

SAN JOSE TO MERCED PROJECT SECTION

Staff-Recommended State's Preferred Alternative
Community Working Group Meetings
July 2019



AGENDA

July 2019 San Jose to Merced Project Section Community Working Groups

- » Introductions & Agenda Review
- » Refining the Alternatives: Collaboration with Partner Agencies, Stakeholders, and Members of the Public
- » Characteristics of Alternatives
- » Identifying a Preferred Alternative
- » Discussion of Staff-Recommended State's Preferred Alternative
- » Outreach Update
- » Public Comment



MEETING OBJECTIVES

- Share **staff-recommended State's Preferred Alternative** and process for identifying the State's Preferred Alternative
- Provide CWG members with an opportunity to **discuss** the staff recommendation
- Collect **CWG feedback** on the staff-recommended State's Preferred Alternative

Staff will summarize the comments received at today's meeting and report to the Authority Board for consideration with the recommended State's Preferred Alternative on September 17, 2019.

Identifying the State's Preferred Alternative does not approve or adopt a preferred alternative for final design or construction.



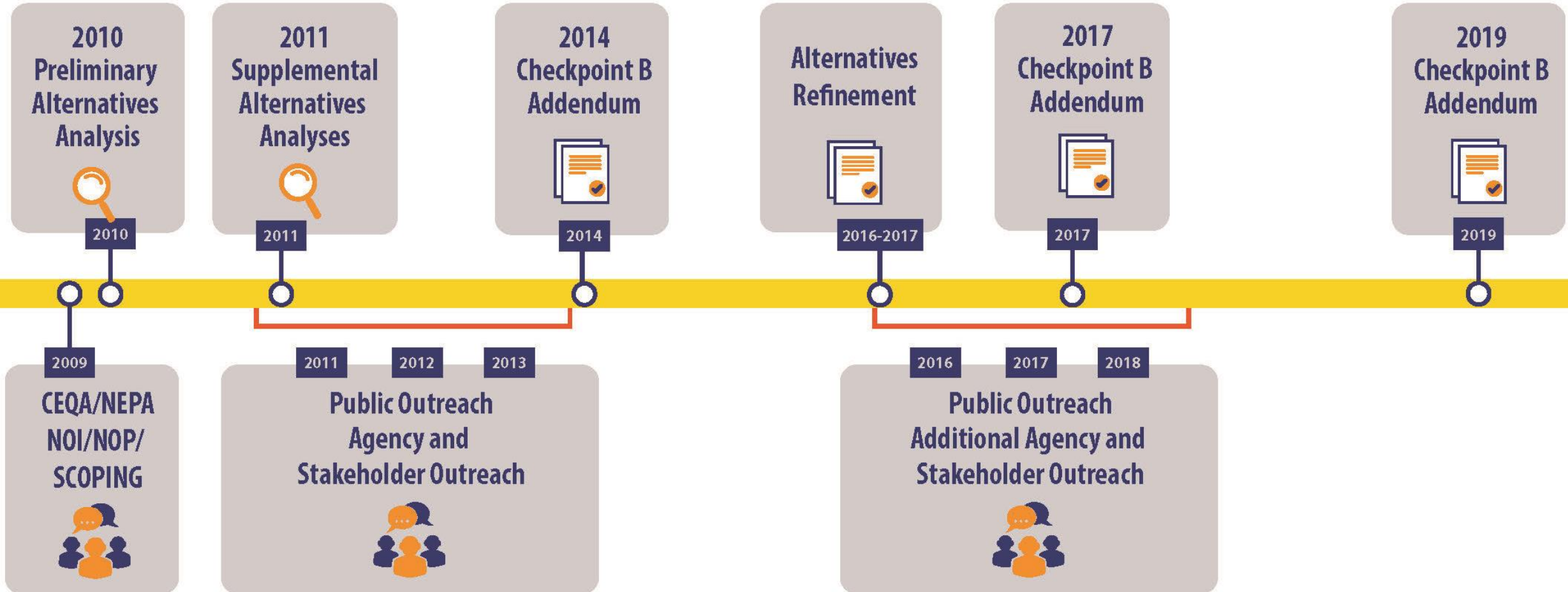
REFINING THE ALTERNATIVES: **Collaboration with Partner Agencies, Stakeholders, and Members of the Public**



BACKGROUND

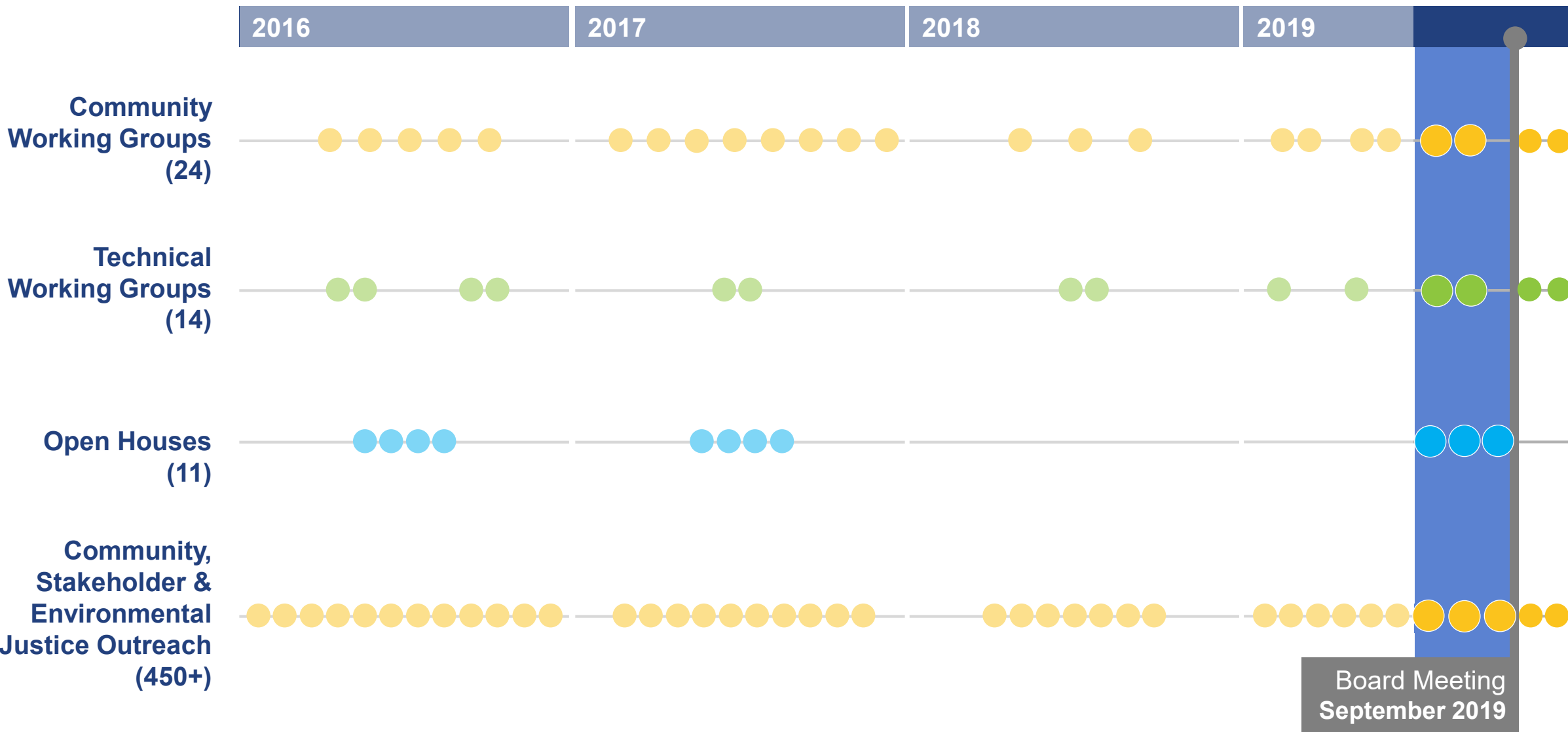
- There are differences between the four alternatives and the staff recommendation is based on stakeholder input and analyses completed to date.
- All alternatives will be analyzed at an equal level of detail and described in the published Draft EIR/EIS.

