

## ES.0 EXECUTIVE SUMMARY

The California High Speed Rail Authority (the Authority) and the Federal Railroad Administration (FRA) are studying alternative alignments and stations for a high-speed train (HST) connection between Los Angeles and San Diego. The route development for the Los Angeles to San Diego via the Inland Empire Section (LA-SD Section) is built on the set of HST network alternatives and HST alignment alternatives that were analyzed in the *2005 Final Program EIR/EIS for the Proposed California High-Speed Train System* (Authority and FRA, December 2005). The Preliminary Alternatives Analysis Report for the Los Angeles to San Diego via the Inland Empire HST Section incorporates conceptual engineering, environmental evaluation, and outreach information to identify feasible and practicable alternatives to carry forward for further engineering and environmental review and evaluation in the environmental impact report/environmental impact statement (EIR/EIS) under the California Environmental Quality Act (CEQA) and the National Environmental Protection Act (NEPA).

### ES.1 Los Angeles to San Diego via the Inland Empire Section HST Project Background

The California HST is planned to provide intercity, high-speed train service on over 800 miles of tracks throughout California that will connect the major population centers of Sacramento, the San Francisco Bay Area, the Central Valley, Los Angeles, the Inland Empire, Orange County, and San Diego. The HST system is envisioned as a state-of-the-art, electrically powered, high-speed, steel-wheel-on-steel-rail technology, which will include state-of-the-art safety, signaling, and automated train-control systems. The trains will be capable of operating at speeds of up to 220 mph over a fully grade-separated, dedicated track alignment, with an expected express trip time between Los Angeles and San Francisco of approximately 2 hours and 40 minutes and between Los Angeles and San Diego in 1 hour and 20 minutes.

The California HST project will be planned, designed, constructed, and operated under the direction of the Authority, a state governing board formed in 1996. The Authority's statutory mandate is to develop a high-speed train system that is coordinated with the state's existing transportation network, which includes intercity rail and bus lines, regional commuter rail lines, urban rail and bus transit lines, highways, and airports.

The LA-SD corridor extends over 170 miles, starting at a coordinated connection with the LA-Anaheim Section of the HST in Los Angeles and extending east through Los Angeles County to San Bernardino County, south through Riverside County to San Diego County, and ending in Downtown San Diego. Although the corridor is 170 miles in length, over 515 miles of alignment alternatives with over 801 miles of design options were reviewed. There is potential for up to 8 stations in the LA-SD Section, and 24 station options were reviewed. To facilitate the analysis of potential alignment alternatives, station locations, and station options, the LA-SD Section comprises three distinct subsections: Los Angeles Union Station (LAUS) to Ontario International Airport Subsection (S1), Ontario International Airport to Murrieta/Temecula Subsection (S2), and Murrieta/Temecula to San Diego Subsection (S3).

The Southern California Inland Corridor Group (SOCAL-ICG), which is composed of Southern California Association of Governments (SCAG), San Diego Association of Governments (SANDAG), Los Angeles County Metropolitan Transportation Authority (Metro), San Bernardino Associated Governments (SANBAG), Riverside County Transportation Commission (RCTC), Caltrans and the San Diego County Regional Airport Authority (SDCRAA), along with the San Gabriel Valley and Gateway Councils of Governments, regional technical working groups (TWGs), cities, counties, the United States Army Corps of Engineers, United States Fish and Wildlife Service, the California Department of Fish and Wildlife, the California Coastal Commission, MCAS Miramar, March ARB JPA, the Regional Water Quality Control Board, Los Angeles World Airports, the Port of San Diego and a wide range of public and private entities have provide input to the alignment and station options.

### ES.2 Results From the Preliminary Alternatives Analysis

The Authority and FRA, in addition to performing conceptual engineering and environmental analysis, have engaged the agencies, the public, and communities throughout the LA-SD Section and continue to incorporate their input. The bullets below outline some of the key highlights from the work to date:

- The approach alignments to LAUS will continue to be studied by both the Los Angeles to Anaheim Section and the LA-SD Section teams, in consultation with affected parties. The approach alignments for the I-10 and SR 60 corridors connecting North of LAUS; and at Mission Boulevard, First Street and Sixth Street will continue to be studied.
- The 2005 Programmatic EIR/EIS preferred alternative consisted of the UPRR from Redondo Junction in Los Angeles, east to the Colton Curve. UPRR has stated that the UPRR right-of-way would not be made available for this project because of impacts on freight movements in and out of the Port of Los Angeles and the Port of Long Beach, and/or it would result in the revocation of shippers' rights, which is a violation of Federal Surface Transportation Board guidance. The alignments primarily utilizing UPRR right-of-way or land immediately adjacent to UPRR are recommended for withdrawal from further consideration.
- In the inland corridor between Ontario International Airport and Murrieta/Temecula, three alternatives are carried forward: one that provides direct access to the City of San Bernardino Downtown via the I-215 corridor, a second in the I-215 corridor that bypasses Downtown San Bernardino but does potentially provide access to residents of San Bernardino via a station in San Bernardino County; and a third that travels in the I-15 corridor and essentially bypasses the City of San Bernardino.
- Two alignments between Murrieta/Temecula and San Diego are carried forward: SDIA via I-15 to Mira Mesa and LOSSAN Corridor – University City North and Murrieta/Temecula to SDIA via SR 163 and I-8. The alignment between SDIA and the Downtown San Diego Santa Fe Depot has been withdrawn, as has the Santa Fe Depot Downtown Station option. One station location in Escondido is recommended to be carried forward. In addition, SDIA is the preferred station location of SANDAG and SDIA and is the only San Diego Station carried forward.

The Proposition 1A legislation that authorized the development of the HST System requires that the connection between Los Angeles and San Diego be completed within 1 hour and 20 minutes. Many subsection alignment alternatives and design options have been included for analysis along the 170-mile-long corridor. The alignment options recommended to be carried forward in the Preliminary Alternatives Analysis Report may be combined in a variety of ways. Currently there are various permutations of the alignment alternative carried forward that meet the 1 hour and 20 minute travel time mandate. Detailed design and environmental analysis may result in changes to the alternative alignments that increase or decrease these times. The Preliminary Alternatives Analysis Report does not resolve these conflicts. The need for travel time trade-offs will be better informed by the results of the evaluations contained within the Draft EIS/EIR, and by subsequent preliminary engineering. The final alignment and option decisions accounting for the impact on travel time will be represented by the final alignment defined in the Final EIS/EIR.

