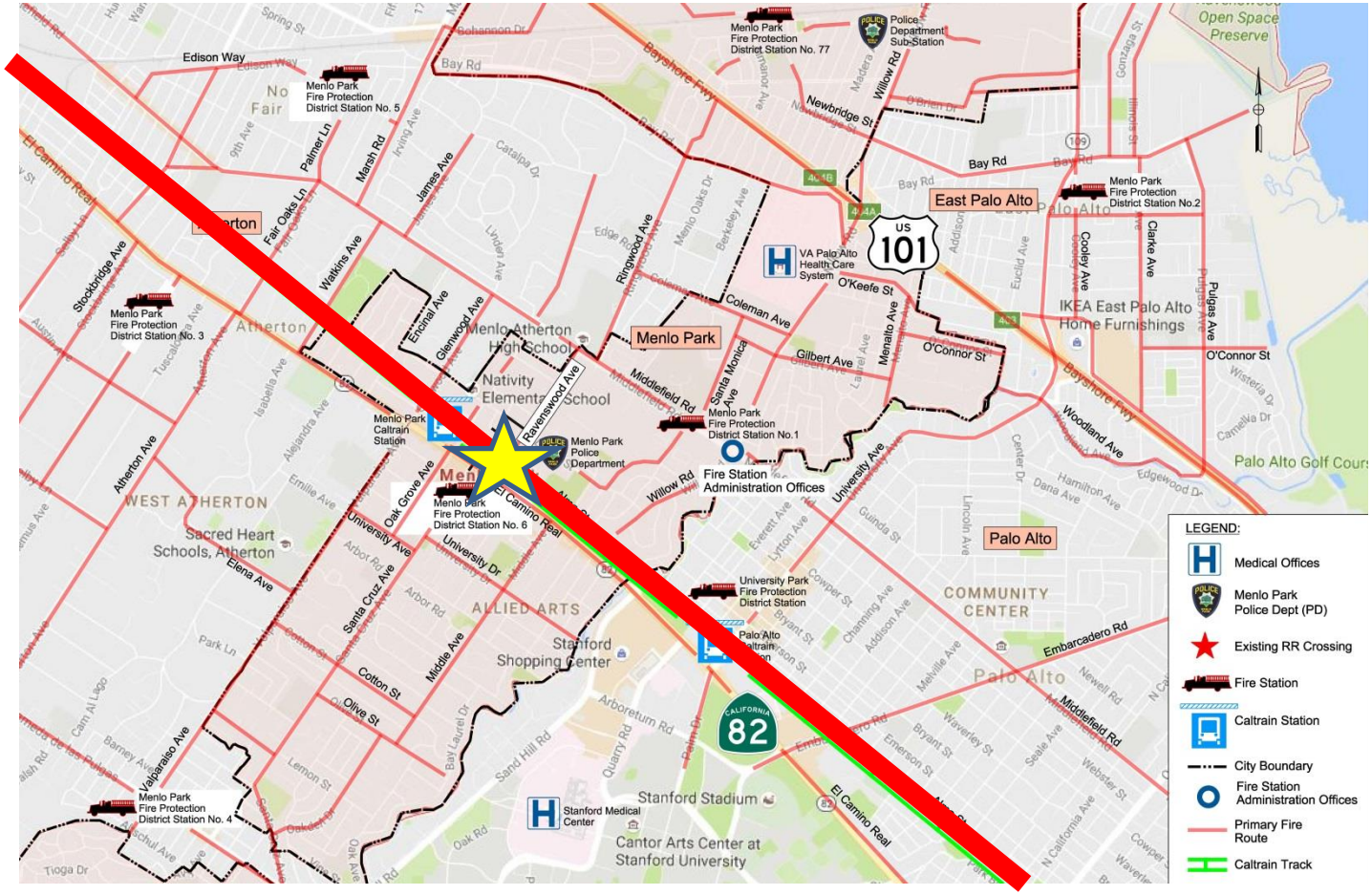
Agenda

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

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

Emergency Response

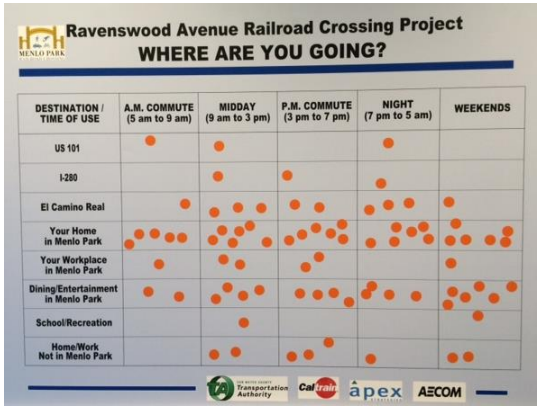


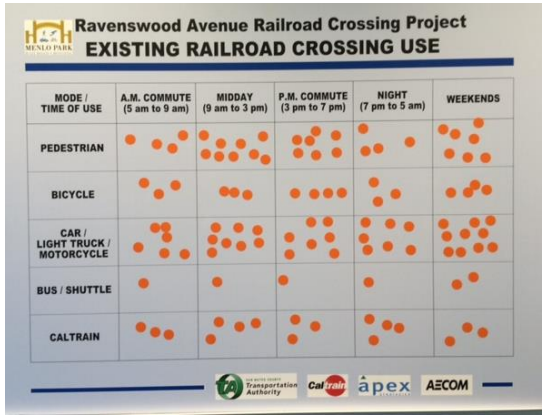
Project Scope and Funding

- 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

Feedback from 1st Meeting

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





Project Definitions

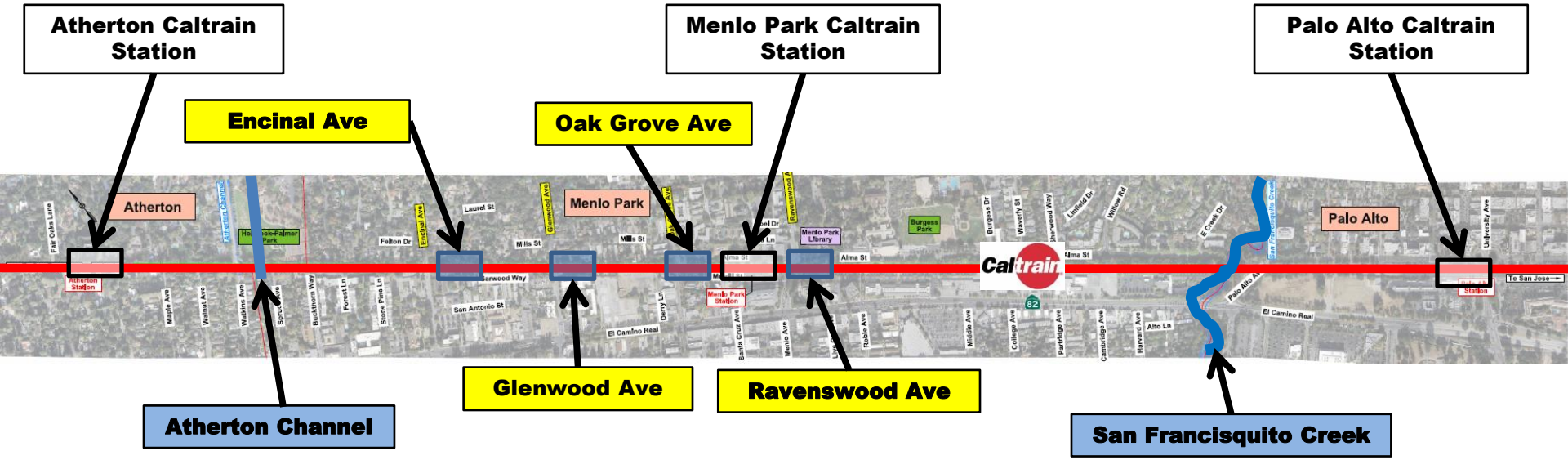
What is an "at-grade crossing"?

