





Evaluation Criteria	Sylmar		Burbank	
	Roxford Street	Metrolink Station	Burbank Airport	Burbank Metrolink/Media City
<i>Minimize Impacts on Natural Resources.</i>				
<b>Water Resources</b>	Potential minor impacts on relatively minor drainages, avoidance likely feasible.	No impacts.	No Impacts.	No impacts.
	●	●	●	●
<b>Floodplain Impacts</b>	No impacts.	No impacts.	No impacts.	Not in floodplain. Adjacent to flood control channel.
	●	●	●	●
<b>Threatened &amp; Endangered Species Impacts</b>	No impacts.	No impacts.	No impacts.	No impacts.
	●	●	●	●
<i>Minimize Impacts on Social and Economic Resources.</i>				
<b>Environmental Justice Impacts (Demographics)</b>	1990 Minority population: 1367 1990 In-poverty households:157	1990 Minority population: 4138 1990 In-poverty households: 501	1990 Minority population: 3172 1990 In-poverty households: 441	1990 Minority population: 1845 1990 In-poverty households: 408
	●	○	●	●
<b>Farmland Impacts</b>	No impacts.	No impacts.	No impacts.	No impacts
	●	●	●	●

Evaluation Criteria	Sylmar		Burbank	
	Roxford Street	Metrolink Station	Burbank Airport	Burbank Metrolink/Media City
<i>Minimize Impacts on Cultural Resources.</i>				
<b>Cultural Resources Impacts</b>	<ul style="list-style-type: none"> <li>No resources recorded on the GIS.</li> <li>Unknown, probably low potential for undiscovered sites, due to location in urban area.</li> </ul>	<ul style="list-style-type: none"> <li>No resources recorded on the GIS.</li> <li>Unknown, probably low potential for undiscovered sites, due to location in urban area.</li> </ul>	<ul style="list-style-type: none"> <li>No resources recorded on the GIS.</li> <li>Unknown, probably low potential for undiscovered sites, due to location in urban area.</li> </ul>	<ul style="list-style-type: none"> <li>No resources recorded on the GIS.</li> <li>Unknown, probably low potential for undiscovered sites, due to location in urban area.</li> </ul>
	●	●	●	●
<b>Parks &amp; Recreation/Wildlife Refuge Impacts</b>	No park resources located in the area.	No park resources located in the area.	No park resources located in the area.	No park resources located in the area.
	●	●	●	●
<i>Maximize Avoidance of Areas with Geologic and Soils Constraints.</i>				
<b>Soils/Slope Constraints</b>	<ul style="list-style-type: none"> <li>Intermediate hardness units considered unlikely to marginal relative to compressibility.</li> <li>Medium subsidence potential.</li> <li>Probably stable formations consisting of hard rock or granular continental deposits.</li> </ul>	<ul style="list-style-type: none"> <li>Intermediate hardness units considered unlikely to marginal relative to compressibility.</li> <li>Medium subsidence potential.</li> <li>Probably stable formations consisting of hard rock or granular continental deposits.</li> </ul>	<ul style="list-style-type: none"> <li>Intermediate hardness units considered unlikely to marginal relative to compressibility.</li> <li>Medium subsidence potential.</li> <li>Probably stable formations consisting of hard rock or granular continental deposits.</li> </ul>	<ul style="list-style-type: none"> <li>Intermediate hardness units considered unlikely to marginal relative to compressibility.</li> <li>Medium subsidence potential.</li> <li>Probably stable formations consisting of hard rock or granular continental deposits.</li> </ul>
	◐	◐	◐	◐
<b>Seismic Constraints</b>	<ul style="list-style-type: none"> <li>High probable ground motion from earthquakes.</li> <li>Crosses active faults.</li> <li>Low potential for liquefaction.</li> </ul>	<ul style="list-style-type: none"> <li>High probable ground motion from earthquakes.</li> <li>Crosses active faults.</li> <li>Low potential for liquefaction.</li> </ul>	<ul style="list-style-type: none"> <li>Medium probable ground motion from earthquakes.</li> <li>Medium to high liquefaction potential.</li> <li>No active fault crossings.</li> </ul>	<ul style="list-style-type: none"> <li>Medium probable ground motion from earthquakes.</li> <li>Medium to high liquefaction potential.</li> <li>No active fault crossings.</li> </ul>
	◑	◑	◐	◑

Evaluation Criteria	Sylmar		Burbank	
	Roxford Street	Metrolink Station	Burbank Airport	Burbank Metrolink/Media City
<i>Maximize Avoidance of Areas with Potential Hazardous Materials.</i>				
<b>Hazardous Materials/Waste Constraints</b>	<ul style="list-style-type: none"> <li>There are no CERCLIS, SPL, or SCL sites near the station location.</li> <li>There may be some sites adjacent to the station due to the location of industrial uses nearby.</li> </ul>	<ul style="list-style-type: none"> <li>There are no CERCLIS, SPL, or SCL sites near the station location.</li> <li>There may be some sites adjacent to the station due to the location of industrial uses nearby.</li> </ul>	<ul style="list-style-type: none"> <li>There are 3 CERCLIS, SPL, or SCL sites near the station location.</li> <li>Due to the proposed station location's proximity to the Burbank-Glendale-Pasadena Airport and industrial uses, there may be other sites near the station location.</li> </ul>	<ul style="list-style-type: none"> <li>There are 2 CERCLIS, SPL, or SCL sites near the station location.</li> <li>There may be some sites adjacent to the station due to the location of industrial uses nearby.</li> </ul>
				






  
**Least Favorable** **Most Favorable**

**Table 2-H-18f**  
**Bakersfield to Los Angeles – High-Speed Train Station Evaluation Matrix**  
**Sylmar to Los Angeles Segment – Los Angeles Union Station Options**

**Station** = Station Carried Forward      **Station** = Station Eliminated      **█** = Primary or Secondary Reason for Elimination

Evaluation Criteria	Existing Union Station	Union Station South – Through	Union Station South-Stub Configuration	Los Angeles River – West
<i>Maximize Ridership/Revenue Potential.</i>				
<b>Travel Time</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Length</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Population/Employment Catchment</b>	1990 10-mile radius: 3,300,815 persons; 1,427,974 employed 1990 20-mile radius: 7,280,856 persons; 3,403,964 employed	1990 10-mile radius: 3,300,815 persons; 1,427,974 employed 1990 20-mile radius: 7,280,856 persons; 3,403,964 employed	1990 10-mile radius: 3,300,815 persons; 1,427,974 employed 1990 20-mile radius: 7,280,856 persons; 3,403,964 employed	1990 10-mile radius: 3,300,815 persons; 1,427,974 employed 1990 20-mile radius: 7,280,856 persons; 3,403,964 employed
<i>Maximize Connectivity and Accessibility.</i>				
<b>Intermodal Connections</b>	<ul style="list-style-type: none"> <li>Airport (LAX) – 12.5 mi. (20.0 km)</li> <li>Freeways – SR-101: adjacent; I-5: 1.2 mi. (1.9 km); I-110: 0.9 mi. (1.4 km); SR-60: 2.1 mi. (3.4 km); I-10: 0.7 mi. (1.1 km)</li> <li>Amtrak – at site</li> <li>MTA Bus – at site</li> <li>El Monte Busway – at site</li> <li>MTA Rail – Red Line, Pasadena Blue Line and proposed Eastside LRT: at site</li> <li>Metrolink – at site</li> </ul>	<ul style="list-style-type: none"> <li>Airport (LAX) – 12.5 mi. (20.0 km)</li> <li>Freeways - SR-101: adjacent; I-5: 1.4 mi. (2.2 km); I-110: 0.9 mi. (1.4 km); SR-60: 2.1 mi. (3.4 km); I-10: 0.7 mi. (1.1 km)</li> <li>Amtrak – 0.2 mi. (0.3 km)</li> <li>MTA Bus – adjacent</li> <li>El Monte Busway – 0.2 mi (0.3 km)</li> <li>MTA Rail – Red Line and Pasadena Blue Line: across SR-101; proposed Eastside LRT: adjacent</li> <li>Metrolink – 0.2 mi. (0.3 km)</li> </ul>	<ul style="list-style-type: none"> <li>Airport (LAX) – 12.5 mi. (20.0 km)</li> <li>Freeways - SR-101: adjacent; I-5: 1.2 mi. (1.9 km); I-110: 1.2 mi. (1.9 km); SR-60: 1.9 mi. (3.0 km); I-10: 0.6 mi. (1.0 km)</li> <li>Amtrak – 0.2 mi. (0.3 km)</li> <li>MTA Bus – 0.1 mi. (0.2 km)</li> <li>El Monte Busway – 0.2 mi. (0.3 km)</li> <li>MTA Rail – Red Line and Pasadena Blue Line: across SR-101; proposed Eastside LRT: 0.1 mi. (0.2 km)</li> <li>Metrolink – 0.2 mi. (0.3 km)</li> </ul>	<ul style="list-style-type: none"> <li>Airport (LAX) – 12.5 mi. (20.0 km)</li> <li>Freeways - SR-101: adjacent; I-5: 1.2 mi. (1.9 km); I-110: 1.2 mi. (1.9 km); SR-60: 1.9 mi. (3.0 km); I-10: 0.6 mi. (1.0 km)</li> <li>Amtrak – 0.4 mi. (0.7 km)</li> <li>MTA Bus – 0.2 mi. (0.3 km)</li> <li>El Monte Busway – 0.4 mi (0.7 km)</li> <li>MTA Rail – Red Line and Pasadena Blue Line: 0.4 mi. (0.7 km); proposed Eastside LRT: 0.2 mi (0.3 km) future</li> <li>Metrolink – 0.4 mi. (0.7 km)</li> </ul>

Evaluation Criteria	Existing Union Station	Union Station South – Through	Union Station South-Stub Configuration	Los Angeles River – West
<i>Minimize Operating and Capital Costs.</i>				
<b>Length</b>	<ul style="list-style-type: none"> <li>Shortest distance to northerly I-5 (Options 2 and 3) connections to Bakersfield.</li> </ul>	<ul style="list-style-type: none"> <li>Long, looping alignment required to southerly (Option 3, 3A, 4, and 5) connections to San Diego.</li> </ul>	<ul style="list-style-type: none"> <li>Shortest distance to UPRR/EI Monte (Option 1) connection to San Diego.</li> <li>Long, looping alignment required to southerly (Option 3, 3A, 4, and 5) connections to San Diego.</li> </ul>	<ul style="list-style-type: none"> <li>Shortest length to most connections to Bakersfield and to San Diego.</li> </ul>
	◐	◑	◑	●
<b>Operational Issues</b>	<ul style="list-style-type: none"> <li>Not suitable for easterly SR-60 (Option 1A) and westerly SR-101 (Option 2) connections to San Diego and LAX, respectively.</li> <li>Connection to easterly UPRR/EI Monte (Option 1) alignment requires stub-end station.</li> </ul>	<ul style="list-style-type: none"> <li>Best Station Location alternative for easterly UPRR/EI Monte (Option 1) alignment connection.</li> <li>Slow approach speeds.</li> <li>Not suitable for easterly I-10 (Option 1B) connection to San Diego.</li> <li>Requires loop around UP Los Angeles Yard to provide through-track to southerly (Options 3, 3A, 4, and 5) connections to San Diego.</li> </ul>	<ul style="list-style-type: none"> <li>Not suitable for easterly I-10 (Option 1B) connection to San Diego.</li> <li>Not suitable for northerly I-5 (Options 2 and 3) connections to Bakersfield.</li> <li>Offers through-track alternative for westerly SR-101 (Option 2) connection to LAX.</li> </ul>	<ul style="list-style-type: none"> <li>Offers high-speed alignment through station.</li> <li>Not suitable for northerly I-5 (Options 2 and 3) connections to Bakersfield.</li> <li>Not suitable for easterly SR-60 (Option 1A) and westerly SR-101 (Option 2) connections to San Diego and LAX, respectively.</li> <li>Connection to easterly UPRR/EI Monte (Option 1) alignment requires stub-end station.</li> </ul>
	◑	◑	◑	●
<b>Construction Issues</b>	<ul style="list-style-type: none"> <li>Requires modification of existing LAUS approaches (Amtrak, Metrolink), under live track conditions</li> <li>Maintenance of adjacent rail and highway traffic.</li> </ul>	<ul style="list-style-type: none"> <li>Construction over LA River.</li> <li>Access through existing LAUS.</li> <li>Maintenance of adjacent rail and highway traffic.</li> </ul>	<ul style="list-style-type: none"> <li>Highway access</li> <li>Maintenance of adjacent rail and highway traffic.</li> </ul>	<ul style="list-style-type: none"> <li>Rail access, but difficult highway access.</li> </ul>
	◑	◑	◑	◑
<b>Capital Cost</b>	<ul style="list-style-type: none"> <li>Significant aerial structures.</li> </ul>	<ul style="list-style-type: none"> <li>Significant aerial structures.</li> <li>Loop connections add to cost.</li> </ul>	<ul style="list-style-type: none"> <li>Significant aerial structures.</li> </ul>	<ul style="list-style-type: none"> <li>At-grade approaches, aerial facilities.</li> </ul>
	◑	○	○	◑

Evaluation Criteria	Existing Union Station	Union Station South – Through	Union Station South-Stub Configuration	Los Angeles River – West
<b>Right-of-Way Issues/Cost</b>	<ul style="list-style-type: none"> <li>Catellus property.</li> <li>Railroad relocation.</li> <li>At grade.</li> <li>Through tracks in CRA redevelopment area affect major development parcel.</li> </ul>	<ul style="list-style-type: none"> <li>Span of Los Angeles River.</li> <li>CRA redevelopment area.</li> <li>Relocation of existing businesses.</li> </ul>	<ul style="list-style-type: none"> <li>CRA Redevelopment area.</li> <li>Relocation of existing businesses.</li> </ul>	<ul style="list-style-type: none"> <li>Requires relocation of existing MTA bus facility.</li> <li>Adjacent to penal facilities and law enforcement center.</li> </ul>
<i>Maximize Compatibility with Existing and Planned Development.</i>				
<b>Land Use Compatibility and Conflicts</b>	<ul style="list-style-type: none"> <li>The proposed station location would be located at the existing Union Station site at Alameda and Cesar Chavez Avenue. Both are Major Class II Highways planned to at least 4 lanes wide. These streets may have to be expanded to accommodate the station.</li> <li>The station site is proposed within the Alameda Specific Plan area. In order not to conflict with the buildout of the Alameda Specific Plan, the station support facilities could be located south of the station in the Little Tokyo area. The location of support facilities in Little Tokyo may conflict with Los Angeles Community Redevelopment Agency Plans for Little Tokyo. The station would also be located within an area designated for Light Industrial land use.</li> <li>Station can be configured to provide a new pedestrian connection over SR-101 directly into existing Union Station.</li> </ul>	<ul style="list-style-type: none"> <li>Station platform would straddle the Los Angeles River.</li> <li>The proposed station location is along E. Commercial St. and Alameda Blvd. Both may have to be expanded to accommodate the station location.</li> <li>The surrounding land use is Light Industrial and Commercial Manufacturing and Open Space.</li> <li>The station site can be configured to be compatible with Los Angeles Community Redevelopment Plans for Little Tokyo. The plans concur with MTA plans.</li> <li>The station site can be configured to provide a new pedestrian connection over SR-101 to Patsouras Transit Plaza.</li> <li>With a pedestrian connection there is a high potential for intermodal transfers to/from Union Station Amtrak and Metrolink, MTA Red Line, Pasadena Blue Line, proposed Eastside LRT, El Monte Busway and MTA Gateway.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed station location is along E. Commercial St. and Alameda Blvd. Both may have to be expanded to accommodate the station location.</li> <li>The surrounding land use is Light Industrial and Commercial Manufacturing and Open Space.</li> <li>Because it abuts Alameda Street, this station site may conflict with Los Angeles Community Redevelopment Agency Plans for Little Tokyo.</li> <li>The plans may not be compatible with MTA plans for the Eastside LRT.</li> <li>Station can be configured to provide a new pedestrian connection over SR-101 to Patsouras Transit Plaza.</li> <li>With a pedestrian connection there is a high potential for intermodal transfers to/from to Union Station Amtrak and Metrolink, MTA Red Line, Pasadena Blue Line, proposed Eastside LRT extension, El Monte Busway and MTA Gateway.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed station location may require the expansion of Cesar Chavez Avenue.</li> <li>The surrounding land use is Light Industrial. The station site would conflict with existing use of part of the area as a bus facility. The proposed station location would also conflict with the bus yard's proposed use as an MTA light rail repair facility in conjunction with the Eastside LRT extension.</li> <li>Access to the intermodal facilities through adjacent area occupied by penal and law enforcement facilities may prove difficult.</li> <li>There is a potential for intermodal connections with Union Station Amtrak and Metrolink, MTA Red Line, Pasadena Blue Line, proposed Eastside LRT, El Monte Busway and MTA Gateway.</li> <li>Area is included in LA River Greenbelt planning effort.</li> </ul>