ALTERNATIVES DEVELOPMENT PROCESS



SAN JOSE TO MERCED COMMUNITY OUTREACH

2016 – 2019



Board Meeting
September 2019



INTERFACING WITH NORTHERN CALIFORNIA AGENCIES

2018 – 2019

AGENCY	ALIGNMENTS	WATER MANAGEMENT	WILDLIFE CROSSINGS	TRANSPORTATION/ ROADS	ENGINEERING/ DESIGN	LAND USE	JOINT OUTREACH	2018 BUSINESS PLAN
California Highway Patrol	●			●				●
California Strategic Growth Council	●		●		●	●		●
Caltrain	●			●	●		●	●
Caltrans Districts 4, 5, and 10	●			●	●			●
City of Gilroy	●	●		●	●	●	●	●
City of Morgan Hill	●	●		●	●	●	●	●
City of San Jose	●	●		●	●	●	●	●
Floodplain Administrators and Managers	●	●			●			●
Gilroy, Los Banos & Morgan Hill USDs	●			●	●	●	●	●
Metropolitan Transportation Commission	●			●		●		●
Mineta San Jose International Airport	●				●			●
Pathways for Wildlife	●		●					●
Peninsula Open Space Trust	●		●					●
San Benito County Resource Mgmt. Agency	●	●			●			●
Santa Clara County Parks	●	●	●			●		●
Santa Clara County Planning Department	●	●			●			●
Santa Clara County Roads & Airports	●			●				●
Santa Clara Valley Habitat Agency	●		●		●	●		●
Santa Clara Valley Open Space Authority	●	●	●					●
Santa Clara Valley Transportation Authority	●		●	●	●	●	●	●
Santa Clara Valley Water District	●	●			●			●
The Nature Conservancy	●		●			●		●



KEY ISSUES IDENTIFIED DURING OUTREACH

- Aesthetic and visual quality
- Biological resources, wetlands and other waters of the U.S., and wildlife movement
- Community cohesion
- Cultural and tribal resources
- Disruption/loss of parks, recreation, open space, agricultural lands/operations
- Environmental justice
- Flooding and floodplains
- Noise and vibration
- Residential and business displacements
- Safety and security
- Traffic



STATE'S PREFERRED ALTERNATIVE

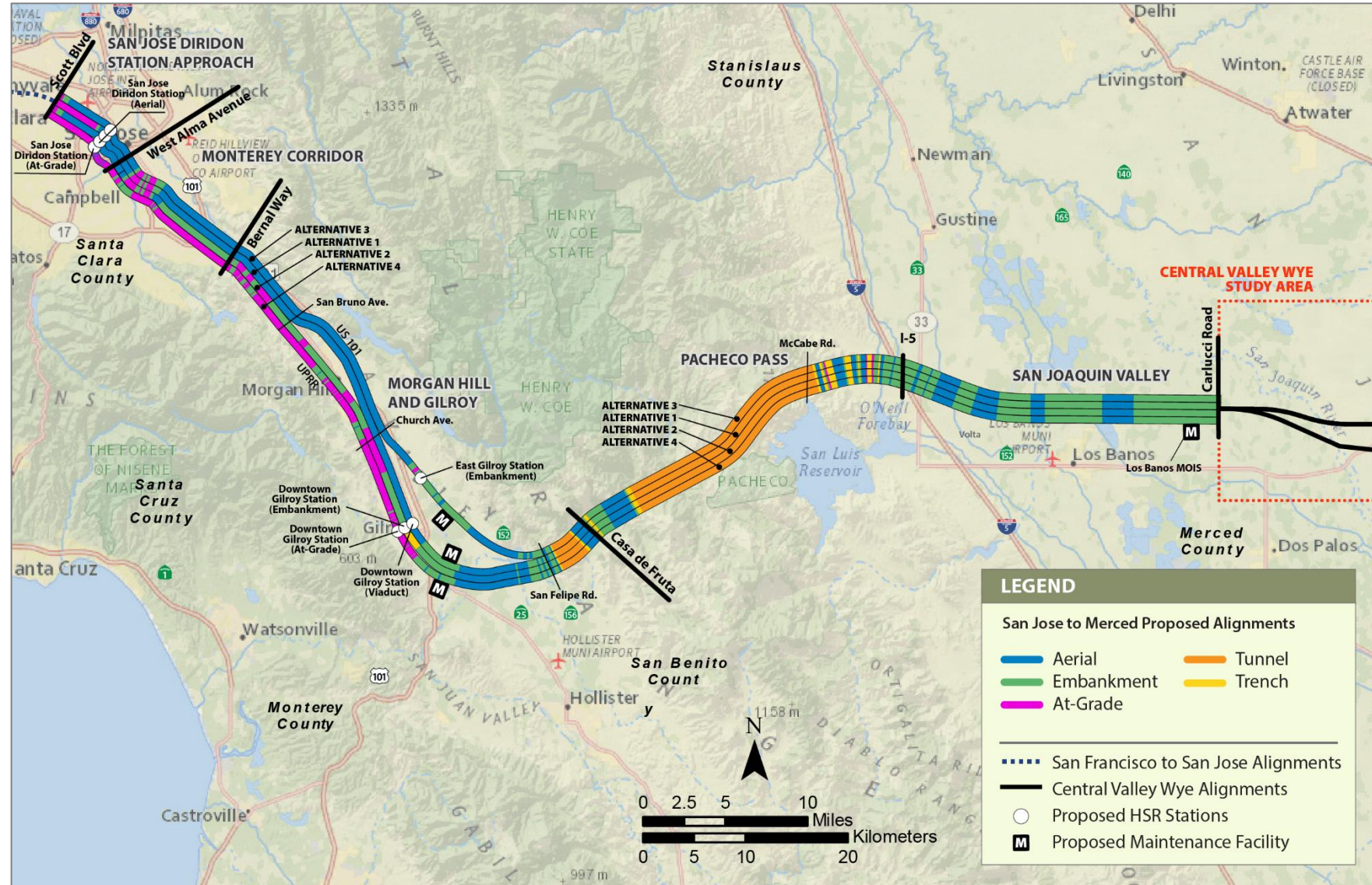


CHARACTERISTICS OF ALTERNATIVES



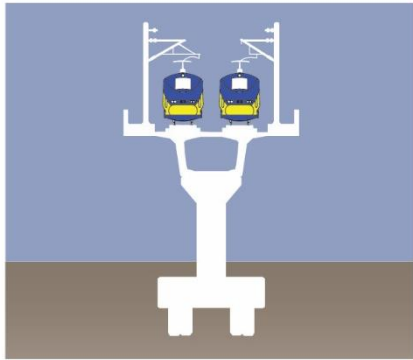
SAN JOSE TO MERCED RANGE OF ALTERNATIVES

- **San Jose to Merced Project Section**
- **4 end-to-end alternatives**
- **Some alternatives are the same for a part of the route**



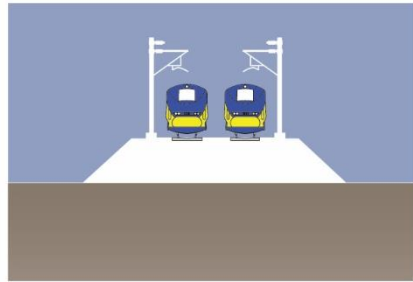
TYPICAL CROSS SECTIONS

Viaduct



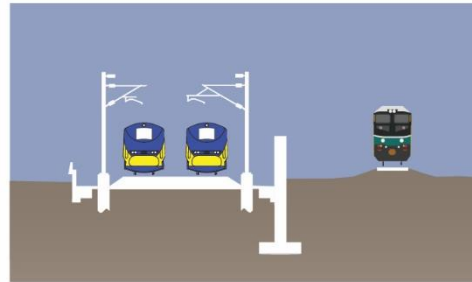
Two high-speed rail tracks on an aerial structure

Embankment



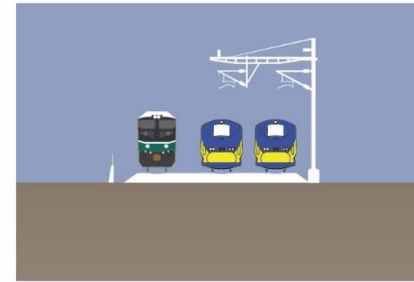
Two high-speed rail tracks on an earthen embankment

Dedicated At-Grade



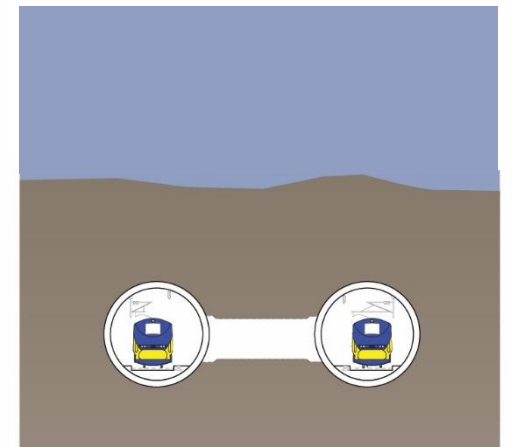
Two high-speed rail tracks at ground level adjacent to existing freight tracks