- 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.

Project Area



To San Francisco ←

→ To San Jose

Video of Existing Conditions

(U-Turn on Tracks)

Video of Existing Conditions

(Vehicle Stopped on Tracks)

Video of Existing Conditions

(RR Signal Requires Backup of Vehicle)

Grade Separation Benefits

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

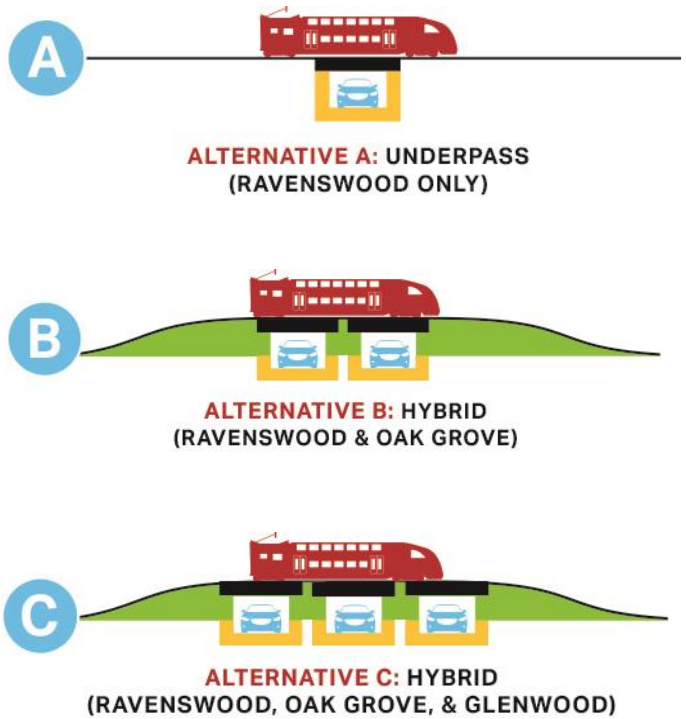
- Travel time savings
- Collisions
- Green House Gas Emissions (GHG)
- Criteria Air Pollutants (CAP)

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	↓

Alternatives

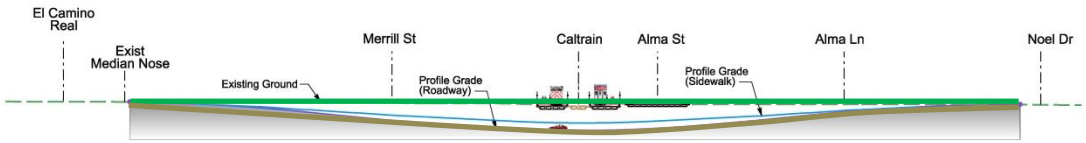
- Previous Studies
- Alternatives Evaluated



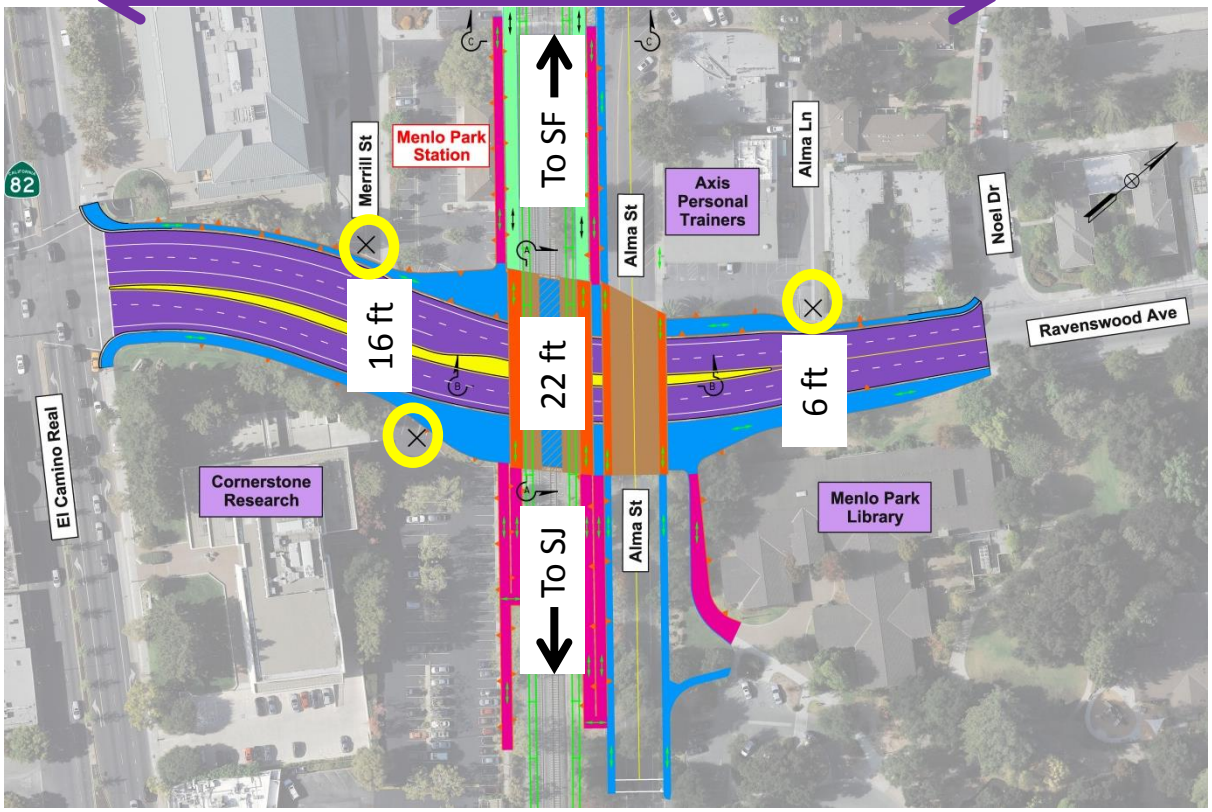
Alternative A

Ravenswood Ave

Maximum Excavation = 22 ft



740 ft



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 Ravenswood
- Steepest roadway profile (10%)
- Sidewalk access limitations, elevated from roadway

ALTERNATIVE A: UNDERPASS
(RAVENSWOOD ONLY)

