

# CALIFORNIA HIGH-SPEED TRAIN

Project Environmental Impact Report/  
Environmental Impact Statement

Executive Summary

## SUPPLEMENTAL Alternatives Analysis Report

San Jose to Merced Section  
High-Speed Train  
Project EIR/EIS

July 2011



## EXECUTIVE SUMMARY

### ES.1 Proposal for State Route 152 High Speed Train Alignment

The United States Environmental Protection Agency (USEPA) and United States Army Corps of Engineers (USACE) have requested that the Authority continue to evaluate a HST alignment parallel to State Route 152 (SR-152) in the San Joaquin Valley.

In addition, Authority outreach in the San Joaquin Valley resulted in stakeholders submitting written letters and testifying at High Speed Rail Authority meetings. Farmers and other stakeholders expressed concern about the impacts that the High-Speed Train (HST) alignment alternatives would have on agricultural land and agricultural business and a farming interest group called "Preserve of Heritage" (POH) submitted to the Authority a proposal for a new alternative: an alignment paralleling SR-152 with a proposed new location for the wye with the Merced to Fresno section.

### ES.2 Authority Response

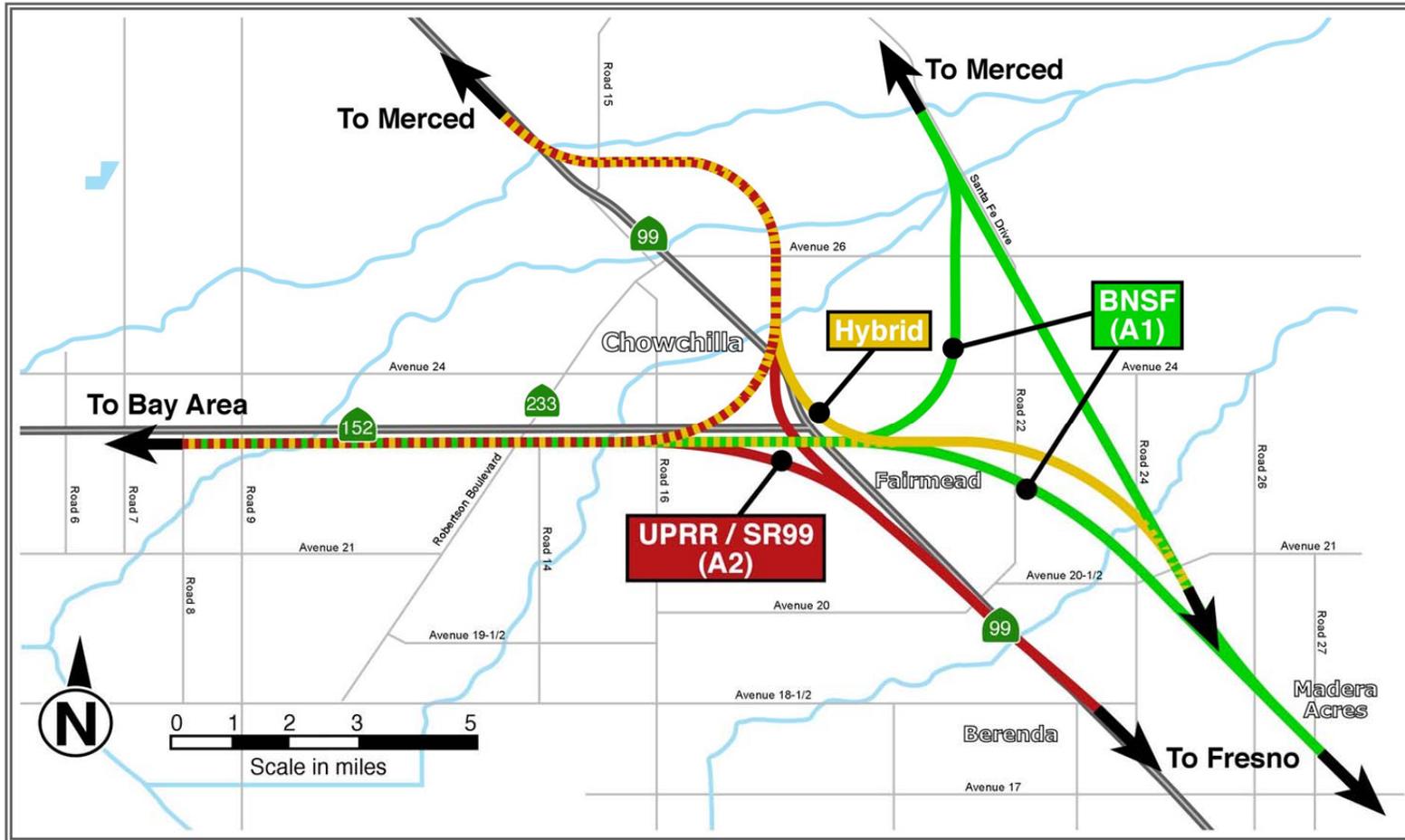
The Authority held several meetings with Caltrans District 6 staff to discuss the appropriate configuration of the proposed HST alignment in relation to possible future configurations of SR-152 and the currently approved freeway agreement between Madera County and Caltrans.