Blended At-Grade



Two electrified, blended passenger tracks (with Caltrain) and one non-electrified freight track at ground level

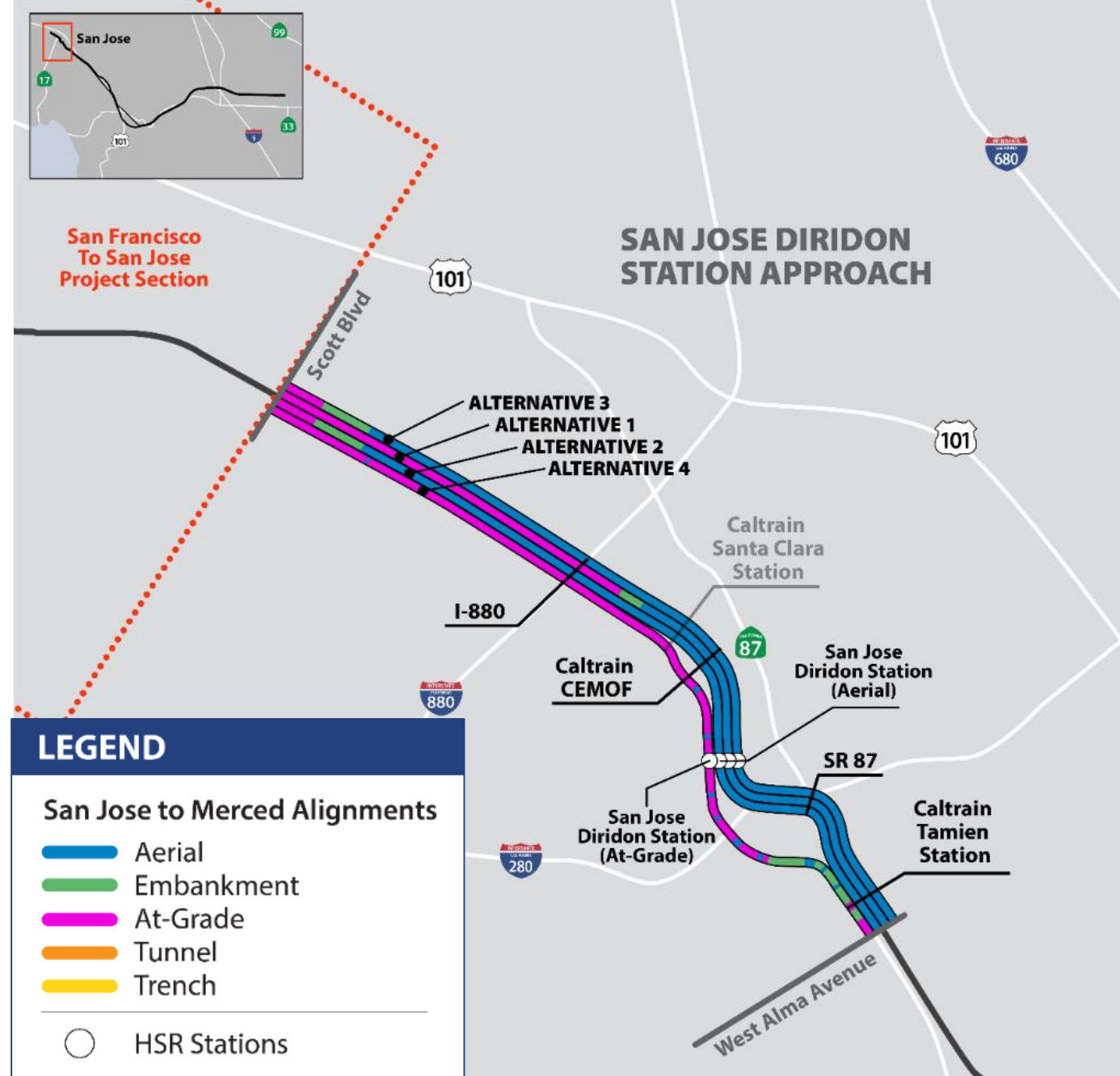
Tunnel



Twin bore tunnel through the Pacheco Pass

SAN JOSE DIRIDON STATION APPROACH

- **Alternative 1**
 - » Short Viaduct to I-880
 - » Aerial Diridon Station
- **Alternatives 2 and 3**
 - » Long Viaduct to Scott Blvd.
 - » Aerial Diridon Station
- **Alternative 4**
 - » At-grade alignment predominantly in existing railroad right-of-way
 - » At-grade Diridon Station



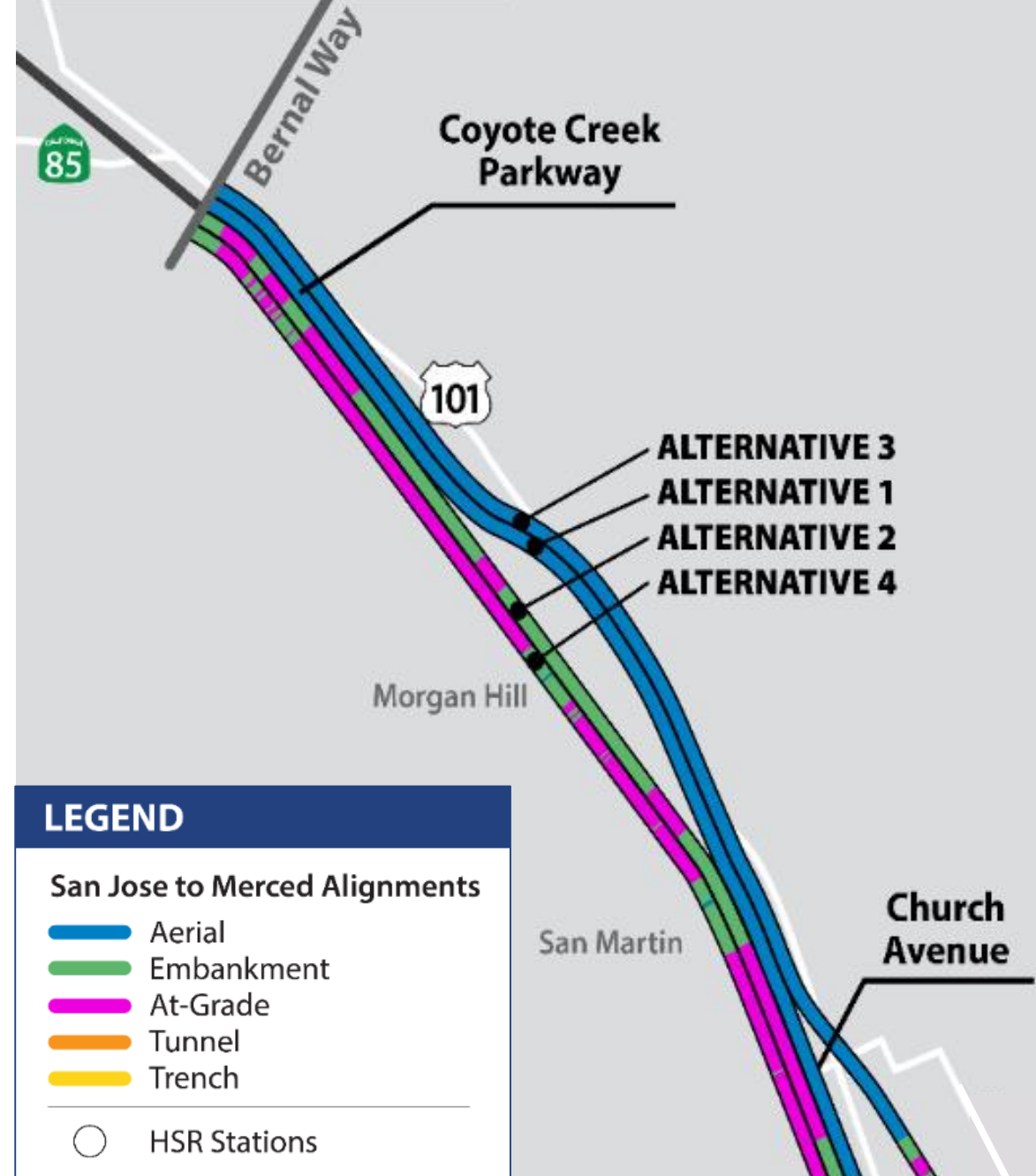
MONTEREY CORRIDOR

- **Alternatives 1 and 3**
 - » Viaduct in median of Monterey Road
 - » Narrowing of Monterey Road
- **Alternative 2**
 - » Grade-separated embankment between UPRR and Monterey Road
 - » Narrowing of Monterey Road
- **Alternative 4**
 - » At-grade predominantly in existing railroad right-of-way