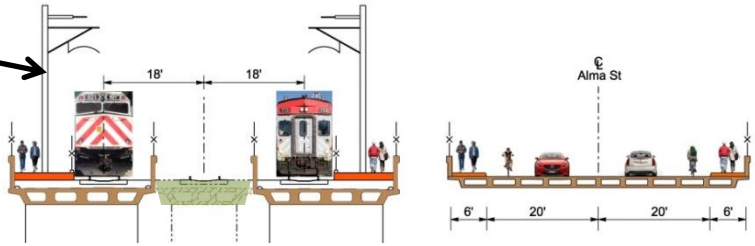
Alternative A

Photo Simulation Looking East along Ravenswood

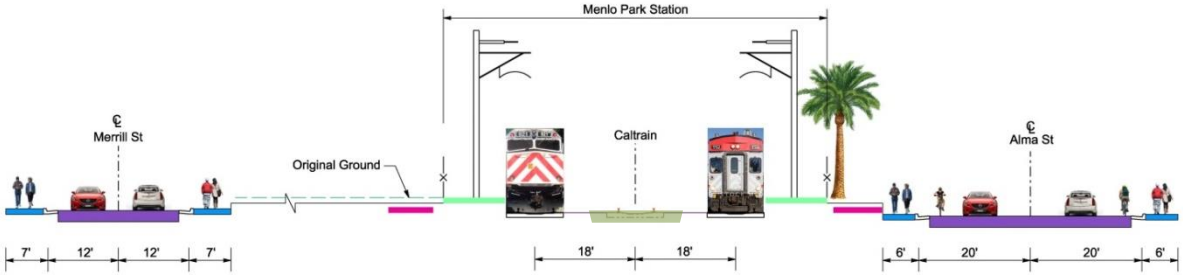
Alternative A

Ravenswood Avenue Looking East

OCS Pole Height ~ 30 ft



Caltrain Station Looking North at Ravenswood

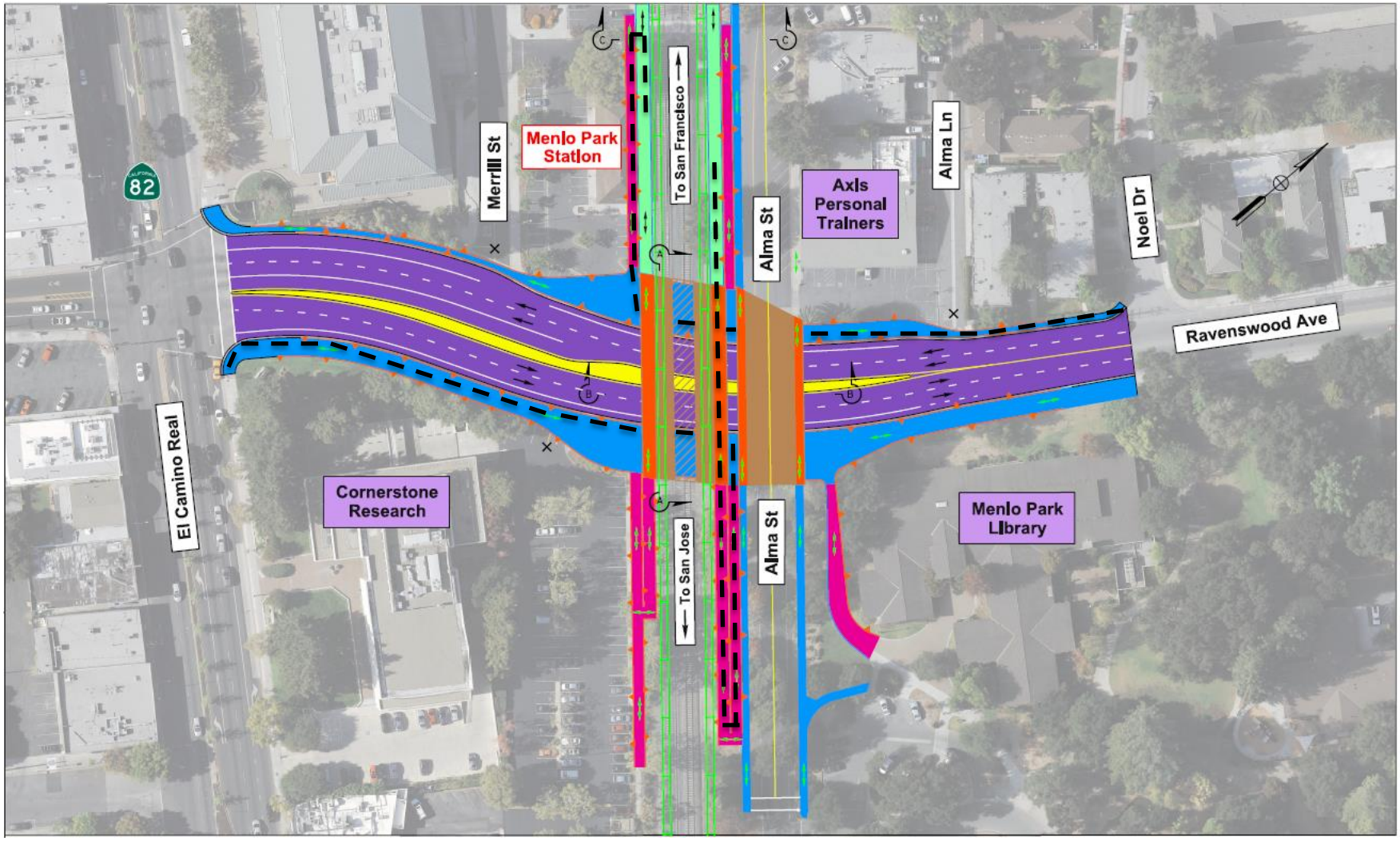


Caltrain Station Looking North – North of Ravenswood

ALTERNATIVE A: UNDERPASS
(RAVENSWOOD ONLY)