The Preliminary Alternatives Analysis process has reduced the alignment options being considered from 801 miles to 288 miles, the station alternative locations from 8 to 7, and the total individual station location options from 24 to 13. The results of the preliminary alternatives analysis recommendations are graphically portrayed in Figures ES-1, ES-2, and ES-3. The alignments and station options carried forward are summarized in Figure ES-4. Alignments and stations recommended to be carried forward for EIR/EIS review are indicated by their recommended design option color (red, blue, or green). Those stations and alignments that are not recommended to be carried forward are indicated in grey. Tables ES-1, ES-3 and ES-6 summarize the recommended disposition of the alignment alternatives evaluated for each subsection. Tables ES-2, ES-4 and ES-6 summarize the recommended disposition of the station options evaluated for each subsection.

#### **ES.2.1 Alignment Alternatives and Station Options Carried Forward (Subsection 1) LAUS to Ontario International Airport**

Subsection 1 was divided into the areas as described below and each lists the alignments and associated station(s) to be carried forward for further evaluation. Refer to Figure ES-1 and Tables ES-1 and ES-2 respectively for the alignment and station option recommendations.

### **Alignments – LAUS to I-605/I-10**

All I-10 and SR-60 alignments and their respective connections to LAUS are recommended to be carried forward, including the following:

- LAUS to I-605 via I-10 (Alternative S1-A1)
- LAUS to I-605 via SR 60 (Alternative S1-A2)

### **Alignments – I-605/I-10 to Ontario International Airport**

One alignment alternative between I-605/I-10 and Ontario International Airport, with two options, is recommended to be carried forward, including the following:

- I-605/I-10 to Ontario International Airport via Holt Boulevard above-grade approach (S1-A6.1)
- I-605/I-10 to Ontario International Airport via 1st Street/State Street (S1-A6.2)

### **San Gabriel Valley Station Alternative**

The following four station options are recommended to be carried forward for further evaluation in Subsection 1:

- El Monte Transit Center Option
- West Covina Station Option
- Pomona Holt Station Option
- Pomona First Street Station Option

### **ES.2.2 Alignment Alternatives and Station Options Carried Forward (Subsection 2) Ontario International Airport to Murrieta/Temecula**

Subsection 2 was divided into the areas as described below and each lists the alignments and associated station(s) to be carried forward for further evaluation. Refer to Figure ES-2 and Tables ES-3 and ES-4 respectively for the alignment and station option recommendations.

#### **Alignments - I-215**

Two I-215 alignment alternatives are recommended to be carried forward:

- Metrolink corridor through San Bernardino and south along I-215 (S2-A1) – San Bernardino/I-215 through Riverside via Chicago Avenue (S2-A1.1)
- I-10 Corridor through Riverside and south along the I-215 (S2-A3) – I-10 through Riverside/I-215 via Chicago Avenue (S2-A3.1)

#### **Alignments - I-15**

One I-15 alignment alternative is recommended to be carried forward:

- I-15 Corridor (S2-A4) – I-15 to Corona (S2-A4.2)

#### **Ontario International Airport Station Alternative**

- Ontario International Airport

#### **San Bernardino Station Alternative**

- City of San Bernardino Station Option
- County of San Bernardino Station Option

### **North Riverside County Station Alternative**

- March ARB Station Option
- Corona Station Option

### **Murrieta Station Alternative**

- Murrieta Station – I-215 Option
- Murrieta Station – I-15 Option

### **ES.2.3 Alignment Alternatives and Station Options Carried Forward (Subsection 3) Murrieta/Temecula to San Diego**

Subsection 3 was divided into the areas as described below and each lists the alignments and associated station(s) to be carried forward for further evaluation. Refer to Figure ES 3 and Tables ES 5 and ES 6 respectively for the alignment and station option recommendations.

#### **Alignment Alternatives**

Two alignment alternatives, and one design option in Escondido, are recommended to be carried forward:

- Murrieta/Temecula to SDIA via I-15 to Mira Mesa and LOSSAN Corridor (Alternative S3-A2) - University City North (S3-A2.2)
- Murrieta/Temecula to SDIA via SR 163 and I-8 (Alternative S3-A3)
- Escondido Design Options - Escondido Station I-15 Option (S3-B1.1)

The following two station options are recommended to be carried forward for further evaluation in Subsection 3:

#### **Escondido Station Alternative**

- Escondido Station – I-15 Option

#### **San Diego Station Alternative**

- San Diego International Airport Station Option

### **ES.3 Alternative Analysis Evaluation Measures**

The alignment alternatives, station locations, and design options carried forward in this Preliminary Alternatives Analysis Report were assessed for each of the project objectives and evaluation measures. This information was then used to determine which alternatives are feasible and practicable and should be carried forward into preliminary engineering design and environmental review as part of the Draft EIR/EIS. The primary evaluation measures are listed below:

- Design objectives (including measures such as travel time and cost)
- Land use (including measures such as consistency with land use and general plans)
- Constructability (including measures such as guideway type construction and access to the corridor)
- Community impacts (including measures such as amount of land acquisition)
- Natural resources (including measures such as impacts on wetlands, potential threatened and endangered species habitat, and important farmlands)
- Environmental quality (including measures such as the number of sensitive noise receptors)
- Additional considerations (including measures such as the ability to meet project purpose, and support by the public and agencies).

#### ES.4 Public and Agency Outreach Efforts

The LA-SD Section has benefited significantly from input received from the Authority's partnering agencies, cities, and the public since the original development of an LA-SD Section in the 2005 Statewide Program environmental document. This starting point was expanded based on the ongoing input received from numerous stakeholders and the public, which began in 2007. This stakeholder input process was formalized in 2008 with the formation of the Southern California Inland Corridor Group (So Cal ICG) via a memorandum of understanding (MOU) with the Authority. In addition and as a subset of the So Cal ICG, TWGs in each of the four counties (i.e.; Los Angeles, San Bernardino, Riverside and San Diego) were established to include technical staff representatives from all affected and adjacent local cities and jurisdictions.