Evaluation Criteria	Existing Union Station	Union Station South – Through	Union Station South-Stub Configuration	Los Angeles River – West
	<ul style="list-style-type: none"> <li>Plans for station through tracks crossing SR-101 may conflict with CalTrans plans for through tracks for Amtrak.</li> <li>There is a very high potential for convenient intermodal connections due to presence of Union Station Amtrak and Metrolink, MTA Red Line, Pasadena Blue Line, proposed Eastside LRT, El Monte Busway and MTA Gateway at the site.</li> </ul>	<ul style="list-style-type: none"> <li>Area is included in Los Angeles River Greenbelt planning effort.</li> </ul>	<ul style="list-style-type: none"> <li>Development of this station site conflict with CalTrans plans for through tracks for Amtrak.</li> </ul>	
	◐	◐	◐	◐
<b>Visual Quality Impacts</b>	<ul style="list-style-type: none"> <li>Commercial /industrial area. No sensitive viewers.</li> </ul>	<ul style="list-style-type: none"> <li>Industrial area.</li> <li>On north end, both sides of Spring Street, approach goes through the edge of Downey Playground.</li> </ul>	<ul style="list-style-type: none"> <li>Commercial /industrial area. No sensitive viewers.</li> </ul>	<ul style="list-style-type: none"> <li>Industrial area. No sensitive viewers.</li> </ul>
	●	◐	●	●
<i>Minimize Impacts on Natural Resources.</i>				
<b>Water Resources</b>	No Impacts.	No Impacts.	No impacts.	Potential minor impacts on water quality during construction, avoidance feasible.
	●	●	●	◐
<b>Floodplain Impacts</b>	No impacts.	Requires construction of approach tracks across Los Angeles River.	Requires construction of approach tracks across Los Angeles River.	Requires construction of approach tracks across Los Angeles River.
	●	◐	◐	◐
<b>Threatened &amp; Endangered Species Impacts</b>	No impacts.	No impacts.	No impacts.	No impacts.
	●	●	●	●

Evaluation Criteria	Existing Union Station	Union Station South – Through	Union Station South-Stub Configuration	Los Angeles River – West
<i>Minimize Impacts on Social and Economic Resources.</i>				
<b>Environmental Justice Impacts (Demographics)</b>	1990 Minority population: 1912 1990 In-poverty households: 231	1990 Minority population: 2156 1990 In-poverty households: 414	1990 Minority population: 2603 1990 In-poverty households: 752	1990 Minority population: 2823 1990 In-poverty households:881
	◐	◐	◐	◐
<b>Farmland Impacts</b>	No impacts.	No impacts.	No impacts.	No impacts.
	●	●	●	●
<i>Minimize Impacts on Cultural Resources.</i>				
<b>Cultural Resources Impacts</b>	<ul style="list-style-type: none"> <li>Recorded historical sites on the GIS.</li> <li>High potential for undiscovered sites, due to location of known sites in the area.</li> </ul>	<ul style="list-style-type: none"> <li>No resources recorded on the GIS.</li> <li>Unknown, probably high to moderate potential for undiscovered sites, due to location near the Los Angeles River and in an urban area.</li> </ul>	<ul style="list-style-type: none"> <li>No resources recorded on the GIS.</li> <li>Unknown, probably high to moderate potential for undiscovered sites, due to location in an urban area close center early settlement.</li> </ul>	<ul style="list-style-type: none"> <li>No resources recorded on the GIS.</li> <li>Unknown, probably high to moderate potential for undiscovered sites, due to location on Los Angeles River and in an urban area.</li> </ul>
	○	◑	◑	◑
<b>Parks &amp; Recreation/Wildlife Refuge Impacts</b>	<ul style="list-style-type: none"> <li>No park resources located in the area.</li> </ul>	<ul style="list-style-type: none"> <li>No park resources located in the area.</li> <li>Area is included in Los Angeles River Greenbelt planning effort.</li> </ul>	<ul style="list-style-type: none"> <li>No park resources located in the area.</li> </ul>	<ul style="list-style-type: none"> <li>No park resources located in the area.</li> <li>Area is included in Los Angeles River Greenbelt planning effort.</li> </ul>
	●	◐	◐	◐
<i>Maximize Avoidance of Areas with Geologic and Soils Constraints.</i>				
<b>Soils/Slope Constraints</b>	<ul style="list-style-type: none"> <li>Intermediate hardness units considered unlikely to marginal relative to compressibility.</li> <li>Medium subsidence potential.</li> <li>Probably stable formations consisting of hard rock or granular continental deposits.</li> </ul>	<ul style="list-style-type: none"> <li>Intermediate hardness units considered unlikely to marginal relative to compressibility.</li> <li>Medium subsidence potential.</li> <li>Probably stable formations consisting of hard rock or granular continental deposits.</li> </ul>	<ul style="list-style-type: none"> <li>Intermediate hardness units considered unlikely to marginal relative to compressibility.</li> <li>Medium subsidence potential.</li> <li>Probably stable formations consisting of hard rock or granular continental deposits.</li> </ul>	<ul style="list-style-type: none"> <li>Intermediate hardness units considered unlikely to marginal relative to compressibility.</li> <li>Medium subsidence potential.</li> <li>Probably stable formations consisting of hard rock or granular continental deposits.</li> </ul>
	◑	◑	◑	◑









Evaluation Criteria	Existing Union Station	Union Station South – Through	Union Station South-Stub Configuration	Los Angeles River – West
<b>Seismic Constraints</b>	<ul style="list-style-type: none"> <li>Low to medium liquefaction potential.</li> <li>No active fault crossings.</li> <li>Low probable ground motion from earthquakes.</li> </ul>	<ul style="list-style-type: none"> <li>Low to medium liquefaction potential.</li> <li>No active fault crossings.</li> <li>Low probable ground motion from earthquakes.</li> </ul>	<ul style="list-style-type: none"> <li>Low to medium liquefaction potential.</li> <li>No active fault crossings.</li> <li>Low probable ground motion from earthquakes.</li> </ul>	<ul style="list-style-type: none"> <li>Low to medium liquefaction potential.</li> <li>No active fault crossings.</li> <li>Low probable ground motion from earthquakes.</li> </ul>
	◐	◐	◐	◐
<i>Maximize Avoidance of Areas with Potential Hazardous Materials.</i>				
<b>Hazardous Materials/Waste Constraints</b>	<ul style="list-style-type: none"> <li>There are 5 CERCLIS, SPL, or SCL sites near the station location.</li> <li>There may be some sites adjacent to the station due to the location of industrial uses nearby the station.</li> </ul>	<ul style="list-style-type: none"> <li>There are 3 CERCLIS, SPL, or SCL sites near the station location.</li> <li>There may be some sites adjacent to the station due to the location of industrial uses nearby the station.</li> </ul>	<ul style="list-style-type: none"> <li>There are 4 CERCLIS, SPL, or SCL sites near the station location.</li> <li>There may be some sites adjacent to the station due to the location of industrial uses nearby the station.</li> </ul>	<ul style="list-style-type: none"> <li>There are 2 CERCLIS, SPL, or SCL sites near the station location.</li> <li>There may be some sites adjacent to the station due to the location of industrial uses nearby the station and due to the existing MTA bus yard.</li> </ul>
	◐	◐	◐	◐






  
 ◐ ◑ ◒ ◓ ◔
   
**Least Favorable**                      **Most Favorable**

**Table 2-H-18f continued**  
**Bakersfield to Los Angeles – High-Speed Train Station Evaluation Matrix**  
**Sylmar to Los Angeles Segment – Los Angeles Union Station Options**









**Station** = Station Carried Forward      **Station** = Station Eliminated      **█** = Primary or Secondary Reason for Elimination



Evaluation Criteria	Los Angeles River – East	Cornfield Site
<i>Maximize Ridership/Revenue Potential</i>		
<b>Travel Time</b>	Not Applicable	Not Applicable
<b>Length</b>	Not Applicable	Not Applicable
<b>Population/Employment Catchment</b>	1990 10-mile radius: 3,300,815 persons: 1,427,974 employed 1990 20-mile radius: 7,280,856 persons: 3,403,964 employed 	1990 10-mile radius: 3,300,815 persons: 1,427,974 employed 1990 20-mile radius: 7,280,856 persons: 3,403,964 employed 
<i>Maximize Connectivity and Accessibility</i>		
<b>Intermodal Connections</b>	<ul style="list-style-type: none"> <li>Airports – LAX: 12.5 mi. (20.0 km)</li> <li>Freeways– SR-101: adjacent; I-5: 1.2 mi. (1.9 km); I-110: 1.4 mi. (2.2 km); SR-60: 1.6 mi. (2.6 km); I-10: 0.4 mi. (0.6 km)</li> <li>Amtrak – 0.4 mi. (0.7 km)</li> <li>MTA Bus – 0.2 mi. (0.3 km)</li> <li>MTA Rail – Red Line: 0.4 mi. (0.7 km); proposed Eastside LRT: 0.2 mi. (0.3 km)</li> <li>Metrolink – 0.4 mi. (0.4 km)</li> </ul> 	<ul style="list-style-type: none"> <li>Airport – LAX: 12.5 mi. (20.0 km)</li> <li>Freeways - SR-101: 1.0 mi. (1.6 km); I-5: 0.8 mi. (1.3 km); I-110: 0.3 mi. (0.5 km); SR-60: 2.8 mi. (4.5 km); I-10: 1.2 mi. (1.9 km)</li> <li>Amtrak – 0.9 mi. (1.5 km)</li> <li>MTA Bus – 0.2 mi. (0.3 km)</li> <li>MTA Rail – Pasadena Blue Line: 0.2 mi. (0.3 km); Red Line: 0.9 mi. (1.5 km)</li> <li>Metrolink – 0.9 mi. (1.5 km)</li> </ul> 
<i>Minimize Operating and Capital Costs</i>		
<b>Length</b>	<ul style="list-style-type: none"> <li>Shortest length to many connections to Bakersfield and to San Diego.</li> </ul> 	<ul style="list-style-type: none"> <li>Longer length to San Diego connections.</li> </ul> 

<b>Evaluation Criteria</b>	<b>Los Angeles River – East</b>	<b>Cornfield Site</b>
<b>Operational Issues</b>	<ul style="list-style-type: none"> <li>High speed alignment through station.</li> <li>Not suitable for northerly I-5 (Options 2 and 3) connections to Bakersfield.</li> <li>Not suitable for easterly SR-60 (Option 1A) and westerly SR-101 (Option 2) connections to San Diego and LAX, respectively.</li> </ul>	<ul style="list-style-type: none"> <li>Slow approach speeds.</li> <li>Not suitable for northerly I-5 (Options 2 and 3) connections to Bakersfield.</li> <li>Not suitable for westerly SR-101 (Option 2) connection to LAX.</li> </ul>
	●	○
<b>Construction Issues</b>	<ul style="list-style-type: none"> <li>Construction over Los Angeles River.</li> </ul>	<ul style="list-style-type: none"> <li>Highly congested approaches (topographic, railroad operations).</li> </ul>
	◐	◐
<b>Capital Cost</b>	<ul style="list-style-type: none"> <li>At-grade with structures crossing river and aerial facilities.</li> </ul>	<ul style="list-style-type: none"> <li>Significant aerial structure.</li> </ul>
	◐	◑
<b>Right-of-Way Issues/Cost</b>	<ul style="list-style-type: none"> <li>Relocation of railroad from East Bank of Los Angeles River.</li> </ul>	<ul style="list-style-type: none"> <li>Open land.</li> <li>Public support for development as parkland.</li> </ul>
	◐	◐

Evaluation Criteria	Los Angeles River – East	Cornfield Site
<i>Maximize Compatibility with Existing and Planned Development</i>		
<b>Land Use Compatibility and Conflicts</b>	<ul style="list-style-type: none"> <li>• Santa Fe Center St. and First St. may have to be expanded to accommodate the station.</li> <li>• Surrounding land uses are Commercial Industrial, Light Industrial, and nearby Medium Density Multifamily Residential. Station site can be configured to provide a new pedestrian connection over SR-101.</li> <li>• The station site can be configured to be compatible with Los Angeles Community Redevelopment Plans for Little Tokyo. The plans concur with MTA plans.</li> <li>• There is no proposed or existing intermodal connection site near the proposed station location. However, with appropriate configuration of ancillary and pedestrian facilities there is a high potential for intermodal connections due to nearby presence of Union Station Amtrak and Metrolink, MTA Red Line, Pasadena Blue Line, proposed Eastside LRT, and MTA gateway - 0.5mi. (0.8 km).</li> </ul>	<ul style="list-style-type: none"> <li>• N. Broadway Ave. and Spring St. may have to be expanded to accommodate the station.</li> <li>• Surrounding land use is Light Industrial. The station location would conflict with plans for a Regional Park.</li> <li>• There is no proposed or existing intermodal connection site at the proposed station location. However the site is near a Pasadena Blue Line station - 0.2 mi. (0.3 km).</li> <li>• Area is included in LA River Greenbelt planning effort.</li> </ul>
		
<b>Visual Quality Impacts</b>	Industrial area. No sensitive viewers.	Industrial area. No sensitive viewers.
		

Evaluation Criteria	Los Angeles River – East	Cornfield Site
<i>Minimize Impacts on Natural Resources.</i>		
<b>Water Resources</b>	Potential minor impacts on water quality during construction, avoidance feasible.	No impacts.
	◐	●
<b>Floodplain Impacts</b>	Access tracks cross Los Angeles River.	No impacts.
	◐	●
<b>Threatened &amp; Endangered Species Impacts</b>	No impacts.	No impacts.
	●	●
<i>Minimize Impacts on Social and Economic Resources.</i>		
<b>Environmental Justice Impacts (Demographics)</b>	1990 Minority population: 2747 1990 In-poverty households: 836	1990 Minority population: 1492 1990 In-poverty households: 197
	◐	◐
<b>Farmland Impacts</b>	No impacts.	No impacts.
	●	●

Evaluation Criteria	Los Angeles River – East	Cornfield Site
<i>Minimize Impacts on Cultural Resources.</i>		
<b>Cultural Resources Impacts</b>	<ul style="list-style-type: none"> <li>No resources recorded on the GIS.</li> <li>Unknown, probably high to moderate potential for undiscovered sites, due to location on Los Angeles River and in an urban area.</li> </ul>	<ul style="list-style-type: none"> <li>No resources recorded on the GIS.</li> <li>Unknown, probably high to moderate potential for undiscovered sites, due to location in urban area and former railroad yard.</li> </ul>
		
<b>Parks &amp; Recreation/Wildlife Refuge Impacts</b>	<ul style="list-style-type: none"> <li>No park resources located in the area.</li> </ul>	<ul style="list-style-type: none"> <li>No park resources located in the area.</li> <li>Area is included in LA River Greenbelt planning effort.</li> </ul>
		
<i>Maximize Avoidance of Areas with Geologic and Soils Constraints.</i>		
<b>Soils/Slope Constraints</b>	<ul style="list-style-type: none"> <li>Intermediate hardness units considered unlikely to marginal relative to compressibility.</li> <li>Medium Subsidence Potential.</li> <li>Probably stable formations consisting of hard rock or granular continental deposits.</li> </ul>	<ul style="list-style-type: none"> <li>Intermediate hardness units considered unlikely to marginal relative to compressibility.</li> <li>Medium Subsidence Potential.</li> <li>Probably stable formations consisting of hard rock or granular continental deposits.</li> </ul>
		
<b>Seismic Constraints</b>	<ul style="list-style-type: none"> <li>Low to Medium Liquefaction Potential.</li> <li>No active fault crossings.</li> <li>Low probable ground motion from earthquakes.</li> </ul>	<ul style="list-style-type: none"> <li>Low to Medium Liquefaction Potential.</li> <li>No active fault crossings.</li> <li>Low probable ground motion from earthquakes.</li> </ul>
		

Evaluation Criteria	Los Angeles River – East	Cornfield Site
<i>Maximize Avoidance of Areas with Potential Hazardous Materials</i>		
<b>Hazardous Materials/Waste Constraints</b>	<ul style="list-style-type: none"> <li>• There are no CERCLIS, SPL, or SCL sites near the station location.</li> <li>• There may be some sites adjacent to the station due to the location of industrial uses nearby the station.</li> </ul>	<ul style="list-style-type: none"> <li>• There are no CERCLIS, SPL, or SCL sites near the station location.</li> <li>• There may be some sites adjacent to the station due to the location of industrial uses nearby the station.</li> </ul>
		






  
**Least Favorable**
**Most Favorable**

**Table 2-H-18g**  
**Bakersfield to Los Angeles – High-Speed Train Alignment Evaluation Matrix**  
**Los Angeles Union Station – San Diego Approach Segments**

**Alignment** = Alignment Carried Forward      **Alignment** = Alignment Eliminated      = Primary or Secondary Reason for Elimination