MORGAN HILL TO SAN MARTIN

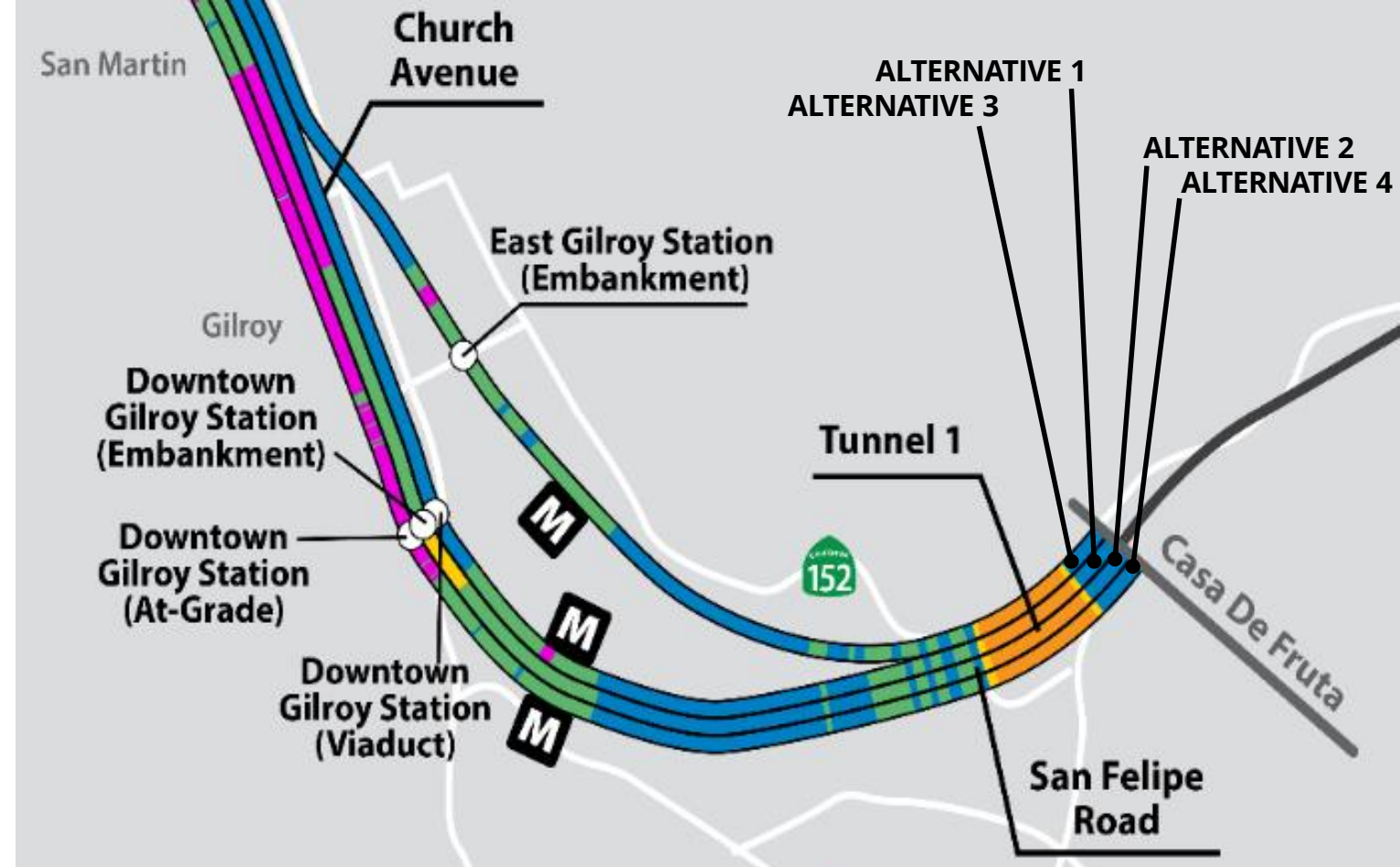
- **Alternatives 1 and 3**
 - » Viaduct
 - » Bypass downtown Morgan Hill
- **Alternative 2**
 - » Grade-separated embankment
 - » Through downtown Morgan Hill
- **Alternative 4**
 - » At-grade
 - » Predominantly in existing UPRR right-of-way



SAN MARTIN TO GILROY

- **Alternative 1 – Downtown Gilroy**
 - » Viaduct
- **Alternative 2 – Downtown Gilroy**
 - » Grade-separated embankment
- **Alternative 3 – East Gilroy**
 - » Viaduct to grade-separated embankment
- **Alternative 4 – Downtown Gilroy**
 - » At-grade
 - » Predominantly in existing UPRR right-of-way

Alternatives converge at 1.6-mile Tunnel 1 west of Casa De Fruta



LEGEND

San Jose to Merced Alignments



Aerial
Embankment
At-Grade



Tunnel
Trench
○ HSR Stations
■ Maintenance-of-Way Facility

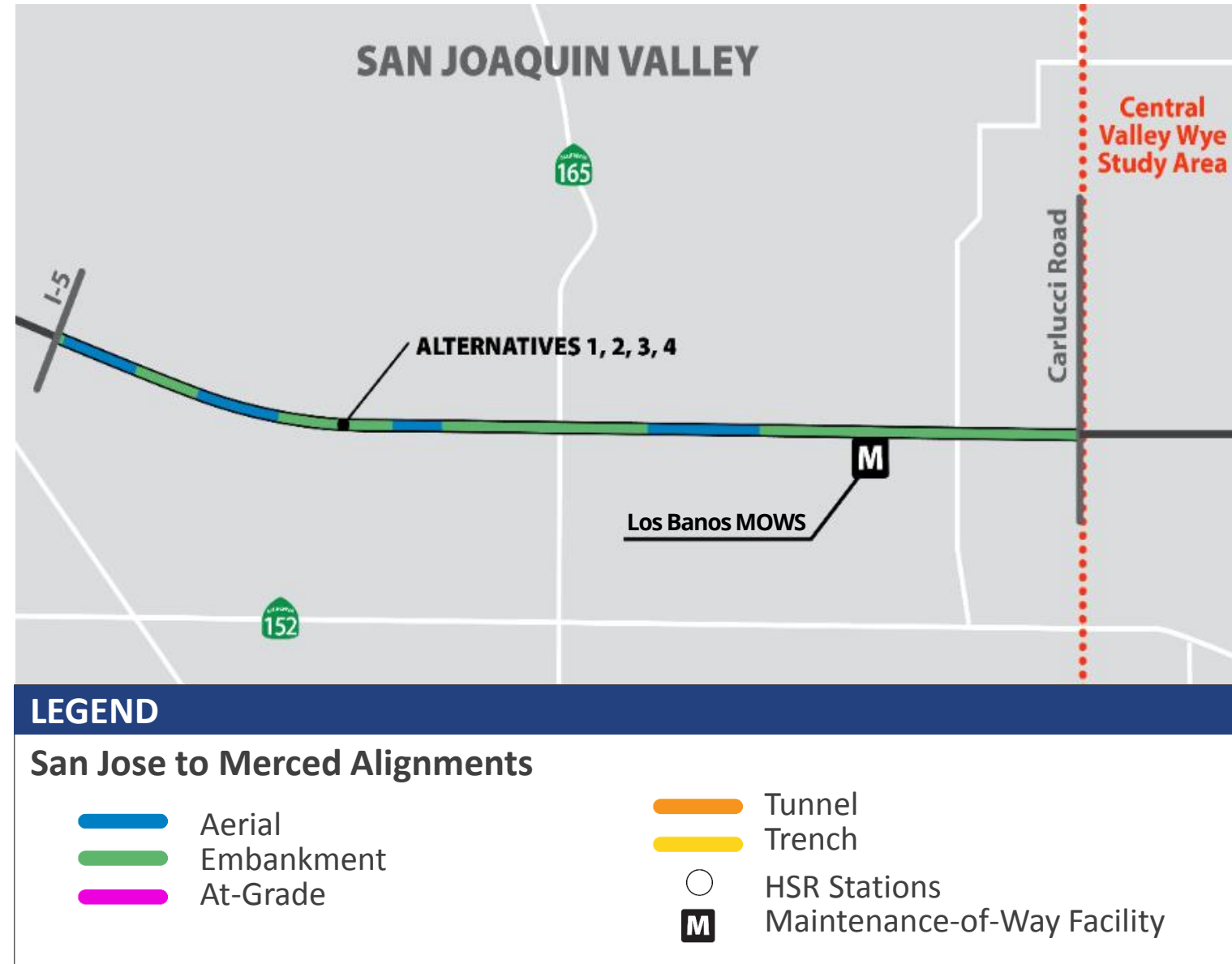
PACHECO PASS

- All alternatives have the same alignment
 - » 13.5-mile Tunnel
 - » Embankment
 - » Viaduct



