



# CALIFORNIA High-Speed Rail Authority

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## **BRIEFING: NOVEMBER 15, 2018 BOARD MEETING AGENDA ITEMS #1 & 4**

**TO:** Chairman Richard and Board Members

**FROM:** Michelle Boehm, Southern California Regional Director  
Juan Carlos Velasquez, Project Manager  
Mark McLoughlin, Director of Environmental Services

**DATE:** November 15, 2018

**RE:** Consider Concurring with the Staff Recommended State Preferred Alternative for the Palmdale to Burbank Project Section for Identification in the Draft EIR/EIS

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### **Summary of Recommended Action**

California High-Speed Rail Authority (Authority) staff recommends that the Board of Directors (Board) identify the Refined State Route (SR) 14 Alternative as the State's Preferred Alternative for preparing the Palmdale to Burbank Project Section Draft Environmental Impact Report (EIR)/Environmental Impact Statement (EIS). Staff's recommendation is based on the conceptual engineering, environmental analysis, and numerous public, stakeholder, and agency meetings conducted to date.

Upon receiving the Board's concurrence, the Refined SR14 Alternative will be identified as the State's Preferred Alternative in the Draft EIR/EIS. Identification of the Preferred Alternative is neither an approval nor a final decision, and the Authority may change the preferred alternative depending on the comments received during public and agency review of the Draft EIR/EIS. Staff will return to the Board to request final project approval of an alternative once the Final EIR/EIS has been prepared. The Authority anticipates releasing the Draft EIR/EIS for public and agency review and comment in late 2019, and staff will take those comments into consideration while developing the Final EIR/EIS.

Staff will seek concurrence regarding the Preferred Alternative from the Federal Railroad Administration (FRA). With FRA's concurrence, the Refined SR14 Alternative would be identified both as the State's Preferred Alternative and the federal NEPA Preferred Alternative.

### **Background**

The Palmdale to Burbank Project Section was originally part of the larger Palmdale to Los Angeles Project Section. The 2005 Programmatic EIR/EIS identified broad study corridors in the Palmdale to Los Angeles Section, which then were used to narrow the potential alignment alternatives and station options. Based on the 2005 Programmatic EIR/EIS, the Authority and FRA selected the SR-58/Soledad Canyon (Antelope Valley) corridor as the preferred alignment between the Sylmar neighborhood of Los Angeles and the city of Bakersfield, including alignments connecting Palmdale to Burbank. Following the identification of this preferred corridor, preparation of a Tier 2 project-level EIR/EIS document was initiated to develop and evaluate a range of alignment alternatives. Activities conducted during this process include:

- Scoping for the Palmdale to Los Angeles Project Section in 2007.
- *Preliminary Palmdale to Los Angeles Alternatives Analysis Report (July 2010)*: This analysis built upon the 2005 Programmatic EIR/ EIS and identified initial range of alternatives between Palmdale and Los Angeles.
- *Supplemental Palmdale to Los Angeles Alternatives Analysis Report (March 2011)*: This analysis refined alignment alternatives between Los Angeles Union Station and Sylmar.
- *Palmdale to Los Angeles Supplemental Alternatives Analysis Report: Sylmar-Palmdale Subsection (April 2012)*: This analysis focused solely on refining alignment alternatives within the Santa Clarita and Palmdale areas.

In 2014, the Palmdale to Los Angeles Project Section was separated into the Palmdale to Burbank and Burbank to Los Angeles Project Sections. The Authority and FRA determined that separate environmental documents would be more beneficial to address environmental impacts and conduct stakeholder outreach. On July 24, 2014, the Authority released a CEQA Notice of Preparation, and the FRA published a NEPA Notice of Intent to prepare separate EIR/EIS documents for the Palmdale to Burbank and Burbank to Los Angeles Project Sections.

The Authority conducted further planning studies to continue to analyze potential alignments between Palmdale and Burbank, including:

- *Palmdale to Los Angeles Supplemental Alternatives Analysis Report (May 2014)*: This report reevaluated and withdrew several alignment alternatives and station options along the SR14 Corridor connecting Palmdale to Los Angeles Union Station.
- Scoping for the Palmdale to Burbank Project Section in July 2014.
- *Palmdale to Burbank Project Section Supplemental Alternatives Analysis Report (June 2015)*: This analysis reevaluated all alignment alternatives and station options in the SR14 Corridor that were carried forward from the 2014 SAA. The Authority also introduced additional alignments that generally follow a second proposed corridor, the East Corridor, going underneath the Angeles National Forest (ANF).
- *Palmdale to Burbank Project Section Supplemental Alternatives Analysis Report (April 2016)*: This analysis reevaluated all alignment alternatives and station options of the SR14 Corridor and East Corridor carried forward from the 2015 SAA between the cities of Palmdale and Burbank.