Evaluation Criteria	UPRR/EI Monte/Colton	State Route 60	Interstate 10	State Route 101
<i>Maximize Ridership/Revenue Potential.</i>				
<b>Travel Time</b>	9.6 to 17.1 min. depending upon LAUS location 	6.6 to 14.7 min. depending upon LAUS location 	2.7 to 11.7 min. depending upon LAUS location 	0.2 min. 
<b>Length</b>	2.3 to 3.0 miles (3.8 to 4.8 km) depending upon LAUS location 	1.7 to 2.2 miles (2.8 to 3.5 km) depending upon LAUS location 	1.7 to 3.0 miles (2.7 to 4.9 km) depending upon LAUS location 	0.2 to 0.4 miles (0.3 to 0.6 km) depending upon LAUS location 
<b>Population/Employment Catchment</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<i>Maximize Connectivity and Accessibility.</i>				
<b>Intermodal Connections</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<i>Minimize Operating and Capital Costs.</i>				
<b>Length</b>	2.3 to 3.0 miles (3.8 to 4.8 km) depending upon LAUSD location 	1.7 to 2.2 miles (2.8 to 3.5 km) depending upon LAUS location 	1.7 to 3.0 miles (2.7 to 4.9 km) depending upon LAUS location 	0.2 to 0.4 miles (0.3 to 0.6 km) depending upon LAUS location 
<b>Operational Issues</b>	<ul style="list-style-type: none"> <li>Allows flexibility in LAUS location alternatives.</li> <li>Requires stub-end station at LAUS or slower speed, looping connections to San Diego.</li> </ul>	<ul style="list-style-type: none"> <li>Limited LAUS station site alternatives.</li> </ul>	<ul style="list-style-type: none"> <li>South of 101 LAUS station alternatives (Options 2 and 3) not suitable for this alignment.</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate for access through LAX only.</li> <li>Limited LAUS site alternatives for this alignment</li> </ul>



Evaluation Criteria	UPRR/EI Monte/Colton	State Route 60	Interstate 10	State Route 101
<b>Construction Issues</b>	<ul style="list-style-type: none"> <li>Aerial structures</li> </ul>	<ul style="list-style-type: none"> <li>Aerial structures</li> <li>Constrained area</li> </ul>	<ul style="list-style-type: none"> <li>Aerial structures</li> <li>Constrained area</li> </ul>	<ul style="list-style-type: none"> <li>Aerial structures</li> <li>Constrained area</li> </ul>
	◐	◑	◑	◑
<b>Capital Cost</b>	\$0.1 to \$0.3 Billion VHS \$0.2 to \$0.3 Billion Maglev depending upon LAUS location	\$0.2 Billion VHS \$0.2 Billion Maglev depending upon LAUS location	\$0.1 to \$0.3 Billion VHS \$0.1 to \$0.3 Billion Maglev depending upon LAUS location	\$.010 to \$0.3 Billion VHS \$.02 to \$0.3 Billion Maglev depending upon LAUS location
	◐	◐	◐	◐
<b>Right-of-Way Issues/Cost</b>	<ul style="list-style-type: none"> <li>Railroad relocation.</li> </ul>	<ul style="list-style-type: none"> <li>Follows existing, constrained freeway corridor.</li> </ul>	<ul style="list-style-type: none"> <li>Follows existing, constrained freeway corridor.</li> </ul>	<ul style="list-style-type: none"> <li>Follows existing, constrained freeway corridor.</li> </ul>
	◐	○	○	○
<i>Maximize Compatibility with Existing and Planned Development.</i>				
<b>Land Use Compatibility and Conflicts</b>	<ul style="list-style-type: none"> <li>May create indirect impacts on mixed residential/commercial/industrial land uses adjacent to this alignment.</li> <li>Some residential land uses on the north side of this alignment.</li> <li>Alignment passes by Lincoln Park.</li> </ul>	<ul style="list-style-type: none"> <li>May create indirect impacts on a mix of residential/commercial/industrial land uses adjacent to this alignment.</li> <li>North side of SR-60 is a residential area for two miles in length.</li> </ul>	<ul style="list-style-type: none"> <li>May directly impact a mix of residential/commercial/industrial land uses adjacent to this alignment.</li> <li>Adjacent to residential area for a distance of 2.5 miles.</li> </ul>	<ul style="list-style-type: none"> <li>Alignment goes to LAX.</li> <li>May directly impact a mix of industrial/commercial/government/residential land uses adjacent to this alignment.</li> <li>Within 200 feet of Belmont High School.</li> <li>Within 200 to 400 feet of an elementary school.</li> <li>Passes by Olvera Street in downtown Los Angeles.</li> </ul>
	◐	○	○	◐

Evaluation Criteria	UPRR/EI Monte/Colton	State Route 60	Interstate 10	State Route 101
<b>Visual Quality Impacts</b>	<ul style="list-style-type: none"> <li>At grade along south edge of Lincoln Park. Existing rail line. Balance of first tier viewers are commercial/industrial.</li> </ul>	<ul style="list-style-type: none"> <li>May go through an elementary school north of 4th St.</li> <li>Immediately adjacent to elementary school on south side of SR-60.</li> <li>Adjacent to Boyle Heights Sports Park.</li> <li>W/in 400 ft. of elementary school.</li> <li>Ramon Garcia Recreation Center on north side of SR-60. Little impact.</li> <li>North side of SR-60, res. Area for 2 mi. in length. (SR-60 is between res. area and Option 1A).</li> </ul>	<ul style="list-style-type: none"> <li>At grade along south side of I-10:</li> <li>Adjacent to res. area for distance of 2.5 mi.</li> <li>W/in 250 feet of Prospect Park.</li> <li>W/in 500 feet of elementary school.</li> </ul>	<ul style="list-style-type: none"> <li>At grade along south side of SR-101:</li> <li>W/in 200 ft. of high school.</li> <li>W/in 200 to 400 ft. of elementary school.</li> <li>Ends just before Echo Park.</li> </ul>
	●	◐	◑	◐
<i>Minimize Impacts on Natural Resources.</i>				
<b>Water Resources</b>	No Impacts (closely approaches one potential wetland).	No Impacts.	No impacts.	No impacts.
	◑	●	●	●
<b>Floodplain Impacts</b>	Crosses LA River.	Crosses LA River.	Crosses LA River.	Crosses LA River.
	◑	◑	◑	◑
<b>Threatened &amp; Endangered Species Impacts</b>	No impacts.	No impacts.	No impacts.	No impacts.
	●	●	●	●
<i>Minimize Impacts on Social and Economic Resources.</i>				
<b>Environmental Justice Impacts (Demographics)</b>	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.

Evaluation Criteria	UPRR/EI Monte/Colton	State Route 60	Interstate 10	State Route 101
<b>Farmland Impacts</b>	<ul style="list-style-type: none"> <li>The alignment is located in an urban area with no developable farmland.</li> </ul>	<ul style="list-style-type: none"> <li>The alignment is located in an urban area with no developable farmland.</li> </ul>	<ul style="list-style-type: none"> <li>The alignment is located in an urban area with no developable farmland.</li> </ul>	<ul style="list-style-type: none"> <li>The alignment is located in an urban area with no developable farmland.</li> </ul>
	●	●	●	●
<i>Minimize Impacts on Cultural Resources.</i>				
<b>Cultural Resources Impacts</b>	<ul style="list-style-type: none"> <li>No recorded resources on GIS, except at Union Station.</li> <li>Overall probable impact is low to moderate; follows existing railroad lines.</li> </ul>	<ul style="list-style-type: none"> <li>No recorded resources on GIS, except at Union Station.</li> <li>Overall probable impact is moderate to high; crosses part of downtown before following existing freeway.</li> </ul>	<ul style="list-style-type: none"> <li>Few recorded resources on GIS.</li> <li>Overall probable impact is moderate; follows existing freeway.</li> </ul>	<ul style="list-style-type: none"> <li>Numerous recorded resources on GIS.</li> <li>Overall probable impact is moderate to high; follows existing freeway through older neighborhood.</li> </ul>
	●	◐	◐	◐
<b>Parks &amp; Recreation/Wildlife Refuge Impacts</b>	<ul style="list-style-type: none"> <li>Low Potential Impact, Visual Quality Only.</li> <li>Passes Lincoln Park.</li> </ul>	<ul style="list-style-type: none"> <li>Low Potential Impact, Visual Quality Only.</li> <li>Passes Boyle Heights Sports Center Park, Ramon Garcia Recreation Center.</li> </ul>	<ul style="list-style-type: none"> <li>Low Potential Impact, Visual Quality Only.</li> <li>Passes Ramona Gardens Park.</li> </ul>	<ul style="list-style-type: none"> <li>High Potential Impact.</li> <li>Crosses over El Pueblo de Los Angeles State Historic Park.</li> </ul>
	◐	◐	◐	○
<i>Maximize Avoidance of Areas with Geologic and Soils Constraints.</i>				
<b>Soils/Slope Constraints</b>	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.
<b>Seismic Constraints</b>	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.

Evaluation Criteria	UPRR/EI Monte/Colton	State Route 60	Interstate 10	State Route 101
<i>Maximize Avoidance of Areas with Potential Hazardous Materials.</i>				
<b>Hazardous Materials/Waste Constraints</b>	<ul style="list-style-type: none"> <li>There are approximately 20 CERCLIS, SPL, or SCL sites.</li> </ul>	<ul style="list-style-type: none"> <li>There are approximately 10 CERCLIS, SPL, or SCL sites.</li> </ul>	<ul style="list-style-type: none"> <li>There are approximately 10 CERCLIS, SPL, or SCL sites.</li> </ul>	<ul style="list-style-type: none"> <li>There are fewer than 10 CERCLIS, SPL, or SCL sites.</li> </ul>

















**Least Favorable** **Most Favorable**

**Table 2-H-18g continued**  
**Bakersfield to Los Angeles – High-Speed Train Alignment Evaluation Matrix**  
**Los Angeles Union Station – San Diego Approach Segments**

**Alignment** = Alignment Carried Forward      **Alignment** = Alignment Eliminated      **Alignment** = Primary or Secondary Reason for Elimination

Evaluation Criteria	UPRR/Whittier Jct.	BNSF/Hobart	Interstate 5	BNSF/Harbor Div.
<i>Maximize Ridership/Revenue Potential.</i>				
<b>Travel Time</b>	4.2 to 36.0 min. depending upon LAUS location 	4.5 to 36.3 min. depending upon LAUS location 	2.7 to 33.0 min. depending upon LAUS location 	6.3 to 40.2 min. depending upon LAUS location 
<b>Length</b>	2.1 to 5.1 miles (3.5 to 8.3 km) depending upon LAUS location 	2.3 to 5.2 miles (3.8 to 8.4 km) depending upon LAUS location 	1.4 to 4.0 miles (2.3 to 6.5 km) depending upon LAUS location 	3.3 to 6.2 miles (5.3 to 10.0 km) depending upon LAUS location 
<b>Population/Employment Catchment</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<i>Maximize Connectivity and Accessibility.</i>				
<b>Intermodal Connections</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<i>Minimize Operating and Capital Costs</i>				
<b>Length</b>	2.1 to 5.1 miles (3.5 to 8.3 km) depending upon LAUS location 	2.3 to 5.2 miles (3.8 to 8.4 km) depending upon LAUS location 	1.4 to 4.0 miles (2.3 to 6.5 km) depending upon LAUS location 	3.3 to 6.2 miles (5.3 to 10.0 km) depending upon LAUS location 
<b>Operational Issues</b>	<ul style="list-style-type: none"> <li>Alignment best suited to LAUS and River station alternatives (Options 1, 4, and 5).</li> <li>Poor alignment for South of 101 LAUS location alternatives (Options 2 and 3).</li> </ul>	<ul style="list-style-type: none"> <li>Alignment best suited to LAUS and River station alternatives (Options 1, 4, and 5).</li> <li>Poor alignment for South of 101 LAUS location alternatives (Options 2 and 3).</li> </ul>	<ul style="list-style-type: none"> <li>Alignment best suited to River station alternatives (Options 4 and 5).</li> <li>Poor alignment for South of 101 LAUS location alternatives (Options 2 and 3).</li> </ul>	<ul style="list-style-type: none"> <li>Alignment best suited to River station alternatives (Options 4 and 5).</li> <li>Poor alignment for South of 101 LAUS location alternatives (Options 2 and 3).</li> </ul>

Evaluation Criteria	UPRR/Whittier Jct.	BNSF/Hobart	Interstate 5	BNSF/Harbor Div.
<b>Construction Issues</b>	<ul style="list-style-type: none"> <li>Aerial structures.</li> </ul>	<ul style="list-style-type: none"> <li>Aerial structures.</li> </ul>	<ul style="list-style-type: none"> <li>Aerial structures.</li> <li>Constrained area.</li> </ul>	<ul style="list-style-type: none"> <li>Special aerial structures to provide access over north end of Alameda Corridor.</li> </ul>
	●	◐	◑	○
<b>Capital Cost</b>	<ul style="list-style-type: none"> <li>\$0.1 to \$0.3 Billion VHS</li> <li>\$0.1 to \$0.3 Billion Maglev depending upon LAUS location</li> </ul>	<ul style="list-style-type: none"> <li>\$0.1 to \$0.3 Billion VHS</li> <li>\$0.1 to \$0.3 Billion Maglev depending upon LAUS location</li> </ul>	<ul style="list-style-type: none"> <li>\$0.1 to \$0.3 Billion VHS</li> <li>\$0.1 to \$0.3 Billion Maglev depending upon LAUS location</li> </ul>	<ul style="list-style-type: none"> <li>\$0.2 to \$0.4 Billion VHS</li> <li>\$0.2 to \$0.4 Billion Maglev depending upon LAUS location</li> </ul>
	◑	◑	◑	○
<b>Right-of-Way Issues/Cost</b>	<ul style="list-style-type: none"> <li>Requires railroad relocation high-volume freight corridor.</li> </ul>	<ul style="list-style-type: none"> <li>Requires railroad relocation high-volume freight corridor.</li> </ul>	<ul style="list-style-type: none"> <li>Follows existing constrained freeway corridor.</li> </ul>	<ul style="list-style-type: none"> <li>Corridor owned by MTA.</li> </ul>
	◑	◑	○	◑
<i>Maximize Compatibility with Existing and Planned Development.</i>				
<b>Land Use Compatibility and Conflicts</b>	<ul style="list-style-type: none"> <li>Alignment is an existing railroad ROW.</li> <li>Alignment may indirectly impact existing industrial/commercial land uses.</li> <li>May go through an elementary school north of 4th street.</li> </ul>	<ul style="list-style-type: none"> <li>Most of the ROW needed for this alignment is already used for railroad purposes.</li> <li>Alignment may import existing industrial/commercial land uses.</li> <li>May go through an elementary school north of 4th street.</li> </ul>	<ul style="list-style-type: none"> <li>Goes through existing residential area for 0.5 miles.</li> <li>Adjacent to residential areas for length of 1.2 miles.</li> <li>Some commercial land uses adjacent to this alignment.</li> </ul>	<ul style="list-style-type: none"> <li>Alignment is an existing railroad ROW.</li> <li>Alignment is currently abutted by existing industrial/commercial land uses.</li> </ul>
	◑	◑	◑	●
<b>Visual Quality Impacts</b>	<ul style="list-style-type: none"> <li>May go through an elementary school site north of 4th St.</li> <li>Balance of alignment is industrial.</li> </ul>	<ul style="list-style-type: none"> <li>May go through an elementary school site north of 4th St.</li> <li>Balance of alignment is industrial.</li> </ul>	<ul style="list-style-type: none"> <li>May go through an elementary school site north of 4th St.</li> <li>Goes through an existing residential area for 0.5 mi. along I-5.</li> <li>Adjacent to residential area for length of 1.2 mi.</li> <li>Immediately adjacent to south edge of Ramon Garcia Recreation Center.</li> <li>Immediately adjacent to elementary school.</li> </ul>	<ul style="list-style-type: none"> <li>May go through an elementary school site north of 4th St.</li> <li>Balance of alignment is commercial/industrial.</li> </ul>
	◑	◑	◑	◑

Evaluation Criteria	UPRR/Whittier Jct.	BNSF/Hobart	Interstate 5	BNSF/Harbor Div.
<i>Minimize Impacts on Natural Resources</i>				
<b>Water Resources</b>	No Impacts 	No Impacts 	No Impacts 	No Impacts 
<b>Floodplain Impacts</b>	<ul style="list-style-type: none"> <li>Crosses Los Angeles River.</li> </ul> 	<ul style="list-style-type: none"> <li>Crosses Los Angeles River.</li> </ul> 	<ul style="list-style-type: none"> <li>Crosses Los Angeles River.</li> </ul> 	<ul style="list-style-type: none"> <li>Crosses Los Angeles River.</li> </ul> 
<b>Threatened &amp; Endangered Species Impacts</b>	No impacts 	No impacts 	No impacts 	No impacts 
<i>Minimize Impacts on Social and Economic Resources.</i>				
<b>Environmental Justice Impacts (Demographics)</b>	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.
<b>Farmland Impacts</b>	<ul style="list-style-type: none"> <li>The alignment is located in an urban area with no developable farmland.</li> </ul> 	<ul style="list-style-type: none"> <li>The alignment is located in an urban area with no developable farmland.</li> </ul> 	<ul style="list-style-type: none"> <li>The alignment is located in an urban area with no developable farmland.</li> </ul> 	<ul style="list-style-type: none"> <li>The alignment is located in an urban area with no developable farmland.</li> </ul> 