SAN JOAQUIN VALLEY

- All alternatives have the same alignment
 - » Embankment
 - » Viaduct



IDENTIFYING A PREFERRED ALTERNATIVE



PREFERRED ALTERNATIVE CRITERIA

System Performance, Operations, & Costs

- Alignment Length
- Operational Speed
- Proximity to Transit Corridors
- Travel Time
- Capital Costs
- Operations & Maintenance Costs



Preferred Alternative Criteria

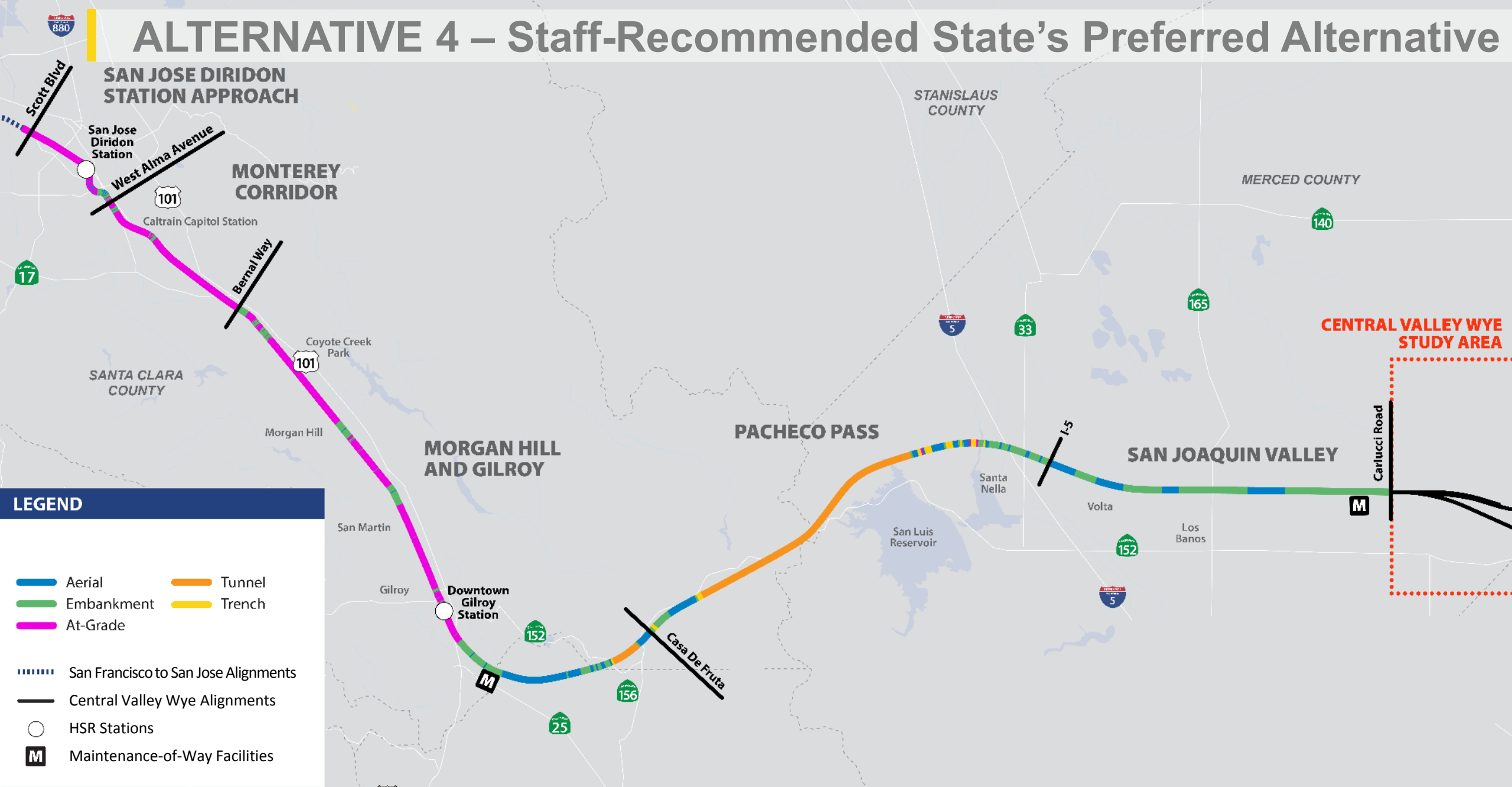
Environmental Factors

- Biological Resources and Wetlands and Other Waters of the U.S.
- Parks and Recreation Areas
- Built Environment Historic Resources

Community Factors

- Displacements
- Agricultural Lands
- Aesthetics and Visual Quality
- Land Use and Development
- Noise
- Transportation
- Emergency Vehicle Access/Response Time
- Environmental Justice

ALTERNATIVE 4 – Staff-Recommended State’s Preferred Alternative



SYSTEM PERFORMANCE, OPERATIONS, AND COSTS

Bold text in tables indicates best-performing alternative(s).

CRITERIA	ALT 1	ALT 2	ALT 3	ALT 4
Alignment length (miles)	89	89	87	89
Operational speed (mph) — San Jose to Gilroy	Up to 175	Up to 195	Up to 175	Up to 110
Operational speed (mph) — Gilroy to Central Valley Wye	Up to 220			
Proximity to existing transit corridors (miles)	43	50	35	50
Peak hour average representative travel time between San Jose and Gilroy (minutes) ¹	17-18	17-18	16-17	23
Proposition 1A service travel time compliance	✓	✓	✓	✓
Estimated capital costs (2017\$ billions) ²	\$20.5	\$17.7	\$20.8	\$13.6
Estimated annual operations and maintenance costs (2017\$ millions) ³	\$162			

¹Times include Gilroy stop. East Gilroy station for Alt. 3 is approximately one mile further north than the Downtown Gilroy station for Alts. 1, 2, and 4.

²Conceptual cost estimates prepared for the project alternatives were developed by utilizing recent bid data from large transportation projects in the western United States and by developing specific, bottom-up unit pricing to reflect common HSR elements and construction methods with an adjustment for Bay Area and Central Valley labor and material costs.

³Based on level of design sufficient to analyze potential environmental impacts.

DISPLACEMENTS



Bold text in tables indicates best-performing alternative(s) (fewest community impacts).

CRITERIA	ALT 1	ALT 2	ALT 3	ALT 4
Residential displacements (# of units)	147	603	157	68
Commercial displacements (# of businesses)	217	348	157	66
Agricultural displacements (# structural improvements)	49	53	49	40
Community or public facilities displacement (# of units)	7	8	5	1
Commercial displacements (square footage)	411,000	1,800,000	994,000	448,000
Agricultural structure displacements (square footage)	407,000	1,206,000	1,489,000	542,000

Example: overlay of footprint in rural area



Example: overlay of footprint in urban area



AGRICULTURAL LANDS



Bold text in tables indicates best-performing alternative(s) (fewest community impacts).

CRITERION	ALT 1	ALT 2	ALT 3	ALT 4
Permanent conversion of Important Farmland (i.e. Prime Farmland, Farmland of State Importance, and Farmland of Local Importance (acres))	1,036	1,181	1,193	1,033



Alternatives 1 and 3 traction power facility on agricultural land

AESTHETICS AND VISUAL QUALITY



Bold text in tables indicates best-performing alternative(s) (least community impacts).

