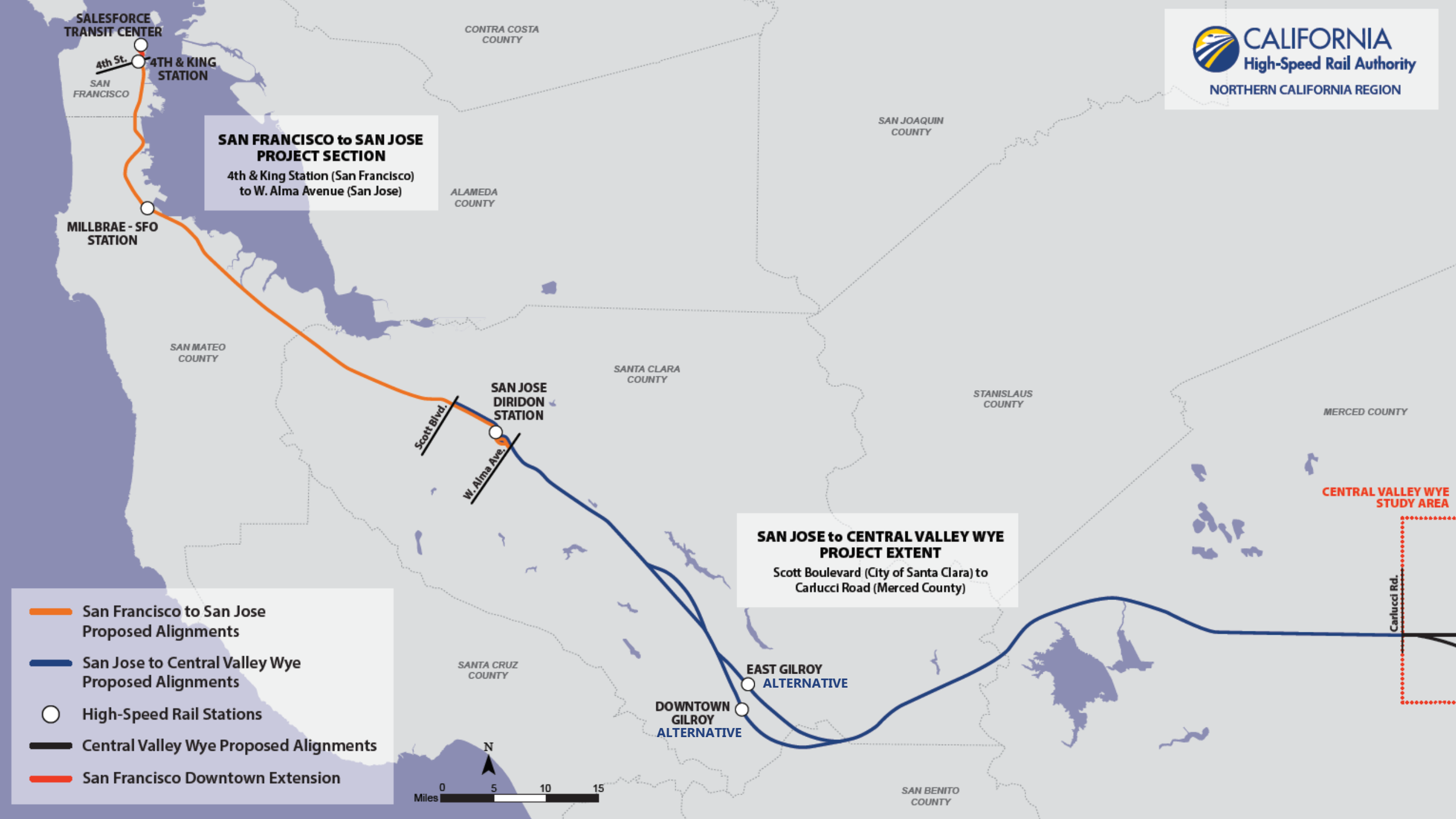
NORTHERN CALIFORNIA REGION

Local Policy Maker Working Group
Thursday, July 25, 2019
San Carlos, CA

OBJECTIVE

Share **staff-recommended State's Preferred Alternative** and process for identifying the State's Preferred Alternative.

- There are differences between the alternatives and the staff-recommended State's Preferred Alternative 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.
- Staff will summarize the comments received during planned outreach 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.



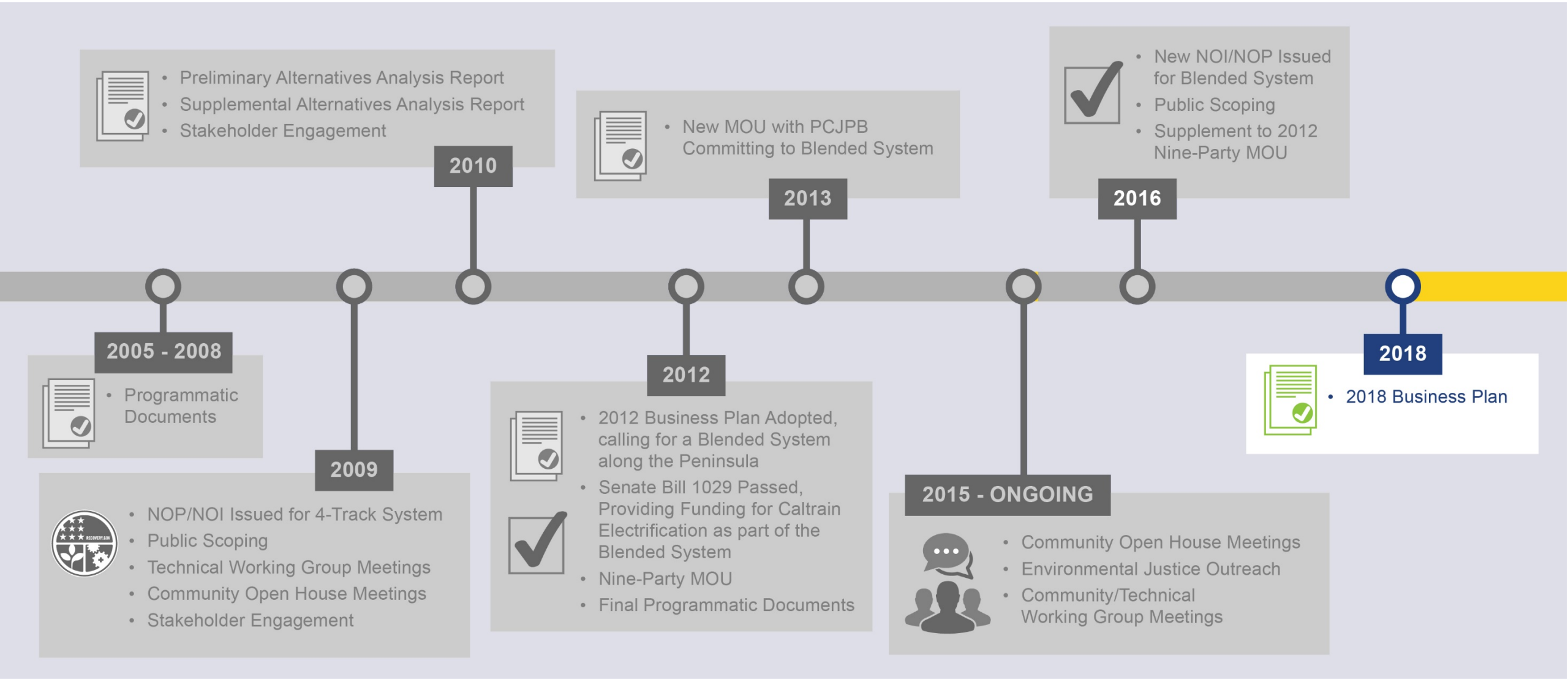
CALIFORNIA High-Speed Rail Authority

NORTHERN CALIFORNIA REGION

SAN FRANCISCO TO SAN JOSE PROJECT SECTION

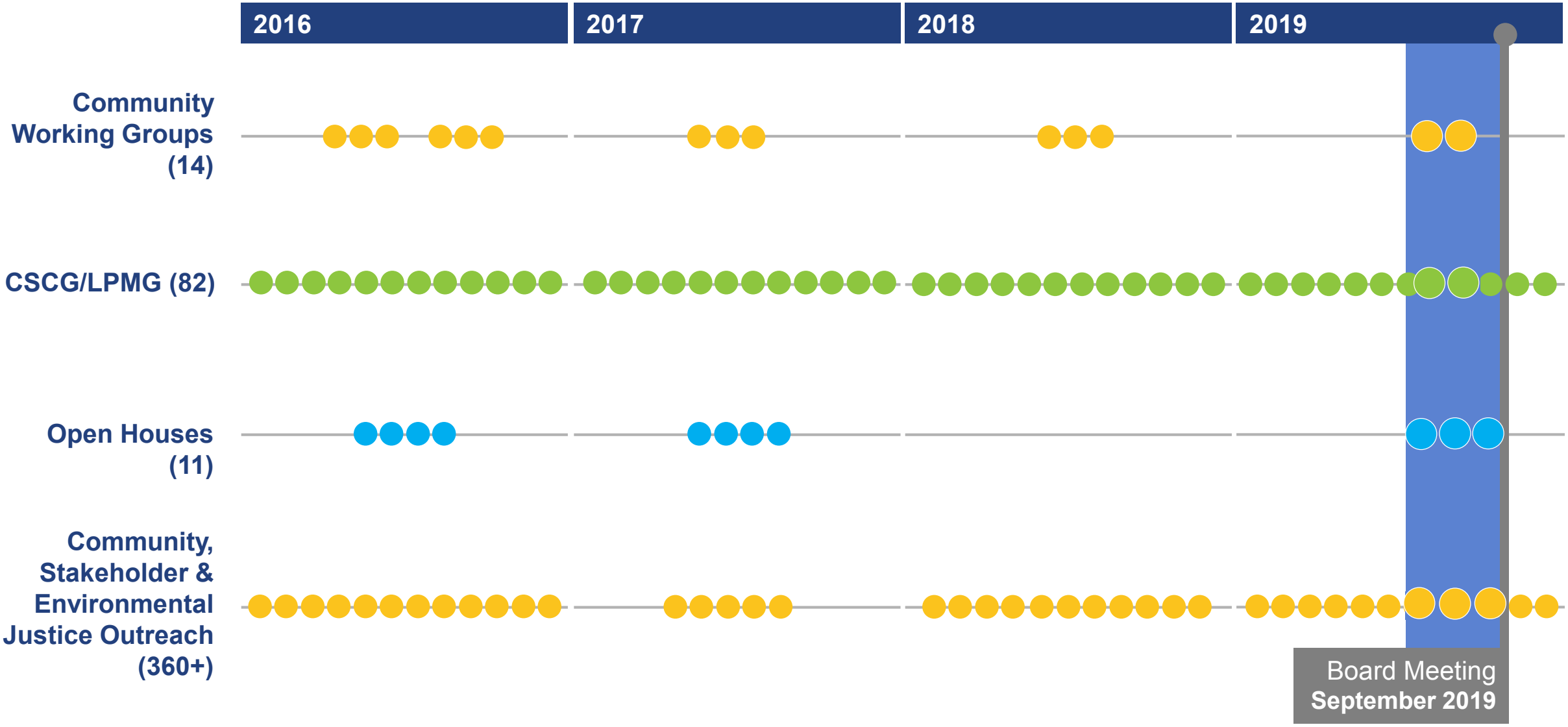
REFINING THE ALTERNATIVES:
Collaboration with Partner Agencies, Stakeholders, and Members of the Public

