



San Francisco to San Jose High-Speed Train Project EIR/EIS

San Francisco to San Jose Project Update

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CHSRA Program Management Team

October 2010





Presentation Outline

- Corridor overview
- Feedback since April 8, 2010
- Further study in EIR/EIS
 - Design options
 - Stations
 - Maintenance facilities
- Next steps





Statewide System





San Francisco – San Jose Section





History of Passenger Rail on the Corridor

1850
Cities of San Jose & San Francisco Incorporated

1894
City of Palo Alto Incorporated

1950
Steam engines replaced by diesel rail cars

2004
Baby Bullet Service Introduced

2009
First US HSR Strategic Plan Issued

1864
First Passenger Rail between San Francisco and San Jose

1925
City of San Carlos Incorporated

1992
Caltrain JPB formed

2008
Proposition 1A Passed by CA Voters



Palo Alto Historical Society
Palo Alto Station c.1894



Weimax Wines, Burlingame



Sharkzfan via Flickr
Baby Bullet c.2006





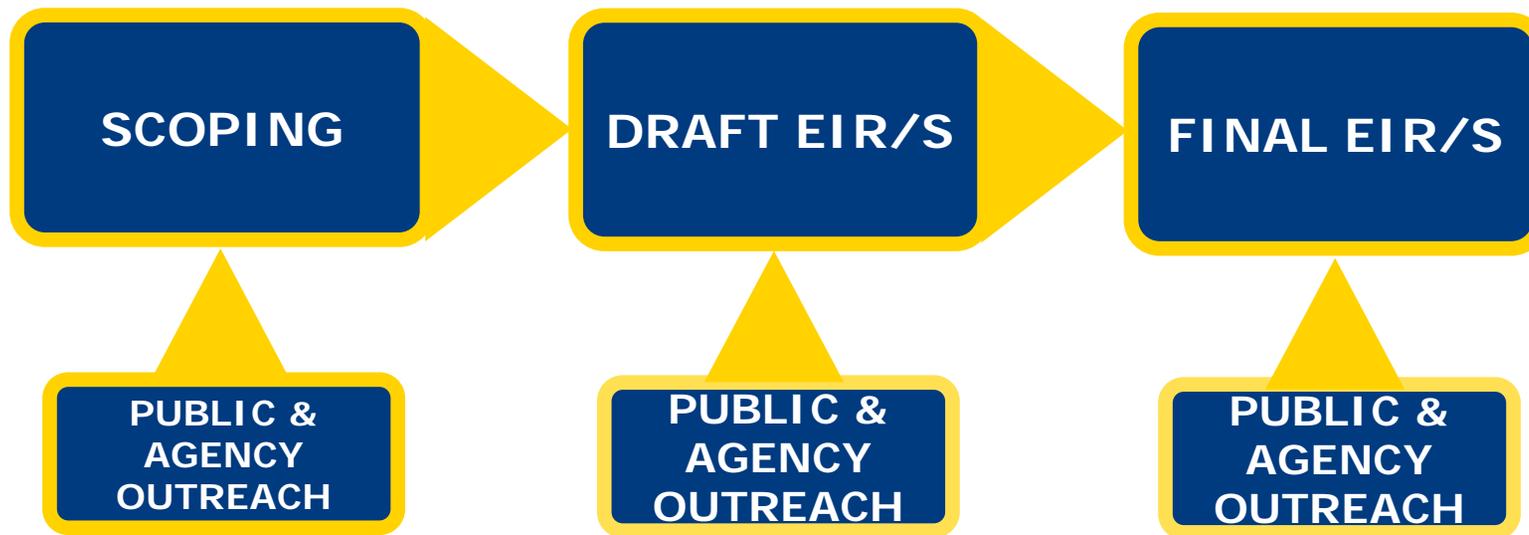
Benefits of Peninsula Rail Program

- Significant Infrastructure Already Exists
- Fed. Railroad Administration Waiver for Mixed Rail Traffic
- Signal System Upgrades
 - Positive Train Control Supports HST Construction During Caltrain Operations
- CPUC Exceptions Submitted
- Caltrain Electrification Project
 - 35% Design Complete
 - Federal Environmental Clearance