CRITERION	ALT 1	ALT 2	ALT 3	ALT 4
Visual Quality Effects	<ul style="list-style-type: none"> Viaduct Elevated Stations 	<ul style="list-style-type: none"> Embankment and Viaduct Elevated Stations Roadway Grade Separations 	<ul style="list-style-type: none"> Viaduct Elevated Stations Alignment in Rural Area (East Gilroy) 	<ul style="list-style-type: none"> At-Grade Alignment Existing Railroad Right-of-Way



Alternatives 1 and 3: Viaduct



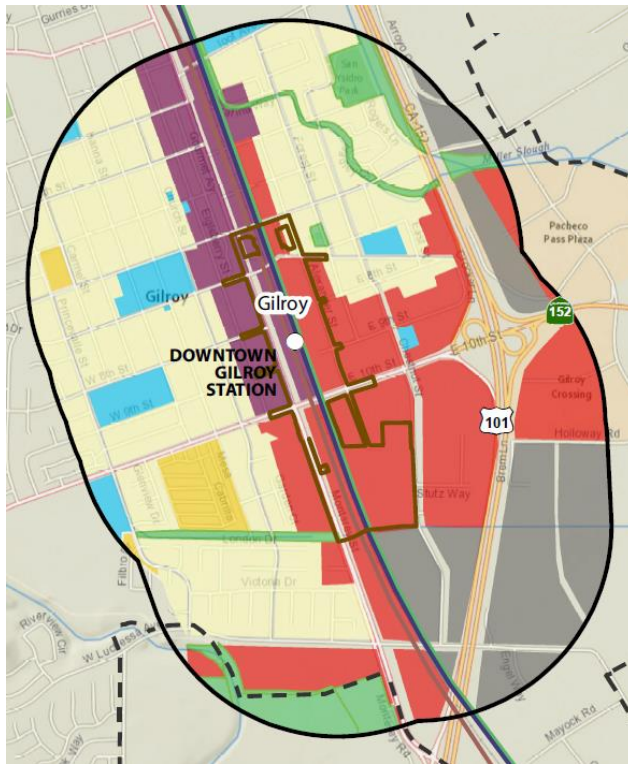
Alternative 4: At-Grade

LAND USE AND DEVELOPMENT



Bold text in tables indicates best-performing alternative(s) (least community impacts).

CRITERION	ALT 1	ALT 2	ALT 3	ALT 4
Consistency with City of Gilroy General Plan policy to encourage transit-oriented development (TOD) in downtown	Yes	Yes	No	Yes



- Low/ Medium Density Residential
- High Density Residential
- Mixed Use
- Commercial
- Industrial
- Parks/ Recreation/ Open Space
- Public Facilities
- Agriculture

Planned Land Use (Current Zoning)

*Downtown
Gilroy Station*

*East Gilroy
Station*



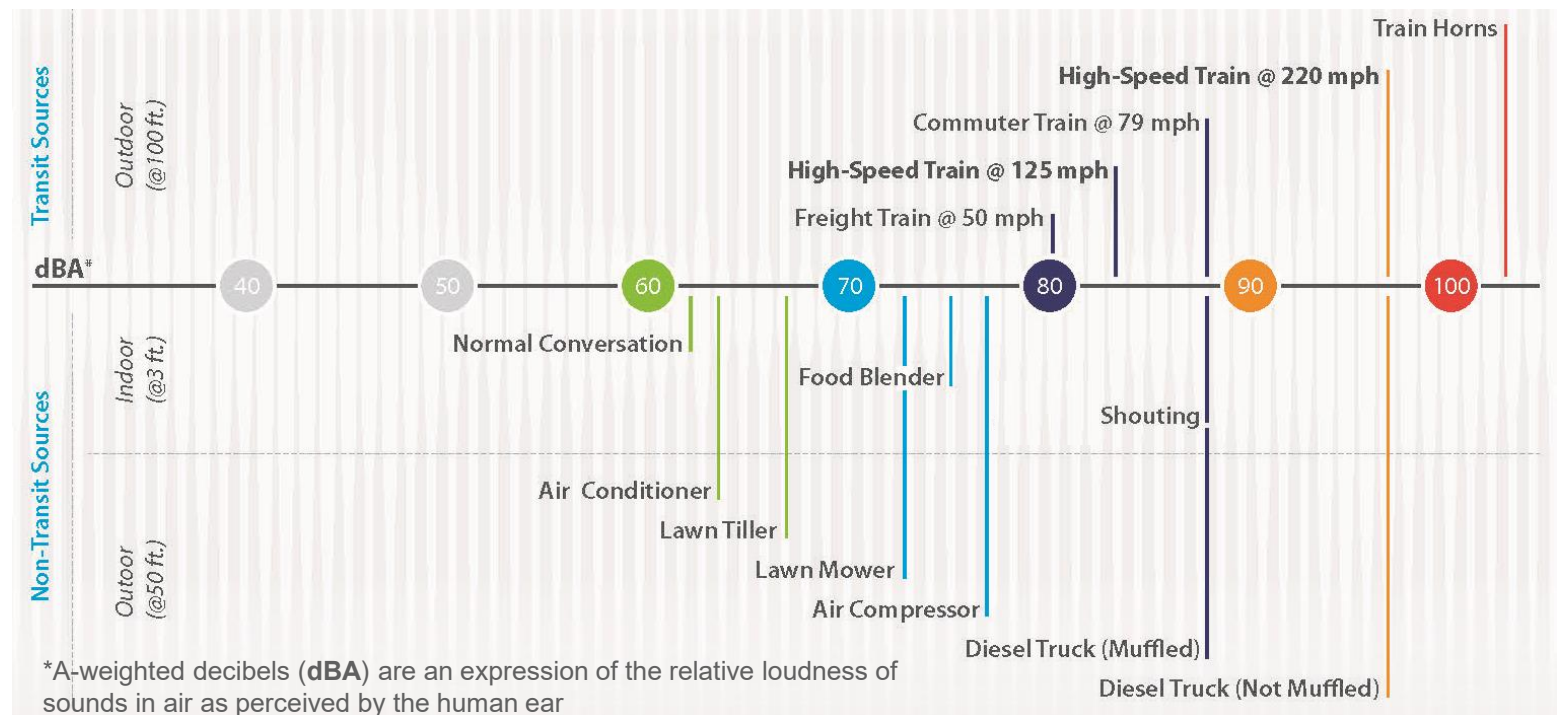
NOISE



Bold text in tables indicates best-performing alternative(s) (fewest community impacts).

CRITERIA	ALT 1	ALT 2	ALT 3	ALT 4
Severe noise impacts with noise barrier mitigation (# of sensitive receptors)	231	194	173	275
Severe noise impacts with noise barrier mitigation and if local municipalities implement quiet zones (# of sensitive receptors)	223	194	173	179

The Sound of High-Speed Train Travel Typical Maximum Noise Levels Before Mitigation





Bold text in tables indicates best-performing alternative(s) (fewest community impacts).

CRITERIA	ALT 1	ALT 2	ALT 3	ALT 4
Permanent road closures — San Jose to Gilroy	10	19	8	8
Permanent road closures — Gilroy to Carlucci Rd	7			



Alternatives 1, 2, and 3:
Simulated view of I-280 in San Jose

EMERGENCY VEHICLE ACCESS/RESPONSE TIME



Bold text in tables indicates best-performing alternative(s) (lowest level of mitigation required).

CRITERIA	ALT 1	ALT 2	ALT 3	ALT 4
Increase in 2040 peak travel time on Monterey Road (northbound AM/PM, southbound AM/PM, minutes)	NB 8/20	NB 27/5	NB 8/20	NB 0/5 SB 1/8
Areas of potential delay to emergency vehicle response times	Monterey Corridor due to Monterey Road narrowing		Monterey Corridor, Morgan Hill, Gilroy due to gate-down time	
Types of mitigation needed to minimize emergency vehicle delays	Vehicle detection equipment		Vehicle detection equipment, additional emergency equipment for existing fire stations, new fire stations, and potentially additional ambulance services	





Bold text in tables indicates best-performing alternative(s) (fewest community impacts).

CRITERIA (within low-income or minority communities)	ALT 1	ALT 2	ALT 3	ALT 4
EJ proportion of total significant and unavoidable impacts on local views ¹	50%	N/A²	67%	N/A²
EJ proportion of total residential displacements	60%	66%	50%	50%
EJ proportion of total business displacements	87%	92%	82%	83%
Amount of mitigation required to address effects on emergency vehicle response times (lower number is less mitigation needed)	1	3	1	4
EJ proportion of total moderate and severe noise impacts ³	49%	65%	45%	76%

¹As indicated by impacts on visual landscape units.

²These alternatives have no significant and unavoidable impacts on visual landscape units.

³Noise impacts after noise barrier mitigation.