ALTERNATIVES DEVELOPMENT



SAN FRANCISCO TO SAN JOSE COMMUNITY OUTREACH

2016 – 2019



INTERFACING WITH NORTHERN CALIFORNIA AGENCIES

Topics covered in 2018 - 2019

	ALIGNMENTS	WATER MANAGEMENT	TRANSPORTATION/ ROADS	ENGINEERING/ DESIGN	LAND USE	JOINT OUTREACH	2018 BUSINESS PLAN
Bay Area Rapid Transit	●		●	●			●
California Strategic Growth Council	●			●	●		●
Caltrain	●			●		●	●
Caltrans District 4	●		●				●
City and County Staff (throughout corridor)	●	●	●	●	●	●	●
Floodplain Administrators and Managers	●	●		●			●
Metropolitan Transportation Commission	●				●		●
Mineta San Jose International Airport	●		●				●
San Francisco Bay Conservation and Development Commission	●				●		●
San Francisco International Airport	●			●	●		●
Santa Clara Valley Transportation Authority	●				●	●	●
Transbay Joint Powers Authority	●		●	●			●

KEY ISSUES IDENTIFIED DURING OUTREACH

- Aesthetic impacts and visual quality
- Brisbane LMF: air quality, visual, and noise impacts of construction and operation
- Compatibility of project design with future land use development
- Displacements
- Employment opportunities
- Encroachment on BCDC jurisdiction
- Impacts on Caltrain and other transit services
- Noise and vibration
- Safety and security at at-grade crossings and on station platforms
- Traffic congestion

SAN FRANCISCO TO SAN JOSE PROJECT SECTION

IDENTIFYING A PREFERRED ALTERNATIVE

SAN FRANCISCO – SAN JOSE PROJECT ALTERNATIVES A AND B

SAN FRANCISCO TO SAN JOSE

Common Project Elements – Alternatives A & B

- **High-Speed Rail stations[1]**
  - » San Francisco 4th and King
  - » Millbrae
- **Up to 110 mph speeds**
  - » Track modifications to support higher speeds
- **Peak operations**
  - » 4 High-Speed Rail trains and 6 Caltrain trains per hour/per direction

[1] *Salesforce Transit Center has been environmentally cleared by Transbay Joint Powers Authority and will not be part of the California High-Speed Rail Authority's environmental analysis. San Jose Diridon Station is being evaluated as part of the San Jose to Merced Project Section but will be included in both project sections' environmental analysis.*

SAN FRANCISCO TO SAN JOSE

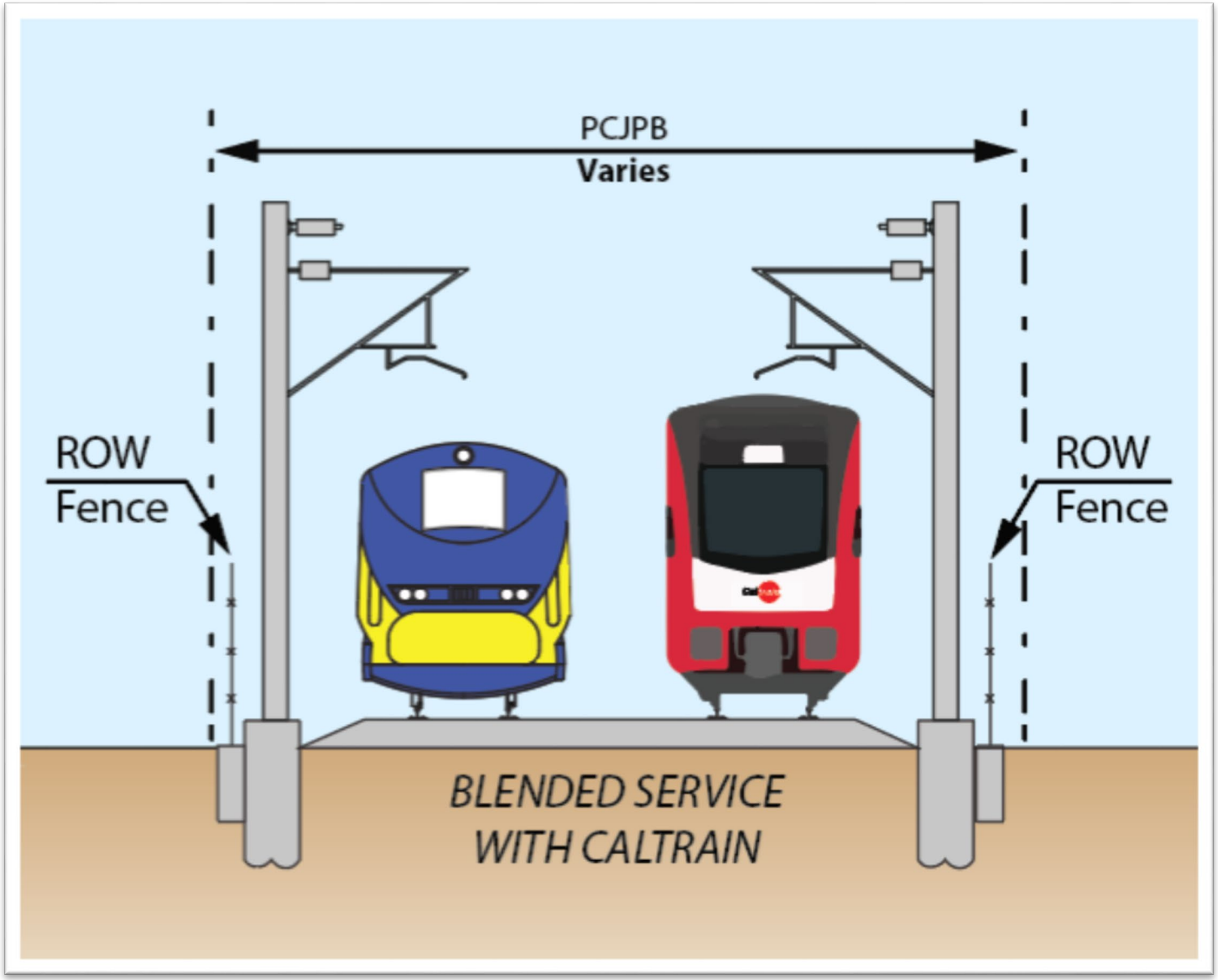
Common Project Elements – Alternatives A & B

- **Remove hold-out rule at Broadway and Atherton Caltrain Stations**
- **Safety modifications at Caltrain-only stations and at-grade crossings**
- **Corridor fencing**

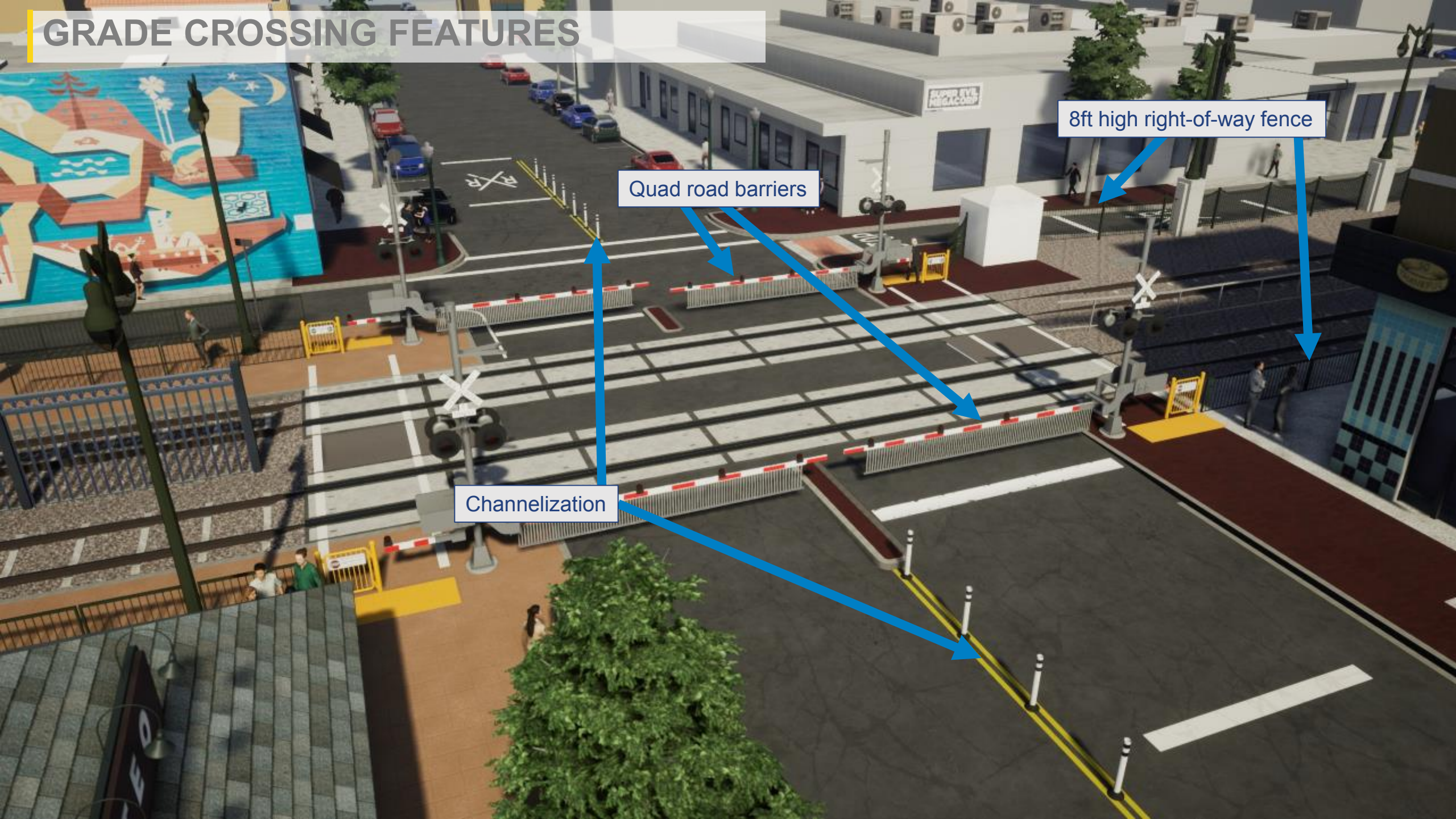
BLENDED AT-GRADE

Typical Section North of Santa Clara

- Uses Caltrain electrification infrastructure and tracks
- Predominantly within the existing railroad right-of-way
- At-grade tracks with quad gates at each road crossing



GRADE CROSSING FEATURES



PREFERRED ALTERNATIVE CRITERIA

System Performance, Operations, & Costs

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

Environmental Factors

- Biological and Aquatic Resources

Community Factors

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

ALTERNATIVE A – STAFF-RECOMMENDED STATE'S PREFERRED ALTERNATIVE

SYSTEM PERFORMANCE, OPERATIONS AND COSTS[1]

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

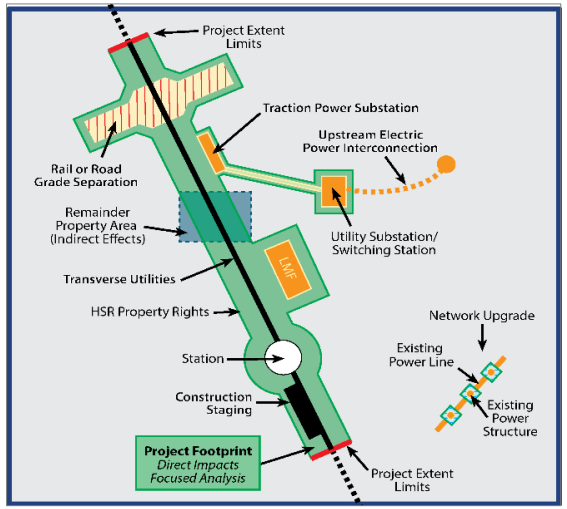
CRITERIA	ALT A	ALT B
Alignment length (miles)	42.9	
Maximum Operating Speed (mph)	Up to 110	
HSR Peak Hour Average Representative Travel Time San Francisco to San Jose (minutes)	47	**45**
Proposition 1A Service Travel Time Compliance	✓	✓
Estimated Capital Costs (2017$)	**$2.6 billion**	$3.5 billion
Estimated Annual Operations and Maintenance Costs (2017$)	$78 million	
Caltrain Peak Hour Average Representative Travel Time (minutes)	**63**	65