Recognizing the importance of the local, regional, state, and federal agency involvement in the HST planning process, the Authority has executed various MOUs to work in partnership on the HST project development. MOUs have been executed between the Authority and the following regional agencies in the LA-SD Section:

- SCAG
- Metro
- SANBAG
- RCTC
- SANDAG
- SDCRAA
- Statewide Caltrans (Districts 7, 8, and 11 encompass the LA-SD Section)

Since 2008, TWGs have been in place to support the LA-SD Section. The four TWGs (one per county) are comprised of city and public agencies from all potentially affected and/or interested cities along the alternative alignments. The TWGs provide local perspective and input based on their knowledge and awareness of the alignments and station options on an ongoing basis. In turn, TWG representatives provide internal briefings and updates to their elected bodies (e.g., city councils and board of supervisors) providing another link to the elected leadership of the LA-SD Section. Five rounds (four meetings per round, one per county) of TWG meetings have been held since 2008. The TWG meetings supported the Authority's conceptual engineering, feasibility analysis, and ultimately, the evaluation of the alternatives and stations for the Preliminary Alternatives Analysis Report.

A comprehensive public involvement program was developed to seek input and advise the public and agencies of the project developments during the environmental review process. As discussed above, pre-scoping activities were initiated in 2008, including the development of project information materials, early engagement with affected and adjacent cities and counties, and various forms of communication with interested parties and media contacts. Formal public scoping was completed for the LA-SD Section in September through November 2009. On September 17, 2009, a Notice of Preparation (NOP) announcing the preparation of the EIR was distributed to the State Clearinghouse, elected officials (federal, regional, and local), and federal, state and local agencies including the planning and

community development directors in each county, as well as the interested public. A Notice of Intent (NOI) announcing the preparation of the EIS was published in the *Federal Register* on September 24, 2009.

During the 2-month formal public scoping period, 12 public scoping meetings and 2 resource agency scoping meetings were held. Appendix D identifies when and where these scoping meetings occurred for the LA-SD Section. Approximately 812 people attended the open houses, approximately 1,243 written or recorded oral comments were submitted by individuals and organizations, and 62 agencies provided comments.

Two meetings were held with the regulatory resource agencies to provide information about the initial set of alternative alignments developed from scoping comments, discuss results of the preliminary studies, and review the current alternative alignments and station locations under consideration. The USACE, USFWS, USEPA, SWRCB, CDFG, local water boards, and the California Coastal Commission attended the meetings. The meetings were held in San Diego on February 1, 2010 and June 22, 2010.

#### ES.5 Next Steps

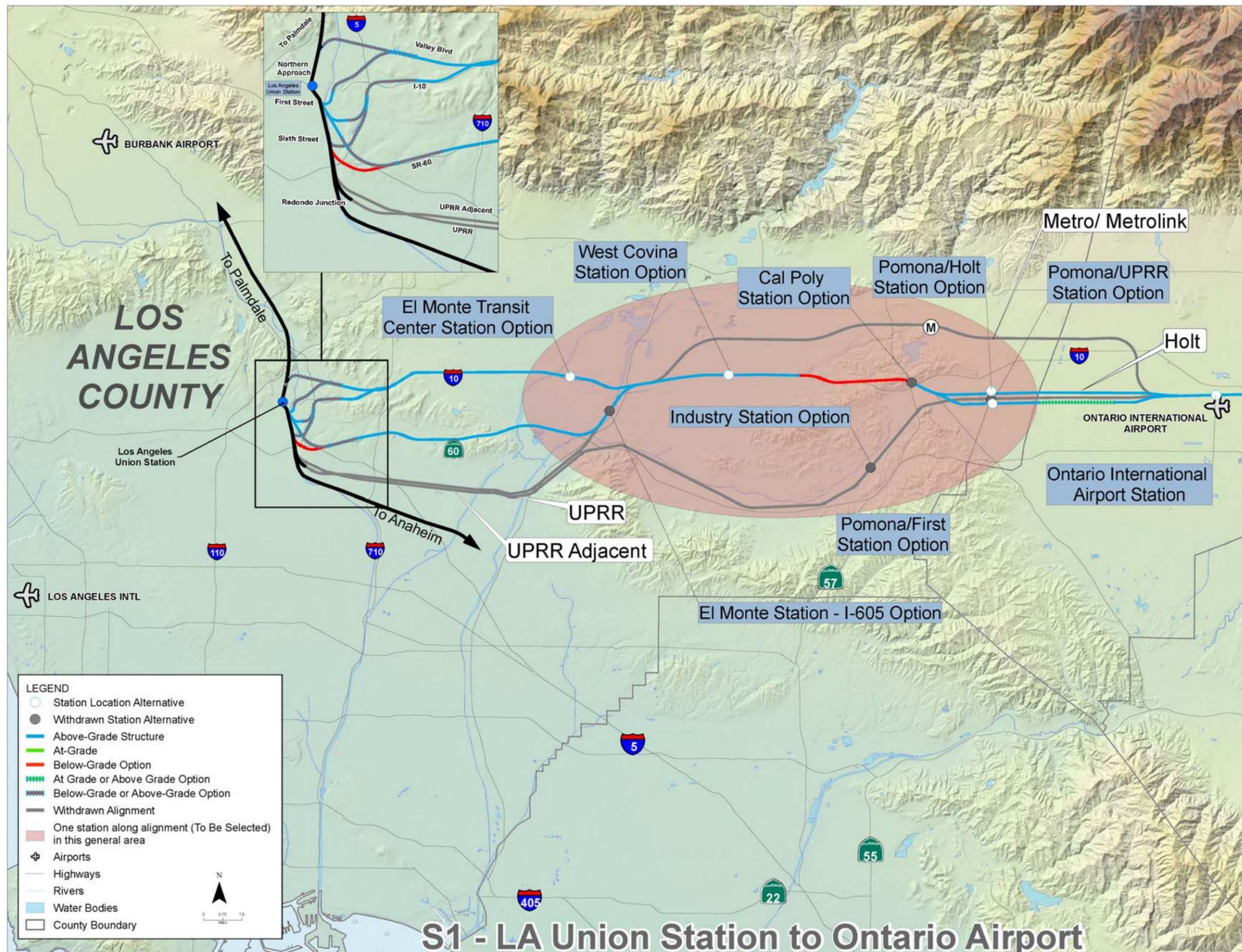
The Preliminary Alternatives Analysis Report recommends to the Authority that the alignments and station options shown on Figure ES-4 be carried forward into the EIS/EIR for further evaluation. Following the presentation of the Preliminary Alternatives Analysis Report in March 2011, the Authority will share all findings with the public and solicit additional input. For the LA-SD Section, approximately 24 public open house meetings are planned across the 4 counties. The open-house meetings will be held close to the alternatives and station locations that are recommended to be carried forward. The Authority will engage with the public to receive another round of input on the latest evaluation of these alternatives. All input will be documented and used in the ongoing refinement of the alternatives.