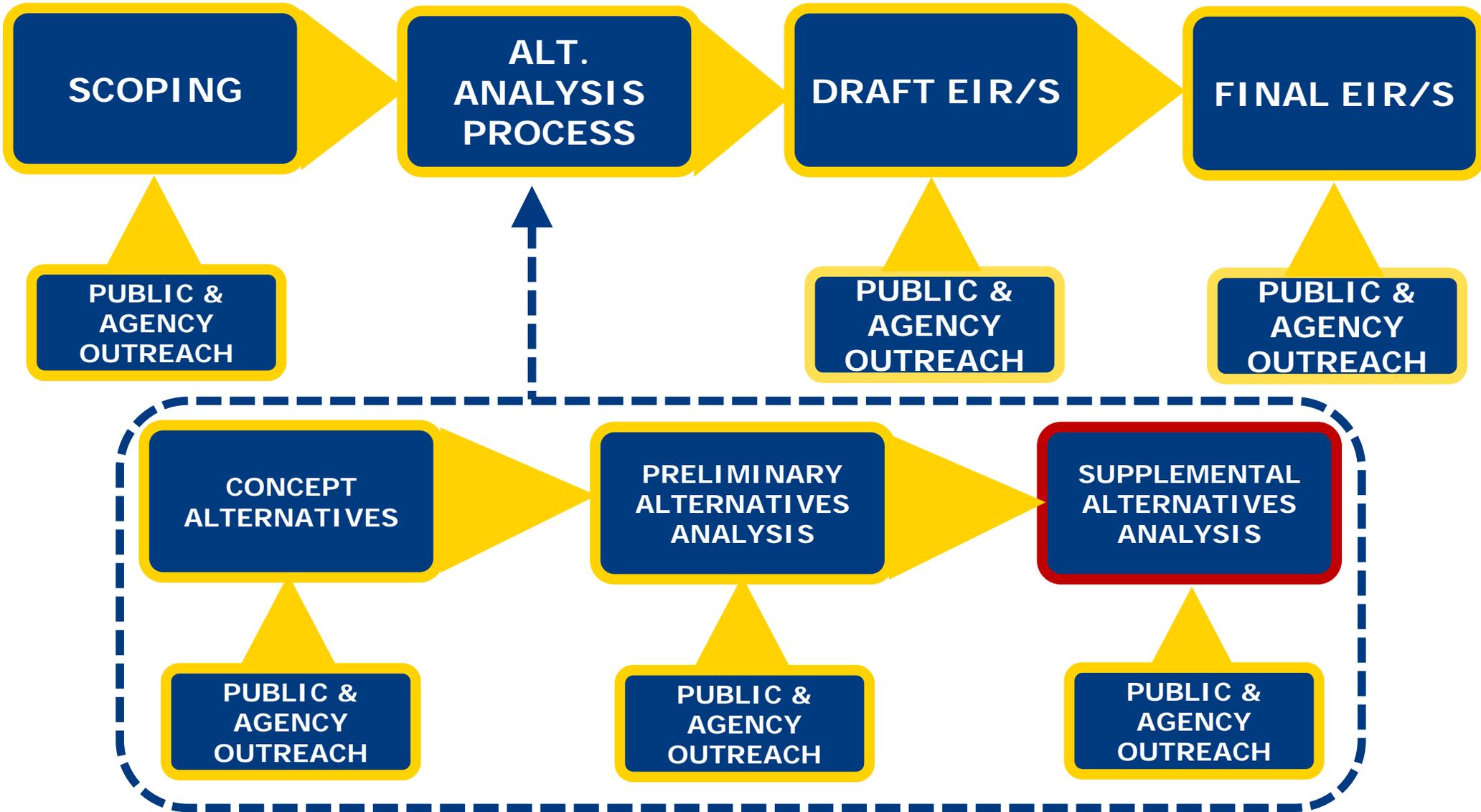




Environmental Review Process



Environmental Review Process





Engaging Stakeholders





Since April 8, 2010

4 Technical Working Group (TWG) Meetings

4 Policymaker Working Group (PWG) Meetings

32 Public Presentations, Meetings & Workshops

***More than 1,500 members of the public
have participated in outreach efforts.***





Community Feedback

- Potential impacts to properties along ROW and overall property value
- Noise and Vibration
- Preference for below-grade options
- Keep Caltrain and “Baby Bullet” service
- Cost of the statewide system



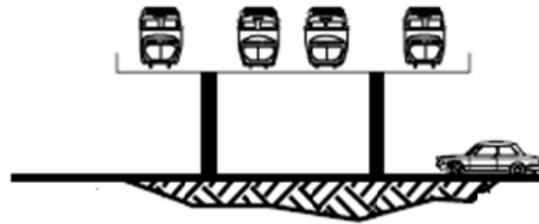


Project EIR/EIS Alternatives

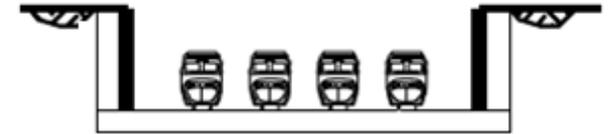
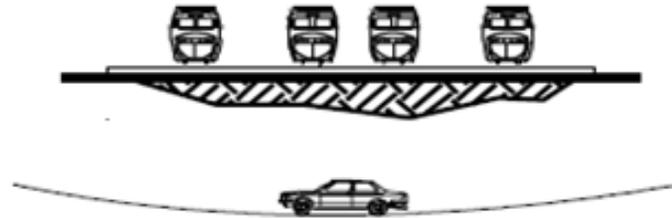
Multiple Construction Alternatives Considered



Multiple Options Considered



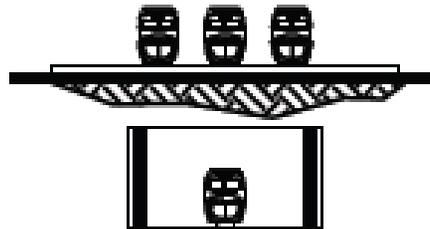
Aerial Structure



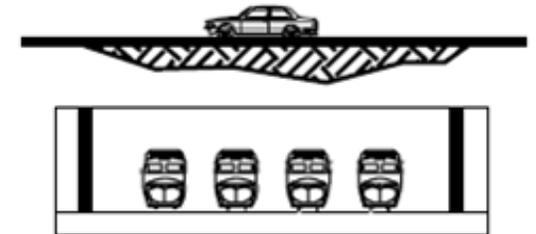
Trench



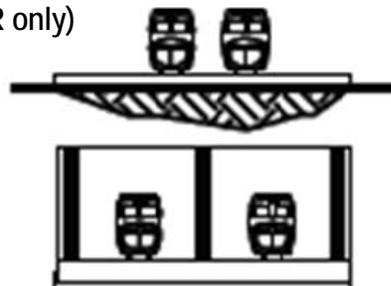
Deep Bore Tunnel (HSR only)