The Authority developed a SR-152 concept to a conceptual level alignment to be consistent with Caltrans planning, the SR-152 Freeway Agreement, and HST engineering criteria. Also, in order to respond to comments from the USACE, three possible wye configurations were developed at the conceptual engineering level to connect to each of the North/South routes under consideration by the Merced to Fresno section. These include wye configurations from SR-152 to: (1) the A1 Alignment (BNSF), (2) the A2 Alignment (SR 99), and (3) the Hybrid alternative connecting the southern portion of A1 and the northern portion of A2 HST alignments. These three conceptual wye configurations are evaluated and compared in this Alternatives Analysis (AA), and they allow a connection to each of the North/South Merced to Fresno alignments. Figure ES-1 illustrates the wye configurations evaluated in this AA.

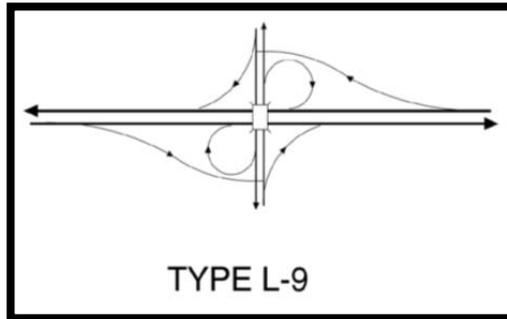
### ES.3 Relationship of Conceptual Proposed Authority Alignments to SR-152

The SR-152 Freeway Agreement signed by Madera County and Caltrans identifies six locations for future interchanges with intermediate roads either separated with underpasses or closed. The HST alignment was offset approximately 400 feet from the freeway south right-of-way to the HST northern right-of-way line to accommodate the future planned improvements to SR-152. The preferred local interchange configuration for planning purposes is a Type L-9 partial cloverleaf (see Figure ES-2). The typical existing corridor land use is agricultural. The average agricultural parcel width adjacent to the SR-152 corridor is 1200 feet.

Figure ES-1. SR-152 Wye Alternatives



**Figure ES-2. Type L-9 Partial Cloverleaf Interchange**  
*(Source: Caltrans HDM, Figure 502.2, Chapter 500)*



This HST alignment offset parallel to SR-152 provides roughly 400 feet of separation from each facility's respective right-of-way boundary. The treatment of the property remainder will need to be considered by the Authority, Caltrans, local agencies, and community stakeholders.

If the HST alignment were parallel, and immediately adjacent to SR-152, then the highway would need to be realigned to the north at every interchange location to accommodate the preferred Type L-9 interchange configuration. SR-99 is directly adjacent and parallel to the UPRR through most of the central valley. As the area has developed, SR-99 has had to be realigned at each new interchange. A local example of a realignment to accommodate a new interchange is the SR 99/E. Mission Ave interchange south of Merced. The original location of SR 99 parallel to UPRR is shown in Figure ES-3 and the realigned SR-99 with the new interchange is shown in Figure ES-4. The highway had to be rebuilt for approximately 1.5 miles to achieve a 500-foot offset to accommodate the new interchange (see Figure ES-4). Every new interchange or interchange improvement in the SR 99 corridor adjacent to UPRR has required additional environmental mitigation and thorough coordination between Caltrans, the UPRR, and local agencies.