Through this process the Authority identified three unique, end-to-end Build Alternatives for study in the Draft EIR/EIS. These Build Alternatives, Refined SR14, E1, and E2, start in Palmdale and end in Burbank. Exhibit 1 depicts the Refined SR14, E1, and E2 Build Alternatives. A detailed project description is included in the attached staff report, which also reviews the evolution of alternatives development between 2005 and 2018 that led to the present three Build Alternatives and ultimately the staff recommended Preferred Alternative.

Starting in 2017, the Authority undertook further refinement of the station options at Hollywood Burbank Airport to address stakeholder input and reduce community impacts. The refinement included withdrawing one at-grade station option to reduce community impacts, and refining depth of the below-ground station option to

reduce construction impacts. The refined below-ground station would be adjacent to the relocated Hollywood Burbank Airport, which would allow direct link between these two important transportation hubs and enhance multimodal connectivity.

### **Project Alternatives Design Overview**

The Palmdale to Burbank Section links the Antelope Valley and the San Fernando Valley, connecting the Palmdale Transportation Center in Palmdale to the Hollywood Burbank Airport in Burbank. There are three Build Alternatives in the Palmdale to Burbank Project Section: Refined SR14, E1, and E2. These alternatives are briefly described below:

#### ***Refined SR14 Alternative***

The Refined SR14 Alternative would be approximately 38.4 miles in length. From Palmdale through Acton and Agua Dulce, the alignment would generally parallel the SR14 freeway corridor. The Refined SR14 Alternative would pass Lake Palmdale, and would enter a tunnel north of the California Aqueduct. The alignment would tunnel beneath the Aqueduct and would emerge to cross over the SR14 freeway on elevated structure near Red Rover Mine Road. The Refined SR14 Alternative would continue to generally parallel the SR14 freeway corridor via a series of tunnels, at-grade sections, and elevated structures south/westward. Near Lang Station, the Refined SR14 Alternative would bridge over the Santa Clara River prior to reaching Santa Clarita and turn south. The alignment would then transition into a tunnel on entering a portion of the Angeles National Forest/San Gabriel Mountains National Monument (ANF/SGMNM) that includes an existing mining operation. The alignment would travel within a 12-mile-long bored tunnel that would continue beneath portions of the ANF/SGMNM until emerging from the tunnel in the Pacoima neighborhood (City of Los Angeles). The alignment would cross over the Hansen Spreading Grounds and follow the existing Metrolink corridor into Burbank Airport Station.

#### ***E1 Alternative***

The E1 alignment alternative would be approximately 36.3 miles in length. South from Palmdale, the E1 alignment would pass Lake Palmdale, and would continue south at-grade, crossing over the California Aqueduct. The alignment would then continue at grade or in shallow tunnel east of the SR14 freeway towards the Vincent Substation in the Acton area. West of the substation, the E1 alignment would transition to a tunnel as it approaches the boundary of the ANF/SGMNM near Searchlight Ranch Road. In the Aliso Canyon area, the E1 alignment would emerge from tunnel and transition to an elevated structure over a tributary of the Santa Clara River and Aliso Canyon Road. After passing over Aliso Canyon Road, the E1 alignment would enter an approximately 22-mile-long bored tunnel passing under the ANF/SGMNM. The E1 alignment would emerge from a tunnel at-grade in the Pacoima neighborhood (City of Los Angeles). The alignment would cross over the Hansen Spreading Grounds and follow the existing Metrolink corridor into Burbank Airport Station.