Evaluation Criteria	UPRR/Whittier Jct.	BNSF/Hobart	Interstate 5	BNSF/Harbor Div.
<i>Minimize Impacts on Cultural Resources</i>				
<b>Cultural Resources Impacts</b>	<ul style="list-style-type: none"> <li>Few recorded resources on GIS.</li> <li>Overall probable impact is moderate; parallels course of Los Angeles River before following existing railroad tracks.</li> </ul>	<ul style="list-style-type: none"> <li>Few recorded resources on GIS.</li> <li>Overall probable impact is moderate; parallels course of Los Angeles River before following existing railroad tracks.</li> </ul>	<ul style="list-style-type: none"> <li>Few recorded resources on GIS.</li> <li>Overall probable impact is moderate to high; crosses part of downtown before following existing freeway.</li> </ul>	<ul style="list-style-type: none"> <li>Few recorded resources on GIS.</li> <li>Overall probable impact is high; parallels Los Angeles River before crossing urban neighborhoods.</li> </ul>
	◐	◐	◑	○
<b>Parks &amp; Recreation/Wildlife Refuge Impacts</b>	<ul style="list-style-type: none"> <li>No park resources located.</li> </ul>	<ul style="list-style-type: none"> <li>No park resources located.</li> </ul>	<ul style="list-style-type: none"> <li>Low Potential Impact, Visual Quality Only.</li> <li>Passes Ramon Garcia Recreation Center.</li> </ul>	<ul style="list-style-type: none"> <li>No park resources located.</li> </ul>
	●	●	◑	●
<i>Maximize Avoidance of Areas with Geologic and Soils Constraints.</i>				
<b>Soils/Slope Constraints</b>	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.
<b>Seismic Constraints</b>	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.	To be determined by Inland Empire and LOSSAN Corridor teams.
<i>Maximize Avoidance of Areas with Potential Hazardous Materials.</i>				
<b>Hazardous Materials/Waste Constraints</b>	<ul style="list-style-type: none"> <li>There are approximately 10 CERCLIS, SPL, or SCL sites</li> </ul>	<ul style="list-style-type: none"> <li>There are approximately 20 CERCLIS, SPL, or SCL sites</li> </ul>	<ul style="list-style-type: none"> <li>There are fewer than 10 CERCLIS, SPL, or SCL sites</li> </ul>	<ul style="list-style-type: none"> <li>There are approximately 20 CERCLIS, SPL, or SCL sites</li> </ul>
	◑	◐	◑	◐





**Table 2-H-19**  
**Los Angeles to San Diego via Inland Empire High-Speed Train Alignment Evaluation Matrix**  
**Los Angeles Union Station to March Air Reserve Base**

**Alignment** = Alignment Carried Forward      **Alignment** = Alignment Eliminated      = Primary or Secondary Reason for Elimination

Evaluation Criteria	Los Angeles Union Station to March Air Reserve Base						
	UPRR Colton Line	UPRR Riverside Line	I-10	SR-60	BNSF Fullerton Line /SR-91	UPRR Colton/San Bernardino	UPRR Riverside/UPRR Colton
<i>Maximize Ridership/Revenue Potential.</i>							
<b>Travel Time</b>	28.5 minutes	46.0 minutes	43.4 minutes	37.4 minutes	52.2 minutes	36.4 minutes	31.0 minutes
	●	○	●	●	○	●	●
<b>Length</b>	66.8 miles (107 km)	67.9 miles (109 km)	63.8 miles (103 km)	62.9 miles (101 km)	70.2 miles (113 km)	73.6 miles (118 km)	67.5 miles (109 km)
	●	●	●	●	●	○	●
<b>Population/ Employment Catchment</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<i>Maximize Connectivity and Accessibility.</i>							
<b>Intermodal Connection</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<i>Minimize Operating and Capital Costs</i>							
<b>Length</b>	66.8 miles (107 km)	67.9 miles (109 km)	63.8 miles (103 km)	62.9 miles (101 km)	70.2 miles (113 km)	73.6 miles (118 km)	67.5 miles (109 km)
	●	●	●	●	●	○	●
<b>Operational Issues</b>	Speed restrictions at curves and urban environment, average speed 142 mph (228 kph)	Speed restrictions at curves and urban environment, average speed 130 mph (209 kph).	Speed restrictions at curves and urban environment, average speed 92 mph (148 kph).	Speed restrictions at curves and urban environment, average speed 107 mph (172 kph).	Speed restrictions at curves and urban environment, average speed 86 mph (138 kph).	Speed restrictions at curves and urban environment, average speed 129 mph (208 kph).	Speed restrictions at curves and urban environment, average speed 131 mph (211 kph)
	●	●	●	●	○	●	●

Evaluation Criteria	Los Angeles Union Station to March Air Reserve Base						
	UPRR Colton Line	UPRR Riverside Line	I-10	SR-60	BNSF Fullerton Line /SR-91	UPRR Colton/ San Bernardino	UPRR Riverside/ UPRR Colton
<b>Construction Issues</b>	Construction in an urban environment, relocating and maintaining existing railroad operations	Construction in an urban environment, relocating and maintaining existing railroad operations	Construction in an urban environment, relocating and maintaining freeway access and capacity	Construction in an urban environment, relocating and maintaining freeway access and capacity	Construction in an urban environment, relocating and maintaining existing railroad operations	Construction in an urban environment, relocating and maintaining existing railroad operations	Construction in an urban environment, relocating and maintaining existing railroad operations
	●	●	○	○	●	●	●
<b>Capital Cost</b>							
	●	●	●	●	●	●	●
<b>Right-of-Way Issues/Cost</b>	Uses existing railroad ROW that have limited widths, may require relocation of existing railroad operations.	Uses existing railroad ROW that have limited widths, may require relocation of existing railroad operations.	Freeway ROW is very constrained with very little available width. ROW acquisition is likely to be a major issue.	Freeway ROW is very constrained with very little available width. ROW acquisition is likely to be a major issue.	Freeway ROW is very constrained with very little available width. ROW acquisition is likely to be a major issue. Uses existing railroad ROW that have limited widths, may require relocation of existing railroad operations.	Uses existing railroad ROW that have limited widths, may require relocation of existing railroad operations.	Uses existing railroad ROW that have limited widths, may require relocation of existing railroad operations.
	●	●	●	●	●	●	●

Evaluation Criteria	Los Angeles Union Station to March Air Reserve Base						
	UPRR Colton Line	UPRR Riverside Line	I-10	SR-60	BNSF Fullerton Line /SR-91	UPRR Colton/ San Bernardino	UPRR Riverside/ UPRR Colton
<i>Maximize Compatibility with Existing and Planned Development</i>							
<b>Land Use Compatibility and Conflicts</b>	<ul style="list-style-type: none"> <li>Local Parks: 11</li> <li>Schools: 16</li> <li>Regional Parks: Box Springs Mtn.</li> <li>Regional Hospital: 2</li> <li>Major Public Facilities: LA County Jail &amp; El Monte Courts</li> <li>Military Uses: None</li> <li>Historical Sties: San Gabriel Mission</li> <li>University: UC – Riverside</li> <li>Regional Shopping: Mariachi Plaza</li> <li>Cemetery: None</li> </ul>	<ul style="list-style-type: none"> <li>Local Parks: 10</li> <li>Schools: 9</li> <li>Regional Parks: Santa Ana River Wildlife Area</li> <li>Regional Hospital: 1</li> <li>Major Public Facilities: LA County Jail &amp; Lanterman Center</li> <li>Military Uses: None</li> <li>Historical Sites: None</li> <li>University: UC-Riverside</li> <li>Regional Shopping: None</li> <li>Cemetery: None</li> </ul>	<ul style="list-style-type: none"> <li>Local Parks: 10</li> <li>Schools: 19</li> <li>Regional Parks: Bonelli Regional</li> <li>Regional Hospital: 4</li> <li>Major Public Facilities: West Covina Courthouse</li> <li>Military Uses: None</li> <li>Historical Sties: None</li> <li>University: CSU Pomona &amp; LA</li> <li>Regional Shopping: Montclair/W Covina</li> <li>Cemetery: Forest Lawn</li> </ul>	<ul style="list-style-type: none"> <li>Local Parks: 15</li> <li>Schools: 20</li> <li>Regional Parks: None</li> <li>Regional Hospital: None</li> <li>Major Public Facilities: LA County Jail</li> <li>Military Uses: None</li> <li>Historical Sites: Jurupa Cultural Ctr.</li> <li>University: None</li> <li>Regional Shopping: Puente Hills</li> <li>Cemetery: Calvary Cemetery</li> </ul>	<ul style="list-style-type: none"> <li>Local Parks: 17</li> <li>Schools: 13</li> <li>Regional Parks: Chino Hills State; Featherly Regional</li> <li>Regional Hospital: 2</li> <li>Major Public Facilities: LA County Jail &amp; Cal. Youth Authority</li> <li>Military Uses: None</li> <li>Historical Sites: None</li> <li>University: Cal Baptist: UCA</li> <li>Regional Shopping: None</li> <li>Cemetery: Olivewood Cemetery</li> </ul>	<ul style="list-style-type: none"> <li>Local Parks: 14</li> <li>Schools: 21</li> <li>Regional Parks: Box Springs Mtn.</li> <li>Regional Hospital: 2</li> <li>Major Public Facilities: LA County Jail &amp; El Monte Courthouse</li> <li>Military Uses: None</li> <li>Historical Sites: San Gabriel Mission</li> <li>University: UC – Riverside</li> <li>Regional Shopping: Mariachi Plaza</li> <li>Cemetery: None</li> </ul>	<ul style="list-style-type: none"> <li>Local Parks: 11</li> <li>Schools: 16</li> <li>Regional Parks: Box Springs Mtn.</li> <li>Regional Hospital: 2</li> <li>Major Public Facilities: LA County Jail &amp; El Monte Courts</li> <li>Military Uses: None</li> <li>Historical Sties: San Gabriel Mission</li> <li>University: UC – Riverside</li> <li>Regional Shopping: Mariachi Plaza</li> <li>Cemetery: None</li> </ul>
	●	●	●	●	●	●	●

Evaluation Criteria	Los Angeles Union Station to March Air Reserve Base						
	UPRR Colton Line	UPRR Riverside Line	I-10	SR-60	BNSF Fullerton Line /SR-91	UPRR Colton/ San Bernardino	UPRR Riverside/ UPRR Colton
<b>Visual Quality Impacts</b>	<p><b>Factors:</b></p> <ul style="list-style-type: none"> <li>60% Aerial or Trench</li> <li>30 % At-grade</li> <li>3 historic and cultural sensitivity (special features)</li> <li>5 parks/ landscape features</li> <li>Predominantly Industrial/ Commercial</li> <li>Visual Assessment for community compatibility = medium</li> <li>Visual Assessment by Rider = low visual appeal</li> </ul>	<p><b>Factors:</b></p> <ul style="list-style-type: none"> <li>30% Aerial or Trench</li> <li>70 % At-grade</li> <li>2 Historic and Cultural features</li> <li>12 parks/ landscape features</li> <li>Predominantly Industrial</li> <li>Visual Assessment for Community compatibility = medium</li> <li>Visual Assessment by Rider = medium visual appeal</li> </ul>	<p><b>Factors:</b></p> <ul style="list-style-type: none"> <li>100% Aerial</li> <li>0 Historic and Cultural features</li> <li>9 parks/ landscape features</li> <li>Predominantly Industrial/ Commercial</li> <li>Visual Assessment for Community compatibility = medium/high</li> <li>Visual Assessment by Ride r= low appeal</li> </ul>	<p><b>Factors:</b></p> <ul style="list-style-type: none"> <li>100% Aerial</li> <li>1 Historic and Cultural features</li> <li>16 parks/ landscape features</li> <li>Predominantly commercial</li> <li>Visual Assessment for Community compatibility = medium</li> <li>Visual Assessment by Rider = medium/ high appeal</li> </ul>	<p><b>Factors:</b></p> <ul style="list-style-type: none"> <li>40% Aerial or Trench</li> <li>60 % Aerial</li> <li>0 Historic and Cultural features</li> <li>17 parks/ landscape features</li> <li>Predominantly Industrial/ Commercial/ residential</li> <li>Visual Assessment for Community compatibility = medium/low</li> <li>Visual Assessment by Rider = medium/ low appeal</li> </ul>	<p><b>Factors:</b></p> <ul style="list-style-type: none"> <li>65% Aerial or Trench</li> <li>25 % At-grade</li> <li>4 historic and cultural sensitivity (special features)</li> <li>8 parks/ landscape features</li> <li>Predominantly Industrial with residential</li> <li>Visual Assessment for Community compatibility = medium/low</li> <li>Visual Assessment by Rider = medium/ low appeal</li> </ul>	<p><b>Factors:</b></p> <ul style="list-style-type: none"> <li>60% Aerial or Trench</li> <li>30 % At-grade</li> <li>3 historic and cultural sensitivity (special features)</li> <li>5 parks/ landscape features</li> <li>Predominantly Industrial/ Commercial</li> <li>Visual Assessment for community compatibility = medium</li> <li>Visual Assessment by Rider = low visual appeal</li> </ul>
	●	●	●	●	●	●	●
<i>Minimize Impacts on Natural Resources</i>							
<b>Water Resources</b>	<p>19 Crossings (950 linear ft)</p> <ul style="list-style-type: none"> <li>This option traverses urban areas and would not adversely impact water resources in these areas. Most of the waters are channelized and lack sensitive habitats. In addition, permanent impairment to beneficial uses is not anticipated.</li> </ul>	<p>12 Crossings (600 linear ft)</p> <ul style="list-style-type: none"> <li>This option traverses urban areas and would not adversely impact water resources in these areas. Most of the waters are channelized and lack sensitive habitats. In addition, permanent impairment to beneficial uses is not anticipated.</li> </ul>	<p>14 crossings (700 linear ft)</p> <ul style="list-style-type: none"> <li>This option traverses urban areas and would not adversely impact water resources in these areas. Most of the waters are channelized and lack sensitive habitats. In addition, permanent impairment to beneficial uses is not anticipated.</li> </ul>	<p>9 Crossings (450 linear ft)</p> <ul style="list-style-type: none"> <li>This option is proposed through the Wittier Narrows Nature Center, impacting water resources within the Nature Center. It would also impact the Santa Ana River through Orange and Riverside Counties. Portions of the river in these areas support natural stream channels and riparian banks.</li> </ul>	<p>7 Crossings (350 linear ft)</p> <ul style="list-style-type: none"> <li>It would impact the Santa Ana River through Orange and Riverside Counties. Portions of the river in these areas support natural stream channels and riparian banks. It would also impact the North Fork Coyote Creek and Temescal Creek.</li> </ul>	<p>5 Crossings (250 linear ft)</p> <ul style="list-style-type: none"> <li>This option traverses urban areas and would not adversely impact water resources in these areas. Most of the waters are channelized and lack sensitive habitats. In addition, permanent impairment to beneficial uses is not anticipated.</li> </ul>	<p>19 Crossings (950 linear ft)</p> <ul style="list-style-type: none"> <li>This option traverses urban areas and would not adversely impact water resources in these areas. Most of the waters are channelized and lack sensitive habitats. In addition, permanent impairment to beneficial uses is not anticipated.</li> </ul>
	●	●	●	●	●	●	●