Pedestrian Routes

Ravenswood Ave

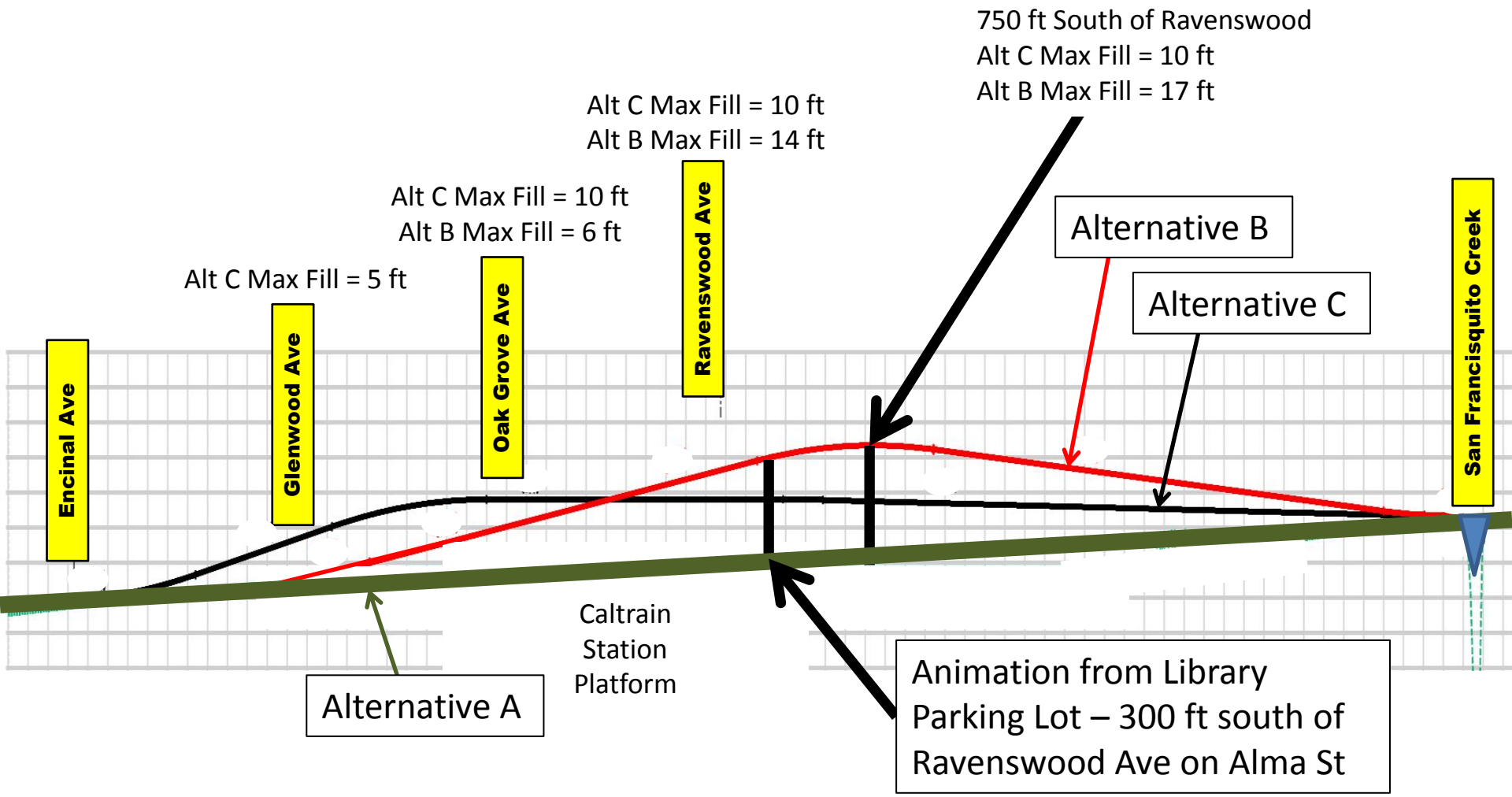


ALTERNATIVE A: UNDERPASS
(RAVENSWOOD ONLY)

Alternative A

Photo Simulation Looking East along Ravenswood

Railroad Profiles



Animation from Library Parking Lot

Alternative A

Animation from Library Parking Lot

Alternative B

ALTERNATIVE B: HYBRID
(RAVENSWOOD & OAK GROVE)

Animation from Library Parking Lot

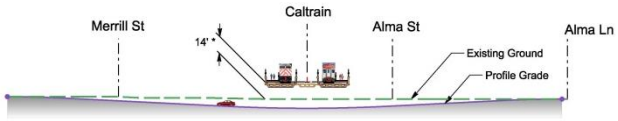
Alternative C

ALTERNATIVE B: HYBRID
(RAVENSWOOD & OAK GROVE)

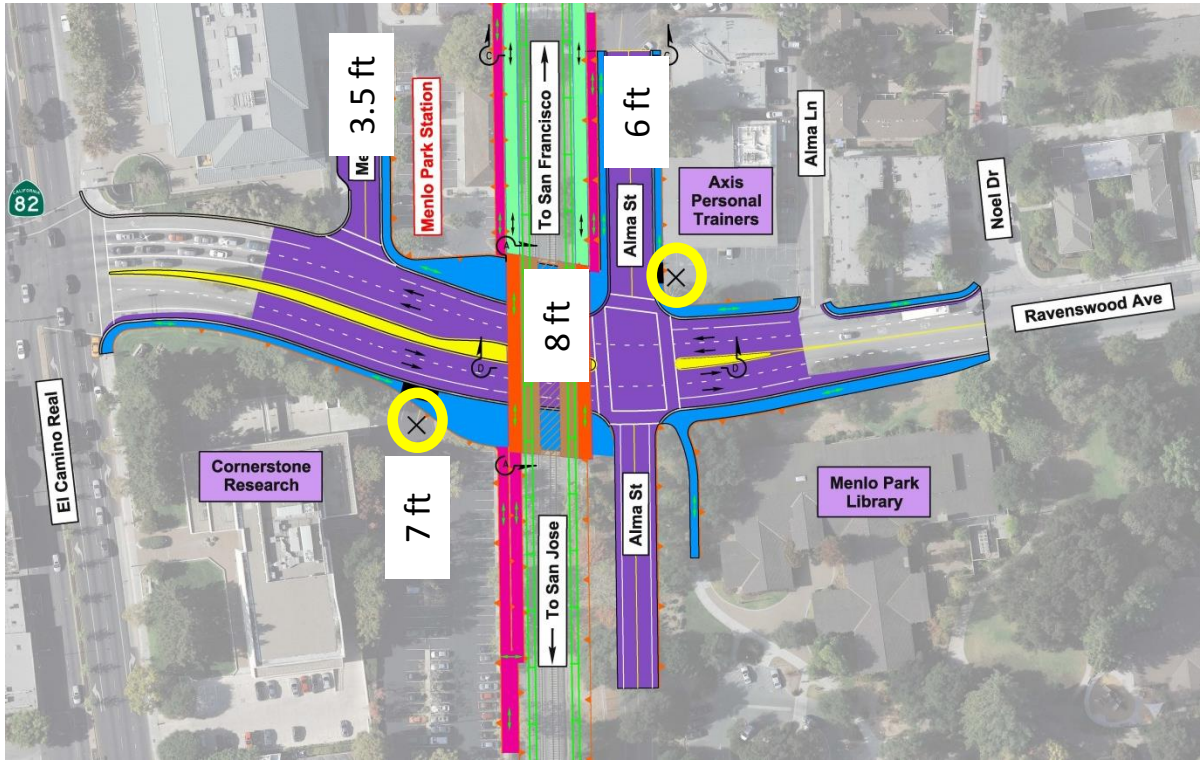
Alternative B

Ravenswood Ave

Maximum Excavation = 8 ft
Fill at Ravenswood = 14 ft



460 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

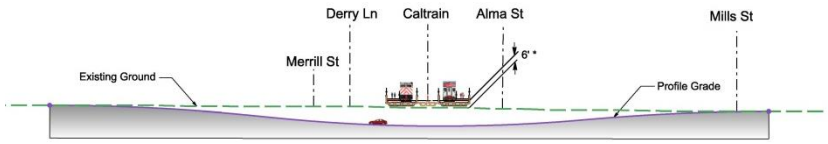
- Highest rail elevation near Burgess Park
- More access impacts at Oak Grove compared to Alternative C
- Impacts access fronting Oak Grove, Alma St and Merrill St