#### ***E2 Alternative***

The E2 alignment alternative would be approximately 32.8 miles in length. Between Palmdale and Aliso Canyon Road, the E2 alignment would be identical to E1, described above. Immediately west of Aliso Canyon Road, the E2 alignment would enter a 17-mile-long tunnel. The tunnel would follow a

southwesterly route beneath the ANF and SGMNM, curving progressively in a more south-southwesterly direction as the alignment passes beneath Mendenhall Ridge Road. The E2 alignment would exit the tunnel at-grade in the hills north of the Lake View Terrace neighborhood, near the BP & L Road. The E2 alignment would then continue at grade a short distance before transitioning to an elevated structure. The elevated structure would cross over Arnwood Road, Foothill Boulevard, and the I-210 freeway, then Big Tujunga Wash, before passing under Wentworth Street. The crossing of the Big Tujunga Wash would be located in between the two existing electrical transmission towers and lines crossing the Big Tujunga Wash. From Wentworth Street, the alignment would enter a tunnel under the Shadow Hills and Sun Valley neighborhoods (City of Los Angeles), until reaching the Burbank Station

### **Stakeholder Engagement**

The Authority has proactively sought to initiate meaningful dialogue with stakeholders, resource agencies, municipalities, landowners, community leaders, and interested members of the public, going beyond the required outreach proscribed by the NEPA/CEQA process to secure the broadest possible participation in the development of the project. The Authority has frequently held public meetings to inform the development of the project design and the preparation of the Draft EIR/EIS. To date, over 230 meetings with stakeholders and community organizations have been held throughout the project section.

Authority staff has engaged with the public in a variety of ways, including responding to questions, one-on-one meetings, small group meetings, public meetings, participation in local events, and presentations at community meetings. Most recently, Authority staff engaged with agencies, stakeholders, and the public to provide information about the staff-recommended State's Preferred Alternative and solicit feedback on the proposed recommendation. These activities included:

- Preferred Alternative briefing with Southern California regulatory agencies on September 19, 2018;
- Preferred Alternative briefing to the US Forest Service on September 28, 2018; and,
- Four community open houses between September 24, 2018 and September 29, 2018 in the communities of Acton-Agua Dulce, Shadow Hills, Pacoima and Palmdale.

These meetings provided participants with a forum to ask questions and share comments and concerns about the staff-recommended State's Preferred Alternative and the project section in general. Approximately 663 community members participated in open houses, which were provided in up to 9 languages. Questions and concerns expressed by the public in these meetings included, but were not limited to: potential environmental justice community impacts, potential impacts in the ANF; the use of clean, renewable electricity to operate the project; private property acquisition and displacement; impacts to community character; noise and vibration; and, impacts to domestic and wild animals.

### **Prior Board Action**

- On July 8, 2010, Authority staff presented the 2010 Palmdale to Los Angeles Preliminary Alternatives Analysis (PAA). The Board concurred with the staff recommendation.
- On March 3, 2011, Authority staff presented the 2011 Palmdale to Los Angeles Supplemental Alternatives Analysis (SAA). The Board concurred with the staff recommendation.

- On January 12, 2012, Authority staff presented a Conceptual Study of the I-5 corridor confirming the 2005 decision to drop the I-5 corridor, reaffirming the decision made in the 2005 Program EIR/EIS, in favor of the Antelope Valley corridor as outlined in Resolution #HSRA 12-01.
- On May 2, 2012, Authority staff presented the 2012 Palmdale to Los Angeles SAA. The Board concurred with the staff recommendation as outlined in Resolution #HSRA 12-16.
- On June 3, 2014, Authority staff presented the 2014 Palmdale to Los Angeles SAA. This was an information item for the Board.
- On June 9, 2015, Authority staff presented the 2015 Palmdale to Burbank SAA. This was an information item for the Board.
- On April 12, 2016, Authority staff presented the 2016 SAA, which detailed further refinements made to the alternatives identified in the 2015 SAA. Staff presented three end-to-end alternatives (Refined SR14, E1, E2) for further study in the Draft EIR/EIS. This was an information item for the Board.

**Discussion**

Staff established a range of criteria to use in the identification of a preferred alternative. These criteria were applied to evaluate the Refined SR14, E1, and E2 Build Alternatives. These criteria included community factors, environmental issues, and meeting project objectives (including capital costs, travel time, and constructability). Each criterion features multiple components and each component is qualitatively weighed differently depending on the sensitivity associated with the resource and the context and intensity of the effect(s). Comparative tables for community and environmental factors are included in the detailed staff report attached to this memorandum.