**Figure ES-3. Aerial of SR-99/E. Mission Ave Interchange Prior to Construction**



**Figure ES-4. Aerial of SR-99/E. Mission Ave Interchange After Construction**



Frequent highway realignment (every 2–3 miles per the freeway agreement) to accommodate future improvements would be costly and disruptive. New portions of property would need to be set aside for future interchange improvements, and following Caltrans design standards would require approximately one mile to shift the existing SR-152 to the north to allow for the partial cloverleaf interchange shown in Figure ES-3. In addition, a greater right-of-way width would be required for approximately one-half mile on each side of the overcrossing to contain the ramps, resulting in a three mile long realignment. The approximate amount of additional land that would need to be acquired (above that already owned by Caltrans) would be approximately 85 acres per interchange. Six future interchanges are proposed as per the Freeway agreement: Road 4 (Lincoln Road), Road 6 (Kingwood Road), Road 9 (Hemlock Road), Road 12 (Elm Road), Road 16 (Berenda Way), and Road 17 ½. Due to these interchanges being spaced every approximately two miles, there is insufficient distance to return SR-152 before it would shift out again for the next interchange. Therefore SR-152 would never completely return to its base alignment until after clearing the last interchange. A more likely scenario would be once SR-152 is shifted out for the first interchange it would be left in the shifted alignment until clearing the last interchange. That would provide a preferred straight alignment instead of a series of curves. Required right of way for that scenario would increase.

#### ES.4 Recommendations

It is recommended that the SR-152 alignment and wye configurations shown on Figure ES-1 be carried forward and evaluated in the San Jose to Merced Draft High-Speed Train Project EIS/EIR. The San Jose to Merced HST EIS/EIR will fully evaluate these and the wye configurations contained in the Merced to Fresno Draft High-Speed Train EIS/EIR so that all wye configurations currently under consideration, including the SR-152 alignments, are contained in the San Jose to Merced Draft EIS/EIR.

It is further recommended that the preferred north/south HST alignment for the Merced to Fresno Section be identified by the High-Speed Rail Authority Board following circulation of the Merced to Fresno Draft HST EIS/EIR and a presentation to the Board by Authority staff of a recommended preferred north/south HST alignment.

A decision regarding the preferred east/west connection of the San Jose to Merced Section to the Merced to Fresno Section should take place following circulation of the Draft San Jose to Merced High-Speed Train EIS/EIR and a presentation to the Board by Authority staff of a recommended preferred east/west HST alignment.

#### San Joaquin Valley Crossing Subsection – Alignments Carried Forward (New Alignments shown in Bold)

- Henry Miller Road to Avenue 24 Alignment Alternative
- Henry Miller Road to Avenue 21 Alignment Alternative
- Henry Miller Road/SR-152/Avenue 21 Alignment Alternative
- **Henry Miller Road to SR-152**

**Table ES-1: Alignment Alternatives and Station Location Options Considered**

ALIGNMENT ALTERNATIVE/STATION LOCATION AND DESIGN OPTIONS	DECI- SION		REASONS FOR ELIMINATION*							ENVIRONMENTAL/OTHER CONCERNS
	Carried Forward	Withdrawn	Construction	Incompatibility	Right-of-way	Connectivity/ Accessibility	Revenue/ Ridership	Alignment Eliminated**	Environment	
San Joaquin Valley Crossing Subsection										
Henry Miller Road to Avenue 24 (Revised Program Alignment)	X									Residential displacements; Biological and agricultural resources; Agency concerns
SR-140		X		S					P	Residential/business displacements; Biological, agricultural & parkland resources; Increased travel time
South of GEA		X							P	Biological, agricultural and parkland resources; Residential/business displacements; Results in additional time and distance with resulting costs and impacts
Henry Miller Road to SR-152		X	P							Constructability issues; Residential/business displacements; Biological and agricultural resources; Agency concerns
Henry Miller Road to Avenue 21	X									Residential displacements; Biological and agricultural resources
Henry Miller Road to Avenue 22		X	P						S	Residential displacements; Biological and agricultural resources; Agency concerns
Henry Miller Road/SR-152/ Avenue 21	X									Residential displacements; Biological and agricultural resources.
<b>Henry Miller to SR-152</b>	<b>X</b>									Constructability issues; Residential/business displacements; Biological and agricultural resources

Notes: \*Reason: Primary (P) and secondary (S) reasons for elimination. \*\*Alignment Eliminated column only applies to station locations. If an alignment is eliminated, a specific station location may no longer be necessary.