DISPLACEMENTS

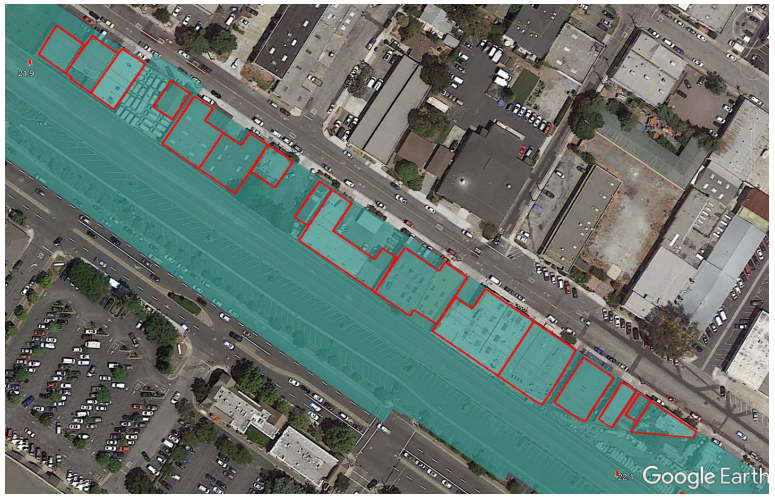
Bold text in tables indicates best-performing alternative(s).

CRITERIA	ALT A	ALT B
Residential displacements (number of units)	**10**	19
Commercial and industrial displacements (# of businesses)	**29**	108
(square feet)	**211,261**	466,084
Community and public facilities displacement (number of units)	**2**	4

HSR Temporary and permanent footprint



Example: overlay of footprint in urban area



AESTHETICS AND VISUAL QUALITY

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

CRITERION	ALT A	ALT B
Number of key viewpoints with decreased visual quality	**3**	5

LAND USE AND DEVELOPMENT

- **Both alternatives potentially reduce available land for development at Brisbane Baylands**
- **Alternative B would convert 8 acres of land at Icehouse Hill**

LEGEND

Permanent Project Footprint

Land Use

- Residential
- Commercial
- Mixed Use
- Heavy Commercial
- Public Facilities
- Planned Development

Alternative A — M East

Impacts 93 acres planned commercial and 2 acres planned mixed use (with residential permitted)

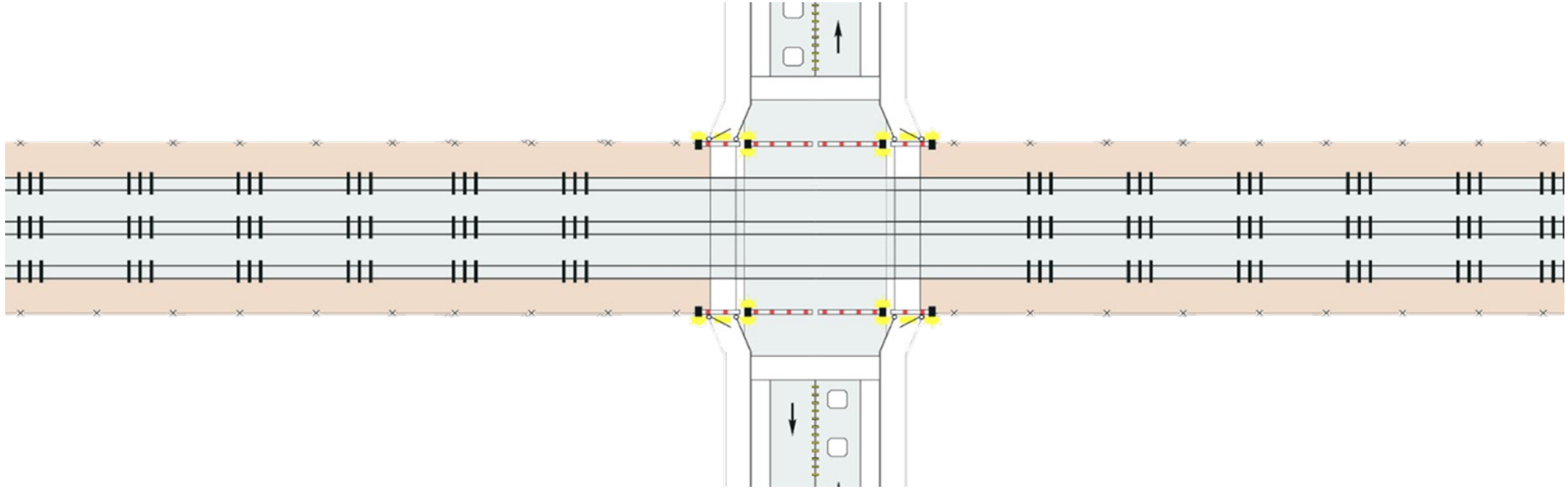
Alternative B — M West

Impacts 90 acres planned commercial and 21 acres planned mixed use (with residential permitted)

TRANSPORTATION

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

CRITERIA	ALT A	ALT B
Temporary interference with local vehicle circulation	**No Change**	Along El Camino Real during passing track construction
Pedestrian Access from Downtown San Carlos to Caltrain Station	**No Change**	Reduced pedestrian access due to the relocation of the station 2,260 feet south of current location



EMERGENCY VEHICLE ACCESS/RESPONSE TIME

Bold text in tables indicates best-performing alternative.

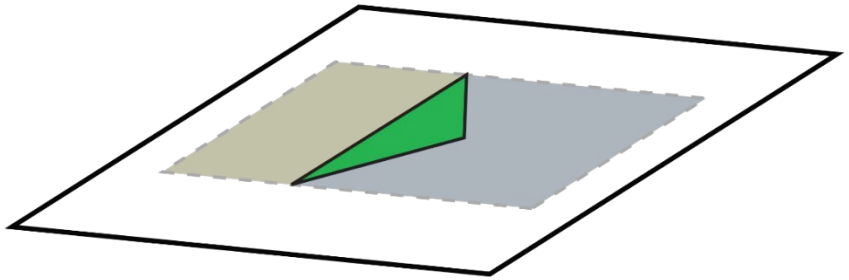
CRITERION	ALT A	ALT B
Temporary increases in emergency vehicle access/response time in south San Mateo, Belmont, San Carlos, and northern Redwood City due to short-term road closures and construction traffic associated with passing track construction	**None**	Yes

ENVIRONMENTAL JUSTICE

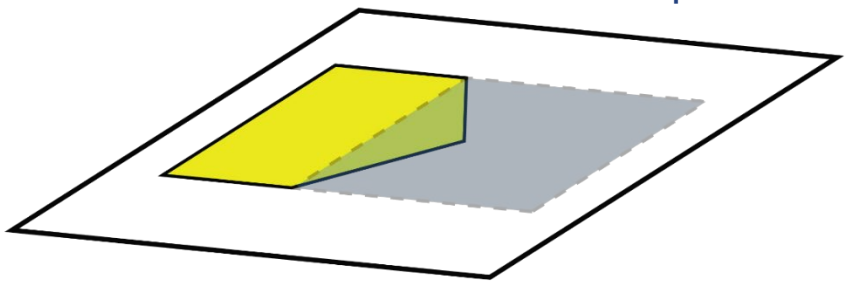
Community Factors

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

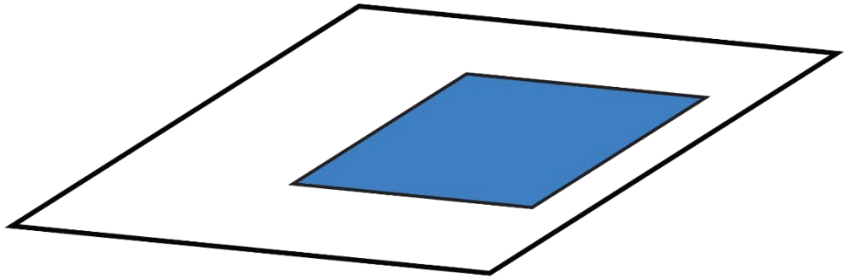
CRITERIA	ALT A	ALT B
Construction-related disruption to Caltrain Service	**Less than Alt. B due to no passing track construction**	More than Alt. A due to passing track construction
Permanent Effect on Planned Mixed Use Development (residential uses allowed) in Brisbane (acres)	**2**	21



EJ Populations + Impacts



EJ Populations



Adverse & Beneficial Impacts

BIOLOGICAL AND AQUATIC RESOURCES

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

CRITERIA	ALT A	ALT B
Total permanent impacts on wetlands and other waters of the U.S. (acres)	**8.8**	12.8
Permanent Impacts on endangered callippe silverspot butterfly habitat (acres)	**0.0**	8.0

SUMMARY OF ALTERNATIVES EVALUATION – SYSTEM PERFORMANCE, OPERATIONS, AND COST FACTORS

CRITERIA	ALT A	ALT B
Alignment length (miles)	No Difference	
Maximum Operating Speed (mph)	No Difference	
HSR Peak Hour Average Representative Travel Time San Francisco to San Jose (minutes)		●
Proposition 1A Service Travel Time Compliance	✓	✓
Estimated Capital Costs (2017$)	●	
Estimated Annual Operations and Maintenance Costs (2017$)	No Difference	
Caltrain Peak Hour Average Representative Travel Time (minutes)	●	

● = Best-performing alternative

SUMMARY OF ALTERNATIVES EVALUATION – COMMUNITY FACTORS

CRITERIA	ALT A	ALT B
Residential displacements	●	
Commercial and industrial displacements	●	
Community and public facilities displacement	●	
Number of key viewpoints with decreased visual quality	●	
Temporary interference with local vehicle circulation	●	
Pedestrian Access from Downtown San Carlos to Caltrain Station	●	
Temporary increases emergency response time in south San Mateo, Belmont, San Carlos, and northern Redwood City due to short-term road closures	●	
Construction-related disruption to Caltrain Service	●	
Permanent Effect on Planned Mixed Use Development (residential uses allowed) in Brisbane	●	

● = Best-performing alternative (fewest/least community impacts)

SUMMARY OF ALTERNATIVES EVALUATION – ENVIRONMENTAL FACTORS

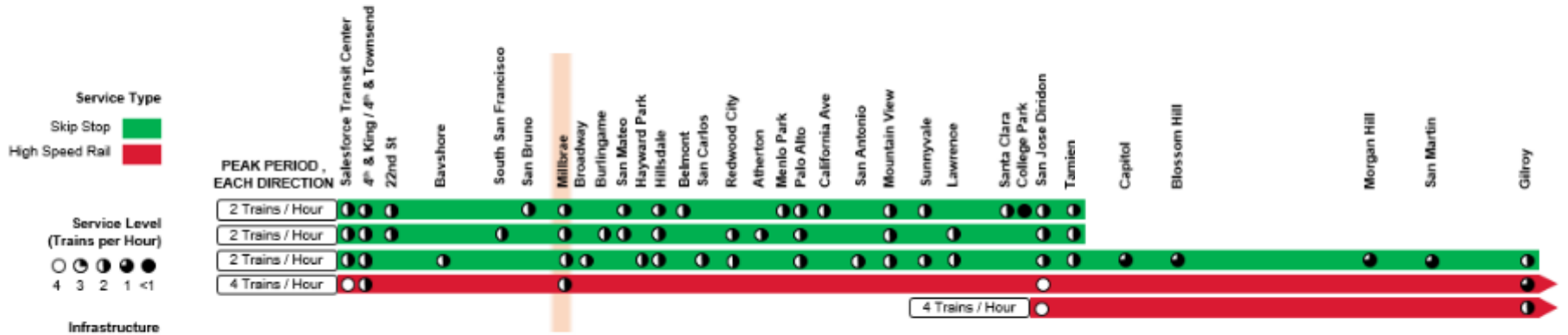
CRITERIA	ALT A	ALT B
Total permanent impacts on wetlands and other waters of the U.S.	●	
Permanent Impacts on endangered callippe silverspot butterfly habitat	●	