Evaluation Criteria	Los Angeles Union Station to March Air Reserve Base						
	UPRR Colton Line	UPRR Riverside Line	I-10	SR-60	BNSF Fullerton Line /SR-91	UPRR Colton/ San Bernardino	UPRR Riverside/ UPRR Colton
<b>Floodplain Impacts</b>	<ul style="list-style-type: none"> <li>LA River</li> <li>Rio Hondo</li> <li>San Gabriel River</li> <li>Santa Ana River</li> </ul>	<ul style="list-style-type: none"> <li>LA River</li> <li>Rio Hondo</li> <li>San Gabriel River</li> <li>Santa Ana River</li> </ul>	<ul style="list-style-type: none"> <li>LA River</li> <li>Rio Hondo</li> <li>San Gabriel River</li> </ul>	<ul style="list-style-type: none"> <li>LA River</li> <li>Whittier Narrows (Rio Hondo, San Gabriel River)</li> <li>Santa Ana River</li> </ul>	<ul style="list-style-type: none"> <li>LA River</li> <li>Rio Hondo</li> <li>San Gabriel River</li> <li>Santa Ana River</li> </ul>	<ul style="list-style-type: none"> <li>Santa Ana River</li> </ul>	<ul style="list-style-type: none"> <li>LA River</li> <li>Rio Hondo</li> <li>San Gabriel River</li> <li>Santa Ana River</li> </ul>
	●	●	●	●	●	●	●
<b>Wetlands (sites/area)</b>	<ul style="list-style-type: none"> <li>Palustrine Emergent Wetland (PE) at San Gabriel River</li> <li>PE, Riparian Wetland (RI), at Santa Ana River</li> <li>Moderate level of constraint (1/0.5 ac)</li> </ul>	<ul style="list-style-type: none"> <li>PE at San Gabriel River</li> <li>PE,RI at Santa Ana River</li> <li>Moderate level of constraint (1/1.7 ac)</li> </ul>	<ul style="list-style-type: none"> <li>PE San Gabriel River</li> <li>PE at Walnut Creek</li> <li>PE, RI at Diamond Bar Creek, 57 &amp; 60 Interchange</li> <li>PE at Mulberry Creek</li> <li>Moderate level of constraint (0/0)</li> </ul>	<ul style="list-style-type: none"> <li>PE at San Gabriel River</li> <li>PE, RI at Santa Ana River</li> <li>RI at Box Springs Road</li> <li>Vernal Pool (VP) in Western Riverside County (associated with Agricultural lands)</li> <li>High level of constraint (0/0)</li> </ul>	<ul style="list-style-type: none"> <li>PE at San Gabriel River (PE)</li> <li>PE at North Fork Coyote Creek</li> <li>PE, RI at Santa Ana River (high quality riparian habitat near Prado Basin)</li> <li>PE, RI at Temescal Creek</li> <li>High level of constraint (0/0)</li> </ul>	<ul style="list-style-type: none"> <li>PE, RI at Santa Ana River</li> <li>Low level of constraint (1/0.5 ac)</li> </ul>	<ul style="list-style-type: none"> <li>PE at San Gabriel River</li> <li>PE, RI, at Santa Ana River</li> <li>Moderate level of constraint (1/0.5 ac)</li> </ul>
	●	●	●	●	●	●	●
<b>Threatened &amp; Endangered Species Impacts</b>	<ul style="list-style-type: none"> <li>Predominately developed route, low potential for impacts;</li> <li>Close to burrowing owl habitat (not a listed species)</li> <li>Constraint Level = Low</li> </ul>	<ul style="list-style-type: none"> <li>Predominately developed route, low potential for impacts</li> <li>Constraint Level = Low</li> </ul>	<ul style="list-style-type: none"> <li>Predominantly developed route, low potential for impacts</li> <li>Close proximity to California Gnatcatcher habitat</li> <li>Constraint Level = Low/Moderate</li> </ul>	<ul style="list-style-type: none"> <li>Close proximity to Broadleaf Riparian and associated special status species</li> <li>Crossings at San Gabriel River, Santa Ana River, Box Springs Road area with potential T&amp;E riparian and aquatic species</li> <li>Vernal pool in Western Riverside County associated with Agricultural lands with potential for Riverside and Vernal Pool Fairy Shrimp</li> <li>Constraint Level = Moderate/High</li> </ul>	<ul style="list-style-type: none"> <li>Most of route developed</li> <li>Close proximity to Least Bell's vireo and Stephens' Kangaroo Rat</li> <li>Crossings at San Gabriel River, North Fork Coyote Creek, and Santa Ana River (high quality riparian habitat near Prado Basin)</li> <li>PE, RI at Temescal Creek</li> <li>Constraint Level = Moderate</li> </ul>	<ul style="list-style-type: none"> <li>Urbanized route, low potential for impacts</li> <li>Constraint Level = Low</li> </ul>	<ul style="list-style-type: none"> <li>Predominately developed route, low potential for impacts;</li> <li>Close to burrowing owl habitat (not a listed species)</li> <li>Constraint Level = Low</li> </ul>
	●	●	●	●	●	●	●

Evaluation Criteria	Los Angeles Union Station to March Air Reserve Base						
	UPRR Colton Line	UPRR Riverside Line	I-10	SR-60	BNSF Fullerton Line /SR-91	UPRR Colton/ San Bernardino	UPRR Riverside/ UPRR Colton
<i>Minimize Impacts on Social and Economic Resources</i>							
<b>Environmental Justice Impacts (Demographics)</b>	<ul style="list-style-type: none"> <li>Low-Mod Area: Medium</li> <li>High Minority: High</li> <li>Both Low-Mod/Minority: Medium</li> </ul>	<ul style="list-style-type: none"> <li>Low-Mod Area: Medium</li> <li>High Minority: High</li> <li>Both Low-Mod/Minority: Medium</li> </ul>	<ul style="list-style-type: none"> <li>Low-Mod Area: Medium</li> <li>High Minority: High</li> <li>Both Low-Mod/Minority: Medium</li> </ul>	<ul style="list-style-type: none"> <li>Low-Mod Area: Low</li> <li>High Minority: High</li> <li>Both Low-Mod/Minority: Low</li> </ul>	<ul style="list-style-type: none"> <li>Low-Mod Area: Medium</li> <li>High Minority: Medium</li> <li>Both Low-Mod/Minority: Medium</li> </ul>	<ul style="list-style-type: none"> <li>Low-Mod Area: Medium</li> <li>High Minority: High</li> <li>Both Low-Mod/Minority: Medium</li> </ul>	<ul style="list-style-type: none"> <li>Low-Mod Area: Medium</li> <li>High Minority: High</li> <li>Both Low-Mod/Minority: Medium</li> </ul>
	●	●	●	●	●	●	●
<b>Farmland Impacts</b>	None	None	None	None	None	None	None
	●	●	●	●	●	●	●
<i>Minimize Impacts on Cultural Resources</i>							
<b>Cultural Resources Impacts</b>	<ul style="list-style-type: none"> <li>Ref# 72000231 Los Angeles Plaza Historic District</li> <li>Ref# 80000811 Los Angeles Union passenger Terminal</li> <li>Ref# 78000689 Plaza Substation</li> <li>Ref# 71000158 San Gabriel Mission</li> <li>Ref# 86000408 Pomona YMCA Building</li> </ul>	<ul style="list-style-type: none"> <li>Ref# 72000231 Los Angeles Plaza Historic District</li> <li>Ref# 80000811 Los Angeles Union passenger Terminal</li> <li>Ref# 78000689 Plaza Substation</li> <li>Ref# 82002201 Pomona Fox Theater</li> <li>Ref# 86001477 Edison Historic District</li> <li>Ref# 82002227 Old YMCA Building</li> <li>Ref# 80000833 Riverside-Arlington Heights Fruit Exchange</li> </ul>	<ul style="list-style-type: none"> <li>Ref# 72000231 Los Angeles Plaza Historic District</li> <li>Ref# 80000811 Los Angeles Union passenger Terminal</li> <li>Ref# 78000689 Plaza Substation</li> </ul>	<ul style="list-style-type: none"> <li>none</li> </ul>	<ul style="list-style-type: none"> <li>Ref# 72000231 Los Angeles Plaza Historic District</li> <li>Ref# 80000811 Los Angeles Union passenger Terminal</li> <li>Ref# 78000689 Plaza Substation</li> <li>Ref# 78000684 McNally's Windemere Ranch Headquarters Ref# 94000360 Farmers and Merchants Bank of Fullerton</li> <li>Ref# 83003551 Fullerton Union Pacific Depot</li> </ul>	<ul style="list-style-type: none"> <li>Ref# 72000231 Los Angeles Plaza Historic District</li> <li>Ref# 80000811 Los Angeles Union passenger Terminal</li> </ul>	<ul style="list-style-type: none"> <li>Ref# 72000231 Los Angeles Plaza Historic District</li> <li>Ref# 80000811 Los Angeles Union passenger Terminal</li> <li>Ref# 78000689 Plaza Substation</li> <li>Ref# 71000158 San Gabriel Mission</li> <li>Ref# 86000408 Pomona YMCA Building</li> </ul>
	●	●	●	●	●	●	●

Evaluation Criteria	Los Angeles Union Station to March Air Reserve Base						
	UPRR Colton Line	UPRR Riverside Line	I-10	SR-60	BNSF Fullerton Line /SR-91	UPRR Colton/ San Bernardino	UPRR Riverside/ UPRR Colton
<b>Parks Impacts</b>	<ul style="list-style-type: none"> <li>• 3 Parks</li> <li>• Lincoln Park, Lincoln Heights</li> <li>• Almansor Park, Alhambra</li> <li>• Highland Park, Riverside</li> </ul>	<ul style="list-style-type: none"> <li>• Amigo Park, Pico Rivera</li> <li>• Rose Hills Memorial Park</li> <li>• Little League Field and Park, Diamond Bar</li> <li>• Martha McLean Anza Narrows Park, Jurupa</li> <li>• Nichols Park, Jurupa</li> </ul>	<ul style="list-style-type: none"> <li>• El Pueblo de Los Angeles State Historic Park , Los Angeles</li> <li>• Ramona Gardens Park, Boyle Heights</li> <li>• Parque Xalapa, West Covina</li> <li>• Frank G. Bonelli Regional Park, San Dimas</li> <li>• Ganesha Park, Pomona</li> <li>• Wilderness Park, Montclair</li> <li>• MacArthur Park, Montclair</li> </ul>	<ul style="list-style-type: none"> <li>• Belvedere Park, East Los Angeles</li> <li>• Bella Vista Park, Monterey Park</li> <li>• Carlton Petersen Park, Diamond Bar</li> <li>• Fairmount Park, Riverside</li> </ul>	<ul style="list-style-type: none"> <li>• Zimmerman Park, Norwalk</li> <li>• Independence Park of Fullerton</li> <li>• Amerige Park, Fullerton</li> <li>• Peralta Canyon Park, Anaheim</li> <li>• Yorba Regional Park, Anaheim</li> <li>• Featherly Regional Park, Yorba Linda</li> <li>• Griffin Park, Corona</li> <li>• A D Shamel Park, Riverside</li> </ul>	<ul style="list-style-type: none"> <li>• Santa Fe Park, Fontana</li> <li>• Nunez Park, San Bernardino</li> </ul>	<ul style="list-style-type: none"> <li>• Lincoln Park, Lincoln Heights</li> <li>• Almansor Park, Alhambra</li> <li>• Highland Park, Riverside</li> </ul>
<b>Recreation Areas Impacts</b>	Alhambra Municipal Golf Course	None	None	<ul style="list-style-type: none"> <li>• Ramon Garcia Recreation Center, Boyle Heights</li> <li>• Whittier Narrows Recreation Area, South El Monte</li> <li>• Diamond Bar Golf Course, Diamond Bar</li> </ul>	None	None	Alhambra Municipal Golf Course
<b>Wildlife Refuges Impacts</b>	Box Springs Mountain Reserve, Riverside	Santa Ana River Wildlife Area, Jurupa	None	Quail Run Open Space, Riverside	None	None	Box Springs Mountain Reserve, Riverside
	●	●	●	●	●	●	●

Evaluation Criteria	Los Angeles Union Station to March Air Reserve Base						
	UPRR Colton Line	UPRR Riverside Line	I-10	SR-60	BNSF Fullerton Line /SR-91	UPRR Colton/San Bernardino	UPRR Riverside/UPRR Colton
<b>Soils/Slope Constraints</b>	<ul style="list-style-type: none"> <li>• Soils consist of alluvium and older lake deposits</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Overall, low potential for landslide</li> <li>• Potential for landslides moderate to high where the UP Colton comes in contact with the Puente Hills and San Jose Hills</li> </ul>	<ul style="list-style-type: none"> <li>• Soils consist of younger fan deposits, wind-blown sand, older fan deposits and mostly alluvium, lake, playa and terrace deposits</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Overall, low potential for landslide</li> <li>• Potential for landslides is moderate to high where the UP Riverside comes in contact with the Puente Hills</li> </ul>	<ul style="list-style-type: none"> <li>• Soils consist of non-marine, marine, wind-blown sand, glacial deposits, a very small amount of volcanics and primarily alluvium</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Overall, low potential for landslide</li> <li>• Potential for landslides is moderate to high where the I-10 comes in contact with the San Jose Hills</li> </ul>	<ul style="list-style-type: none"> <li>• Soils consist of Alluvium deposits (mostly non-marine) and rock consists of moderate to well-consolidated sandstone, shale, siltstone, conglomerates and breccia</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Overall, low potential for landslide</li> <li>• Potential for landslides is moderate to high where SR 60 comes in contact with the Puente Hills</li> </ul>	<ul style="list-style-type: none"> <li>• Soils consist of older lake deposits, primarily alluvium and approx. 1 mile of granite at the end of alignment</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Overall, low potential for landslide</li> <li>• Potential for landslides is moderate to high where the 91 freeway meets the Peralta Hills and the Santiago Mountains</li> </ul>	<ul style="list-style-type: none"> <li>• Soils consist primarily of alluvium</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Potential for landslides is low</li> </ul>	<ul style="list-style-type: none"> <li>• Soils consist of alluvium and older lake deposits</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Overall, low potential for landslide</li> <li>• Potential for landslides moderate to high where the UP Colton comes in contact with the Puente Hills and San Jose Hills</li> </ul>
	☉	☉	☉	☉	☉	☉	☉
<b>Seismic Constraints</b>	<ul style="list-style-type: none"> <li>• Moderate to high potential for liquefaction</li> <li>• Two major faults cross this segment:</li> <li>• Santa Monica Fault Zone in East LA (Type B, MG MAX = 6.6)</li> <li>• San Jacinto Fault 3 miles east of alignment in southern San Bernardino (Type B, MG MAX = 6.7)</li> <li>• Moderate to high potential for surface rapture at the fault location.</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate to high potential for liquefaction</li> <li>• Several major faults nearby may have impact on this alignment:</li> <li>• Santa Monica Fault Zone (Type B, MG MAX = 6.6)</li> <li>• San Jose Fault (Type B, MG MAX = 6.5)</li> <li>• Chino Fault (Type B, MG MAX = 6.7)</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate to high potential for liquefaction</li> <li>• Two major faults pass through this alignment:</li> <li>• San Jacinto Fault approx. 1 ½ to 2 miles (2.4 to 3.2 km) west of the 15 freeway (Type B, MG MAX = 6.7)</li> <li>• San Jose Fault at the intersection of I-10 and 71 (Type B, MG MAX = 6.5)</li> <li>• Moderate to high potential for surface rapture at the fault location.</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate to high potential for liquefaction</li> <li>• One major fault passes through the alignment at the San Antonio Creek Channel:</li> <li>• Chino Fault (Type B, MG MAX = 6.7)</li> <li>• Moderate to high potential for surface rapture at the fault location</li> <li>• Several other faults nearby may have impact on the alignment.</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate to high potential for liquefaction</li> <li>• Three major faults pass through the alignment:</li> <li>• San Jacinto Fault at the intersection of I-15 freeway and SR-60 in South San Bernardino (Type B, MG MAX = 6.7)</li> <li>• Chino Fault ½ mile/east of intersection 71 and SR-91 (Type B, MG MAX = 6.7).</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate to high potential for liquefaction</li> <li>• One major fault passes through the alignment at intersection of 15 freeway and SR 60:</li> <li>• San Jacinto Fault (Type B, MG MAX = 6.7)</li> <li>• Moderate to high potential for surface rapture at the fault location</li> <li>• Several other faults nearby may have impact on the alignment.</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate to high potential for liquefaction</li> <li>• Two major faults cross this segment:</li> <li>• Santa Monica Fault Zone in East LA (Type B, MG MAX = 6.6)</li> <li>• San Jacinto Fault 3 miles east of alignment in southern San Bernardino (Type B, MG MAX = 6.7)</li> <li>• Moderate to high potential for surface rapture at the fault location.</li> </ul>