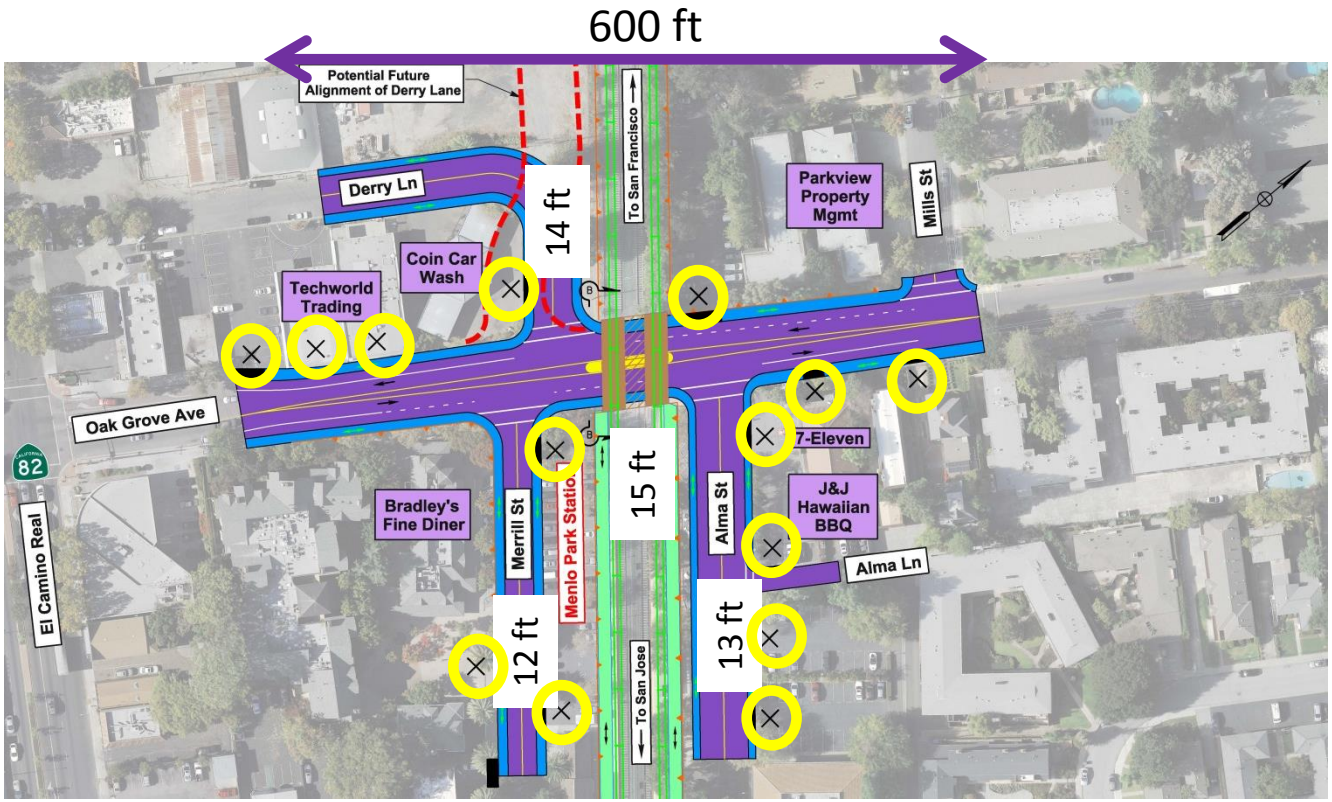
ALTERNATIVE B: HYBRID
(RAVENSWOOD & OAK GROVE)

Alternative B

Oak Grove Ave

Maximum Excavation = 15 ft
Fill at Oak Grove = 6 ft

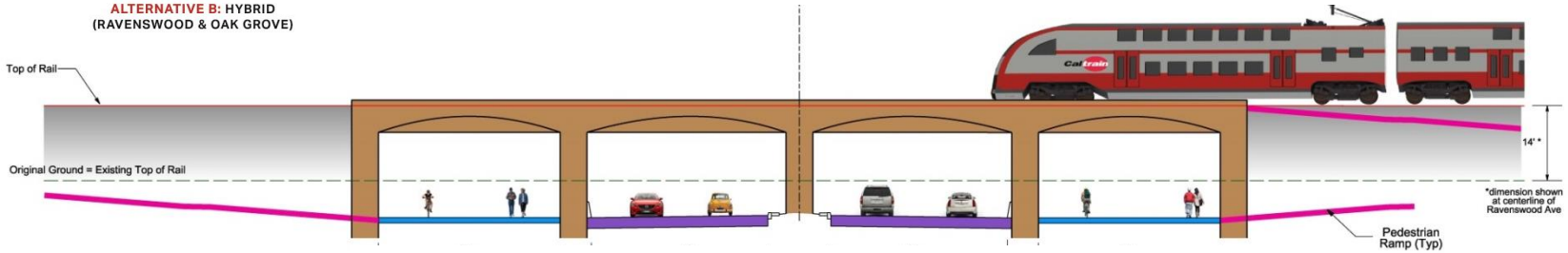




Alternative B

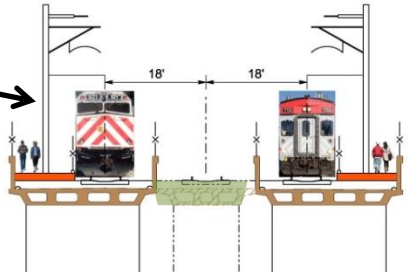
Photo Simulation Looking East along Ravenswood