● = Best-performing alternative (fewest environmental impacts)

CALTRAIN BUSINESS PLAN

2040 Baseline Growth Scenario

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 PCEP and HSR EIRs
- Opportunity to consider alternative service approaches later in Business Plan process

DRAFT

ALTERNATIVE A – Staff-Recommended State's Preferred Alternative

Conclusions of Technical Analysis

Fewest major visual impacts

Fewest displacements

Fewest road closures

Fewest impacts on wetlands and habitats

Fewest impacts on natural resources

Lowest capital cost

Slower HSR, faster Caltrain peak hour travel time

Policy-level alignment with the Caltrain Business Plan

ALTERNATIVE A – STAFF-RECOMMENDED STATE'S PREFERRED ALTERNATIVE

LEGEND

San Francisco to San Jose Alignments

- Alternative A

- HSR Stations
- Maintenance Facility
- San Jose to Merced Alignments

N

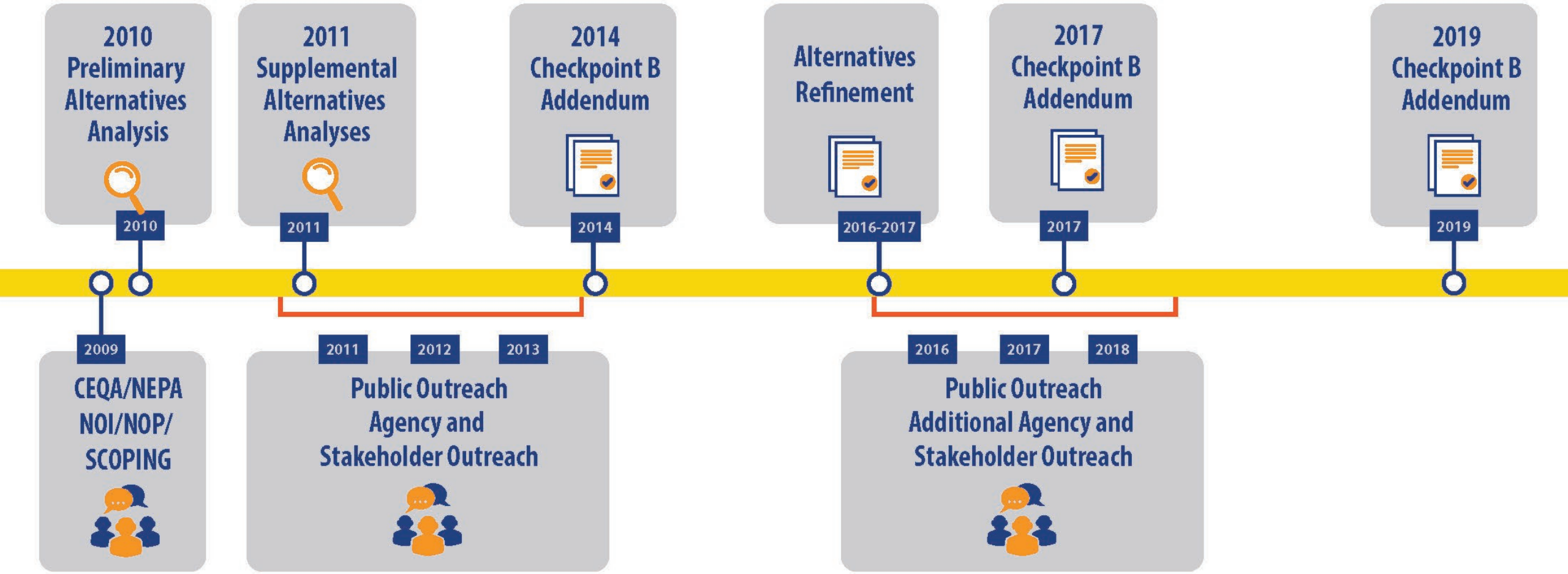
Miles 0 2 4 8

Kilometers 0 2 4 8

SAN JOSE TO MERCED PROJECT SECTION

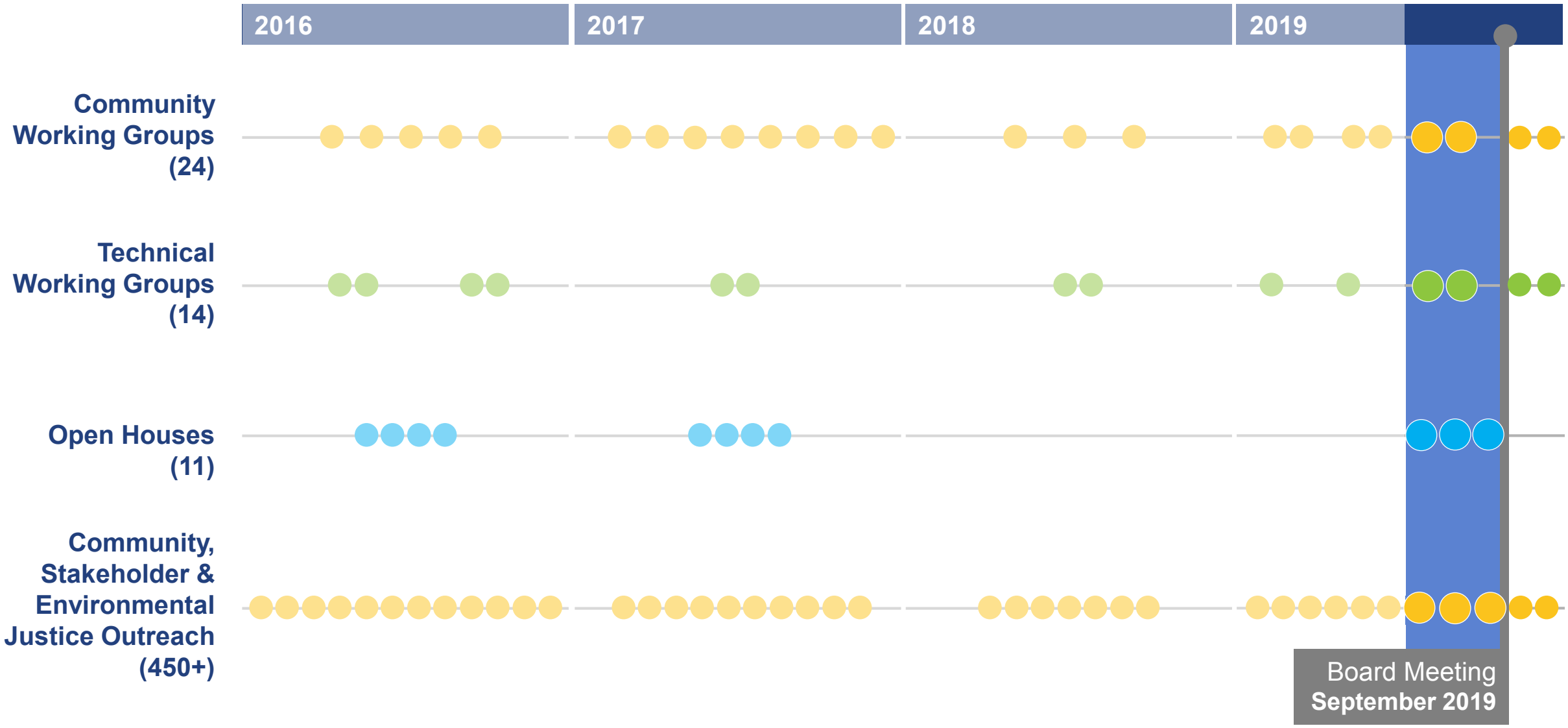
REFINING THE ALTERNATIVES:
Collaboration with Partner Agencies, Stakeholders, and Members of the Public

ALTERNATIVES DEVELOPMENT PROCESS



SAN JOSE TO MERCED COMMUNITY OUTREACH

2016 – 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	●			●	●			●
Cities of Gilroy, Los Banos, Morgan Hill, San Jose	●	●		●	●	●	●	●
Floodplain Administrators and Managers	●				●			●
Gilroy, Los Banos & Morgan Hill USDs	●				●	●	●	●
Grasslands Ecological Area Stakeholders Group	●	●	●		●	●		●
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

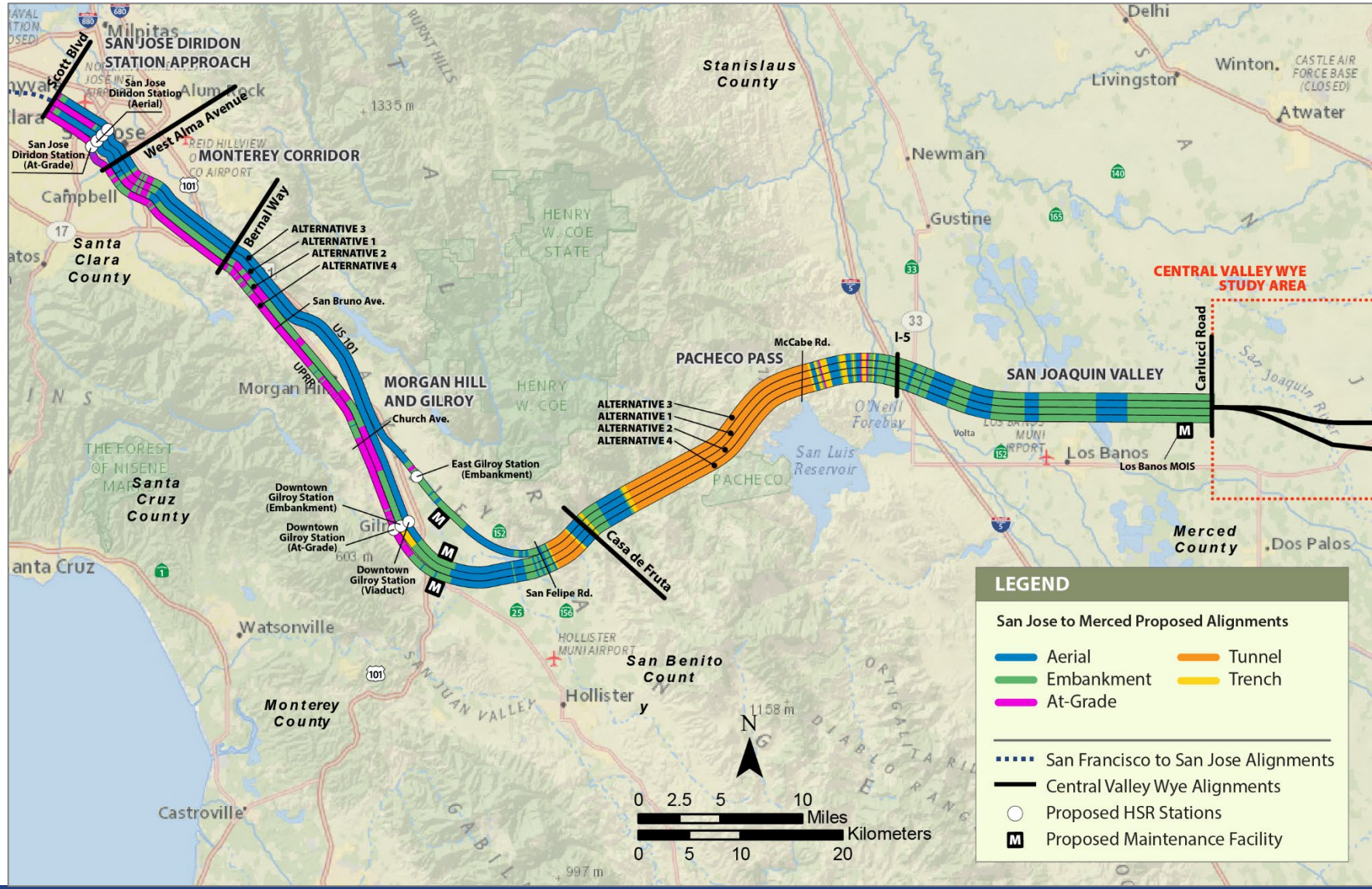
- Aesthetic and visual quality
- Biological resources, wetlands and other waters of the U.S., and wildlife movement
- Community cohesion
- Cultural and tribal resources
- Disruption/loss of parks, recreation, open space, agricultural lands/operations
- Environmental justice
- Flooding and floodplains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