In addition, leading up to and following the presentation of the Preliminary Alternatives Analysis Report to the Authority Board in March 2011, established agency and public outreach efforts will continue as follows:

- The So Cal ICG will continue to meet on a monthly basis to review materials regarding the preliminary alternatives analysis, to understand the direction of the Authority Board and to continue to provide guidance.
- Additional follow-up meetings with specific corridor and station cities, as needed, including the San Gabriel Valley Council of Governments Working Group, the Riverside County Transportation Commission High-Speed Rail Ad Hoc Committee, and the San Diego County Agencies Group.
- Continued presentations and meetings with stakeholders along the corridor regarding the recommendations in the Preliminary Alternatives Analysis Report and the direction of the Authority Board.
- Ongoing discussions and meetings with regulatory resource agencies and Native American Tribes.

Agency and public comments received during the development of this Preliminary Alternatives Analysis Report will be evaluated, and any recommended changes to the alignment alternatives will be documented in the Supplemental Alternatives Analysis Report and presented to the Authority Board later (to be determined).

Figure ES-1: Alignment Alternatives and Station Options Carried Forward and Withdrawn (Subsection 1)



**Table ES-1: Alignment Alternatives Evaluation Matrix (Subsection 1)**

ALIGNMENT ALTERNATIVE/STATION LOCATION AND DESIGN OPTIONS	ALTERNATIVES ANALYSIS EVALUATION		REASONS FOR ELIMINATION P = Primary, S = Secondary									COMMENTS
	Carried Forward	Withdrawn	Project Goals/ Objectives	Construction	Incompatibility	Right-Of-Way	Connectivity/ Accessibility	Revenue/ Ridership	Community Impact	Environment		
<b>LAUS to I-605</b>												
<b>S1-A1: APPROACH OPTIONS TO LAUS plus INTERSTATE 10 TO I-605 (I-10)</b>												
I-10 via North above-grade approach (A1.1)	✓										Community disruption, visual impacts, and impacts on aquatic resources, particularly related to the Los Angeles, Rio Hondo, and San Gabriel Rivers.	
I-10 via North below-grade approaches (A1.2.1)	✓										Community disruption, visual impacts, and impacts on aquatic resources, particularly related to the Los Angeles, Rio Hondo, and San Gabriel Rivers although reduced by below grade alignment connecting to LAUS.	
I-10 via North below-grade approaches (A1.2.2)	✓										Community disruption, visual impacts, and impacts on aquatic resources, particularly related to the Los Angeles, Rio Hondo, and San Gabriel Rivers although reduced by below grade alignment connecting to LAUS.	
I-10 via Mission Road above-grade approach (A1.3)	✓										Community disruption, visual impacts, and impacts on aquatic resources, particularly related to the Los Angeles, Rio Hondo, and San Gabriel Rivers.	
I-10 via Mission Road below-grade approach (A1.4)	✓										Community disruption, visual impacts, and impacts on aquatic resources, particularly related to the Los Angeles, Rio Hondo, and San Gabriel Rivers, although reduced by below grade alignment connecting to LAUS.	
I-10 via I-5/First Street above-grade approach (A1.5)	✓										Community disruption, visual impacts, and impacts on aquatic resources, particularly related to the Los Angeles, Rio Hondo, and San Gabriel Rivers.	
I-10 via I-5/First Street below-grade approach (A1.6)	✓										Community disruption, visual impacts, and impacts on aquatic resources, particularly related to the Los Angeles, Rio Hondo, and San Gabriel Rivers, although reduced by below-grade alignment connecting to LAUS.	
I-10 via I-5/Sixth Street above-grade approach (A1.7)	✓										Community disruption, visual impacts, and impacts on aquatic resources, particularly related to the Los Angeles, Rio Hondo, and San Gabriel Rivers.	
I-10 via I-5/Sixth Street below-grade approach (A1.8)	✓										Community disruption, visual impacts, and impacts on aquatic resources, particularly related to the Los Angeles, Rio Hondo, and San Gabriel Rivers, although reduced by below-grade alignment connecting to LAUS.	
<b>S1-A2: STATE ROUTE 60 (SR-60)</b>												
SR-60 via First Street above-grade approach (A2.1)	✓										Community disruption, visual impacts, and impacts on aquatic resources, particularly related to the Los Angeles, Rio Hondo, and San Gabriel Rivers.	
SR-60 via First Street below-grade approach (A2.2)	✓										Community disruption, visual impacts, and impacts on aquatic resources, particularly related to the Los Angeles, Rio Hondo, and San Gabriel Rivers, although reduced by below-grade alignment connecting to LAUS.	
SR-60 via Sixth Street below-grade approach (A2.3)	✓										Community disruption, visual impacts, and impacts to aquatic resources, particularly related to the Los Angeles, Rio Hondo, and San Gabriel Rivers.	
<b>S1-A3: UNION PACIFIC RAILROAD (UPRR)</b>												
LAUS to east of 605 via UPRR via below-grade 6th Street connection to LAUS (A3.1)		✓			P	P			S		UPRR operational and capacity constraints affecting critical freight rail corridor, extensive land use impacts, and constrained geometrics make this alternative impracticable.	
LAUS to east of 605 via UPRR via above-grade Redondo Junction connection to LAUS (A3.2)		✓			P	P			S	S	UPRR operational and capacity constraints affecting a critical freight rail corridor, extensive land use impacts, and constrained geometrics make this alternative impracticable.	
<b>S1-A4: UPRR ADJACENT</b>												
LAUS to I-605 via land adjacent to the UPRR via 6th Street below-grade connection to LAUS (A4.1)		✓			P	P			S	S	Adjacent to ROW; would result in substantial property acquisitions and impacts on UPRR-related industrial activities; constrained geometrics make this alternative impracticable.	
LAUS to I-605 via land adjacent to the UPRR via Redondo Junction above-grade connection to LAUS (A4.2)		✓			P	P			S	S	Adjacent to ROW; would result in substantial property acquisitions and impacts on UPRR-related industrial activities; constrained geometrics make this alternative impracticable.	
<b>I-605 to Ontario International Airport</b>												
<b>S1-A5: METROLINK TO ONT</b>												
I-605/I-10 to Ontario International Airport via Metrolink (A5)		✓			P	P			S	S	Rail conflicts and insufficient right-of-way in shared-use corridor and high disruption to local communities make this alternative impracticable.	
<b>S1-A6: I-10 AND HOLT</b>												
I-605/I-10 to Ontario International Airport via I-10/Holt, Holt Boulevard above-grade approach (A6.1)	✓										Community impacts, noise and visual impacts, and traffic impacts.	
I-605/I-10 to Ontario International Airport via First Street/State Street	✓										Community impacts, noise and visual impacts, and traffic impacts.	
<b>S1-A7: UPRR</b>												
S1-A7: UPRR from east of I- 605 to Ontario Intl. Airport (A7)		✓			P	P			S	S	UPRR operational and capacity constraints affect critical freight rail corridor, impacts on surrounding properties, and constrained geometrics make this alternative impracticable.	