Alternative B

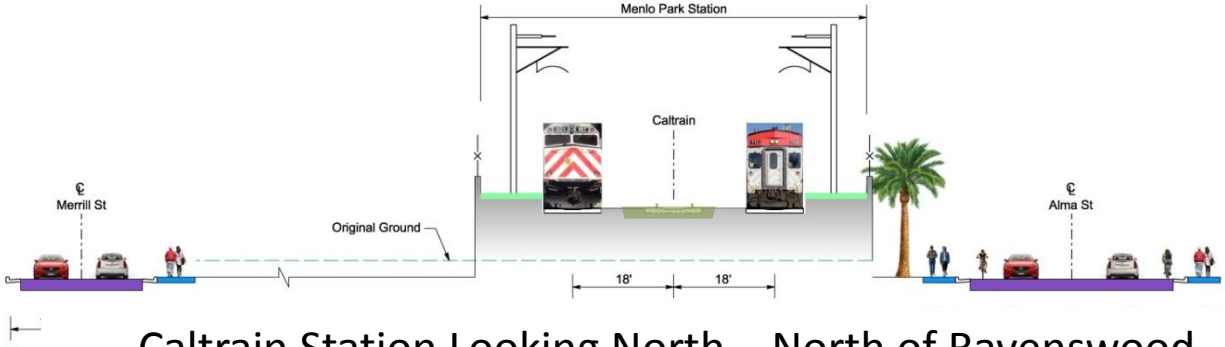


Ravenswood Avenue Looking East

OCS Pole Height ~ 30 ft



Caltrain Station Looking North at Ravenswood



Caltrain Station Looking North – North of Ravenswood

Alternative B

Railroad

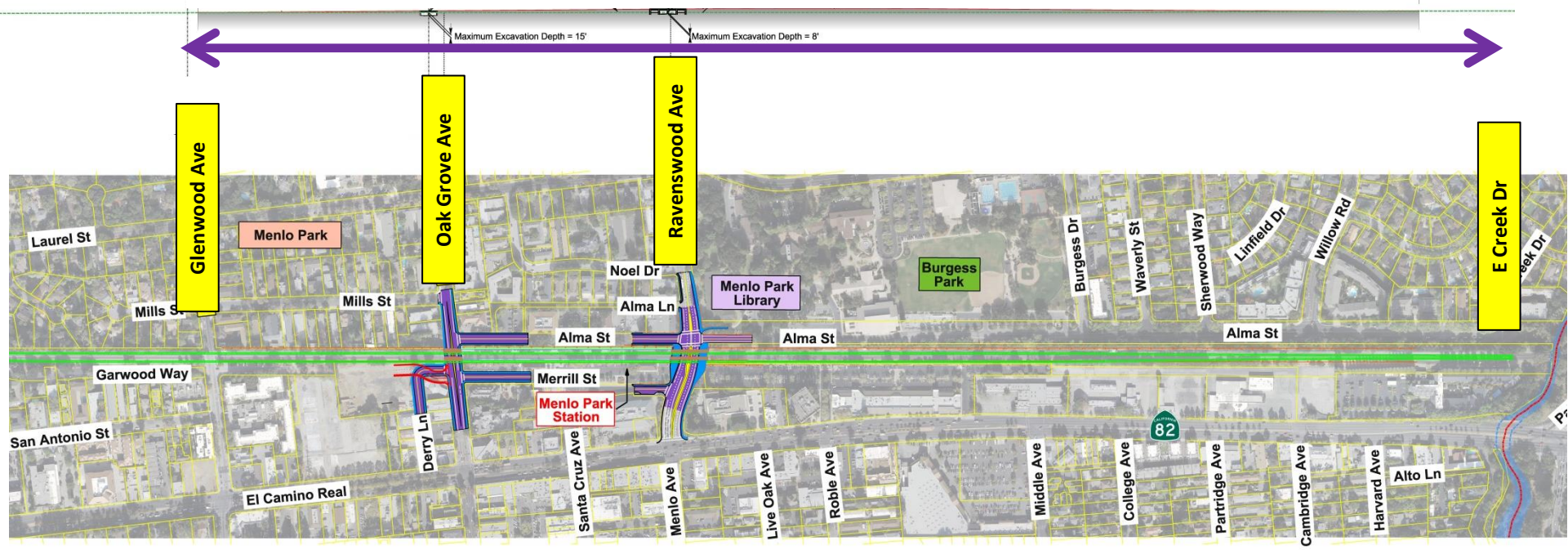
ALTERNATIVE B: HYBRID
(RAVENSWOOD & OAK GROVE)

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

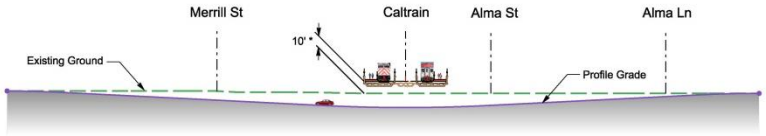


ALTERNATIVE C: HYBRID
(RAVENSWOOD, OAK GROVE, & GLENWOOD)

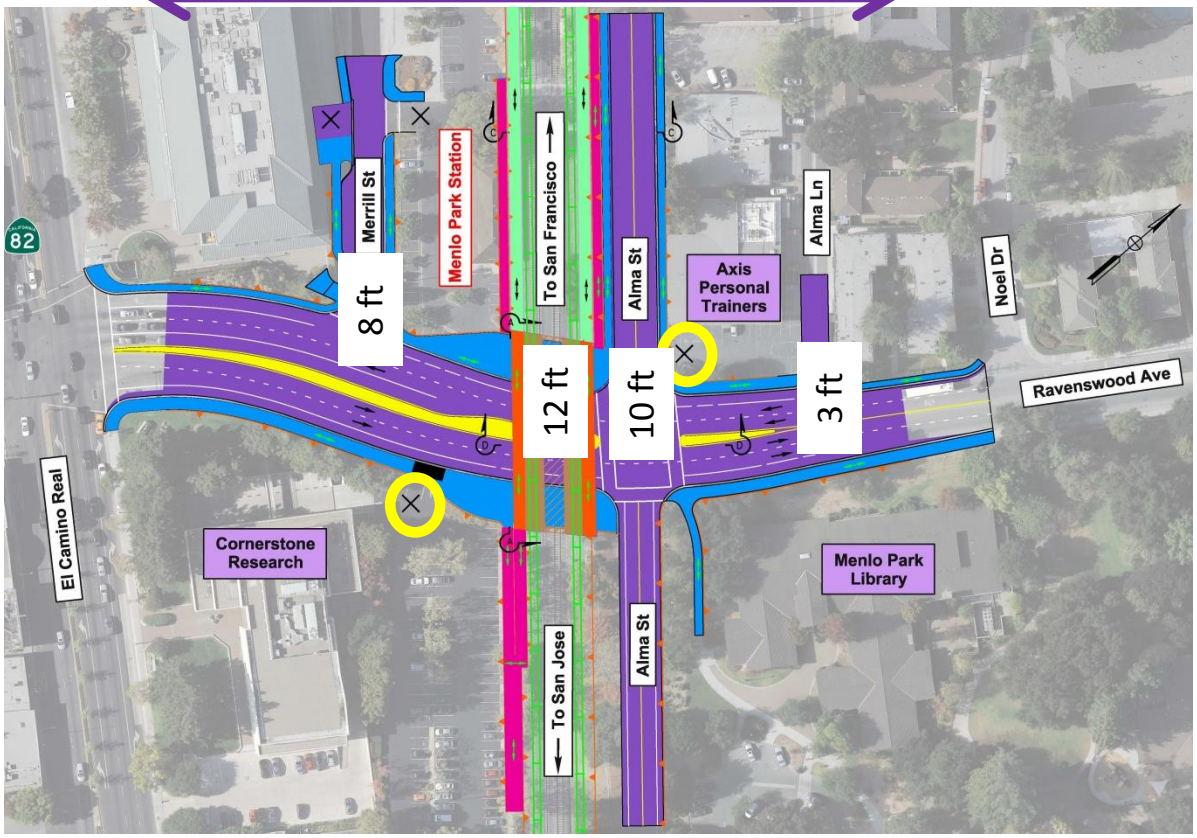
Alternative C

Ravenswood Ave

Maximum Excavation = 12 ft
Fill at Ravenswood = 10 ft



630 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

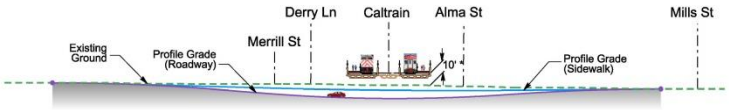
- Access modifications at most properties overall
- Rail is elevated at Glenwood (approximately 5 feet)