Evaluation Criteria	Los Angeles Union Station to March Air Reserve Base						
	UPRR Colton Line	UPRR Riverside Line	I-10	SR-60	BNSF Fullerton Line /SR-91	UPRR Colton/San Bernardino	UPRR Riverside/UPRR Colton
	<ul style="list-style-type: none"> <li>Several other faults nearby may have impacts on the alignment.</li> <li>Detail investigation recommended for the potential impact of the fault on the alignment.</li> </ul>	<ul style="list-style-type: none"> <li>Detail investigation recommended for the potential impacts of the faults on the alignment.</li> </ul>	<ul style="list-style-type: none"> <li>Several other faults nearby may have impact on the alignment.</li> <li>Detail investigation recommended for the potential impact of the fault on the alignment.</li> </ul>	<ul style="list-style-type: none"> <li>Detail investigation recommended for the potential impact of the fault on the alignment</li> </ul>	<ul style="list-style-type: none"> <li>Whittier-Elsinore Fault 3 miles west of intersection of 71 and 91 (Type B, MG MAX = 6.8)</li> <li>Moderate to high potential for surface rapture at the fault location</li> <li>Several other faults nearby may have impact on the alignment</li> <li>Detail investigation recommended for the potential impact of the fault on the alignment</li> </ul>	<ul style="list-style-type: none"> <li>Detail investigation recommended for the potential impact of the fault on the alignment</li> </ul>	<ul style="list-style-type: none"> <li>Several other faults nearby may have impacts on the alignment</li> <li>Detail investigation recommended for the potential impact of the fault on the alignment</li> </ul>
	○	◐	◑	◒	○	◒	◑
<b>Hazardous Materials/Waste Constraints</b>	<ul style="list-style-type: none"> <li>12 hazardous waste generators</li> <li>1 hazardous waste transporter</li> <li>3 hazardous waste release sites (1 site no further action)</li> </ul>	<ul style="list-style-type: none"> <li>5 hazardous waste generators</li> <li>5 hazardous waste release sites (1 site no further action; 1 site may be significant (DTSC Code AA+))</li> </ul>	<ul style="list-style-type: none"> <li>1 hazardous waste generator</li> <li>1 hazardous waste site (no further action)</li> </ul>	<ul style="list-style-type: none"> <li>1 hazardous waste generator</li> <li>2 hazardous waste release sites (1 site no further action)</li> </ul>	<ul style="list-style-type: none"> <li>7 hazardous waste generators</li> <li>7 hazardous waste release sites (2 sites no further action)</li> </ul>	<ul style="list-style-type: none"> <li>2 hazardous waste generators</li> <li>2 hazardous waste transporters</li> <li>2 hazardous waste sites</li> </ul>	<ul style="list-style-type: none"> <li>12 hazardous waste generators</li> <li>1 hazardous waste transporter</li> <li>3 hazardous waste release sites (1 site no further action)</li> </ul>
	◑	◒	●	◑	◒	◒	◑

○   ◐   ◑   ◒   ●  
Least Favorable                      Most Favorable

**Table 2-H-19 continued**  
**Los Angeles to San Diego via Inland Empire High-Speed Train Alignment Evaluation Matrix**  
**Segment 2 – March ARB to Mira Mesa**

**Alignment** = Alignment Carried Forward

**Alignment** = Alignment Eliminated

**Alignment** = Primary or Secondary Reason for Elimination

Evaluation Criteria	Segment 2 Alignments—March ARB to Mira Mesa	
	I-215/I-15 Long Tunnel	I-215/I-15
<b>Travel Time</b>	20.4 minutes ●	20.8 minutes ●
<b>Length</b>	70.3 miles (113 km) ●	71.8 miles (115 km) ●
<b>Population /Employment Catchment</b>	Not Applicable	Not Applicable
<i>Maximize Connectivity and Accessibility</i>		
<b>Intermodal Connection</b>	<p>The Escondido West station site is accessible by road from I-15 and SR-78 via Mission Road; it also has access to a rail spur south of Mission; the Mira Mesa station has auto access to I-15 via Mira Mesa Blvd. and Scripps Ranch Blvd.</p> <p>The Escondido West station site could connect with automobiles and buses, and trains via an adjacent rail spur; however little intermodal connection is considered likely at the present proposed Mira Mesa site.</p>	<p>The Escondido East station site is accessible by road from I-15 and SR-78 via Centre City Parkway and Valley Parkway; it also is near a rail spur; the Mira Mesa station has auto access to I-15 via Mira Mesa Blvd. and Scripps Ranch Blvd..</p> <p>The Escondido East station site could connect with cars and buses, and trains via a nearby rail spur; it is adjacent to Escondido Transit Center; however little intermodal connection is considered likely at the presently proposed Mira Mesa site.</p>
<i>Minimize Operating and Capital Costs</i>		
<b>Length</b>	70.3 miles (113 km) ●	71.8 miles (115 km) ●
<b>Operational Issues</b>	Flatter grades and fewer curves, average speed 207 mph (333 kph) ●	Slightly steeper grades and tighter curves, average speed 207 mph (333 kph). ●
<b>Construction Issues</b>	Considerable tunnel construction; inaccessible terrain ●	Fewer tunnels, but more earthwork ●

Evaluation Criteria	Segment 2 Alignments—March ARB to Mira Mesa	
	I-215/I-15 Long Tunnel	I-215/I-15
<b>Capital Cost</b>	①	②
<b>Right-of-Way Issues/Cost</b>	New right-of-way required through sensitive environment.  ②	Substantial earthwork may require additional right-of-way or extensive retaining walls  ①
<i>Maximize Compatibility with Existing and Planned Development</i>		
<b>Land Use Compatibility and Conflicts</b>	Crosses 6.15 miles (9.9 km) of existing residential areas; likely more than 250 individual homes would need to be removed. Crosses 0.4 mile (0.6 km) of San Dieguito River Park (JPA) at Lake Hodges; crosses the main Post Office for the San Diego area for 0.25 mile (0.4 km); perhaps that part of the route could be moved to the east. Would act to divide the community of Carmel Mountain Ranch, and would adversely affect the entry into the community (per City of San Diego Planning Department).  ①	Crosses 2.55 miles (4.1 km) of existing residential areas; likely more than 100 individual homes would have to be removed. Crosses 0.55 mile (0.88 km) of Kit Carson Park in Escondido; 0.5 mile (0.8 km) of San Dieguito River Park; and is adjacent to Rod McLeod Park in Escondido. Would cross North County Fair Shopping Center, passing over or through retail structures if this alignment stays in the same place; perhaps it could be moved to the east, to pass over the parking lot. Crosses the main Post Office for the San Diego area for 0.25 mile (0.4 km); perhaps that part of the route could be moved to the east. Would act to divide the community of Carmel Mountain Ranch, and would adversely affect the entry into the community (per City of San Diego Planning Department)  ②
<b>Visual Quality Impacts</b>	<u>Factors:</u> <ul style="list-style-type: none"> <li>• 40% Aerial or tunnel</li> <li>• 40 % At-grade</li> <li>• 10% Aerial</li> <li>• 0 historic and cultural sensitivity</li> <li>• 9 parks/landscape features</li> <li>• Predominantly Open space/agriculture and areas with residential</li> <li>• Visual Assessment for Community compatibility = medium/high</li> <li>• Visual assessment for Rider = low appeal</li> </ul> ①	<u>Factors:</u> <ul style="list-style-type: none"> <li>• 40% Most tunnel, some aerial</li> <li>• 40 % At-grade</li> <li>• 10% Aerial</li> <li>• 0 historic and cultural sensitivity</li> <li>• 9 parks/landscape features</li> <li>• Predominantly Open space/agriculture and areas with residential</li> <li>• Visual Assessment for Community compatibility = medium/low</li> <li>• Visual assessment for Rider = medium/ high appeal</li> </ul> ①

Evaluation Criteria		Segment 2 Alignments—March ARB to Mira Mesa	
	I-215/I-15 Long Tunnel	I-215/I-15	
<i>Minimize Impacts on Natural Resources</i>			
<b>Water Resources</b>	<ul style="list-style-type: none"> <li>• Perris Valley Storm Drain</li> <li>• Val Verde Tunnel Colorado Aqueduct</li> <li>• San Jacinto River</li> <li>• Menifee Lakes Country Club lakes</li> <li>• Warm Springs Creek</li> <li>• Santa Gertrudis Creek</li> <li>• Murrieta Creek</li> <li>• Santa Margarita River</li> <li>• Rainbow Creek</li> <li>• Second San Diego Aqueduct</li> <li>• San Luis Rey River</li> <li>• Second San Diego Aqueduct</li> <li>• unnamed creek near Pala Mesa Resort</li> <li>• San Luis Rey River</li> <li>• Keys Creek</li> <li>• unnamed creeks at Nelson Road and Old Hwy 395 (Moose Canyon; SDTBG 1068/1069)</li> <li>• unnamed creeks at Old Castle Road (SDTBG 1068/1069)</li> <li>• unnamed creek adjacent to Champagne Blvd (SDTBG 1089)</li> <li>• unnamed creek at S12 interchange (SDTBG 1089)</li> <li>• Siphon Vista Canal/San Marcos</li> <li>• Escondido Creek</li> <li>• Lake Hodges/San Dieguito River</li> <li>• unnamed creek at Rancho Bernardo Golf Course</li> <li>• unnamed creek at Rancho Bernardo Golf Course</li> <li>• Chicarita Creek</li> <li>• Penasquitos Creek</li> <li>• Second San Diego Aqueduct</li> </ul>	<ul style="list-style-type: none"> <li>• Perris Valley Storm Drain</li> <li>• Val Verde Tunnel Colorado Aqueduct</li> <li>• San Jacinto River</li> <li>• Menifee Lakes Country Club lakes</li> <li>• Warm Springs Creek</li> <li>• Santa Gertrudis Creek</li> <li>• Long Canyon</li> <li>• Empire Creek</li> <li>• Temecula Creek</li> <li>• Second San Diego Aqueduct (3 crossings)</li> <li>• unnamed creek at Stewart Crest Road (SDTBG 1028)</li> <li>• unnamed creek at Pala Road (SDTBG 1048)</li> <li>• San Luis Rey River</li> <li>• Keys Creek</li> <li>• unnamed creeks at Nelson Road and Old Hwy 395 (Moose Canyon; SDTBG 1068/1069)</li> <li>• unnamed creeks at Old Castle Road (Reidy Canyon; SDTBG 1068/1069)</li> <li>• unnamed creek adjacent to Champagne Blvd (SDTBG 1089)</li> <li>• unnamed creek at S12 interchange (SDTBG 1089)</li> <li>• Siphon Vista Canal/San Marcos</li> <li>• Reidy Canyon</li> <li>• Escondido Creek</li> <li>• unnamed creek at Via Rancho Pkwy</li> <li>• Lake Hodges/San Dieguito River</li> <li>• unnamed creek at Rancho Bernardo Golf Course</li> <li>• Chicarita Creek</li> <li>• Los Penasquitos Canyon Creek</li> <li>• Second San Diego Aqueduct</li> </ul>	
Total Crossings/Linear Feet	27/1,350	27/1,350	
	●	●	
<b>Floodplain Impacts</b>	<ul style="list-style-type: none"> <li>• San Jacinto River</li> <li>• Murrieta Creek</li> <li>• Santa Margarita River</li> <li>• San Luis Rey River</li> <li>• Keys Creek</li> <li>• San Dieguito River</li> <li>• Penasquitos Creek</li> </ul>	<ul style="list-style-type: none"> <li>• San Jacinto River</li> <li>• Murrieta Creek</li> <li>• Santa Margarita River</li> <li>• San Luis Rey River</li> <li>• Keys Creek</li> <li>• San Dieguito River</li> <li>• Penasquitos Creek</li> </ul>	
	●	●	

Evaluation Criteria			Segment 2 Alignments—March ARB to Mira Mesa	
	I-215/I-15 Long Tunnel	I-215/I-15		
<b>Wetlands</b>	<ul style="list-style-type: none"> <li>• RI, VP at San Jacinto River and I-215 in Perris</li> <li>• RI, VP at Warm Springs Creek</li> <li>• RI, VP at Murrieta Creek</li> <li>• RI at Los Alamos off I - 215</li> <li>• RI, VP off I-15 at Santa Margarita River (Temecula Canyon Creek)</li> <li>• RI, VP at Rainbow Creek</li> <li>• RI, VP at San Luis Rey River</li> <li>• RI at Gopher Canyon Road</li> <li>• MA, VP at Lake Hodges/San Dieguito River (high quality wetlands)</li> <li>• Moderate to High. Low if wetland impacts can be avoided by siting tunnels away from wetlands.</li> </ul>	<ul style="list-style-type: none"> <li>• RI, VP at San Jacinto River and I-215 in Perris</li> <li>• RI, VP at Warm Springs Creek</li> <li>• RI, VP at Murrieta Creek</li> <li>• RI, VP at Los Alamos off I-215</li> <li>• RI, VP off I-15 at Santa Margarita River (Temecula Canyon Creek)</li> <li>• RI, VP at Rainbow Creek</li> <li>• RI, VP at San Luis Rey River</li> <li>• RI at Gopher Canyon Road</li> <li>• MA, VP at Lake Hodges/San Dieguito River (high quality wetlands)</li> <li>• Moderate to High. Low if wetland impacts can be avoided by bridges spanning the wetlands</li> </ul>		
Sites/Area	5/5.7 ac	13/6.9 ac		
	●	●		
<b>Threatened and Endangered Species Impacts</b>	<ul style="list-style-type: none"> <li>• Agricultural land with possible vernal pools and associated T&amp;E species</li> <li>• Murrieta and San Luis Rey River floodplains with potential sensitive species impacts largely avoided by tunnels.</li> <li>• Potential impacts on wildlife movement, particularly in the Coal Canyon area on the border of Riverside and Orange Counties. Impacts on habitat and movement would be mostly avoided on route with tunneling.</li> <li>• -Potential impacts on Stephen's Kangaroo Rat.</li> <li>• Constraint Level = Low/Moderate</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural land with possible vernal pools and associated T&amp;E species</li> <li>• Murrieta and San Luis Rey River floodplains with potential sensitive species impacts.</li> <li>• Potential impacts on movement, particularly in the Coal Canyon area on the border of Riverside and Orange Counties. Impacts on habitat and movement could be largely avoided with large underpasses and noise abatement measures.</li> <li>• Potential impacts on Stephen's Kangaroo Rat.</li> <li>• Constraint Level = Moderate</li> </ul>		
	●	●		
<i>Minimize Impacts on Social and Economic Resources</i>				
<b>Environmental Justice Impacts (Demographics)</b>	No concentration of minority groups or low-income households was noted along this routing in the initial reconnaissance	It is possible that this routing would affect minority groups or low-income households in Escondido.		
	●	●		
<b>Farmland Impacts</b>	Only 0.3 mile (0.5 km) of agricultural land east of the East Mission Road interchange was noted from the aerial photography utilized for land use interpretation	Only 0.5 mile (0.8 km) of agricultural land east of the East Mission Road interchange was noted from the aerial photography for land use interpretation.		
	●	●		

Evaluation Criteria		Segment 2 Alignments—March ARB to Mira Mesa		
	I-215/I-15 Long Tunnel	I-215/I-15		
<i>Minimize Impacts on Cultural Resources</i>				
<b>Cultural Resources Impacts</b>	None ●	None ●		
<b>Parks and Recreation Areas /Wildlife Refuge Impacts</b>	<b>Parks</b>	<ul style="list-style-type: none"> <li>• Copper Creek Park, Perris</li> <li>• Alta Murrieta Sports Park, Murrieta</li> <li>• Felicita County Park, Escondido</li> <li>• Sabre Springs Park, Sabre Springs</li> </ul>	<ul style="list-style-type: none"> <li>• Copper Creek Park, Perris</li> <li>• Rancho Acacias Park, Murrieta</li> <li>• Jesmond Dene Park, Jesmond Dene</li> <li>• Rod McLeod Park, Escondido</li> <li>• Kit Carson Park, Escondido</li> <li>• Sabre Springs Park, Sabre Springs</li> </ul>	
	<b>Recreation Areas</b>	None	None	
	<b>Wildlife Refuges</b>	None	Santa Margarita Ecological Reserve	
		①	○	
<i>Maximize Avoidance of Areas with Geologic and Soils Constraints</i>				
<b>Soils/Slope Constraints</b>	<ul style="list-style-type: none"> <li>• March ARB to just north of Paoma Valley – soils consist primarily of alluvium</li> <li>• March ARB to just north of Paoma Valley – slope ratio of 2:1 can be constructed, in general</li> <li>• March ARB to just north of Paoma Valley – low landslide potential (east of alignment), moderate landslide potential (west of alignment)</li> <li>• Temecula to Mira Mesa – soils and bedrock consist of some deposits of marine sediments and older lake deposits, but primarily metavolcanic and granitic rock</li> <li>• Temecula to Mira Mesa – Slope can be constructed with a 2:1 ratio, in general. Steeper slope may be feasible</li> <li>• Temecula to Mira Mesa – moderate potential for landslides</li> </ul>	<ul style="list-style-type: none"> <li>• March ARB to just north of Paoma Valley – soils consist primarily of alluvium</li> <li>• March ARB to just north of Paoma Valley – slope ratio of 2:1 can be constructed, in general</li> <li>• March ARB to just north of Paoma Valley – low landslide potential (east of alignment), moderate landslide potential (west of alignment)</li> <li>• Temecula to Mira Mesa – soils and bedrock consist of older lake deposits, marine and non-marine deposits, metavolcanic rock (through South Fork Moosa Cyn.), and primarily granitic rock</li> <li>• Temecula to Mira Mesa – Slope can be constructed with a 2:1 ratio, in general. Steeper slope may be feasible</li> <li>• Temecula to Mira Mesa – moderate potential for landslides</li> </ul>		
		①	①	