**Table ES-2: Station Option Evaluation Matrix (Subsection 1)**

ALIGNMENT ALTERNATIVE/ STATION LOCATION AND DESIGN OPTIONS	ALTERNATIVES ANALYSIS EVALUATION		REASONS FOR ELIMINATION P = Primary, S = Secondary								COMMENTS
	Carried Forward	Withdrawn	Alignment Withdrawn	Construction	Incompatibility	Right-Of-Way	Connectivity/ Accessibility	Revenue/Ridership	Community Impact	Environment	
<b>STATION ALTERNATIVES</b>											
<b>San Gabriel Valley Station Alternatives</b>											
<b>El Monte Transit Center North Option</b>	✓										Station integrated with eastern terminus station of El Monte Busway serving downtown Los Angeles (Metro Silver Line), a major San Gabriel Valley intermodal center. Station serves Downtown El Monte; within 0.75 mile of El Monte Metrolink Station; easy access from I-10 freeway. Transit-oriented development (TOD) potential.
<b>El Monte Station – I-605 Option</b>		✓			S		S		P	S	Station site not close to urban center and does not provide major intermodal connection. Potentially encroaches on the Rio Hondo River channel and would displace a high school campus and residential areas.
<b>West Covina Station Option</b>	✓										Station adjacent to downtown West Covina and major shopping centers, easy access from I-10 freeway. Site is located approximately equidistant between Los Angeles and Ontario International Airport HST stations. Significant site constraints require further study and may require local design and siting options.
<b>Cal Poly Station Option</b>		✓			P		S		S	S	This station location is not close to an urban center and not at a walkable distance to the Cal Poly campus. Facilities associated with this station would displace open space and residential developments and visually affect the Forest Lawn Cemetery, south of I-10. The station site has poor accessibility to I-10, no intermodal connections, and is not suited for TOD development.
<b>Industry Station Option</b>		✓	✓								Alignment alternative for this station was withdrawn.
<b>Pomona Holt Station Option</b>	✓										Station within 0.25 mile of Downtown Pomona and within two blocks of Metrolink/Amtrak station and bus intermodal center. Accessed by major north-south and east-west arterial streets (Holt Ave. and Garey Ave.). Station displaces churches and other institutional and commercial uses.
<b>Pomona UPRR Station Option</b>		✓	✓								Alignment alternative for this station was withdrawn.
<b>Pomona First Street Station Option</b>	✓										Station location has excellent intermodal connections and downtown access. There are feasibility issues with this station location, including a narrow, active railway corridor, lack of parking, potential impacts on historical resources including adjacent downtown commercial structures and the Historical Santa Fe Depot.

Figure ES-2: Alignment Alternatives and Station Options Carried Forward and Withdrawn (Subsection 2)