BIOLOGICAL RESOURCES AND WETLANDS AND OTHER WATERS OF THE U.S.

Bold text in tables indicates best-performing alternative(s) (fewest environmental impacts).

CRITERIA	ALT 1	ALT 2	ALT 3	ALT 4
Permanent impacts on jurisdictional waters and wetlands (acres)	104	111	116	101
Permanent impacts on habitat for listed plant species (non-overlapping acres)	1,171	1,178	1,183	1,146
Permanent impacts on habitat for listed wildlife species with the most impacts overall (California tiger salamander, acres)	2,273	2,329	2,470	2,146
Wildlife corridor impacts	Avoids east Gilroy; fewer Soap Lake floodplain impacts	Avoids east Gilroy; fewer Soap Lake floodplain impacts	Impacts east Gilroy; more Soap Lake floodplain impacts	Avoids east Gilroy; fewer Soap Lake floodplain impacts
Permanent impacts on conservation areas (acres)	427	432	481	427

PARKS AND RECREATION AREAS

Bold text in tables indicates best-performing alternative(s) (fewest environmental impacts).

CRITERIA	ALT 1	ALT 2	ALT 3	ALT 4
Permanent use of 4(f)/6(f) park resources (#)	4	6	5	3
(acres)	4.8	7.4	5.0	1.4



BUILT ENVIRONMENT HISTORIC RESOURCES

Bold text in tables indicates best-performing alternative(s) (fewest environmental impacts).

CRITERIA	ALT 1	ALT 2	ALT 3	ALT 4
Number of permanent adverse effects on NRHP-listed/eligible resources (# of resources)	8	9	7	5
Number of permanent significant impacts on CEQA-only historic resources (# of resources)	2	4	1	1



SUMMARY OF ALTERNATIVES EVALUATION – SYSTEM PERFORMANCE, OPERATIONS, & COSTS



CRITERIA	ALT 1	ALT 2	ALT 3	ALT 4
Alignment length			●	
Operational Speed — San Jose to Gilroy		●		
Operational Speed — Gilroy to Central Valley Wye	<i>No difference</i>			
Proximity to existing transit corridors		●		●
Travel time — San Jose and Gilroy			●	
Proposition 1A service travel time compliance	✓	✓	✓	✓
Estimated capital costs				●
Estimated annual operations and maintenance costs	<i>No difference</i>			

● Best-performing alternative

SUMMARY OF ALTERNATIVES EVALUATION – COMMUNITY FACTORS



CRITERIA	ALT 1	ALT 2	ALT 3	ALT 4
Residential displacements				●
Commercial displacements (#)				●
Agricultural displacements (#)				●
Community or public facilities displacements				●
Commercial displacements (square footage)	●			
Agricultural structure displacements (square footage)	●			
Permanent conversion of important farmland				●
Visual quality effects				●
Consistency with Gilroy General Plan	●	●		●
Noise impacts with noise barrier mitigation			●	

CRITERIA	ALT 1	ALT 2	ALT 3	ALT 4
Increase in 2040 peak travel time on Monterey Road (NB — AM/PM, SB — AM/PM)				●
Permanent road closures			●	●
Amount of mitigation needed to minimize emergency vehicle delays	●	●	●	
EJ proportion of total impacts on local views		●		●
EJ proportion of total residential displacements			●	●
EJ proportion of total business displacements			●	
Amount of mitigation required to address effects on emergency vehicle response times (EJ)	●		●	
EJ proportion of total noise impacts			●	

● Best-performing alternative (fewest environmental impacts)

SUMMARY OF ALTERNATIVES EVALUATION – ENVIRONMENTAL FACTORS



CRITERIA	ALT 1	ALT 2	ALT 3	ALT 4
Waters and wetlands				●
Habitat for listed plant species				●
Habitat for listed wildlife species (California tiger salamander)				●
Wildlife corridor impacts	●	●		●
Conservation areas	●			●
Permanent use of 4(f)/6(f) park resources				●
Permanent adverse effects on NRHP-listed/eligible resources				●
Permanent significant impacts on CEQA-only historic resources			●	●

● Best-performing alternative (fewest environmental impacts)

CALTRAIN BUSINESS PLAN

Growth Scenarios

2040 Baseline Growth Scenario (6 Caltrain + 4 HSR)



Features

- Blended service with up to 10 TPH north of Tamien (6 Caltrain + 4 HSR) and up to 10 TPH south of Tamien (2 Caltrain + 8 HSR)
- Three skip stop patterns with 2 TPH – most stations are served by 2 or 4 TPH, with a few receiving 6 TPH
- Some origin-destination pairs are not served at all

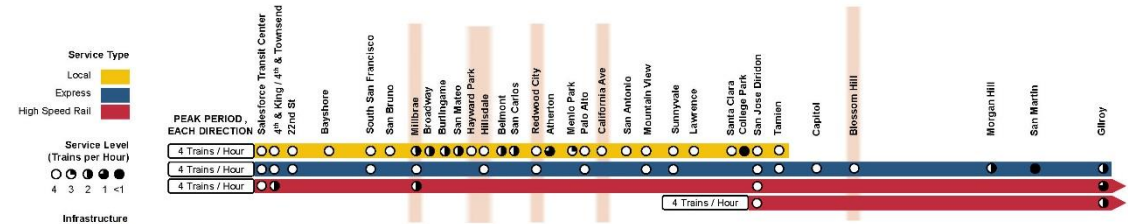
Passing Track Needs

- Less than 1 mile of new passing tracks at Millbrae associated with HSR station plus use of existing passing tracks at Bayshore and Lawrence

Options & Considerations

- Service approach is consistent with other scenarios
- Opportunity to consider later in Business Plan

Moderate Growth Scenario (8 Caltrain + 4 HSR)



Features

- A majority of stations served by 4 TPH local stop line, but Mid-Peninsula stations are serviced with 2 TPH skip stop pattern
- Express line serving major markets – some stations receive 8 TPH
- Timed local/express transfer at Redwood City

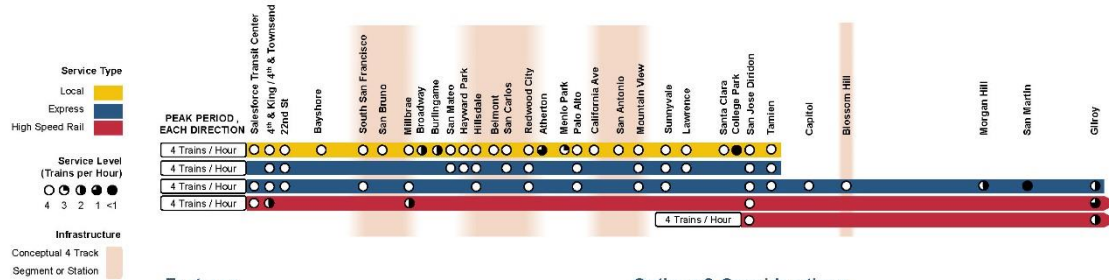
Passing Track Needs

- Up to 4 miles of new 4-track segments and stations: Hayward Park to Hillsdale, at Redwood City, and a 4-track station in northern Santa Clara county (Palo Alto, California Ave, San Antonio or

Options & Considerations

- To minimize passing track requirements, each local pattern can only stop twice between San Bruno and Hillsdale
- Each local pattern can only stop once between Hillsdale and Redwood City
- Atherton, College Park, and San Martin served on an hourly or exception basis

High Growth Scenarios (12 Caltrain + 4 HSR)



Features

- Nearly complete local stop service – almost all stations receiving at least 4 TPH
- Two express lines serving major markets – many stations receive 8 or 12 TPH

Passing Track Needs

- Requires up to 15 miles of new 4 track segments: South San Francisco to Millbrae, Hayward Park to Redwood City, and northern Santa Clara County between Palo Alto and Mountain View stations (shown: California Avenue to north of Mountain View)

Options & Considerations

- SSF-Millbrae passing track enables second express line; this line cannot stop north of Burlingame
- Tradeoff between infrastructure and service along Mid-Peninsula - some flexibility in length of passing tracks versus number and location of stops
- Flexible 5 mile passing track segment somewhere between Palo Alto and Mountain View
- Atherton, College Park, and San Martin served on an hourly or exception basis



ALTERNATIVE 4 – Staff-Recommended State’s Preferred Alternative

Conclusions of Technical Analysis



Fewest displacements



Fewest road closures



Fewest impacts on wetlands and habitats



Good access to transit systems and services



Fewest impacts on natural resources



Fewest visual impacts



Marginal increase in system travel time



More noise (if no quiet zones)