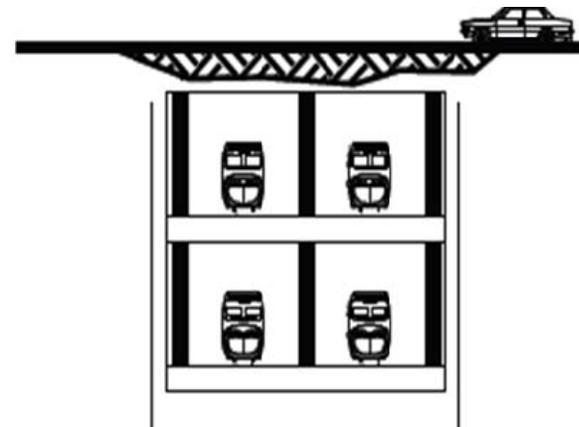
3 over 1



Cut & Cover



At Grade & Tunnel



2 over 2 box





Project EIR/EIS Alternatives

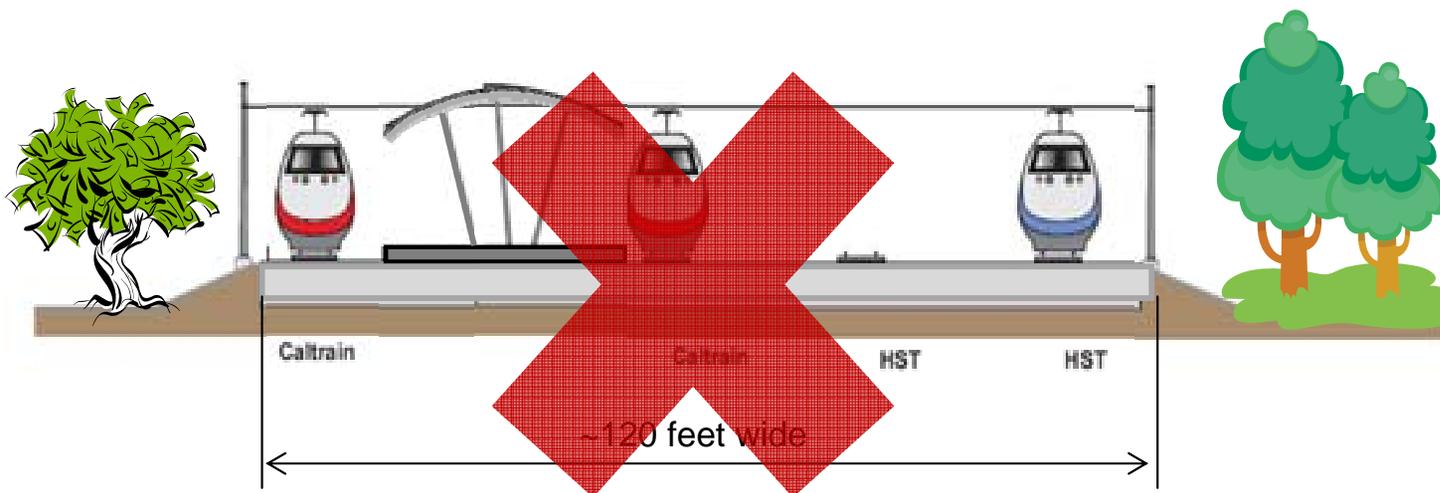
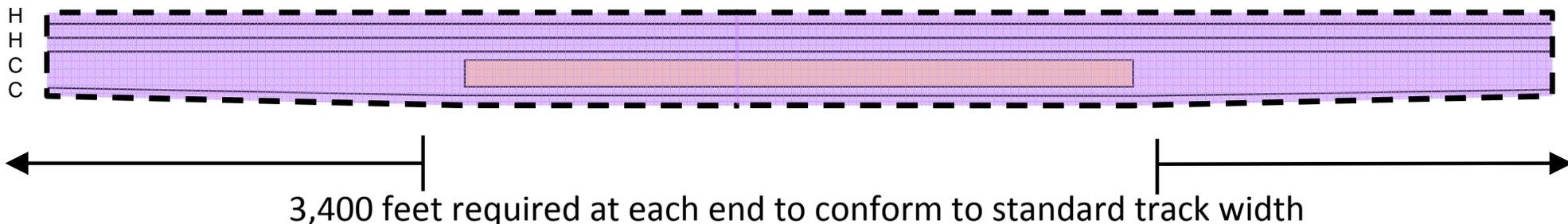
Activities to Narrow Project Footprint





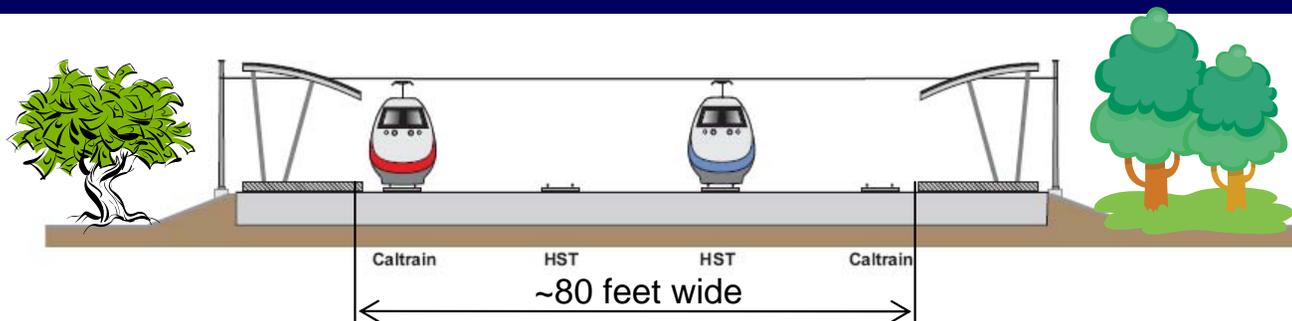
Narrower: Track Configuration & Stations