**Comparison of performance criteria**

Criterion	HSR Build Alternatives		
	Refined SR14 Alternative	E1 Alternative	E2 Alternative
Total length	38.6 mi	36.6 mi	32.8 mi
Elevated profile	2.8 mi	0.6 mi	1.3 mi
Underground profile	26.9 mi	26.1 mi	23.8 mi
At-grade profile	8.9 mi	9.9 mi	7.7 mi
Travel time (approx.)	14min SB / 17min NB	13min SB / 16min NB	12min SB / 15min NB
Speed capacity	200-220 mph	200-220 mph	200-220 mph

Capital cost estimates are detailed in the table below in 2017 dollars. The cost estimate includes the total effort and materials necessary to construct the Palmdale to Burbank Project Section, including stations, maintenance facilities, and modifications to roadways required to accommodate grade-separated guideways. The Refined SR-14 alternative is a different alternative than assumed in the 2018 Business Plan as preliminary engineering assumptions for this alignment had not yet been fully vetted. However, the capital costs outlined below reflect a conservative scope and sufficient project footprint to accommodate project refinement through final design for construction documents. This allows the Authority to evaluate maximum impacts in the EIR/EIS and reduces the risk that environmental clearance does not cover all potential impacts. It is important to note that these cost estimates include duplications with adjacent project sections and are not additive (i.e., Palmdale station is included in both Bakersfield to Palmdale and Palmdale to Burbank environmental documents). Further, the

Authority has not yet applied value engineering and other optimization measures to reduce these costs, including the Early Train Operator benchmarking review, footprint refinement and constructability mitigations.

Cost	HSR Build Alternatives			
	Refined Alternative	SR14	E1 Alternative	E2 Alternative
Total in 2017 Dollars, \$ Millions	\$20,334		\$18,332	\$19,257

In summary, when compared to the E1 and E2 Alternatives, the Refined SR14 Alternative would:

- Minimize environmental and community effects associated with construction traffic;
- Have the shortest “long” tunnel and consequently shortest construction period
- Have the shortest length of tunnel under the San Gabriel Mountains National Monument (SGMNM)/Angeles National Forest (ANF) lands and lowest potential impact to water resources in the ANF, and least potential for associated biologic changes;
- Have the least amount of tunnel under potential high groundwater pressures, the fewest wide fault crossings, and the second lowest length of tunnel alignment through gouge, crushed, and sheared rock zones.
- Result in the least constructability risk;
- Minimize effects to known archaeological and tribal resources; and,
- Have the fewest residences potentially affected by operational noise impacts

Based on the above summary information, staff recommends that the Board identify Refined SR14 as the State’s Preferred Alternative.

**Legal Approval**

The Legal Office has confirmed that the Board may take the concurrence action being requested by staff.

**Budget and Fiscal Impact**

The selection of this preferred alternative does not have an additional cost impact on the program-wide cost included in the California High-Speed Rail Authority budget for Phase 1 RODs and reflected in the Capital Outlay Report.

**2018-19 Fiscal Year Budget Impact**

Contract Name	Contract Number	Current FY Contract Budget	Budget Change	Funding Source
N/A	N/A	N/A	N/A	N/A



**Total Program Budget Impact**

Contract Name	Contract Number	Current FY Contract Budget	Budget Change	Funding Source
N/A	N/A	N/A	N/A	N/A

The selection of this preferred alternative may however potentially impact the capital cost estimate of the Phase 1 project presented in the Authority 2018 Business Plan because it is a different alternative. As stated in the description above of this Preferred Alternative, the level of design and the conservative scope used to determine the estimates in the EIR/EIS documents are different from what was assumed in the 2018 Business Plan and therefore should not be compared on a like-for-like basis. As a result, the estimate included in the Technical Memorandum supporting the capital cost estimate of the 2018 Business Plan differs from the estimate presented in the EIR/EIS documents. The main reasons can be summarized as follows:

- Duplications with adjacent project sections (e.g. station costs and approached to the stations)
- Wider footprint before refinement and optimization
- Constructability mitigation
- Value engineering and other optimization measures have not been applied in the EIR/EIS estimates

This is consistent with any environmental approach that aims to evaluate the maximal potential environmental impact of the project in the EIR/EIS document.

<b>REVIEWER INFORMATION</b>	
Reviewer Name and Title: <b>Russell Fong</b> <b>Chief Financial Officer</b>	Signature verifying budget analysis: 
Reviewer Name and Title: <b>Tom Fellenz</b> <b>Chief Counsel</b>	Signature verifying legal analysis: 

**Recommendations**

Staff recommends that the Board identify the Refined SR14 Alternative as the State’s Preferred Alternative for preparing the Draft Palmdale to Burbank Project Section EIR/EIS.