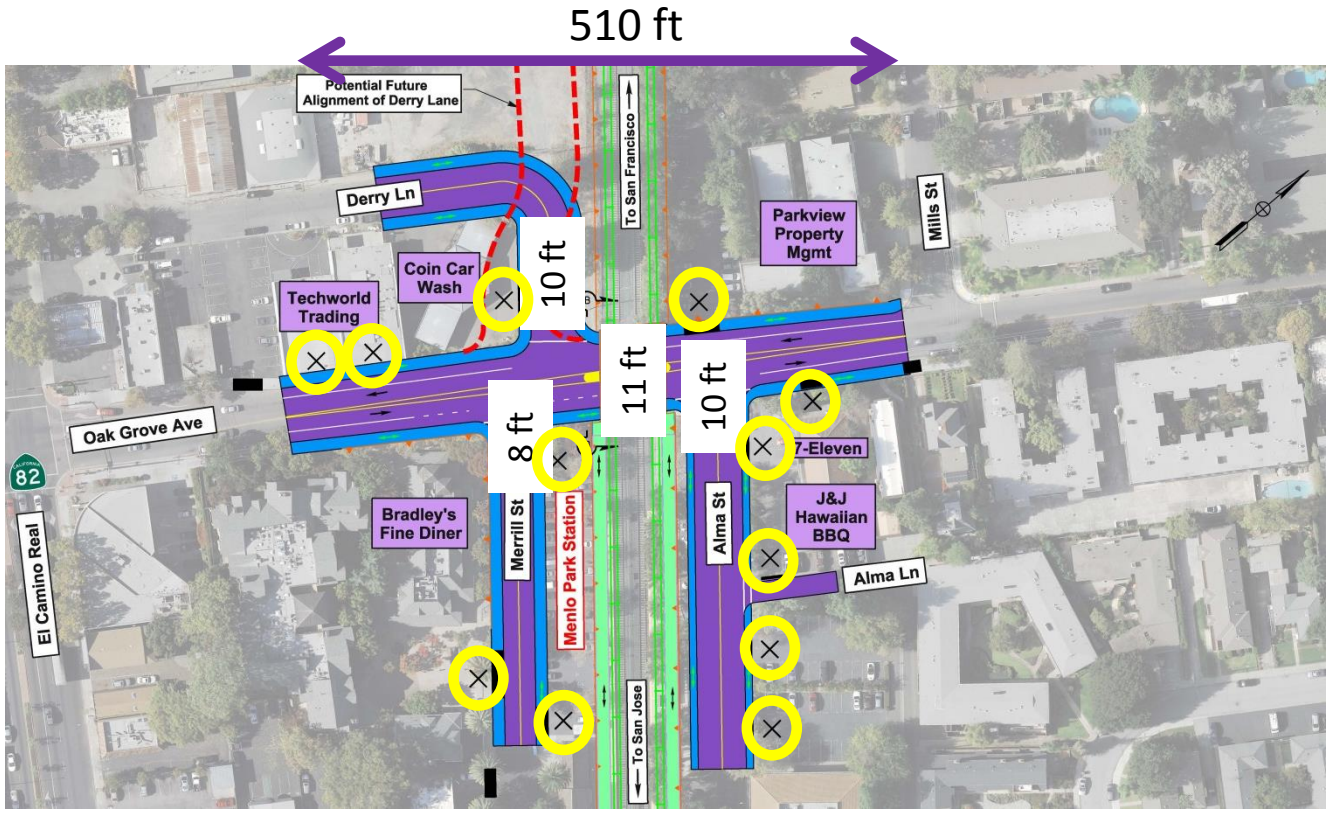
ALTERNATIVE C: HYBRID
(RAVENSWOOD, OAK GROVE, & GLENWOOD)

Alternative C

Oak Grove Ave

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



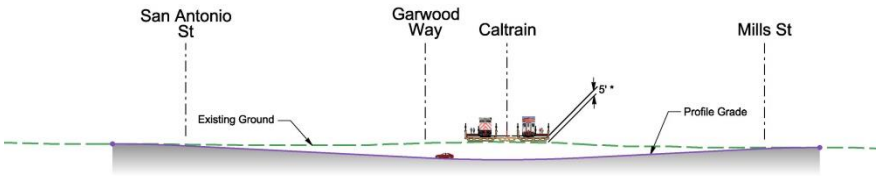


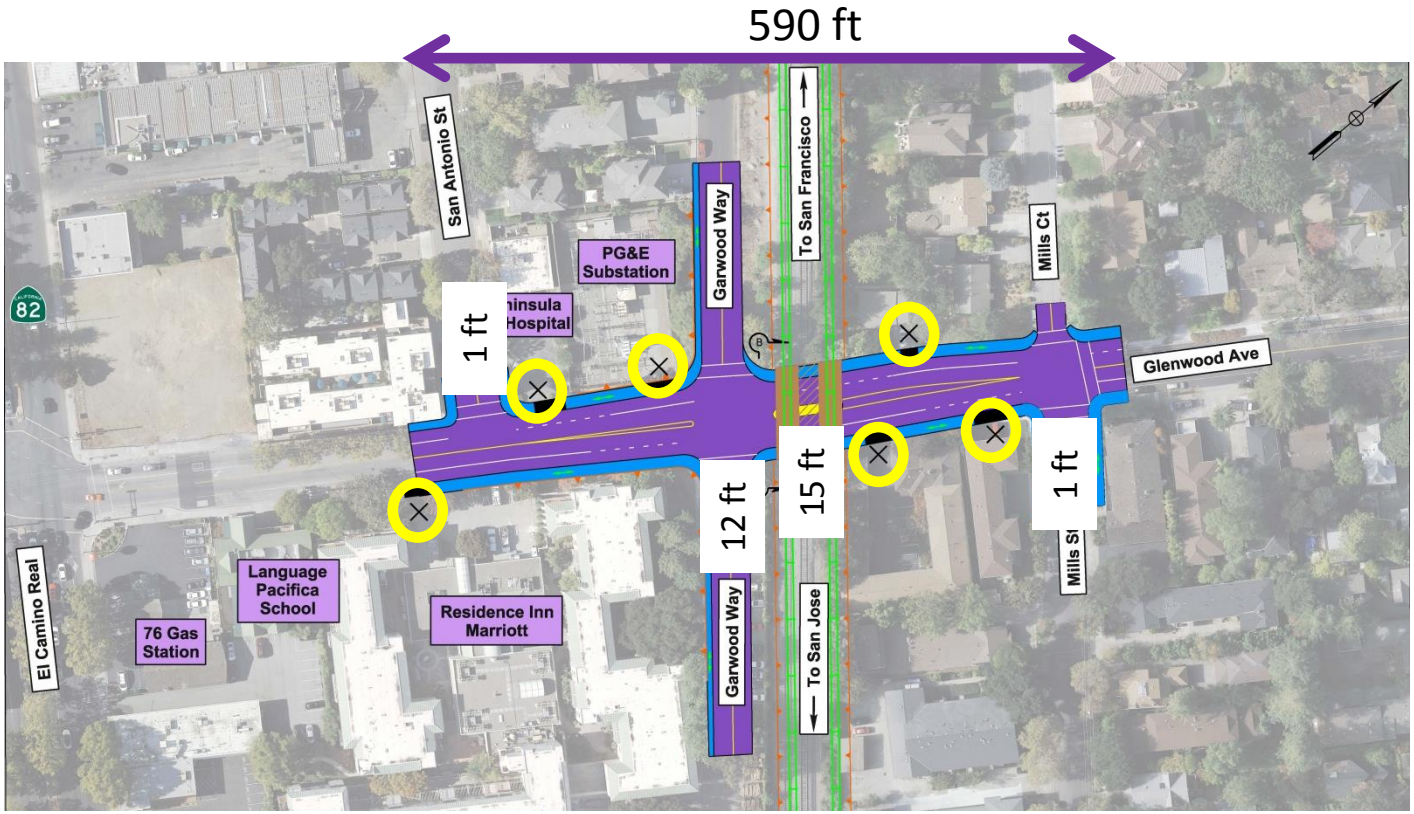
ALTERNATIVE C: HYBRID
(RAVENSWOOD, OAK GROVE, & GLENWOOD)