Center Platforms

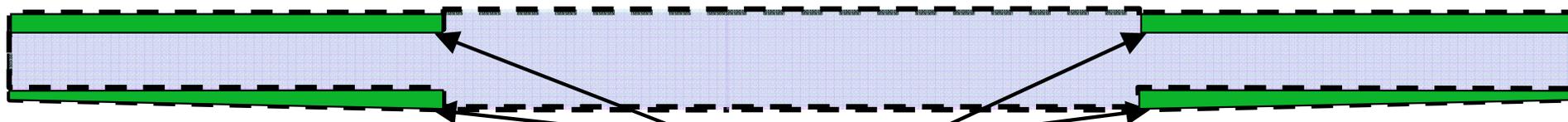
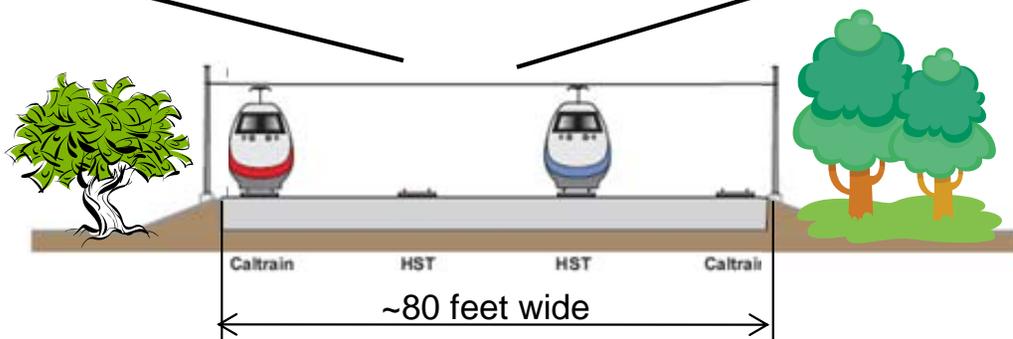