SAN JOSE TO MERCED PROJECT SECTION

IDENTIFYING A PREFERRED ALTERNATIVE

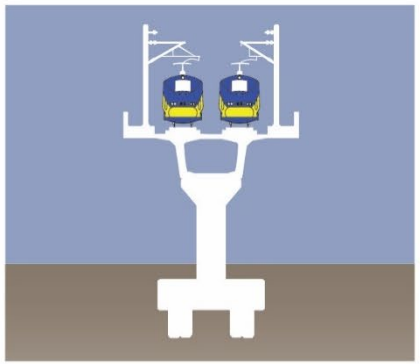
SAN JOSE TO MERCED RANGE OF ALTERNATIVES

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



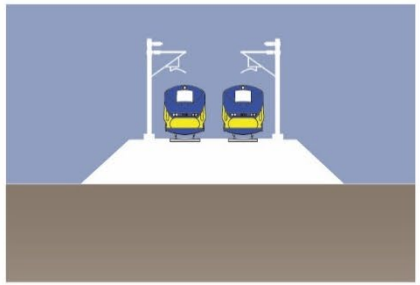
TYPICAL CROSS SECTIONS

Viaduct



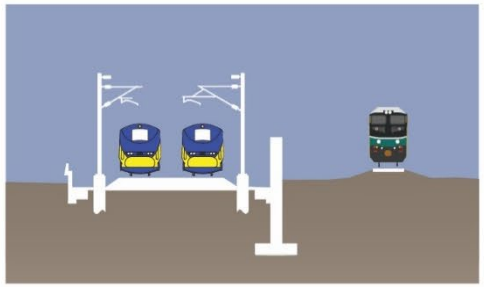
Two high-speed rail tracks on an aerial structure

Embankment



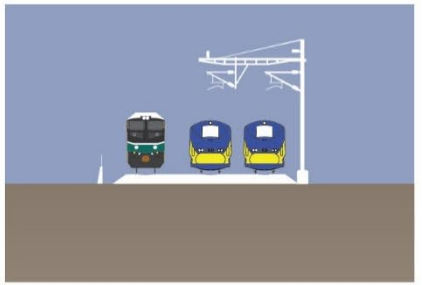
Two high-speed rail tracks on an earthen embankment

Dedicated At-Grade



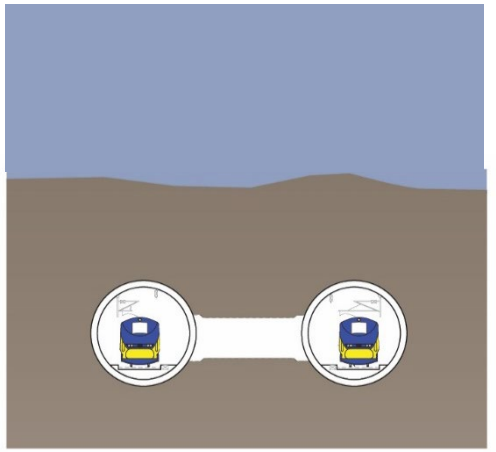
Two high-speed rail tracks at ground level adjacent to existing freight tracks

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

PREFERRED ALTERNATIVE CRITERIA

System Performance, Operations, & Costs

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

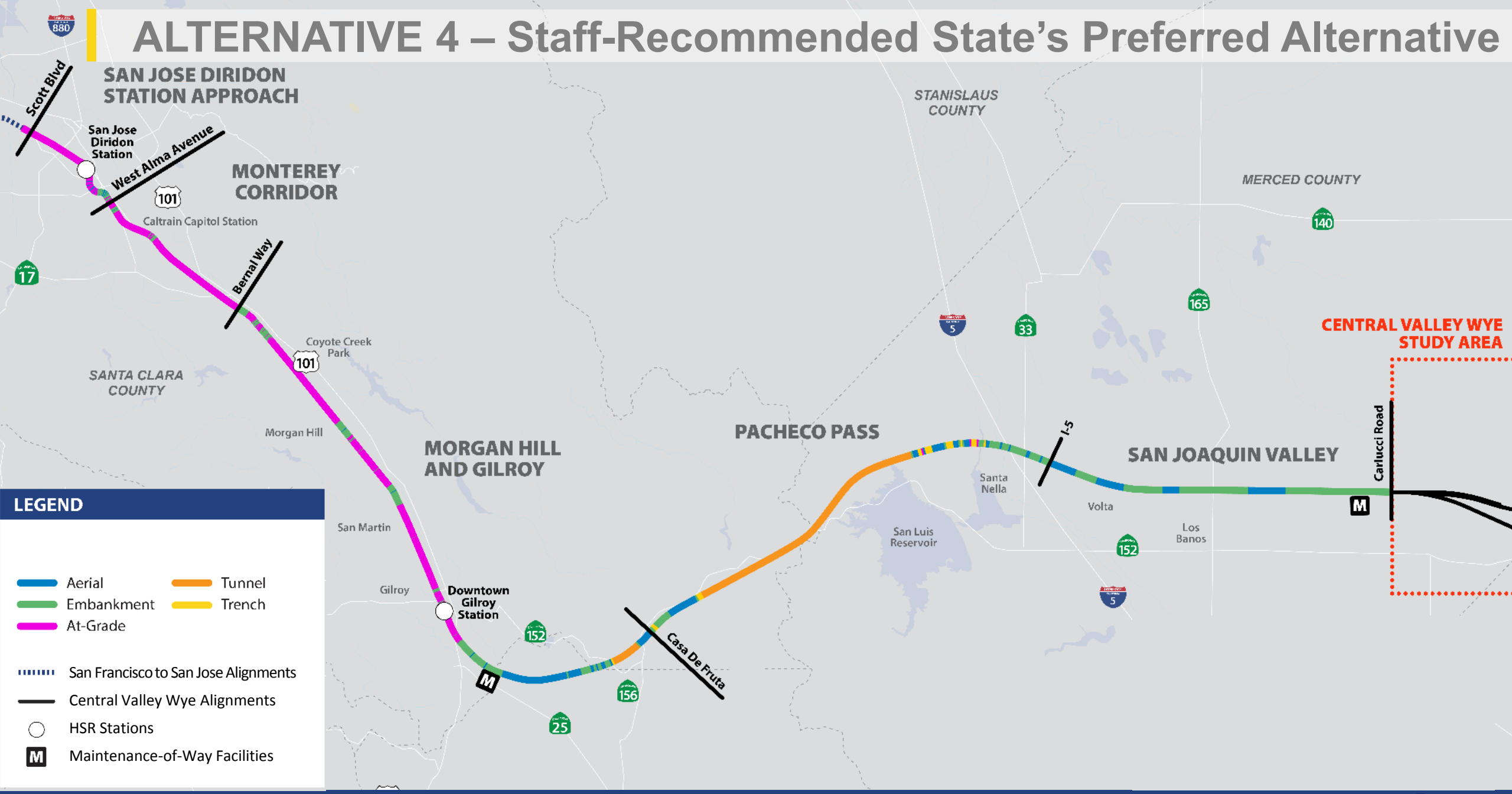
Environmental Factors

- 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			

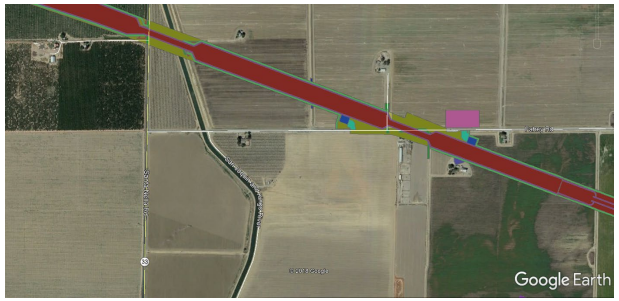
[1]Times include Gilroy stop. East Gilroy station for Alt. 3 is approximately one mile further north than the Downtown Gilroy station for Alts. 1, 2, and 4.
[2]Conceptual cost estimates prepared for the project alternatives were developed by utilizing recent bid data from large transportation projects 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.
[3]Based on level of design sufficient to analyze potential environmental impacts.

DISPLACEMENTS

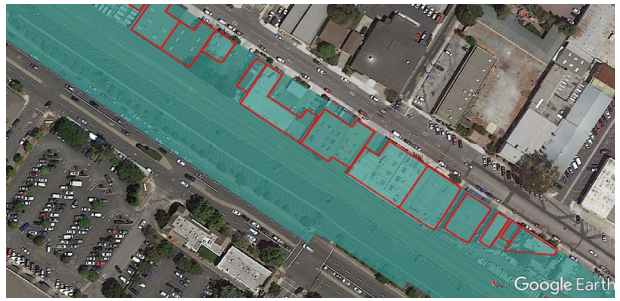
Bold text in tables indicates best-performing alternative(s) (fewest community impacts).