Alternative C

Glenwood Ave

Maximum Excavation = 15 ft
Fill at Glenwood = 5 ft





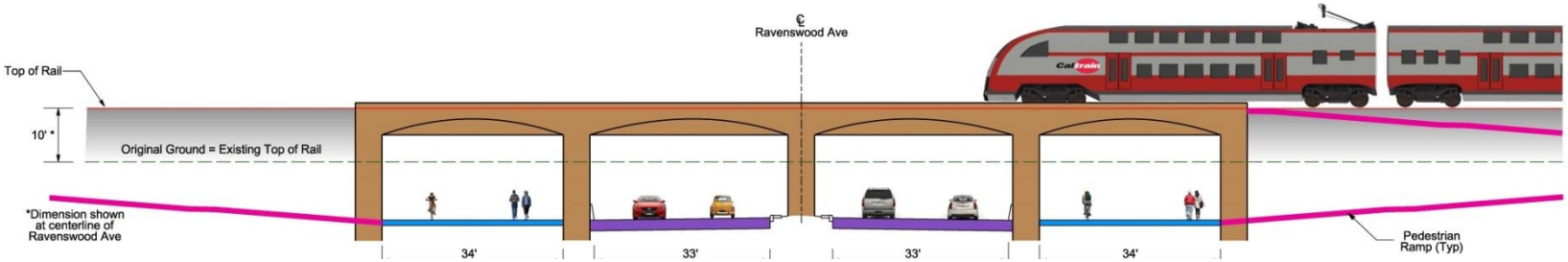
ALTERNATIVE C: HYBRID
(RAVENSWOOD, OAK GROVE, & GLENWOOD)

Alternative C

Simulation Looking East along Ravenswood

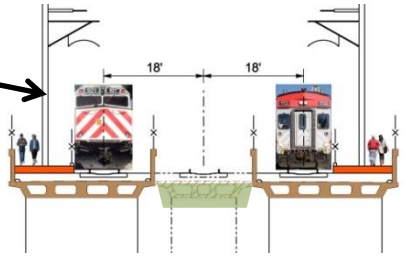
ALTERNATIVE C: HYBRID
(RAVENSWOOD, OAK GROVE, & GLENWOOD)

Alternative C



Ravenswood Avenue Looking West

OCS Pole Height ~ 30 ft



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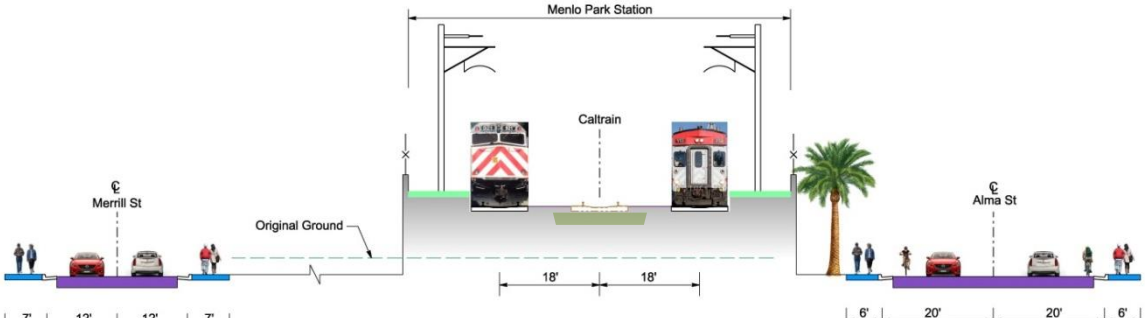


Caltrain Station Looking North – North of Ravenswood

Alternative C

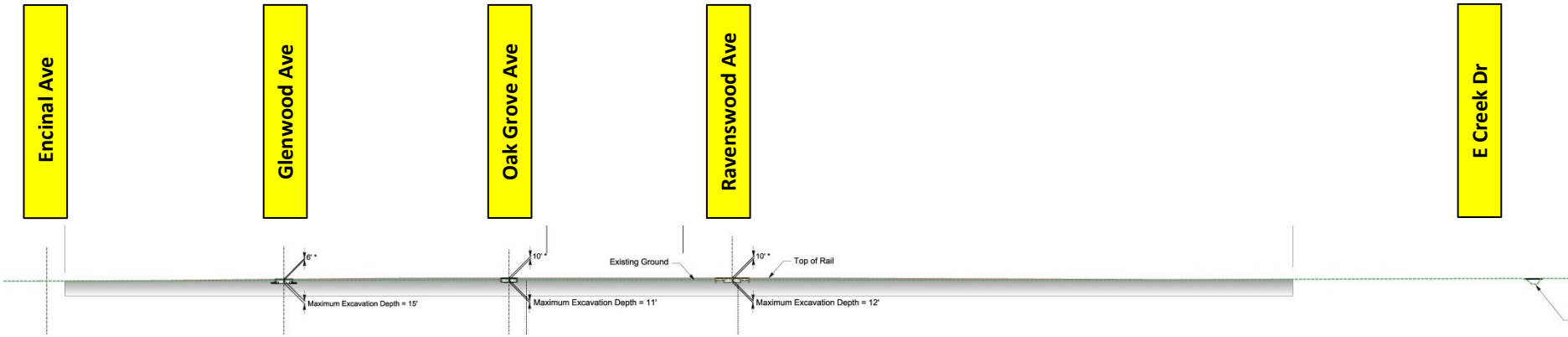
ALTERNATIVE C: HYBRID
(RAVENSWOOD, OAK GROVE, & GLENWOOD)

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



5,800 ft

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

Meeting Summary

Reporting back from break-out sessions

Next Steps:

- Incorporate Feedback
- Evaluate Constructability
- Develop Cost Estimates

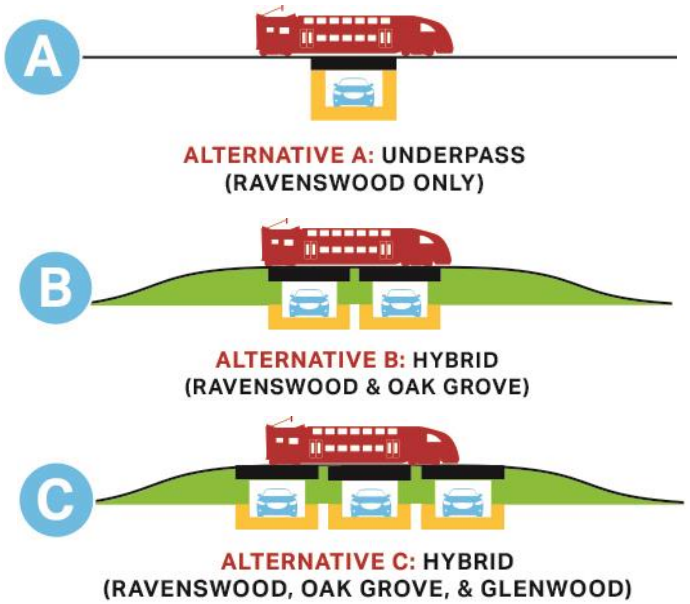
Next meeting in **Early 2017**

For More Information:

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

Email Us at: **Transportation@menlopark.org**

Breakout Stations



MISCELLANEOUS STATION

For More Information:

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

Email Us at: Transportation@menlopark.org

Report Out

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Thank You

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