Narrower: Track Configuration & Stations



Outboard Platforms

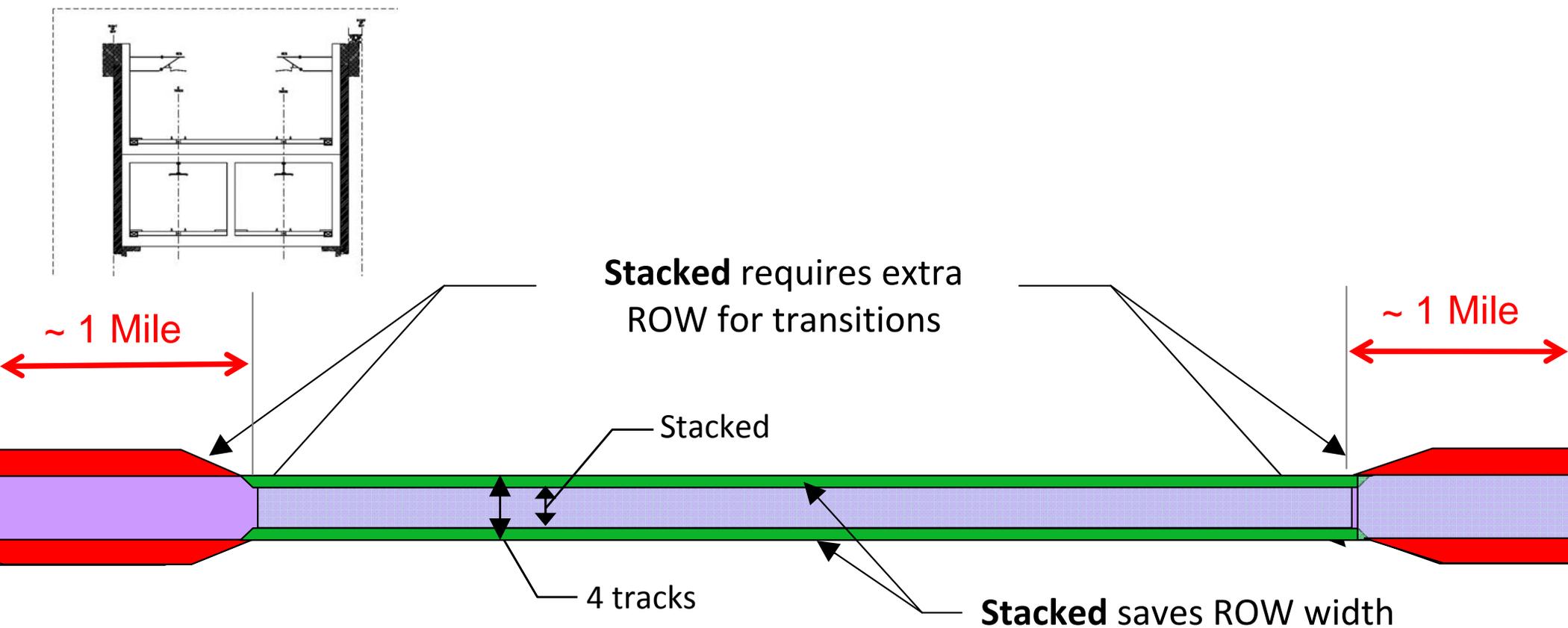


ROW saved





Four-track Transition vs. Stacked Transition

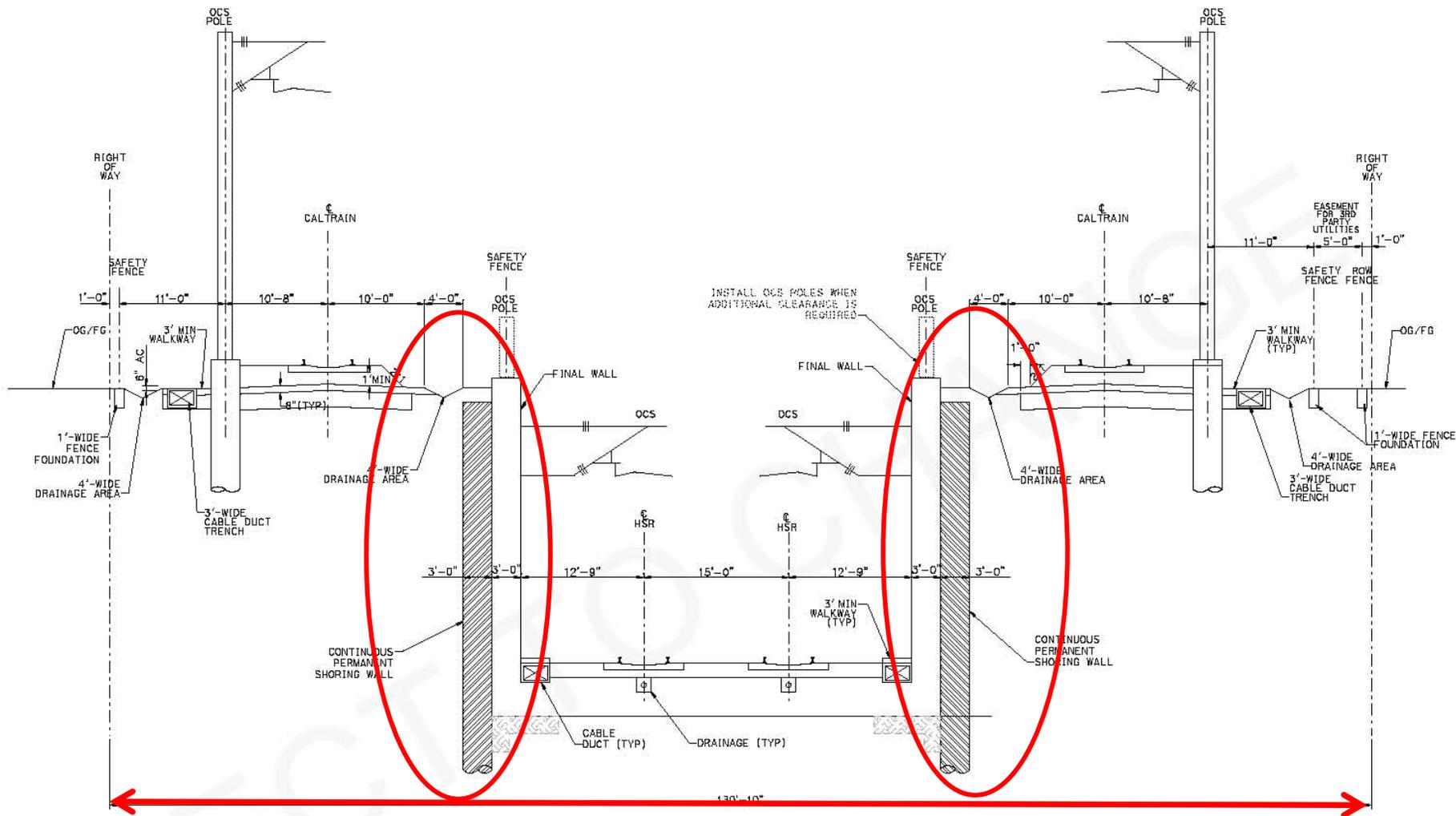


*It requires over **10.5 miles** of stacked configuration to save enough ROW to compensate for the additional ROW needed for the transitions at each end.*





Stacked Solution Requires Long and Wide Transitions

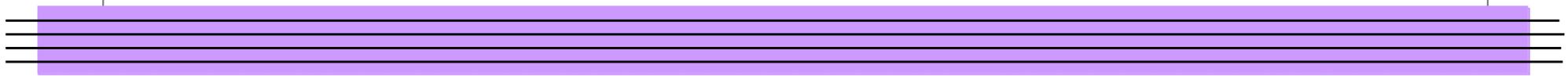


130 feet wide



ROW Requirements For Transitions

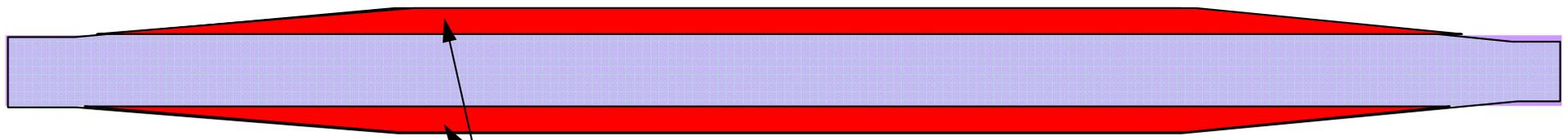
~ 1 Mile
4-track Structure



Transition for Stacked Configuration



4-track Separate tracks Make vertical transition Stack tracks Stacked: Caltrain above HST



Requires ~252,500 sq ft extra ROW
(~4.5 football fields)

- 4 tracks at same elevation
- Caltrain only tracks
- HST only tracks
- Stacked: Caltrain above HST





Design Option Summary

Hybrid solutions

(stacked trench or deep bore tunnel):

- Multi-phased Construction
- Transitions are complex and lengthy
- Limits flexibility
- Could require significant ground treatments
- Effect on Caltrain
- Possible fire life safety requirements





Design Option Summary

“Traditional” solutions

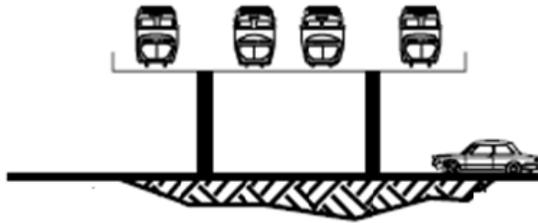
(elevated, at-grade, trench):

- Conventional Construction
- Maintains consistent project footprint
- Minimizes disruption to Caltrain
- Preserves operational flexibility
- Minimizes construction costs
- Fits community needs

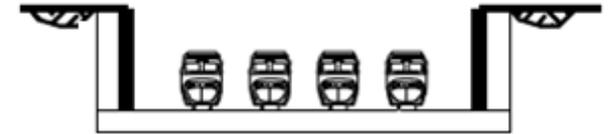
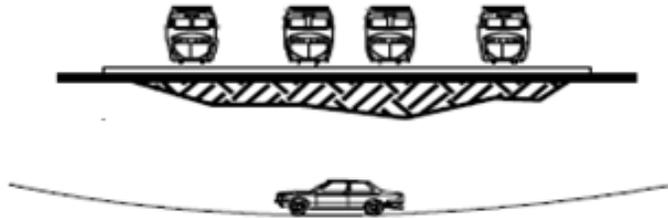