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	• Viaduct • Elevated Stations	• Embankment and Viaduct • Elevated Stations • Roadway Grade Separations	• Viaduct • Elevated Stations • Alignment in Rural Area (East Gilroy)	• **At-Grade Alignment** • **Existing Railroad Right-of-Way**

Alternatives 1 and 3: Viaduct

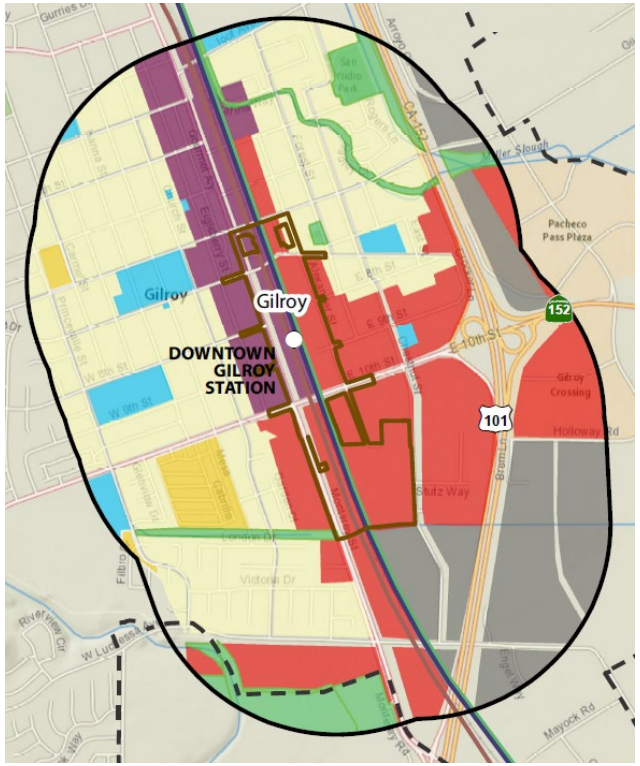
Alternative 4: At-Grade

LAND USE AND DEVELOPMENT

Community Factors

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)

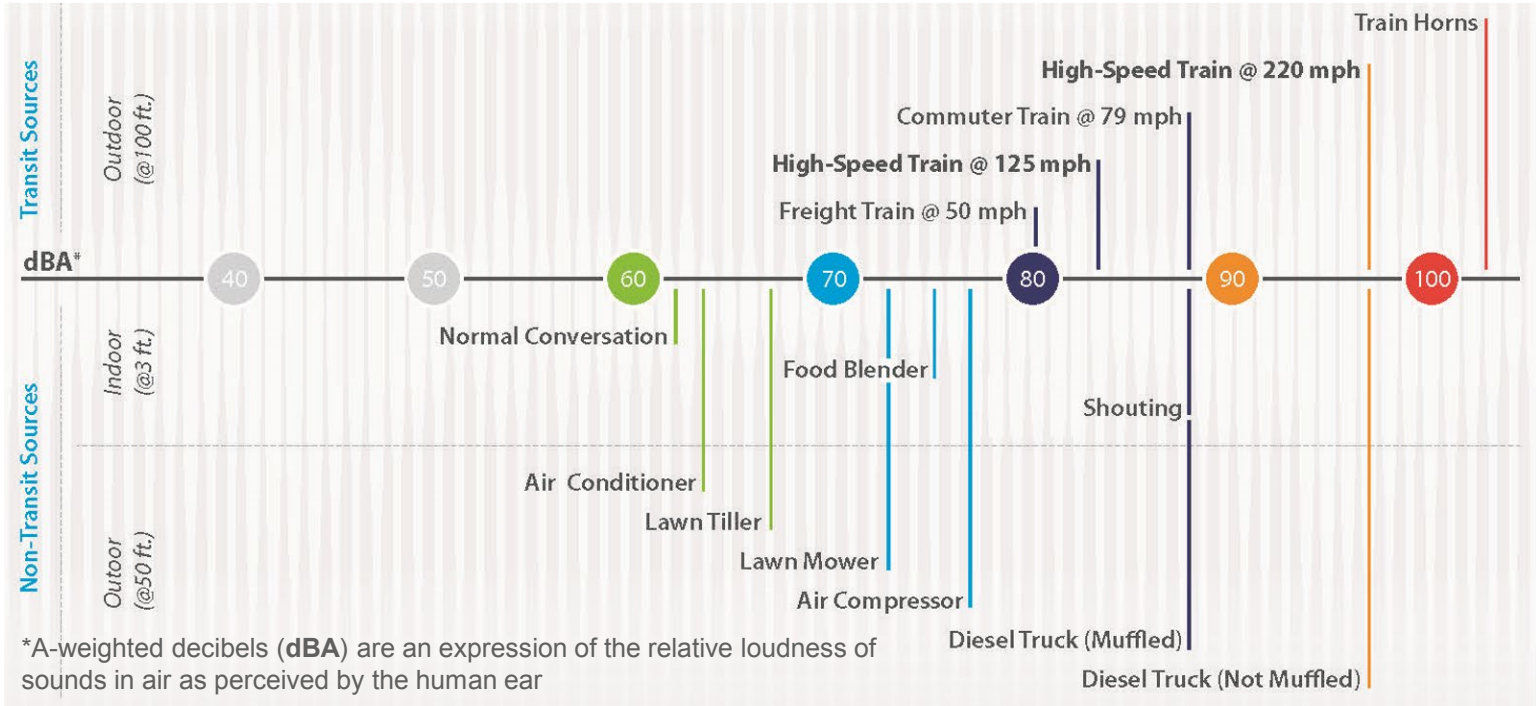
Downtown Gilroy Station

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

TRANSPORTATION

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 SB 6/12	NB 27/5 SB 16/17	NB 8/20 SB 6/12	**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

ENVIRONMENTAL JUSTICE

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/A[2]**	67%	**N/A[2]**
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%

[1]As indicated by impacts on visual landscape units.
[2]These alternatives have no significant and unavoidable impacts on visual landscape units.
[3]Noise 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**

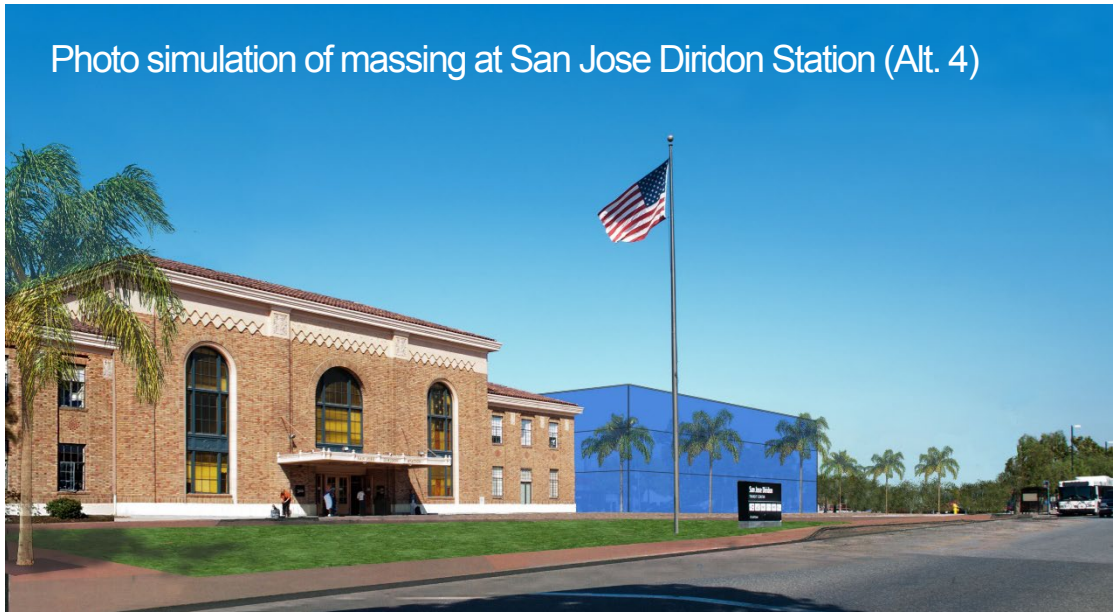
Upper Unit at Cottonwood Creek Wildlife Area (CADFW)

Coyote Creek Parkway (Santa Clara County Parks)

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

System Performance, Operations and 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	*No difference*			
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	*No difference*			

● Best-performing alternative

SUMMARY OF ALTERNATIVES EVALUATION – COMMUNITY FACTORS

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			●	

SUMMARY OF ALTERNATIVES EVALUATION – ENVIRONMENTAL FACTORS

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 co
- Opportunity to consider later in Business Plan p

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

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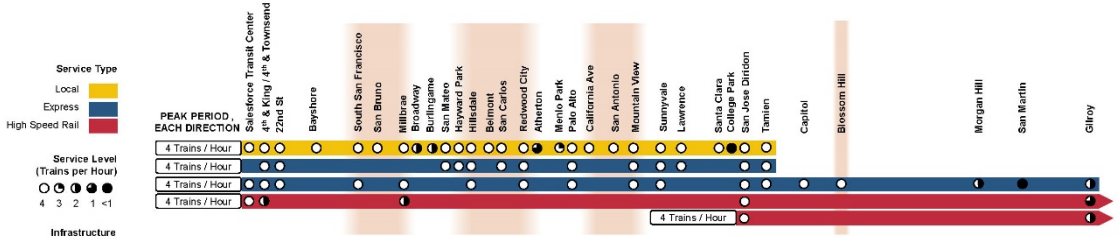
High Growth Scenarios (12 Caltrain + 4 HSR)



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

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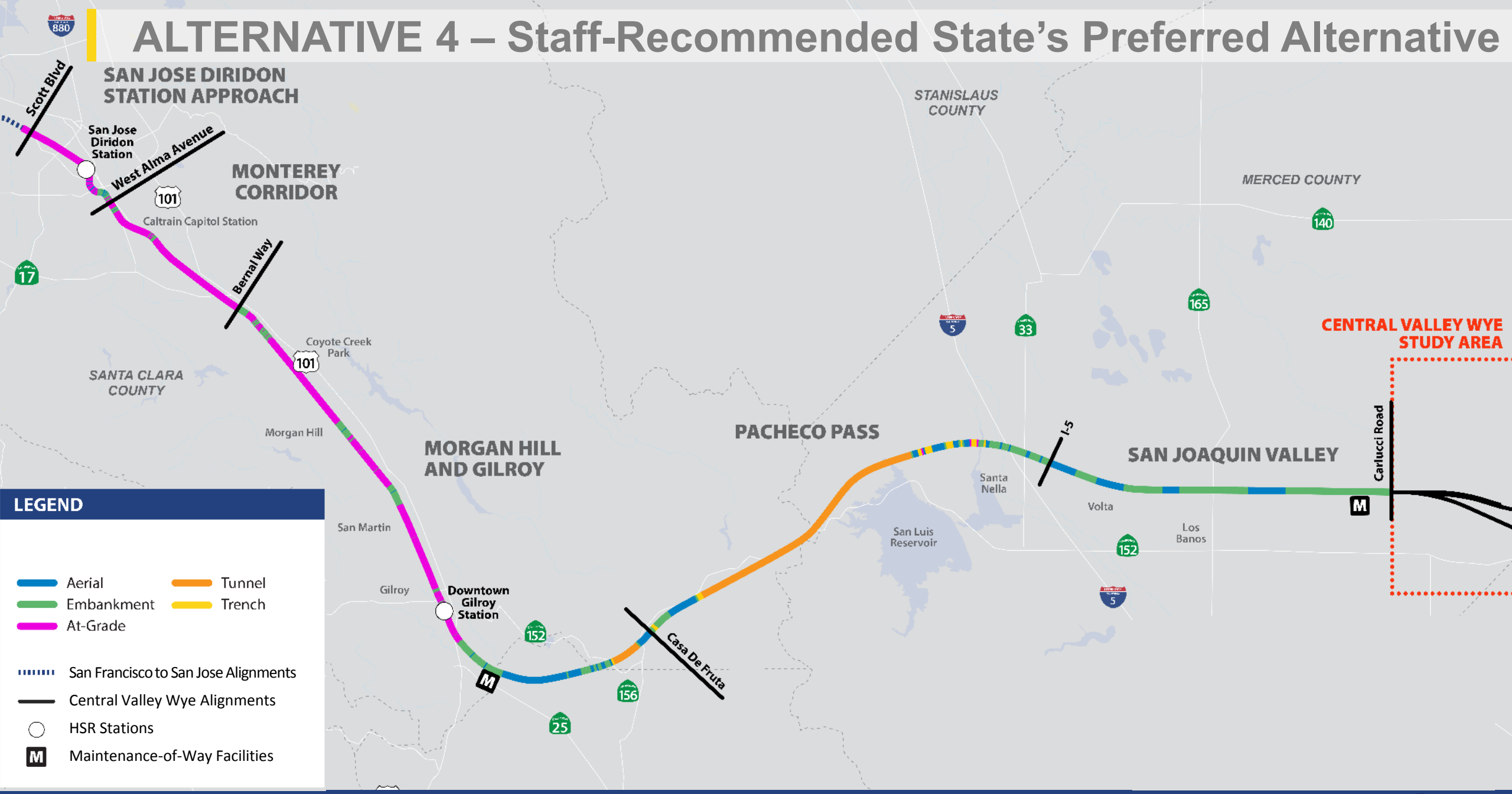
ALTERNATIVE 4 – Staff-Recommended State's Preferred Alternative

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



NEXT STEPS

STATE'S PREFERRED ALTERNATIVE

COMMUNITY WORKING GROUP MEETINGS

Morgan Hill-Gilroy CWG
July 10, 6:00 – 8:00 pm
Morgan Hill Community and Cultural Center
Morgan Hill, CA

San Jose CWG
July 16, 6:00 – 8:00 pm
Leininger Center
San Jose, CA

San Francisco CWG
July 22, 6:00 – 8:00 pm
Bay Area Metro Center
San Francisco, CA

San Mateo County CWG
July 24, 6:00 – 8:00 pm
Burlingame Library
Burlingame, CA

One-on-one briefings will be scheduled by request with South Peninsula CWG members

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

UPCOMING CITY/COUNTY PRESENTATIONS

San Mateo County Board of Supervisors
July 9, 9:30 a.m.