<b>Evaluation Criteria</b>			<b>Segment 2 Alignments—March ARB to Mira Mesa</b>	
	<b>I-215/I-15 Long Tunnel</b>	<b>I-215/I-15</b>		
<b>Seismic Constraints</b>	<ul style="list-style-type: none"> <li>From March ARB to just north of Paoma Valley – moderate potential for liquefaction</li> <li>Temecula to Mira Mesa – low potential for liquefaction due to granitic bedrock</li> <li>One major fault crosses this segment between Paoma Valley (to the north) and Temecula (to the south):</li> <li>Elsinore Fault (Type B, MG MAX = 6.8)</li> <li>Moderate to high potential for surface rapture at the fault location</li> <li>Detail investigation recommended for the potential impact of the fault on the alignment</li> </ul> <p>* With the exception of the San Luis Rey River and surrounding floodplain, granite in this alignment is potentially suitable for tunneling depending on the physical qualities of the bedrock</p>	<ul style="list-style-type: none"> <li>From March ARB to just north of Paoma Valley – moderate potential for liquefaction</li> <li>Temecula to Mira Mesa – low potential for liquefaction due to granitic bedrock</li> <li>One major fault crosses this segment between Paoma Valley (to the north) and Temecula (to the south):</li> <li>Elsinore Fault (Type B, MG MAX =6.8)</li> <li>Moderate to high potential for surface rapture at the fault location</li> <li>Detail investigation recommended for the potential impact of the fault on the alignment</li> </ul>	①	①
<i>Maximize Avoidance of Areas with Potential Hazardous Materials</i>				
<b>Hazardous Materials/Waste Constraints</b>	1 hazardous waste release site	3 hazardous waste release sites (2 sites no further action)	●	●

○      ◐      ◑      ●      ●  
Least Favorable                      Most Favorable

**Table 2-H-19 continued**  
**Los Angeles to San Diego via Inland Empire High-Speed Train Alignment Evaluation Matrix**  
**Segment 3 – Mira Mesa to San Diego Qualcomm Stadium**

**Alignment** = Alignment Carried Forward      **Alignment** = Alignment Eliminated        = Primary or Secondary Reason for Elimination

Evaluation Criteria	Segment 3 Alignments—Mira Mesa to San Diego					
	I-15 to Coast via Carroll Canyon	I-15 to Coast via Miramar Road	I-15 to Coast via SR-52	I-15/SR-163 to Santa Fe Station	I-15 to Qualcomm Stadium	I-15 to SR-163 to I-8 to Coast
<b>Travel Time</b>	14.1 minutes	13.5 minutes	12.2 minutes	7.1 minutes	4.2 minutes	9.5 minutes
	○	◐	◑	●	●	●
<b>Length</b>	20.1 miles (32.3 km)	19.8 miles (31.8 km)	20.8 miles (33.5 km)	15.7 miles (25.3 km)	10.1 miles (16.3 km)	17.5 miles (28.2 km)
	◐	◑	◑	●	●	●
<b>Population/ Employment Catchment</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<i>Maximize Connectivity and Accessibility</i>						
<b>Intermodal Connection</b>	This alignment would connect to the University City station and via the LOSSAN corridor to downtown San Diego and Lindberg Field.	This alignment would connect to the University City station and via the LOSSAN corridor to downtown San Diego and Lindberg Field.	This alignment would connect to the University City station and via the LOSSAN corridor to downtown San Diego and Lindberg Field.	Kearny Mesa station has access to SR-163 and SR-274 via Convoy St. and Mesa College Drive. It could be served by buses, and is less than 1 mile (1.6 km) from Montgomery Field, a business airport. Santa Fe Station can be accessed by car, is served by buses, and is adjacent to a major Trolley station	Qualcomm Station has access to I-15 via Friars Road, and the site is served by buses and an existing Trolley station. Montgomery Field, a business airport, is less than 3 miles away	Kearny Mesa station has access to SR-163 and SR-274 via Convoy St. and Mesa College Drive. It could be served by buses, and is less than 1 mile (1.6 km) from Montgomery Field, a business airport. Information about other stations to which route 3.f might connect is being compiled by another firm.
	◑	◑	◑	●	●	◑



Evaluation Criteria		Segment 3 Alignments—Mira Mesa to San Diego					I-15 to SR-163 to I-8 to Coast
		I-15 to Coast via Carroll Canyon	I-15 to Coast via Miramar Road	I-15 to Coast via SR-52	I-15/SR-163 to Santa Fe Station	I-15 to Qualcomm Stadium	
<i>Minimize Operating and Capital Costs</i>							
<b>Length</b>	20.1 miles (32.3 km)	19.8 miles (31.8 km)	20.8 miles (33.5 km)	15.7 miles (25.3 km)	10.1 miles (16.3 km)	17.5 miles (28.2 km)	
	●	●	●	●	●	●	
<b>Operational Issues</b>	Significant curves that reduce speeds, average speed 91 mph (146 kph).	Significant curves that reduce speeds, average speed 93 mph (150 kph).	Significant curves that reduce speeds, average speed 106 mph (171 kph).	Fewer curves better speeds, average speed 141 mph (227 kph).	Fewer curves better speeds, average speed 153 mph (246 kph).	Significant curves that reduce speeds, average speed 117 mph (188 kph).	
	○	○	●	●	●	●	
<b>Construction Issues</b>	Sensitive environment, difficult terrain	Urban environment	Urban Environment	Urban Environment, Balboa Park	Shortest length stopping short of areas of major development	Urban Environment, densely developed	
	●	●	●	○	●	●	
<b>Capital Cost</b>							
	●	●	●	●	●	●	
<b>Right-of-Way Issues/Cost</b>	Needs new ROW through sensitive environment.	Constrained ROW densely developed area.	Constrained ROW densely developed area.	Constrained ROW densely developed area.	Constrained ROW densely developed area.	Constrained ROW densely developed area.	
	●	●	●	●	●	●	

Evaluation Criteria		Segment 3 Alignments—Mira Mesa to San Diego				
		I-15 to Coast via Carroll Canyon	I-15 to Coast via Miramar Road	I-15 to Coast via SR-52	I-15/SR-163 to Santa Fe Station	I-15 to Qualcomm Stadium
<i>Maximize Compatibility with Existing and Planned Development</i>						
<b>Land Use Compatibility and Conflicts</b>	Crosses 0.45 mile (0.72 km) of existing residential area, perhaps 20 residences or so; crosses 0.25 miles (0.4 km) of areas graded in the 1999 aerial photo, now likely developed residential uses; crosses Miramar CC (0.2 mi. [0.3 km]); crosses Hour-glass Field Park (0.25 mile [0.4 km]); crosses 0.85 mile (1.4 km) of industrial uses.	Crosses 0.55 mile (0.8 km) of existing residential area, perhaps 22 dwellings or so; crosses 0.25 mile (0.4 km) of areas graded in the 1999 aerial photo, now likely developed residential uses; crosses 2.6 miles (4.2 km) of commercial and industrial land uses	Crosses 4.95 miles (8.0 km) of MCAS Miramar; specific potential conflicts there were compiled by another firm in the HNTB team. Crosses Scripps Ranch HS for 0.15 miles. Crosses 1.2 miles (1.9 km) of industrial uses. Crosses 2.45 miles (3.9 km) of Marion Bear Park south of SR-52. Non-park uses of parks established by ordinance require a 2/3 vote of the people. Crosses 1.08 miles (1.7 km) of existing residential use-loss of affordable housing issue	Crosses 2.55 miles (4.0 km) of MCAS Miramar; specific potential conflicts there were compiled by another firm in the HNTB team. Crosses Scripps Ranch HS for 0.15 mile (0.2 km). Crosses 4.4 miles (7.1 km) of commercial or industrial uses, including more than a mile of high-rise development in downtown San Diego. Crosses 1.2 miles (1.9 km) of existing residential use-loss of affordable housing issue. Crosses Balboa Park for 0.55 mile (0.8 km). Non-park uses there require a 2/3 vote of the people	Crosses 3.7 miles (6.0 km) of MCAS Miramar; specific potential conflicts there were compiled by another firm in the HNTB team. Crosses 0.6 miles (1.0 km) of residential uses, in Scripps Ranch and in Tierrasanta Murphy Canyon. The Murphy Canyon residential area is military housing. It could be avoided by moving the route slightly to the west. Crosses 0.15 mile (0.2 km) of Scripps Ranch HS. Crosses 1.4 miles (2.3 km) of industrial	Crosses 2.55 miles (4.1 km) of MCAS Miramar; specific potential conflicts there were compiled by another firm in the HNTB team. Crosses 1.2 miles (1.9 km) of residential uses, in Scripps Ranch and Linda Vista –loss of affordable housing issue. Crosses 0.15 mile (0.2 km) of Scripps Ranch HS. Crosses 4.07 miles (6.5 km) of commercial or industrial uses. Crosses golf course in Mission Valley for 0.9 mile (1.5 km). Possible conflict with new planned Caltrans HQ north of Old Town
	⓪	⓪	⓪	⓪	⓪	⓪

Evaluation Criteria		Segment 3 Alignments—Mira Mesa to San Diego				
	I-15 to Coast via Carroll Canyon	I-15 to Coast via Miramar Road	I-15 to Coast via SR-52	I-15/SR-163 to Santa Fe Station	I-15 to Qualcomm Stadium	I-15 to SR-163 to I-8 to Coast
<b>Visual Quality Impacts</b>	<p><u>Factors:</u></p> <ul style="list-style-type: none"> <li>• 100% Aerial or Depressed</li> <li>• 0 historic and cultural sensitivity</li> <li>• 1 parks/ landscape feature</li> <li>• Predominantly open space and commercial</li> <li>• Visual Assessment for Community compatibility = low /medium</li> <li>• Visual assessment for Rider = low/medium appeal</li> </ul>	<p><u>Factors:</u></p> <ul style="list-style-type: none"> <li>• 100% Aerial</li> <li>• 0 historic and cultural sensitivity</li> <li>• 2 parks &amp; landscape features</li> <li>• Predominantly residential and open space with areas of commercial</li> <li>• Visual Assessment for Community compatibility = low</li> <li>• Visual assessment for Rider = medium/low appeal</li> </ul>	<p><u>Factors:</u></p> <ul style="list-style-type: none"> <li>• 100% Aerial</li> <li>• 0 historic and cultural sensitivity</li> <li>• 3 parks/ landscape feature</li> <li>• Predominantly open space and commercial</li> <li>• Visual Assessment for Community compatibility = low/ medium</li> <li>• Visual assessment for Rider = low appeal</li> </ul>	<p><u>Factors:</u></p> <ul style="list-style-type: none"> <li>• 30% Aerial or Depressed</li> <li>• 80 % Tunnel</li> <li>• 1 historic and cultural sensitivity</li> <li>• 2 parks/ landscape feature</li> <li>• Predominantly open space and commercial</li> <li>• Visual Assessment for Community compatibility = medium</li> <li>• Visual assessment for Rider = medium /low appeal</li> </ul>	<p><u>Factors:</u></p> <ul style="list-style-type: none"> <li>• 50% Aerial or Depressed</li> <li>• 50 % Tunnel</li> <li>• 0 historic and cultural sensitivity</li> <li>• 2 parks/ landscape feature</li> <li>• Predominantly open space and commercial</li> <li>• Visual Assessment for Community compatibility = high</li> <li>• Visual assessment for Rider =low appeal</li> </ul>	<p><u>Factors:</u></p> <ul style="list-style-type: none"> <li>• 80% Aerial or Depressed</li> <li>• 20% tunnel</li> <li>• 0 historic and cultural sensitivity</li> <li>• 2 parks/ landscape feature</li> <li>• Predominantly open space and commercial</li> <li>• Visual Assessment for Community compatibility = high</li> <li>• Visual assessment for Rider = medium appeal</li> </ul>
	⬇	⬇	⬇	⬇	⬇	⬇
<i>Minimize Impacts on Natural Resources</i>						
<b>Water Resources</b>	<ul style="list-style-type: none"> <li>• Carol Canyon Creek</li> </ul>	<ul style="list-style-type: none"> <li>• Carol Canyon Creek</li> <li>• Rose Canyon Creek</li> </ul>	<ul style="list-style-type: none"> <li>• Carol Canyon Creek</li> <li>• Rose Canyon</li> <li>• San Clemente Canyon</li> <li>• unnamed creek near Convoy Street</li> <li>• unnamed creek near Regents Road</li> <li>• Rose Canyon Creek</li> </ul>	<ul style="list-style-type: none"> <li>• Carol Canyon Creek</li> <li>• Rose Canyon</li> <li>• San Clemente Canyon</li> <li>• San Diego River</li> </ul>	<ul style="list-style-type: none"> <li>• Carol Canyon Creek</li> <li>• Rose Canyon</li> <li>• San Clemente Canyon</li> <li>• Murphy Canyon</li> <li>• Elenue Canyon</li> <li>• Shepherd Canyon</li> <li>• Murphy Canyon</li> <li>• San Diego River</li> </ul>	<ul style="list-style-type: none"> <li>• Carol Canyon Creek</li> <li>• Rose Canyon</li> <li>• San Clemente Canyon</li> <li>• San Diego River</li> </ul>
Total Crossings/Linear Feet	1/50	2/100	6/300	4/200	8/400	4/200
	⬇	⬇	⬇	⬇	⬇	⬇
<b>Floodplain Impacts</b>	<ul style="list-style-type: none"> <li>• Carol Canyon Creek</li> </ul>	<ul style="list-style-type: none"> <li>• Carol Canyon Creek</li> <li>• Rose Canyon Creek</li> </ul>	<ul style="list-style-type: none"> <li>• Carol Canyon Creek</li> <li>• San Clemente Canyon</li> <li>• Rose Canyon</li> </ul>	<ul style="list-style-type: none"> <li>• Carol Canyon Creek</li> <li>• Rose Canyon</li> <li>• San Clemente Canyon</li> <li>• San Diego River</li> </ul>	<ul style="list-style-type: none"> <li>• Carol Canyon Creek</li> <li>• Murphy Canyon ?</li> <li>• San Diego River</li> </ul>	<ul style="list-style-type: none"> <li>• Carol Canyon Creek</li> <li>• Rose Canyon</li> <li>• San Clemente Canyon</li> <li>• San Diego River</li> </ul>
	⬇	⬇	⬇	⬇	⬇	⬇

Evaluation Criteria		Segment 3 Alignments—Mira Mesa to San Diego					I-15 to SR-163 to I-8 to Coast
		I-15 to Coast via Carroll Canyon	I-15 to Coast via Miramar Road	I-15 to Coast via SR-52	I-15/SR-163 to Santa Fe Station	I-15 to Qualcomm Stadium	
<b>Wetlands</b>	<ul style="list-style-type: none"> <li>RI, potential VP habitat at Carol Canyon Creek</li> </ul>	<ul style="list-style-type: none"> <li>RI, VP at Carol Canyon Creek</li> <li>Potential high quality VP habitat through MCAS Miramar</li> </ul>	<ul style="list-style-type: none"> <li>RI, VP at San Clemente Canyon</li> <li>Potential high quality VP habitat through MCAS Miramar</li> </ul>	<ul style="list-style-type: none"> <li>RI, VP at San Clemente Canyon</li> <li>Potential high quality VP habitat through MCAS Miramar</li> </ul>	<ul style="list-style-type: none"> <li>RI, VP at San Clemente Canyon</li> <li>Potential high quality VP habitat through MCAS Miramar</li> </ul>	<ul style="list-style-type: none"> <li>RI, VP at San Clemente Canyon</li> <li>Potential high quality VP habitat through MCAS Miramar</li> </ul>	<ul style="list-style-type: none"> <li>RI, VP at San Clemente Canyon</li> <li>Potential high quality VP habitat through MCAS Miramar</li> </ul>
	Moderate to High	High	High	High	High	High	High
Sites/Area	5/1.3 ac	5/1.3 ac	6/1.9 ac	3/0.8 ac	3/0.45 ac	12/6 ac	
	☉	○	○	○	○	○	
<b>Threatened &amp; Endangered Species Impacts</b>	<ul style="list-style-type: none"> <li>Sensitive forest lands in Carroll Canyon.</li> <li>High potential for special status species and impacts.</li> <li>Potential impacts on wildlife movement</li> <li>Constraint Level = Moderate/High</li> </ul>	<ul style="list-style-type: none"> <li>NW MCAS Miramar supports vernal pools and occupied California gnatcatcher habitat adjacent to Miramar Road.</li> <li>Alignment cross habitat/pools. –</li> <li>Impacts on T&amp;E species may be high and unavoidable.</li> <li>Constraint Level = High</li> </ul>	<ul style="list-style-type: none"> <li>Vernal pools and associated T&amp;E species.</li> <li>California gnatcatcher habitat</li> <li>Close proximity to San Clemente Canyon Broadleaf Riparian Habitat.</li> <li>High potential for impacts on an important regional wildlife movement corridor.</li> <li>Constraint Level = High</li> </ul>	<ul style="list-style-type: none"> <li>See below</li> </ul>	<ul style="list-style-type: none"> <li>See below</li> </ul>	<ul style="list-style-type: none"> <li>The vernal pools at MCAS Miramar and associated T&amp;E species: San Diego button-celery, California Orcutt grass, San Diego mesa mint, Riverside fairy shrimp, and San Diego fairy shrimp.</li> <li>Occupied California gnatcatcher habitat.</li> <li>Impact are potentially very high, difficult to minimize through either avoidance or mitigation</li> <li>Alignment is not close to San Diego River, thereby avoiding potential impacts..</li> <li>Constraint Level = High</li> </ul>	
	☉	○	○	○	○	○	
<i>Minimize Impacts on Social and Economic Resources</i>							
<b>Environmental Justice Impacts (Demographics)</b>	None anticipated	None anticipated.	None anticipated.	Possible issue in Linda Vista, adjacent to SR-163, home of several ethnic minorities.	None anticipated	None anticipated.	
	●	●	●	●	●	●	