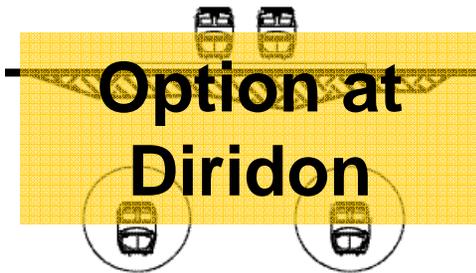
Multiple Options Considered



Aerial Structure

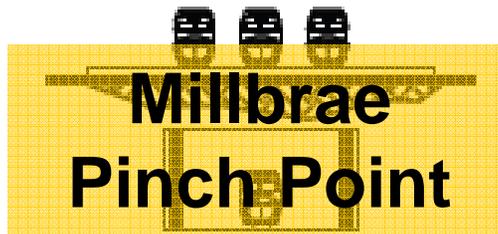


Trench



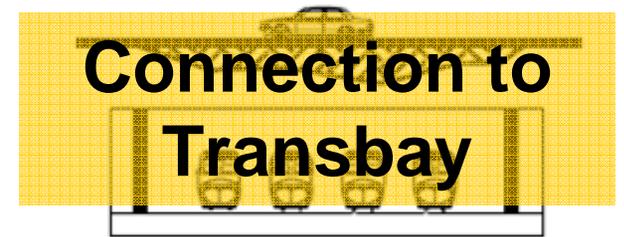
Option at Diridon

Deep Bore Tunnel (HSR only)