Santa Clara Valley & Pacheco Pass Conservation Community Update
July 10, 10:00 a.m.

Grasslands Ecological Area Stakeholder Group
July 15, 1:00 p.m.

Morgan Hill City Council
July 17, 6:00 p.m.

Brisbane City Council
July 18, 6:30 p.m.

SFCTA Board of Directors
July 23, 10:00 a.m.

Millbrae City Council
July 23, 7:00 p.m.

Local Policy Maker Working Group
July 25, 5:30 p.m.

Transbay Joint Powers Authority
August 8, 9:30 a.m.

Gilroy City Council
August 5, 6:00 p.m.

Santa Clara South County Joint Planning Advisory Committee
August TBD

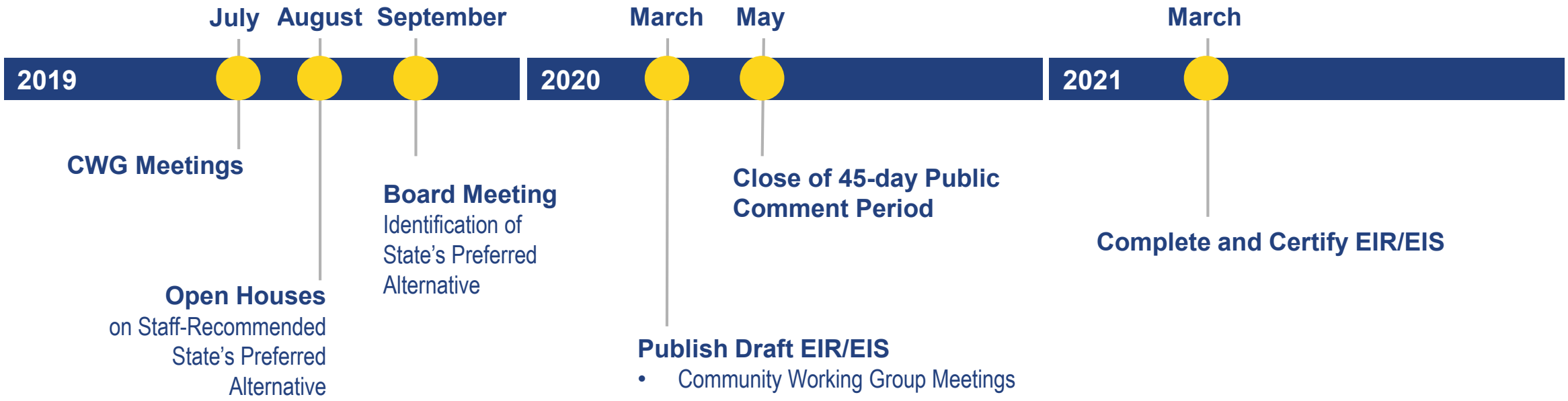
San Jose City Council
August 20, 1:30 p.m.

Santa Clara City Council
August 20, 6:30 p.m.

Santa Clara County Board of Supervisors
August 27, 9:30 a.m.

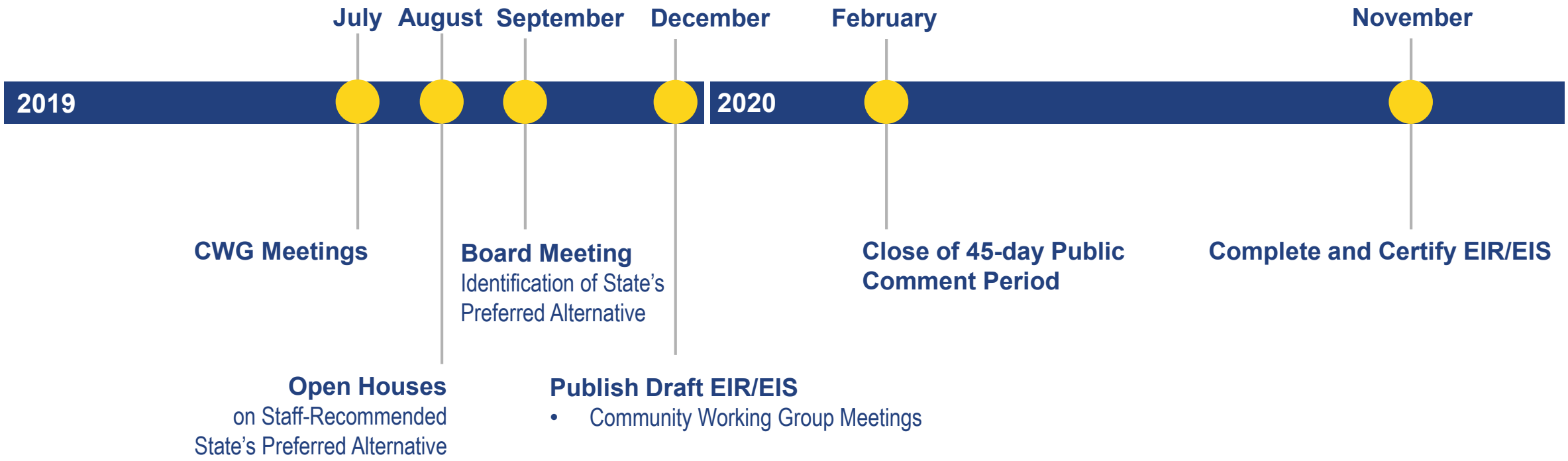
NEXT STEPS

SAN FRANCISCO TO SAN JOSE PROJECT SECTION



NEXT STEPS

SAN JOSE TO MERCED PROJECT SECTION



REQUEST FOR COMMUNITY FEEDBACK

CALIFORNIA HIGH-SPEED RAIL

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

- Comments will be accepted through **August 22, 2019** to be included in the staff report to the Authority Board.

- Comments can be submitted via email to San.Francisco_San.Jose@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**.

Headquarters
California High-Speed Rail Authority
770 L Street, Suite 620
Sacramento, CA 95814
www.hsr.ca.gov

Northern California Regional Office
California High-Speed Rail Authority
100 Paseo De San Antonio, Suite 300
San Jose, CA 95113