The Board is not approving an alternative at this point. Staff will return to the Board for final approval with the Final EIR/EIS in late 2019.

**Attachments**

- Draft Resolution #HSRA 18-19
- Exhibit 1, Overview of Build Alternatives

– Preferred Alternative Staff Report for the Palmdale to Burbank Project Section



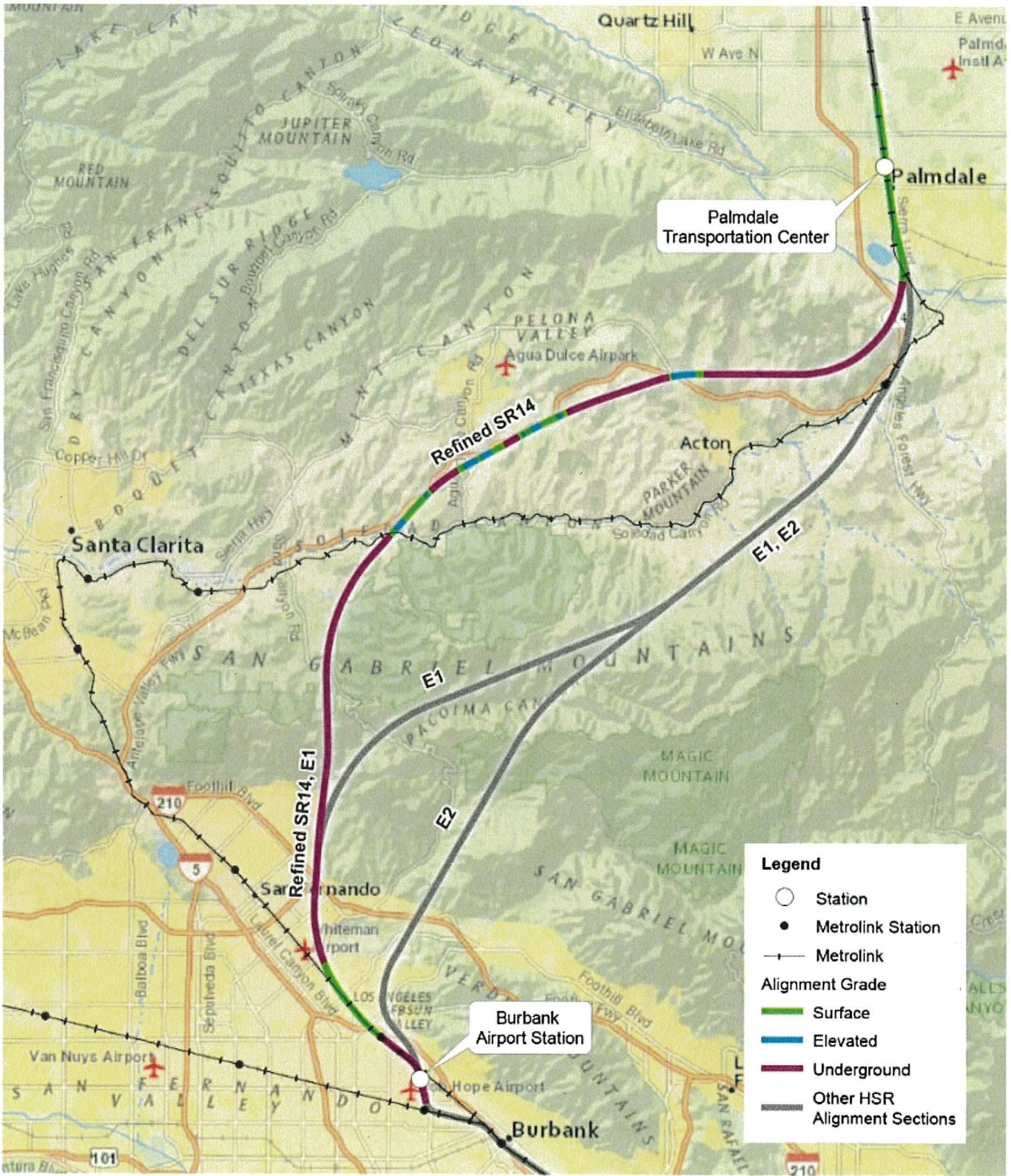


Exhibit 1 Overview of Refined SR14 Build Alternative