Evaluation Criteria	Segment 3 Alignments—Mira Mesa to San Diego					
	I-15 to Coast via Carroll Canyon	I-15 to Coast via Miramar Road	I-15 to Coast via SR-52	I-15/SR-163 to Santa Fe Station	I-15 to Qualcomm Stadium	I-15 to SR-163 to I-8 to Coast
<b>Farmland Impacts</b>	None ●	None ●	None ●	None ●	None ●	None ●
<i>Minimize Impacts on Cultural Resources</i>						
<b>Cultural Resources Impacts</b>	None ●	None ●	None ●	Ref# 77000331 Balboa Park Ref# 74000552 George W. Marston House Ref# 76000515 El Prado Complex Ref# 79000524 Medico-Dental Building ●	None ●	None ●
<b>Parks and Recreation/Wildlife Refuge Impacts</b>	<b>Parks</b>					
	Hourglass Field Community Park, Mira Mesa	None	None	Mission Heights Park Balboa Park City Park, Centre City	None	Mission Heights Park Presidio Community Park
	<b>Recreation Areas</b>					
	None	Miramar Memorial Golf Course	None	None	None	Riverwalk Golf Course
<b>Wildlife Refuges</b>						
None ●	Marian Bear Memorial Natural Park, Clairemont Rose Canyon Open Space ●	Marian Bear Memorial Natural Park, Clairemont ●	None ●	None ●	None ●	

Evaluation Criteria		Segment 3 Alignments—Mira Mesa to San Diego					I-15 to SR-163 to I-8 to Coast
		I-15 to Coast via Carroll Canyon	I-15 to Coast via Miramar Road	I-15 to Coast via SR-52	I-15/SR-163 to Santa Fe Station	I-15 to Qualcomm Stadium	
<i>Maximize Avoidance of Areas with Geologic and Soils Constraints</i>							
<b>Soils/Slope Constraints</b>	<ul style="list-style-type: none"> <li>• Soils consist primarily of non-marine, marine, and terrace deposits</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Low potential for landslide</li> </ul>	<ul style="list-style-type: none"> <li>• Soils consist primarily of non-marine, marine, and terrace deposits</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Low potential for landslide</li> </ul>	<ul style="list-style-type: none"> <li>• Soils consist primarily of non-marine, marine, and terrace deposits</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Low potential for landslide</li> </ul>	<ul style="list-style-type: none"> <li>• Soils consist primarily of non-marine, marine, and terrace deposits</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Low potential for landslide</li> </ul>	<ul style="list-style-type: none"> <li>• Soils consist primarily of non-marine, marine, and terrace deposits</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Low potential for landslides</li> </ul>	<ul style="list-style-type: none"> <li>• Soils consist primarily of non-marine, marine, and terrace deposits</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Low potential for landslides</li> </ul>	<ul style="list-style-type: none"> <li>• Soils consist primarily of non-marine, marine, and terrace deposits</li> <li>• Slope can be constructed with a 2:1 ratio, in general</li> <li>• Low potential for landslides</li> </ul>
	●	●	●	●	●	●	●
<b>Seismic Constraints</b>	<ul style="list-style-type: none"> <li>• Low to moderate potential for liquefaction</li> <li>• Rose Canyon Fault (Type B, MG MAX = 6.9) starts 3 miles (4.8 km) offshore west of Encinitas, follows San Diego Fwy for 12 miles (19.3 km) and ends in the San Diego Bay approx. 1 mile (1.6 km) from shore</li> <li>• Moderate to high potential for surface rapture at the fault location</li> <li>• Detail investigation recommended for the potential impact of the fault on the alignment</li> </ul>	<ul style="list-style-type: none"> <li>• Low to moderate potential for liquefaction</li> <li>• The Rose Canyon Fault (Type B, MG MAX = 6.9) starts offshore 3 miles (4.8 km) west of Encinitas, follows the San Diego Freeway for 12 miles (19.3 km) and ends in the San Diego Bay approx. 1 mile (1.6 km) from shore</li> <li>• Moderate to high potential for surface rapture at the fault location</li> <li>• Detail investigation recommended for the potential impact of the fault on the alignment</li> </ul>	<ul style="list-style-type: none"> <li>• Low to moderate potential for liquefaction</li> <li>• The Rose Canyon Fault (Type B, MG MAX = B) starts offshore 3 miles (4.8 km) west of Encinitas, follows the San Diego Freeway for 12 miles (19.3 km) and ends in the San Diego Bay approx. 1 mile (1.6 km) from shore</li> <li>• Moderate to high potential for surface rapture at the fault location</li> <li>• Detail investigation recommended for the potential impact of the fault on the alignment</li> </ul>	<ul style="list-style-type: none"> <li>• Low to moderate potential for liquefaction</li> </ul>	<ul style="list-style-type: none"> <li>• Low to moderate potential for liquefaction</li> </ul>	<ul style="list-style-type: none"> <li>• Low to moderate potential for liquefaction</li> <li>• The Rose Canyon Fault (Type B, MG MAX = 6.9) starts offshore 3 miles (4.8 km) west of Encinitas, follows the San Diego Freeway for 12 miles (19.8 km) and ends in the San Diego Bay approx. 1 mile (1.6 km) from shore</li> <li>• Moderate to high potential for surface rapture at the fault location</li> <li>• Detail investigation recommended for the potential impact of the fault on the alignment</li> </ul>	<ul style="list-style-type: none"> <li>• Low to moderate potential for liquefaction</li> </ul>
	●	●	●	●	●	●	●

Evaluation Criteria	Segment 3 Alignments—Mira Mesa to San Diego					
	I-15 to Coast via Carroll Canyon	I-15 to Coast via Miramar Road	I-15 to Coast via SR-52	I-15/SR-163 to Santa Fe Station	I-15 to Qualcomm Stadium	I-15 to SR-163 to I-8 to Coast
<i>Maximize Avoidance of Areas with Potential Hazardous Materials</i>						
<b>Hazardous Materials/Waste Constraints</b>	No sites	No sites	No sites	1 hazardous waste generator 1 hazardous waste release site	1 hazardous waste generator	1 hazardous waste generator 1 hazardous waste release site
	●	●	●	●	●	●

○      ◐      ◑      ●      ●  
Least Favorable      Most Favorable

**Table 2-H-19 continued**  
**Los Angeles to San Diego via Inland Empire High-Speed Train Station Evaluation Matrix**  
**Los Angeles Union Station to Fullerton Transportation Center**

Station Name = Station Carried Forward      Station Name = Station Eliminated      = Primary or Secondary Reason for Elimination

Evaluation Criteria	Station Options				
	El Monte (West of I-605) UPRR Colton	El Monte (West of I-605) I-10	South El Monte (West of I-605)	Norwalk, Metrolink Station	Fullerton Transportation Center
Travel Time	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Length	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Population /Employment Catchment (10-mile radius)	1,838,409	1,841,478	2,141,740	2,331,416	1,960,424
	●	●	●	●	●
<i>Maximize Connectivity and Accessibility.</i>					
Intermodal Connection	Bus: Yes Metrolink: No Airport: No	Bus: Yes Metrolink: No Airport: No	Bus: Yes Metrolink: No Airport: No	Bus: Yes Metrolink: Yes Airport: No	Bus: Yes Metrolink: Yes Airport: No
	●	●	●	●	●
<i>Minimize Operating and Capital Costs.</i>					
Length	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Operational Issues	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Construction Issues	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Capital Cost	Urban Station	Urban Station	Urban Station	Urban Station	Urban Station



Evaluation Criteria	Station Options				
	El Monte (West of I-605) UPRR Colton	El Monte (West of I-605) I-10	South El Monte (West of I-605)	Norwalk, Metrolink Station	Fullerton Transportation Center
<b>Right-of-Way Issues/Cost</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<i>Maximize Compatibility with Existing and Planned Development.</i>					
<b>Land Use Compatibility and Conflicts</b>	Sensitive Uses: Schools	Sensitive Uses: Schools	None	None	Sensitive Uses: Police Station
	●	●	●	●	●
<b>Visual Quality Impacts</b>	Large scale environment No historical significance High compatibility	Small scale environment No historical significance Medium compatibility	Small scale environment No historical significance Medium compatibility	Small scale environment No historical significance Medium compatibility	Small scale environment Historical significance Low/Medium compatibility
	●	●	●	●	●
<i>Minimize Impacts on Natural Resources.</i>					
<b>Water Resources</b>	See discussion in alignment tables (LA Union Station to March AFB)				
	●	●	●	●	●
<b>Floodplain Impacts</b>	see discussion in alignment tables (LA Union Station to March AFB)				
	●	●	●	●	●
<b>Wetlands</b>	- PE at San Gabriel River and Walnut Creek	- PE at San Gabriel River and Walnut Creek	- PE at San Gabriel River and Walnut Creek	None	None
	Moderate	Moderate	Moderate	Low	Low
	●	●	●	●	●
<b>Threatened and Endangered Species Impacts</b>	No potential impacts Constraint Level = Low	No potential impacts Constraint Level = Low	No potential impacts Constraint Level = Low	No potential impacts Constraint Level = Low	No potential impacts Constraint Level = Low
	●	●	●	●	●

Evaluation Criteria	Station Options				
	El Monte (West of I-605) UPRR Colton	El Monte (West of I-605) I-10	South El Monte (West of I-605)	Norwalk, Metrolink Station	Fullerton Transportation Center
<i>Minimize Impacts on Social and Economic Resources.</i>					
<b>Environmental Justice Impacts (Demographics)</b>	Low-Mod Area: N High Minority: Y Both LM/Minority: N	Low-Mod Area: Y High Minority: Y Both LM/Minority: Y	Low-Mod Area: Y High Minority: Y Both LM/Minority: Y	Low-Mod Area: N High Minority: Y Both LM/Minority: N	Low-Mod Area: N High Minority: N Both LM/Minority: N
	●	○	○	●	●
<b>Farmland Impacts</b>	None	None	None	None	None
	●	●	●	●	●
<i>Minimize Impacts on Cultural Resources.</i>					
<b>Cultural Resources Impacts</b>	None	None	None	None	None
	●	●	●	●	●
<b>Parks and Recreation/Wildlife Refuge Impacts</b>	No impacts	No impacts	No impacts	No impacts	No impacts
	●	●	●	●	●
<i>Maximize Avoidance of Areas with Geologic and Soils Constraints.</i>					
<b>Soils/Slope Constraints</b>	Soils consist of alluvium Slope with a ratio of 2:1 can be constructed, in general Low potential for landslide	Soils consist of alluvium Slope with a ratio of 2:1 can be constructed, in general Low potential for landslide	Soils consist of alluvium Slope with a ratio of 2:1 can be constructed, in general Low potential for landslide	Soils consist of alluvium and older lake deposits Slope with a ratio of 2:1 can be constructed, in general Low potential for landslide	Soils consist of alluvium and older lake deposits Slope with a ratio of 2:1 can be constructed, in general Low to moderate potential for landslide
	●	●	●	●	●

Evaluation Criteria	Station Options				
	El Monte (West of I-605) UPRR Colton	El Monte (West of I-605) I-10	South El Monte (West of I-605)	Norwalk, Metrolink Station	Fullerton Transportation Center
<b>Seismic Constraints</b>	Moderate to high potential for liquefaction	Moderate to high potential for liquefaction	Moderate to high potential for liquefaction Workman Hill Fault, an extension of Santa Monica Fault Zone (Type B, MG MAX = 6.6) runs through this station Moderate to high potential for surface rapture at the fault location Detail investigation recommended for the potential impact of the fault on the station	Moderate to high potential for liquefaction	Moderate to high potential for liquefaction
	●	●	●	●	●
<i>Maximize Avoidance of Areas with Potential Hazardous Materials.</i>					
<b>Hazardous Materials/Waste Constraints</b>	No sites	No sites	No sites	No sites	No sites

○      ◐      ◑      ●      ●  
Least Favorable      Most Favorable

**Table 2-H-19 continued**  
**Los Angeles to San Diego via Inland Empire High-Speed Train Station Evaluation Matrix**  
**City of Industry to Ontario, Southside Metrolink Station**

**Station** = Station Carried Forward      **Station** = Station Eliminated      **Reason** = Primary or Secondary Reason for Elimination

Evaluation Criteria		Station Options			
	City of Industry, Metrolink Station	Cal Poly Pomona	Pomona, Metrolink Station	Ontario Airport, Northside	Ontario Airport, Southside Metrolink Station
<b>Travel Time</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Length</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Population / Employment Catchment (10-mile radius)</b>	1,324,214 ●	1,161,729 ●	1,040,213 ●	861,152 ●	887,080 ●
<i>Maximize Connectivity and Accessibility.</i>					
<b>Intermodal Connection</b>	Bus: Yes Metrolink: Yes Airport: No ●	Bus: Yes Metrolink: No Airport: No ●	Bus: Yes Metrolink: No Airport: No ●	Bus: Yes Metrolink: No Airport: Yes ●	Bus: Yes Metrolink: Yes Airport: No ●
<i>Minimize Operating and Capital Costs.</i>					
<b>Length</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Operational Issues</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>Construction Issues</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Evaluation Criteria		Station Options			
	City of Industry, Metrolink Station	Cal Poly Pomona	Pomona, Metrolink Station	Ontario Airport, Northside	Ontario Airport, Southside Metrolink Station
<b>Capital Cost</b>	Suburban Station	Suburban Station	Urban Station	Suburban Station	Suburban Station
<b>Right-of-Way Issues/Cost</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<i>Maximize Compatibility with Existing and Planned Development</i>					
<b>Land Use Compatibility and Conflicts</b>	Sensitive Uses: None ●	Sensitive Uses: University ◐	Sensitive Uses: Park/Office ◑	Sensitive Uses: None ●	Sensitive Uses: None ●
<b>Visual Quality Impacts</b>	Small scale environment No historical significance Medium compatibility ◐	Medium scale environment No historical significance Medium/high compatibility ◑	Small scale environment Historical significance Low compatibility ○	Large scale environment No historical significance High compatibility ●	Large scale environment No historical significance High compatibility ●
<i>Minimize Impacts on Natural Resources</i>					
<b>Water Resources</b>	See discussion in alignment tables (LA Union Station to March AFB)				
	●	◑	●	◑	●
<b>Floodplain Impacts</b>	See discussion in alignment tables (LA Union Station to March AFB)				
	●	●	●	●	●
<b>Wetlands</b>	- RI at Diamond Bar Creek	None	None	None	None
	Moderate ◑	Low ●	Low ●	Low ●	Low ●

Evaluation Criteria		Station Options			
	City of Industry, Metrolink Station	Cal Poly Pomona	Pomona, Metrolink Station	Ontario Airport, Northside	Ontario Airport, Southside Metrolink Station
<b>Threatened and Endangered Species Impacts</b>	No potential impacts Constraint Level = Low	No potential impacts Constraint Level = Low	No potential impacts Constraint Level = Low	No potential impacts Constraint Level = Low	No potential impacts Constraint Level = Low
	●	●	●	●	●
<i>Minimize Impacts on Social and Economic Resources</i>					
<b>Environmental Justice Impacts (Demographics)</b>	Low-Mod Area: N High Minority: Y LM/Minority: N	Low-Mod Area: N High Minority: N LM/Minority: N	Low-Mod Area: Y High Minority: Y LM/Minority: Y	Low-Mod Area: Y High Minority: Y LM/Minority: Y	Low-Mod Area: N High Minority: Y Airport: N
	◐	●	◐	◐	●
<b>Farmland Impacts</b>	None	University Agricultural Land	None	None	None
	●	◐	●	●	●
<i>Minimize Impacts on Cultural Resources</i>					
<b>Cultural Resources Impacts</b>	None	None	Ref# 86000408 Pomona YMCA Building	None	None
	●	●	◐	●	●
<b>Parks and Recreation/Wildlife Refuge Impacts</b>	No impacts	No impacts	No impacts	No impacts	No impacts
	●	●	●	●	●