APPENDIX A
SAN FRANCISCO TO SAN JOSE

CHARACTERISTICS OF ALTERNATIVES

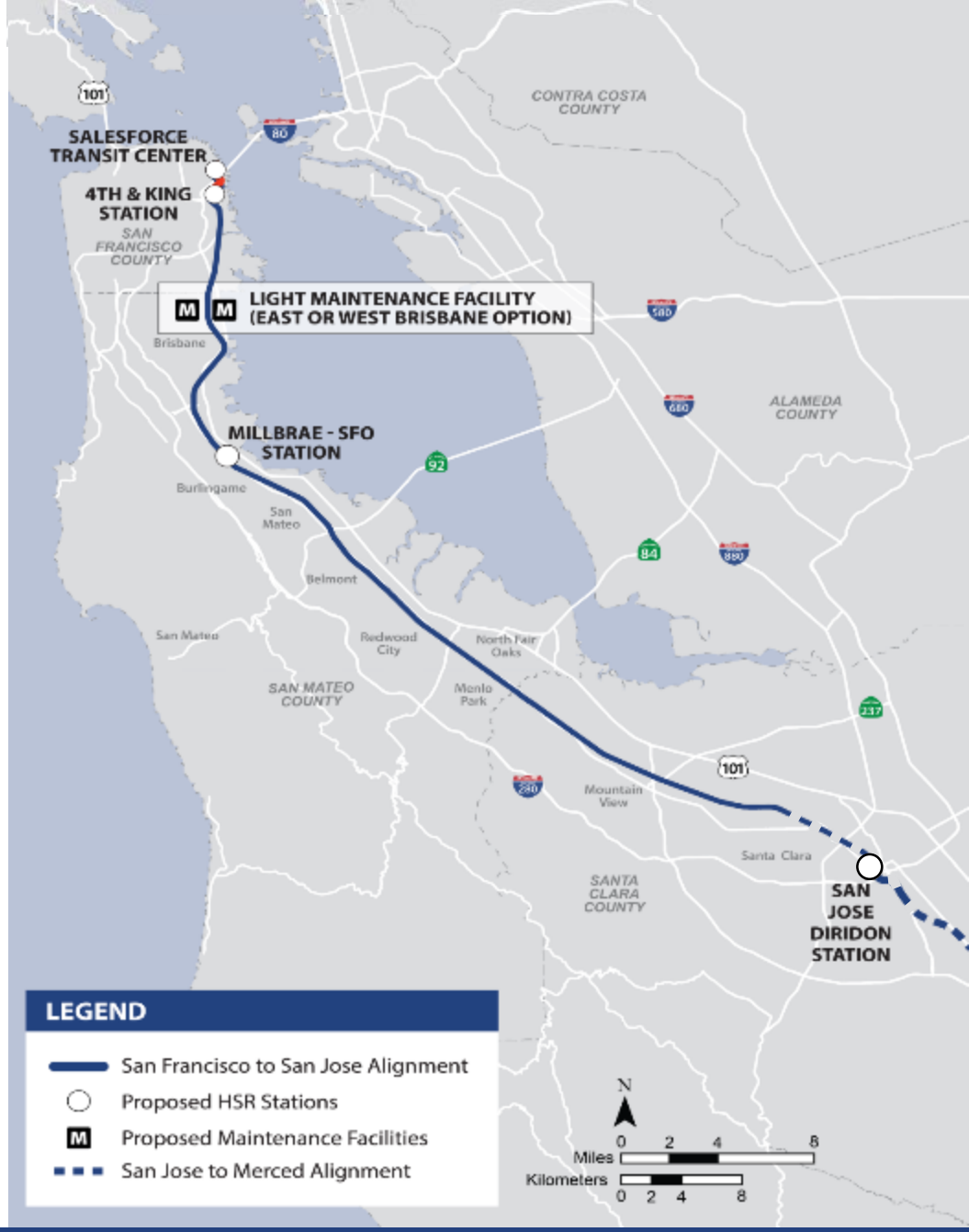
LIGHT MAINTENANCE FACILITY

Alternatives Carried Forward

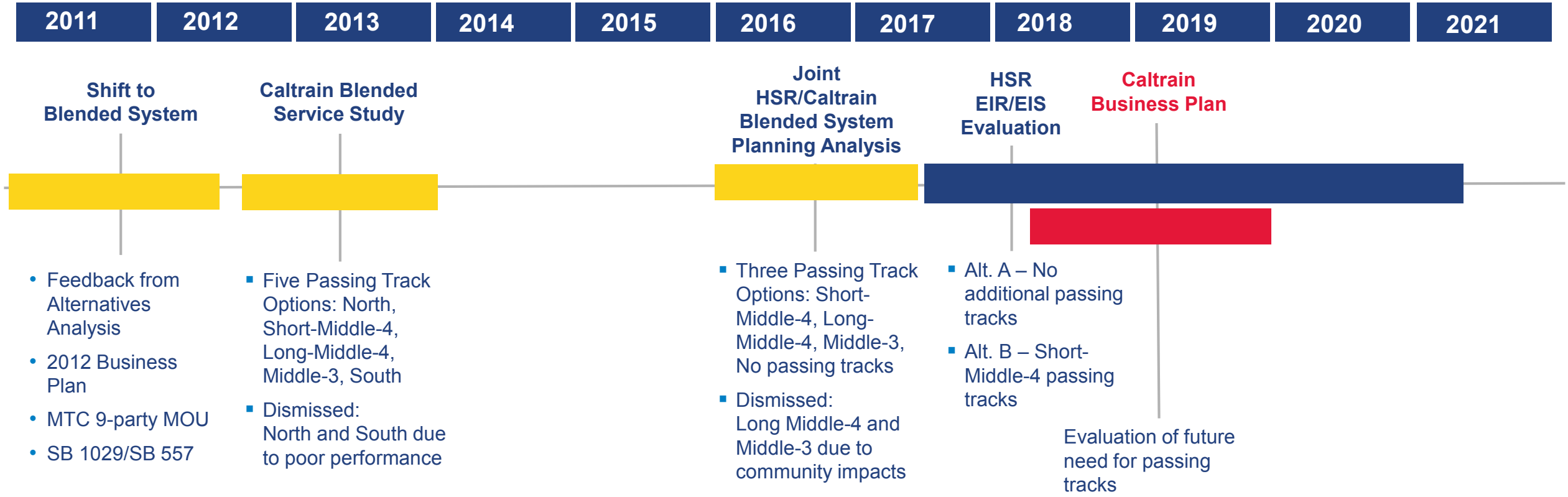
Brisbane

Alternative A
M East

Alternative B
M West



PASSING TRACKS EVALUATION TIMELINE



PASSING TRACKS

Alternatives Eliminated

- **Long Middle 3-Track Passing Track Option (16 miles)**
  - » San Mateo to Palo Alto
  - » Greatest community impacts and costs
  - » Impacts 16 at-grade crossings
  - » Adjacent to 8.3 miles of residential uses

- **Long Middle 4-Track Passing Track Option (8 miles)**
  - » San Mateo to Southern Redwood City
  - » Moderate community impacts and costs
  - » Impacts 6 at-grade crossings
  - » Adjacent to 2.3 miles of residential uses

Note: "Middle" means middle of the corridor

PASSING TRACKS

Alternatives Carried Forward

- **Alternative A: No Additional Passing Track Option**

- **Alternative B: Short-Middle 4-Track Passing Track Option (6 miles)**
  - » San Mateo to Redwood City
  - » Adjacent to 1.8 miles of residential uses
  - » Relocates San Carlos Caltrain station

Note: "Middle" means middle of the corridor

APPENDIX B
SAN JOSE TO MERCED

CHARACTERISTICS OF ALTERNATIVES

SAN JOSE DIRIDON STATION APPROACH

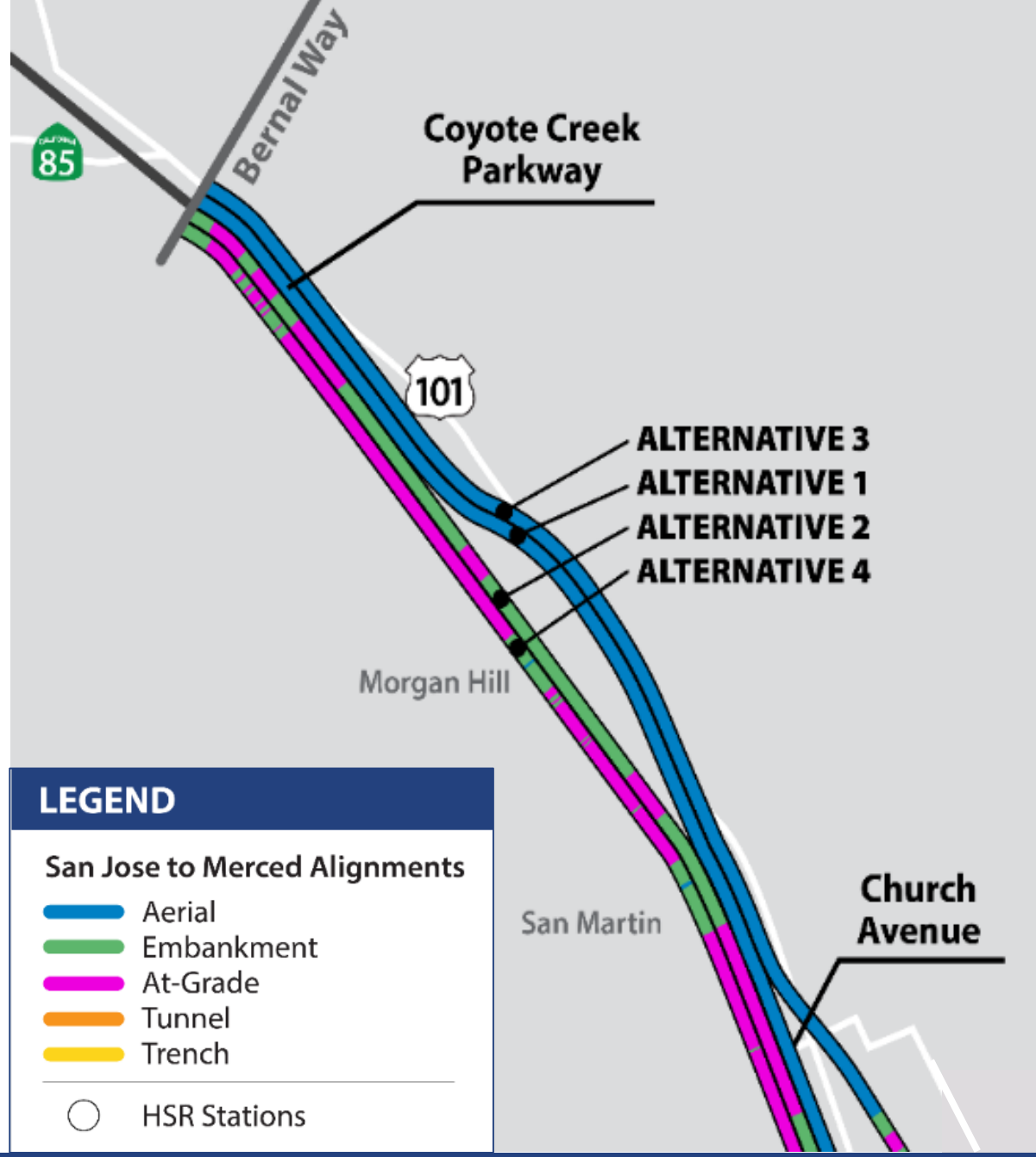
- **Alternative 1**
  - » Short Viaduct to I-880
  - » Aerial Diridon Station
- **Alternatives 2 and 3**
  - » Long Viaduct to Scott Blvd.
  - » Aerial Diridon Station
- **Alternative 4**
  - » At-grade alignment predominantly in existing railroad right-of-way
  - » At-grade Diridon Station

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

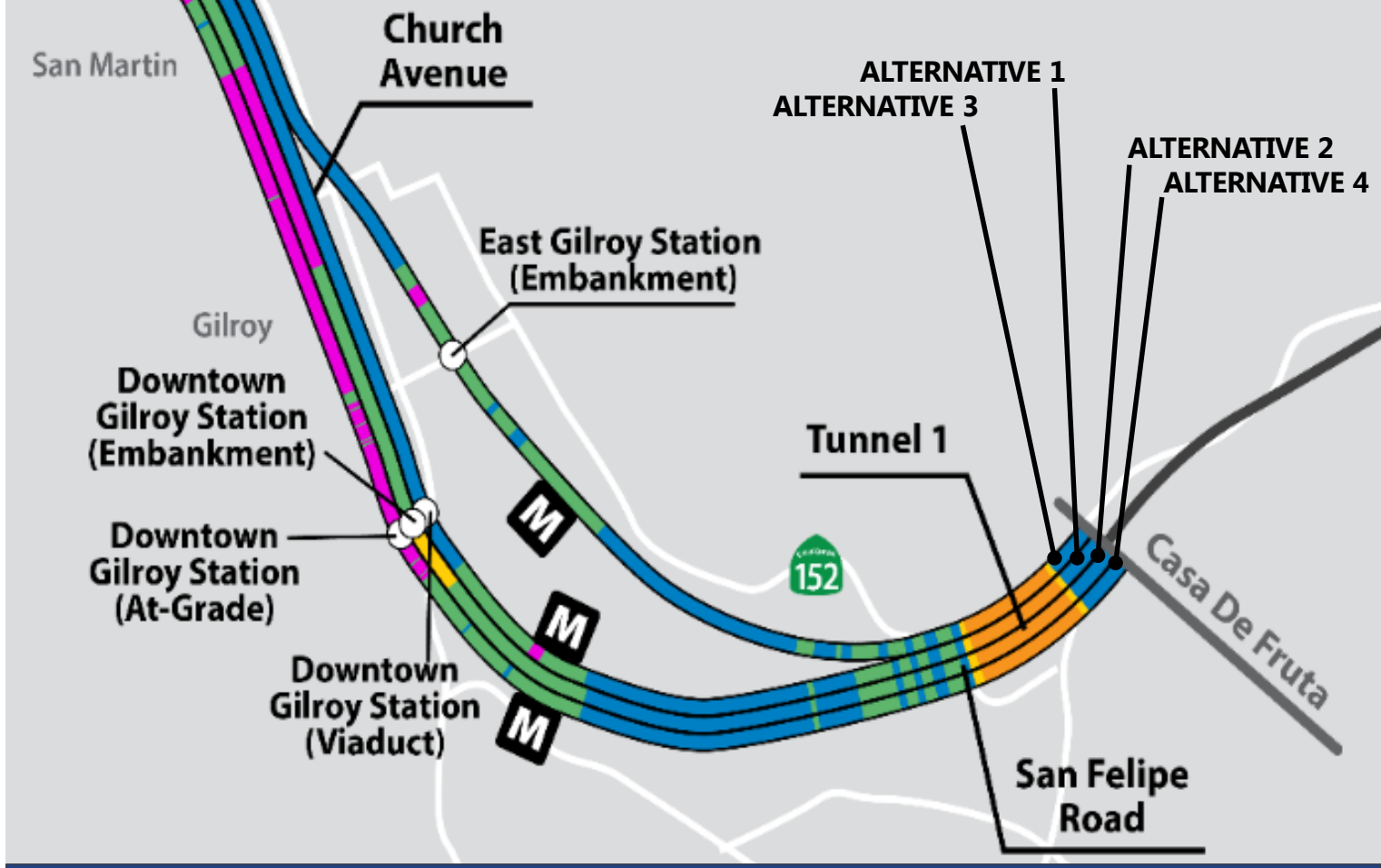
- **Alternatives 1 and 3**
  - » Viaduct
  - » Bypass downtown Morgan Hill
- **Alternative 2**
  - » Grade-separated embankment
  - » Through downtown Morgan Hill
- **Alternative 4**
  - » At-grade
  - » Predominantly in existing UPRR right-of-way



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
- M 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