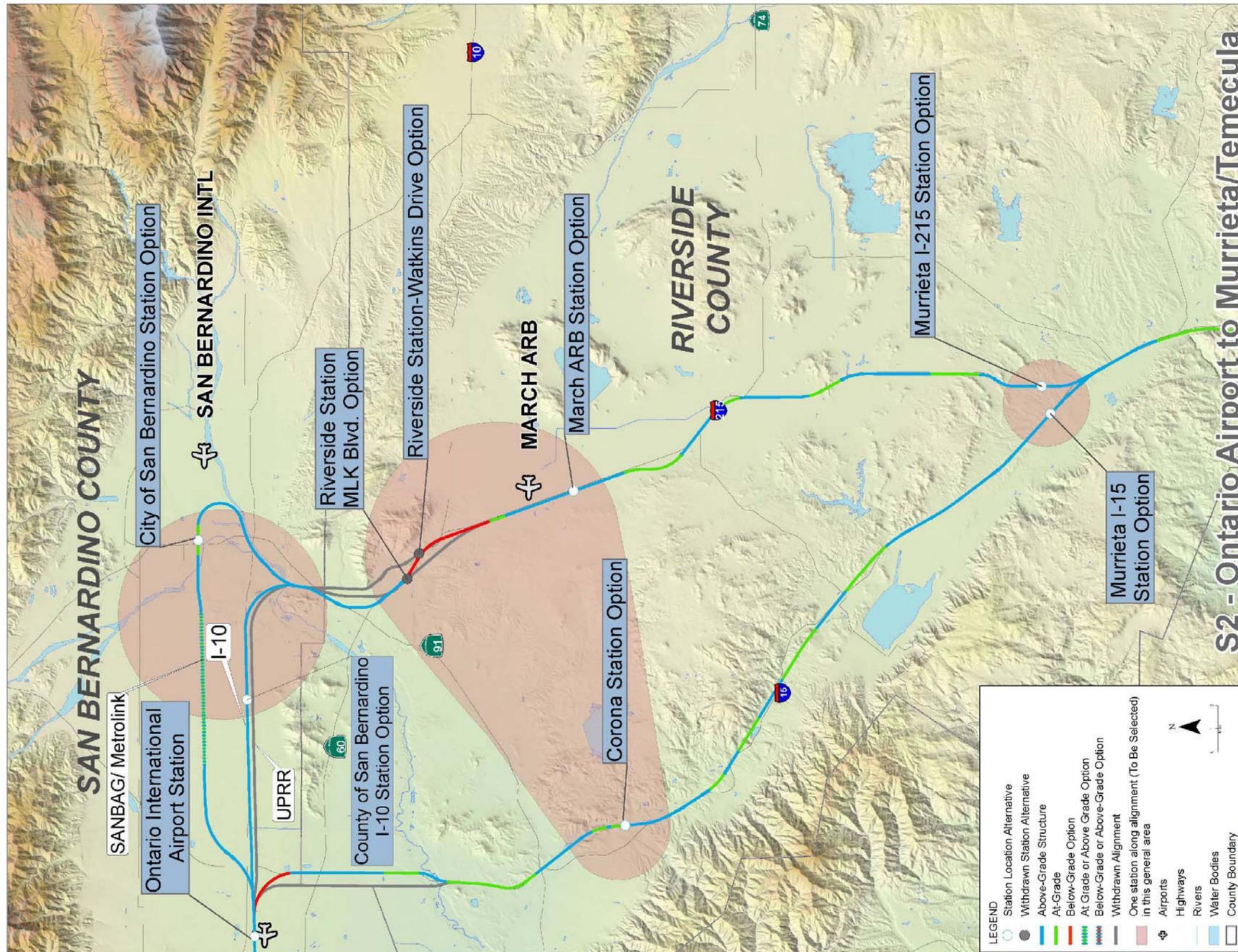


Table ES-3: Alignment Alternatives Evaluation Matrix (Subsection 2)

ALIGNMENT ALTERNATIVE/STATION LOCATION AND DESIGN OPTIONS	ALTERNATIVES ANALYSIS EVALUATION		REASONS FOR ELIMINATION P = Primary, S = Secondary								COMMENTS
	Carried Forward	Withdrawn	Project Goals and Objectives	Construction	Incompatibility	Right-Of-Way	Connectivity/Accessibility	Revenue/ Ridership	Community Impact	Environment	
<b>Ontario to Murrieta/Temecula</b>											
<b>S2-A1 (San Bernardino/I-215) Metrolink Corridor through San Bernardino and South along the I-215</b>											
San Bernardino/I-215 through Riverside via Chicago Avenue (A1.1)	✓										Community impacts, noise and visual impacts, biological resources, floodplain impacts, state water project, and major utility impacts.
San Bernardino/I-215 through Riverside via Iowa Avenue (A1.2)		✓			P				P	S	Higher level of construction impacts on residential, commercial, and industrial properties than Chicago alternative; Local stakeholder agreement supports the Chicago alignment.
San Bernardino/I-215 through Riverside via UC-Riverside (A1.3)		✓			P				P	S	Not consistent with the UC-Riverside Master Plan; construction impacts on existing and planned UC Riverside facilities; Local stakeholder agreement supports the Chicago alignment.
<b>S2-A2 (UPRR/I-215) UPRR Corridor through Riverside and South along the I-215</b>											
Riverside/I-215 through Riverside via Chicago Avenue (A2.1)		✓			P	P			S		Existing and future railroad operational constraints and impacts on major freight yard operations at Colton result in the alignment being impracticable.
Riverside/I-215 through Riverside via Iowa Avenue (A2.2)		✓			P	P			S		Existing and future railroad operational constraints and impacts on major freight yard operations at Colton result in the alignment being impracticable.
Riverside/I-215 through Riverside via UC Riverside (A2.3)		✓			P	P			S		Existing and future railroad operational constraints and impacts on major freight yard operations at Colton result in the alignment being impracticable.
<b>S2-A3 (I-10/I-215) I-10 Corridor through Riverside and South along the I-215</b>											
I-10 through Riverside/I-215 via Chicago Avenue (A3.1)	✓										Biological resources and state water project and utility impacts.
I-10 through Riverside/I-215 via Iowa Avenue (A3.2)		✓			P				P	S	Higher level of construction impacts on residential, commercial, and industrial properties than Chicago alternative; Local stakeholder agreement supports the Chicago alignment.
I-10 through Riverside/I-215 via UC-Riverside (A3.3)		✓			P	P	S		P	S	Not consistent with the UC-Riverside Master Plan; construction impacts on existing and planned UC Riverside facilities; Local stakeholder agreement supports the Chicago alignment.
<b>S2-A4 (I-15) I-15 Corridor</b>											
I-15 Corridor – Milliken/Hamner to Corona (A4.1)		✓				P			S	P	Impacts on Section 6(f) conservation area for the Delhi Sands flower-loving fly (endangered species), in addition to community, noise, and visual impacts, and impacts on equestrian trails; MSHCP core area, waterway crossings, and Santa Margarita Ecological Reserve.
I-15 Corridor – I-15 to Corona (A4.2)	✓										Community, noise, and visual impacts, and impacts on equestrian trails; MSHCP core area, waterway crossings, and Santa Margarita Ecological Reserve.