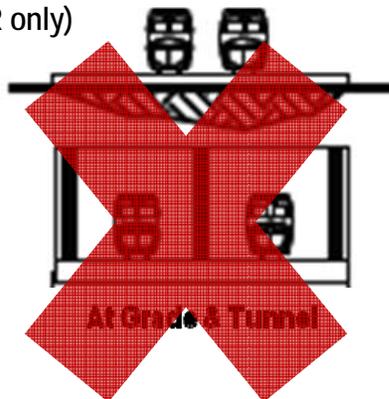
Millbrae Pinch Point

3 over 1

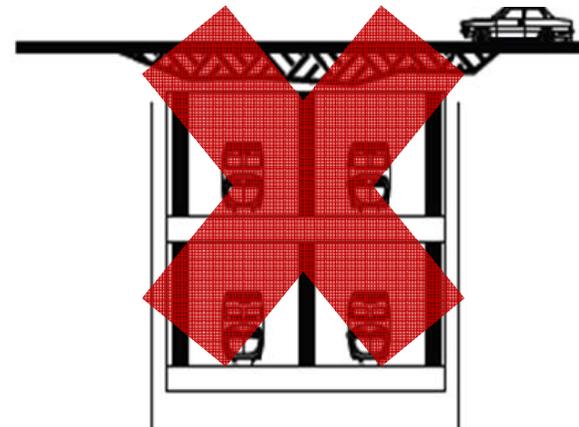


Connection to Transbay

Cut & Cover



~~At Grade Tunnel~~



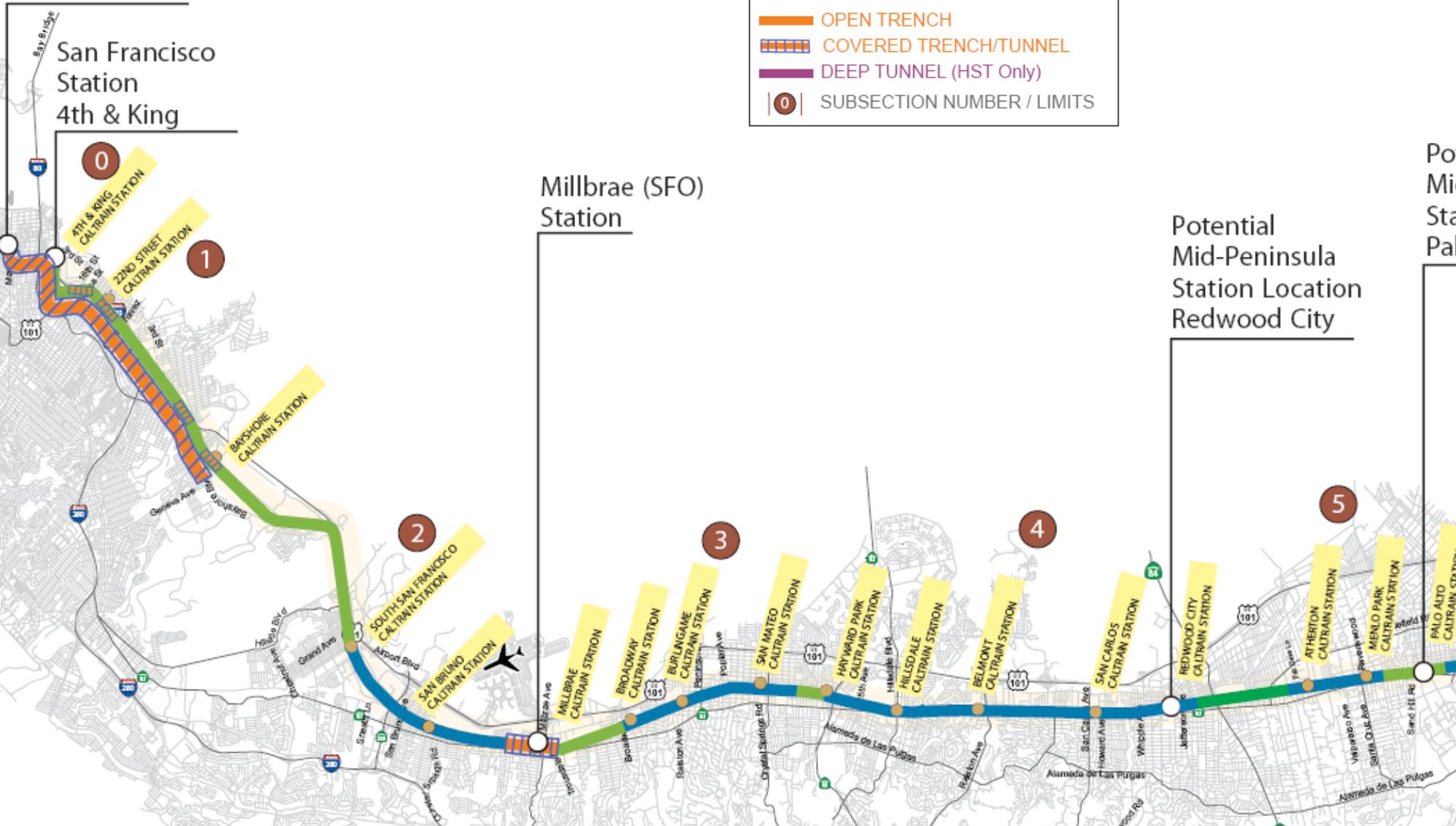
~~2 over 2 box~~





Design Option A

San Francisco Station
Transbay
Transit Center



LEGEND:

- AERIAL VIADUCT (HST Only)
- AERIAL VIADUCT/BERM
- AT GRADE
- OPEN TRENCH
- COVERED TRENCH/TUNNEL
- DEEP TUNNEL (HST Only)
- SUBSECTION NUMBER / LIMITS

Potential
Mid-Peninsula
Station Location
Redwood City

Po
Mi
Sta
Pa



Design Option B

San Francisco
Station
Transbay
Transit Center

San Francisco
Station
4th & King

Millbrae (SFO)
Station

Potential
Mid-Peninsula
Station Location
Redwood City

LEGEND:

- AERIAL VIADUCT (HST Only)
- AERIAL VIADUCT/BERM
- AT GRADE
- OPEN TRENCH
- COVERED TRENCH/TUNNEL
- DEEP TUNNEL (HST Only)
- SUBSECTION NUMBER / LIMITS





Design Option A

Potential
Mid-Peninsula
Station Location
Palo Alto

Potential
Mid-Peninsula
Station Location
Mountain View



LEGEND:



- AERIAL VIADUCT (HST Only)
- AERIAL VIADUCT/BERM
- AT GRADE
- OPEN TRENCH
- COVERED TRENCH/TUNNEL
- DEEP TUNNEL (HST Only)
- SUBSECTION NUMBER / LIMITS

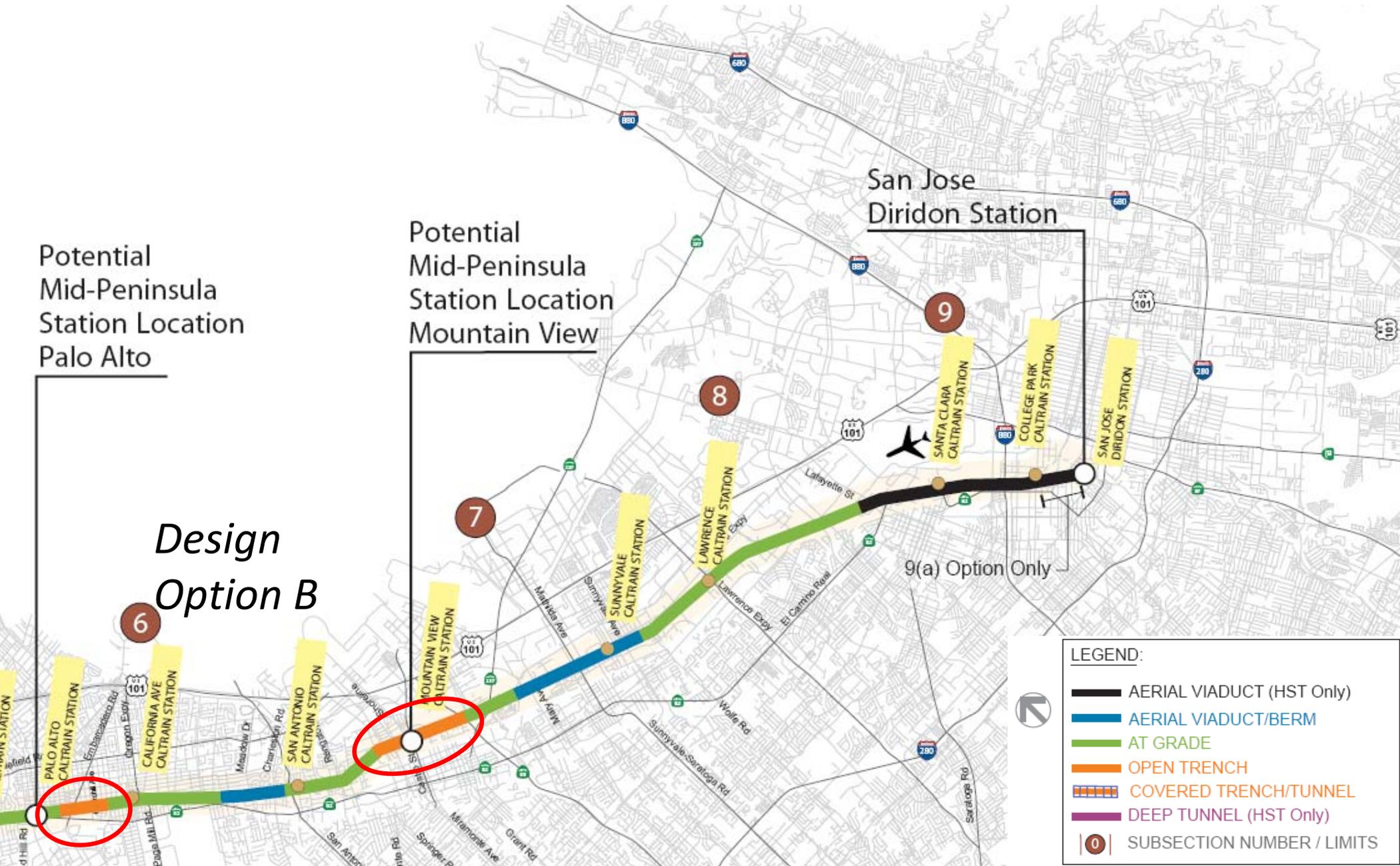


Design Option B

Potential
Mid-Peninsula
Station Location
Palo Alto

Potential
Mid-Peninsula
Station Location
Mountain View

*Design
Option B*



LEGEND:

	AERIAL VIADUCT (HST Only)
	AERIAL VIADUCT/BERM
	AT GRADE
	OPEN TRENCH
	COVERED TRENCH/TUNNEL
	DEEP TUNNEL (HST Only)
	SUBSECTION NUMBER / LIMITS



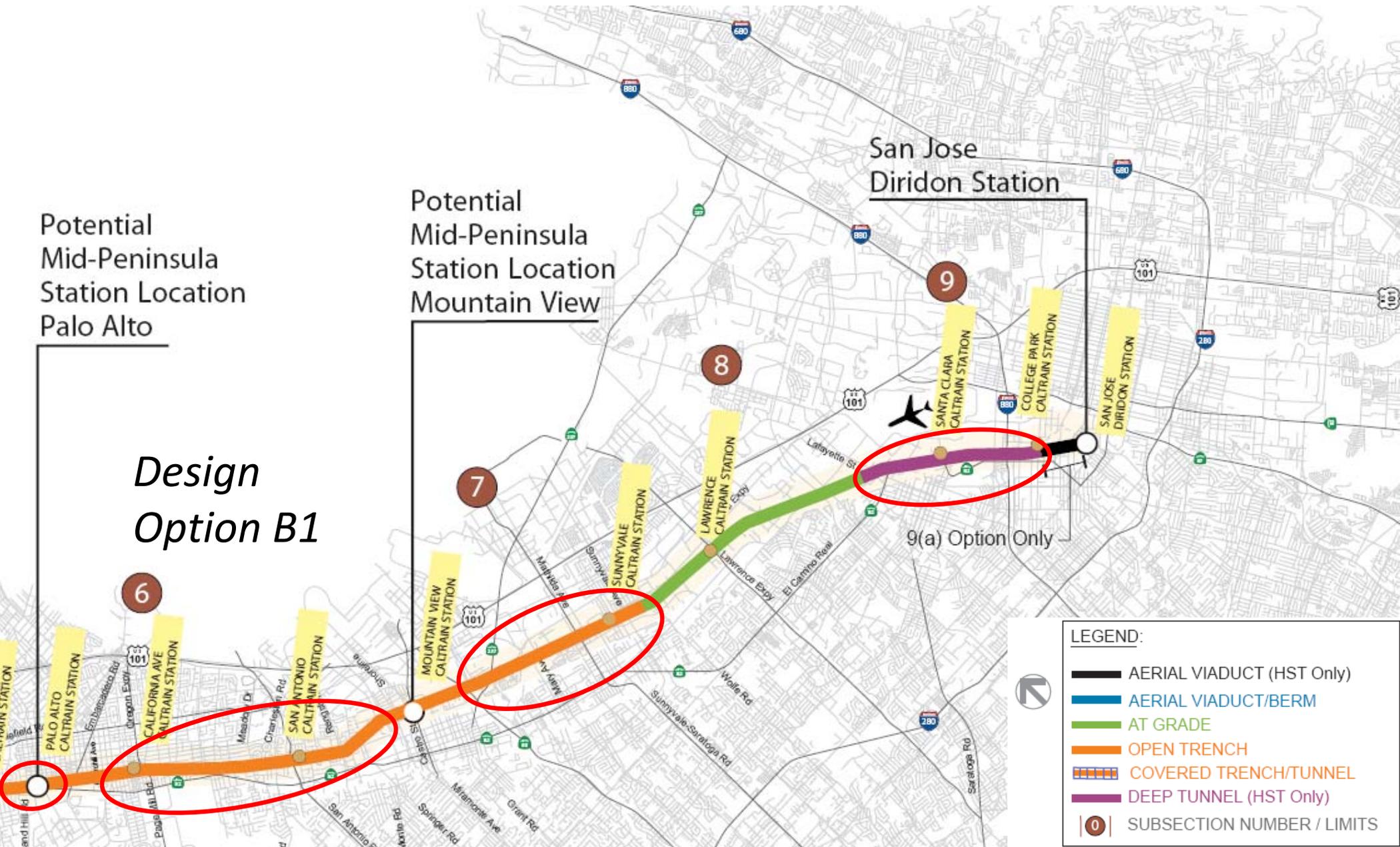
Design Option B1

Potential
Mid-Peninsula
Station Location
Palo Alto

Potential
Mid-Peninsula
Station Location
Mountain View

San Jose
Diridon Station

*Design
Option B1*



LEGEND:	
	AERIAL VIADUCT (HST Only)
	AERIAL VIADUCT/BERM
	AT GRADE
	OPEN TRENCH
	COVERED TRENCH/TUNNEL
	DEEP TUNNEL (HST Only)
	SUBSECTION NUMBER / LIMITS



Continued Evaluation of Stations

- San Francisco (4th and King and Transbay Transit Center)
- San Francisco Airport Connection (Millbrae)
- Potential Mid-Peninsula Station:
 - Redwood City
 - Palo Alto
 - Mountain View
- San Jose Diridon Station (elevated option)





Evaluation of Maintenance Facility

- Needs to be close to SF terminal
 - Approximately 100 Acres
- Three sites initially evaluated
 - Port of San Francisco: Piers 90-94 (40 Acres)
 - San Francisco Int'l Airport (100 Acres)
 - Brisbane/Bayshore (100 Acres)
- Recommend Brisbane / Bayshore location for continued evaluation.





Next Steps

- Continue Dialogue with Communities
 - TWG
 - PWG
 - Stations Workshops
- Complete 15% Engineering
- Conduct Operations Planning
- Study Environmental Impacts of different options
- Issue Draft EIR/EIS: December 2010