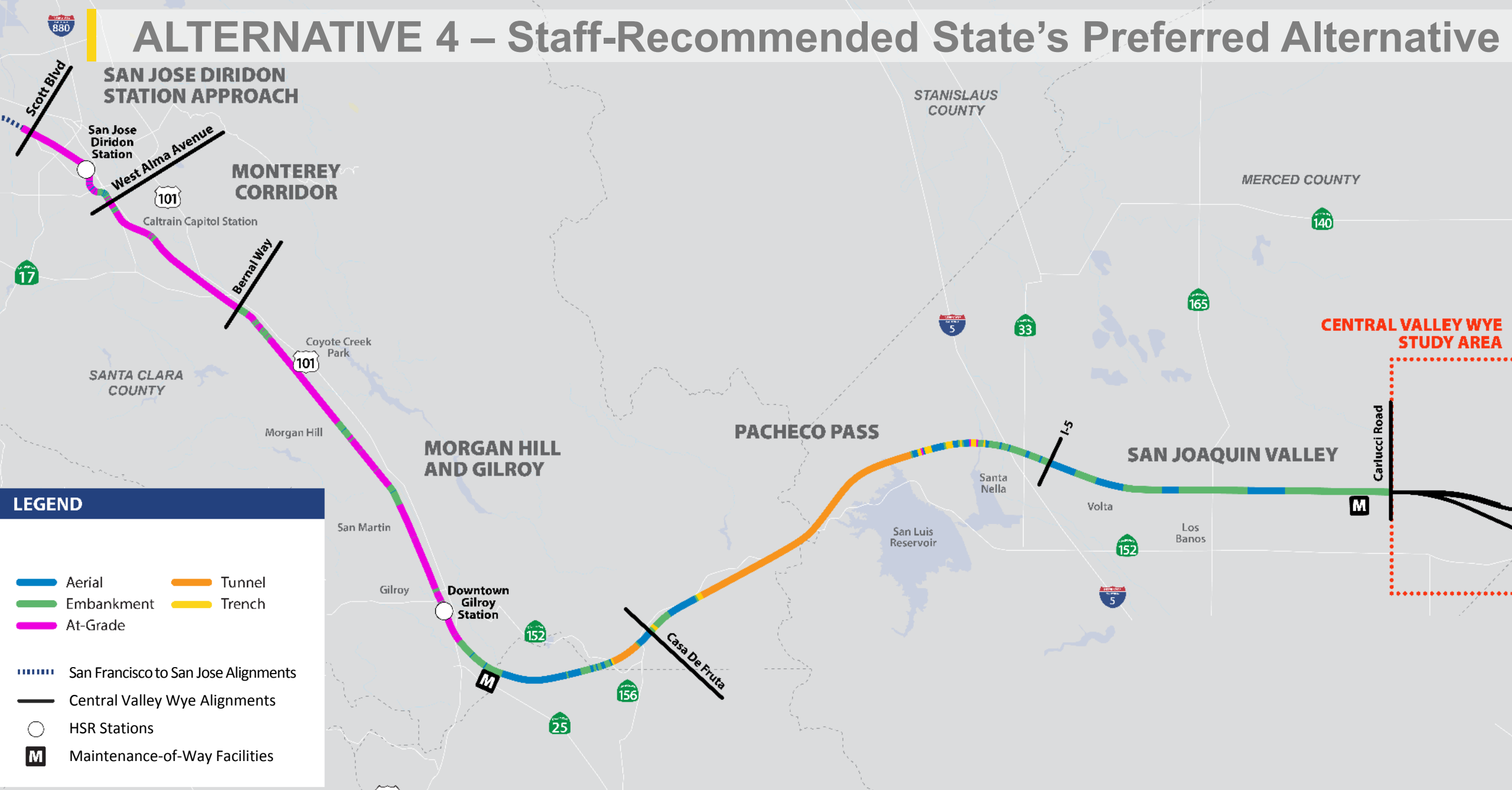


Lowest capital cost



Allows for extension of electrified Caltrain service to Gilroy

ALTERNATIVE 4 – Staff-Recommended State’s Preferred Alternative



LEGEND

- Aerial
- Embankment
- At-Grade
- Tunnel
- Trench
- San Francisco to San Jose Alignments
- Central Valley Wye Alignments
- HSR Stations
- M Maintenance-of-Way Facilities

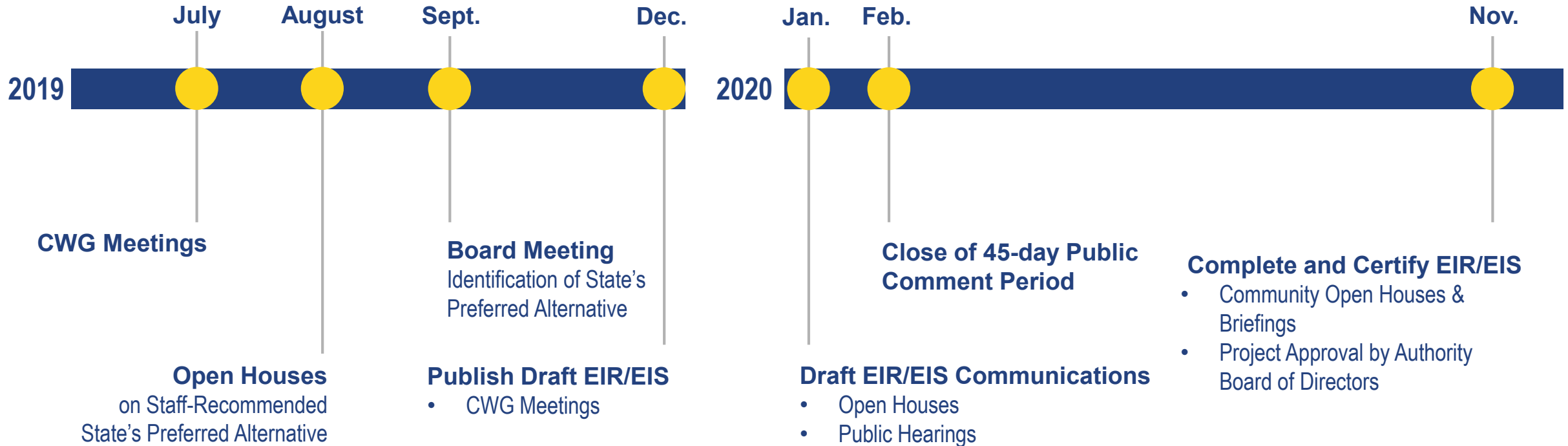
DISCUSSION OF THE STAFF-RECOMMENDED STATE'S PREFERRED ALTERNATIVE



OUTREACH UPDATE



NEXT STEPS



UPCOMING OPEN HOUSES

South Peninsula Open House
August 6, 5:00 to 8:00 p.m.
Adrian Wilcox High School
Santa Clara, CA

San Francisco Open House
August 12, 5:00 to 8:00 p.m.
Bay Area Metro Center
San Francisco, CA

San Mateo Open House
August 19, 5:00 to 8:00 p.m.
Sequoia High School
Redwood City, CA

Gilroy Open House
August 8, 5:00 to 8:00 p.m.
Gilroy Portuguese Hall
Gilroy, CA

San Jose Open House
August 15, 5:00 to 8:00 p.m.
City Hall Council Chambers
San Jose, CA

Los Banos Open House
August 21, 5:00 to 8:00 p.m.
Los Banos Community Center
Los Banos, CA

REQUEST FOR COMMUNITY FEEDBACK

CALIFORNIA HIGH-SPEED RAIL

Please share the information presented today with your communities and give us your feedback.

- Comments received by **August 22, 2019** will be summarized in the staff report to the Authority Board.
- Comments can be submitted via email to San.Jose_Merced@hsr.ca.gov or via mail to:
 - Northern California Regional Office
 - California High-Speed Rail Authority
 - 100 Paseo De San Antonio, Suite 300
 - San Jose, CA 95113
- Or share feedback in person at an upcoming Open House or at the **Authority Board meeting on September 17 in San Jose, CA.**



PUBLIC COMMENT



PUBLIC COMMENT PERIOD GUIDELINES

- **Public comment is intended for the CWG members and staff to hear from the public**
- **Comments will be captured in meeting summaries**
- **Staff will be available after the meeting to respond to questions, as necessary**
- **2 minute time limit**
- **Please be respectful and follow CWG meeting guidelines**



Headquarters

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