**Table ES-4: Station Option Evaluation Matrix (Subsection 2)**

ALIGNMENT ALTERNATIVE/ STATION LOCATION AND DESIGN OPTIONS	ALTERNATIVES ANALYSIS EVALUATION		REASONS FOR ELIMINATION P = Primary, S = Secondary								COMMENTS
	Carried Forward	Withdrawn	Alignment Withdrawn	Construction	Incompatibility	Right-Of-Way	Connectivity/ Accessibility	Revenue/ Ridership	Community Impact	Environment	
<b>STATION ALTERNATIVES</b>											
<b>Ontario International Airport Station Alternative</b>											
Ontario International Airport Station	✓										Station connects to Ontario International Airport passenger terminals, future extension of Metro Gold Line, possible Metrolink (if service relocates to UPRR corridor in future); easy access to I-10 and I-15 freeways. Significant TOD potential. Final station location determined by final alignment alternative.
<b>San Bernardino Station Alternative</b>											
City of San Bernardino Station Option	✓										Station located on site of future Downtown Transit Center (includes extension of Metrolink service from existing Metrolink/Amtrak station). Site within 0.25 mile of civic/commercial core and baseball stadium. Significant TOD potential. Easy access from I-215 freeway.
County of San Bernardino Station Option	✓										This station option would provide access to the HST System for the San Bernardino area if the City of San Bernardino Station Option cannot be achieved. This station location would be near a future freeway interchange that would provide intermodal connectivity.
<b>North Riverside County Station Alternatives</b>											
Riverside Station – Martin Luther King Boulevard Option		✓							P		City of Riverside and UC-Riverside support the station at March ARB.
Riverside Station – Watkins Drive Option		✓	✓								Alignment alternative for this station was withdrawn.
March ARB Station Option	✓										Station not near traditional urban centers but serves region of significant urban growth (Moreno Valley); interfaces with future Metrolink and passenger air services. City of Riverside and UC-Riverside expressed a preference for this site. Site affects adjacent military cemetery. Easy access from I-215 freeway.
Corona Station Option	✓										Station in suburban location (4 miles southeast of Downtown Corona) but serves area of significant upscale growth along I-15 corridor. Adjacent to regional retail/commercial/residential center at I-15/Cajalco Road interchange. Possible significant TOD potential. Easy access from I-15 freeway.
<b>Murrieta Station Alternatives</b>											
Murrieta I-15 Station Option	✓										This station supports the I-15 alignment alternative. Station located within 1 mile of Murrieta town center and 3 miles of Temecula town center; easy access from I-15 and I-215 freeways, existing context is commercial/mixed use center in area undergoing rapid urbanization. Significant TOD potential. Both cities support location.
Murrieta I-215 Station Option	✓										This station supports the I-215 alignment alternative. Station located within 2 miles of Murrieta town center and 3 miles of Temecula town center; easy access from I-15 and I-215 freeways; existing context is commercial/mixed-use center in area undergoing rapid urbanization. Significant TOD potential. Both cities support location.

Figure ES-3: Alignment Alternatives and Station Options Carried Forward and Withdrawn (Subsection 3)

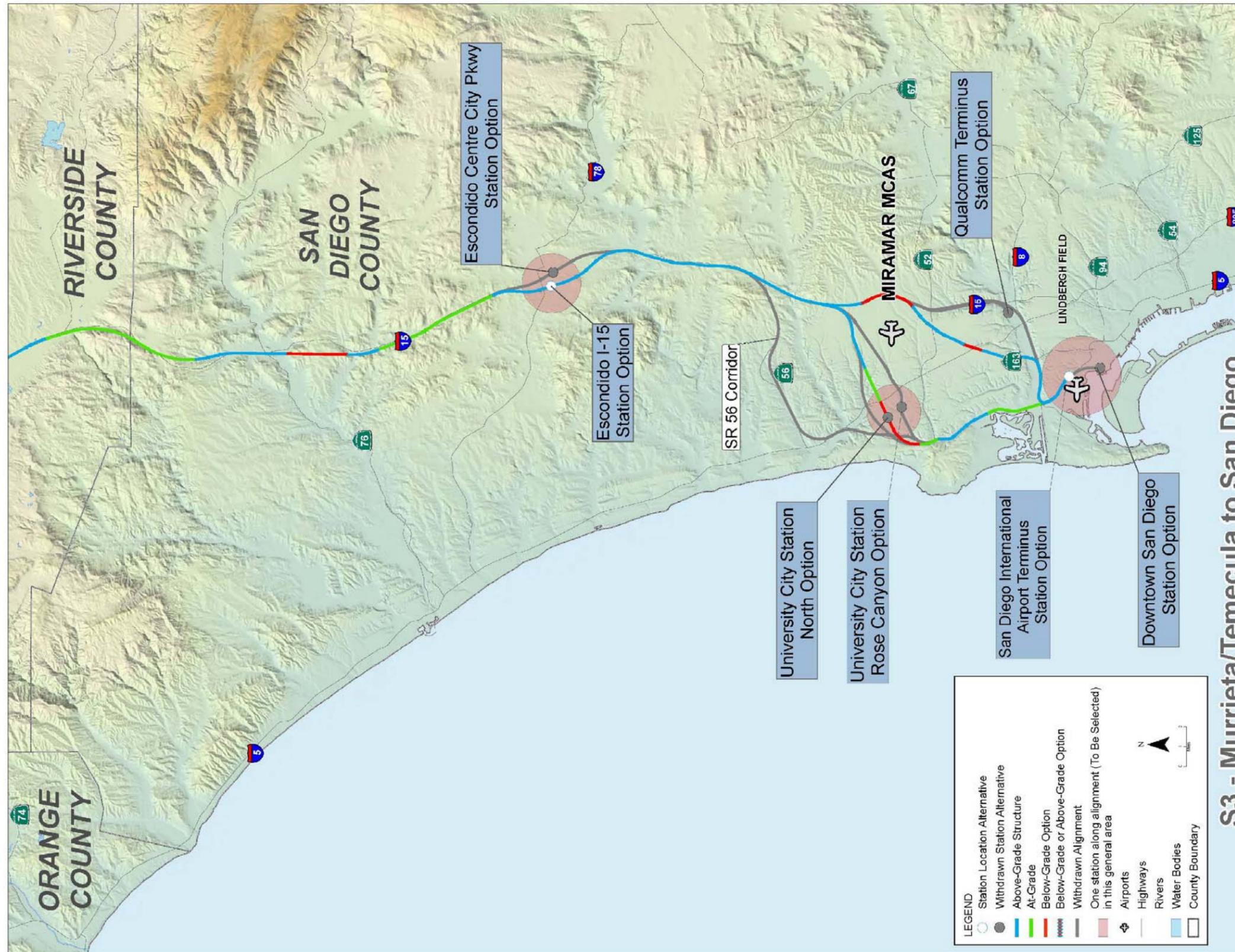


Table ES-5: Alignment Alternatives Evaluation Matrix (Subsection 3)

ALIGNMENT ALTERNATIVE/STATION LOCATION AND DESIGN OPTIONS	ALTERNATIVES ANALYSIS EVALUATION		REASONS FOR ELIMINATION P = Primary, S = Secondary									COMMENTS
	Carried Forward	Withdrawn	Project Goals and Objectives	Construction	Incompatibility	Right-Of-Way	Connectivity/Accessibility	Revenue/Ridership	Community Impact	Environment		
<b>Murrieta/Temecula to San Diego</b>												
<b>S3-A1 (SR-56) Murrieta/Temecula to SDIA via SR 56 and LOSSAN Corridor</b>												
Murrieta/Temecula to SDIA via SR 56 and LOSSAN Corridor		✓									P P	USACE, USFWS and Coastal Commission have expressed concern related to impacts on coastal canyon, vernal pool and the California Gnatcatcher. Highest environmental impacts for alternatives in Subsection 3.
<b>S3-A2 (University City) Murrieta/Temecula to San Diego Alternative Routes</b>												
Murrieta/ Temecula to SDIA via I-15 to Mira Mesa and LOSSAN Corridor – Carroll Canyon (A2.1)		✓									P P	USACE, USFWS and Coastal Commission have expressed concern related to impacts on coastal canyon, vernal pool and the California Gnatcatcher. Impacts on aquatic resources, critical wildlife connectivity and multi-habitat planning areas (MHPA) in the MSCP.
Murrieta/ Temecula to SDIA via I-15 to Mira Mesa and LOSSAN Corridor – University City North (A2.2)	✓											Biological resource impacts.
Murrieta/ Temecula to SDIA via I-15 to Mira Mesa and LOSSAN Corridor - Rose Canyon (A2.3)		✓									P P	USACE, USFWS and Coastal Commission have expressed concern related to impacts on coastal canyon, vernal pool and the California Gnatcatcher. Second highest environmental impacts for alternatives in Subsection 3.
<b>S3-A3 (SR-163/I-8) Murrieta/Temecula to SDIA via SR163 and I-8</b>												
Murrieta/Temecula to SDIA via SR163 and I-8	✓											Biological resource concerns, impacts on MCAS Miramar.
<b>S3-A4 (I-15/I-8) Murrieta/Temecula to SDIA via I-15 and I-8</b>												
Murrieta/Temecula to SDIA via I-15 and I-8		✓		P								Third level (over 120-foot tall) guideway would be required through Mission Valley.
<b>S3-A5 (Qualcomm) Murrieta/Temecula to Qualcomm Stadium via I-15 and terminate</b>												
Murrieta/Temecula to Qualcomm Stadium Terminus via I-15		✓		P							S	Alignment does not meet project purpose and need to access airports and city centers related to the Qualcomm Stadium terminus, has substantive constructability challenges, and SANDAG and the City of San Diego prefer the SDIA Station Terminus.
<b>S3-B1: ESCONDIDO DESIGN OPTIONS (From Country Club to Via Rancho Parkway)</b>												
Escondido Station I-15 Option (B1.1)	✓											Community impacts, noise and visual impacts, traffic impacts.
Escondido Station Centre City Parkway Option (below-grade) (B1.2)		✓			S						P	Alignment is not in conformance with the Downtown Specific Plan and would result in substantial construction impacts in the downtown core; City of Escondido expressed preference for the I-15 option.
Escondido Station Centre City Parkway Option (above-grade) (B1.3)		✓			S						P	Alignment is not in conformance with the Downtown Specific Plan and would result in substantial construction impacts in the downtown core; City of Escondido staff prefers the I-15 option.
<b>S3-B2: DOWNTOWN SAN DIEGO</b>												
Downtown San Diego Station Option (SDIA to Santa Fe Depot) – Above-Grade (B2.1)		✓			S						P	Land use and traffic impacts, would require vertical and horizontal separation from AMTRAK, Coaster and Trolley. Impacts on historic resources, and the City of San Diego and SDIA have expressed preference for the SDIA Station.
Downtown San Diego Station Option (SDIA to Santa Fe Depot) – Below-Grade (B2.2)		✓			S						P	Potential to encounter groundwater and hazardous wastes, City of San Diego and SDIA have expressed preference for the SDIA Station.

**Table ES-6: Station Option Evaluation Matrix (Subsection 3)**

ALIGNMENT ALTERNATIVE/ STATION LOCATION AND DESIGN OPTIONS	ALTERNATIVES ANALYSIS EVALUATION		REASONS FOR ELIMINATION P = Primary, S = Secondary								COMMENTS
	Carried Forward	Withdrawn	Alignment Withdrawn	Construction	Incompatibility	Right-Of-Way	Connectivity/ Accessibility	Revenue/Ridership	Community Impact	Environment	
<b>STATION ALTERNATIVES</b>											
<b>Escondido Station Alternatives</b>											
Escondido Station I-15 Option	✓										Station located 0.5 mile from Escondido Transit Center, not within walking distance of downtown. Potential connection to Sprinter commuter rail requires new Sprinter platform at station location. Site affects Sprinter yard and operations and maintenance complex. Reasonable access from I-15 and SR 78 freeways.
Escondido Station Centre City Parkway Option		✓	✓								Alignment alternative for this station was withdrawn.
<b>University City Station Alternatives</b>											
University City Station North Option		✓		P					S		Deep underground station directly beneath major high-density, mixed-use center. Because of existing build-out, future TOD potential may be limited. Surface constraints limit access points; construction impacts may be high. The City of San Diego and SANDAG have withdrawn their support for a station in this location.
University City Station – Rose Canyon Option		✓	✓								Alignment alternative for this station was withdrawn.
<b>San Diego Station Alternatives</b>											
Qualcomm Stadium Terminus Station Option		✓	✓								Alignment alternative for this station was withdrawn.
San Diego International Airport Station Option	✓										Station adjacent to planned "Destination Lindbergh" airline terminal complex. Major intermodal center connects downtown airport, HST, intercity and commuter rail, and San Diego Trolley. Easy access from San Diego freeways. Not within walking distance of city center in Downtown San Diego.
Downtown San Diego Station Option		✓			S				P	S	Elevated or underground station adjacent to historical Santa Fe Depot. Direct access to downtown. Constrained corridor with existing high-rise structures; visual and noise impacts. SANDAG supports the SDIA Alternative as site for HST terminus station.

