



Metro

## Board Report

Los Angeles County  
Metropolitan Transportation  
Authority  
One Gateway Plaza  
3rd Floor Board Room  
Los Angeles, CA

**File #:** 2015-0896, **File Type:** Informational Report

**Agenda Number:** 19.

### PLANNING AND PROGRAMMING COMMITTEE JULY 15, 2015

**SUBJECT: HIGH DESERT CORRIDOR (HDC) UPDATE**

**ACTION: RECEIVE AND FILE**

#### **RECOMMENDATION**

RECEIVE AND FILE this update on the **status of the HDC Project Approval/ Environmental Document.**

#### **ISSUE**

The HDC PA/ED is being prepared in partnership with California Department of Transportation (Caltrans). The purpose of this report is to update the Board on the current schedule and the selection of the Preferred Alternative (PA) for HDC.

#### **DISCUSSION**

In March 2011, Metro and Caltrans entered into a Measure R Program Funding Agreement for the development of the HDC PA/ED. The Project is a proposed 63-mile, east-west corridor linking State Route (SR) 14 in Los Angeles County and SR-18 in San Bernardino County. In March 2012 the HDC was identified by the Board as a strategic multi-purpose corridor. The project components include highway, bikeway, an energy production and/or transmission corridor along the freeway, and a high speed rail (HSR) feeder/connector service connecting a branch of the California High Speed Rail (CHSR) in north Los Angeles County to the proposed XpressWest high speed rail service to be constructed between the cities of Victorville in San Bernardino County and Las Vegas, Nevada. In October 2009 the HDC was also identified by the Board as a candidate project for Public-Private Partnership delivery method.

Caltrans serves as the lead agency responsible for compliance with the California Environmental Quality Act (CEQA) and the preparation of the Environmental Impact Report (EIR). Caltrans, under delegated authority by the Federal Highway Administration (FHWA) will also ensure compliance with the National Environmental Policy Act (NEPA) and the preparation of the Environmental Impact Statement (EIS).

The purpose of the PA/ED is to identify possible alignments for the project and evaluate the benefits,

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costs, and impacts of various alternatives considered. The alternatives include a No-Build, Freeway/Expressway, Freeway/Tollway, Freeway/Expressway with HSR Feeder/Connector Service and Freeway/Tollway with HSR Feeder/Connector Service. Additional elements of the four build alternatives would include a possible bikeway and a green energy generation corridor.

During the PA/ED process, the Project Development Team (PDT) conducted detailed evaluation of all alternatives considered, conducted the appropriate analysis for various options and variations under each alternative, and identified potential impacts of alternatives as well as avoidance, minimization, and mitigation measures. Agency consultation and public participation were accomplished through PDT meetings, HDC Partners meetings, interagency coordination meetings, and an extensive public outreach program. The public participation plan established for HDC allowed public agencies and the general public to learn about the project and to provide suggestions on alternatives and the types of impacts to be evaluated.

The Draft EIS/EIR was released to the public on September 30, 2014 and the public hearings were held in November 2014. Four public hearings were held in Palmdale, Lake Los Angeles, Victorville and Apple Valley with a total of 375 participants, 291 in person and 84 online. The normally scheduled 45-day comment period was extended to 60 days for this project. The PDT (Metro, Caltrans, and the HDC Joint Powers Authority representing local Cities of the High Desert, and the Counties of Los Angeles and San Bernardino), with consideration of the results of the technical analysis of the various alternatives and the comments received during the comment period, has identified the PA. The selected PA consists of a Freeway/Tollway with HSR feeder/connector, bike lane, and a green energy generation corridor with the following details (Attachment A). The PA has been adopted by Caltrans in late June 2015 in order to meet the tight project schedule and release the Final EIS/EIR in spring 2016. In addition, comments received from both the general public and local agencies during the Draft EIR/EIS public review period showed positive support for the aforementioned multi-modal facility.

The proposed roadway will begin in Palmdale as a freeway, follow Avenue P-8 in Los Angeles County, run parallel to and south of El Mirage Road when entering San Bernardino County, turn east to Air Expressway Boulevard near I-15, transition to an expressway at Dale Evans Parkway, and end at SR-18/Bear Valley Road in the Town of Apple Valley. The following details will assist in further defining the project:

- Right-of-way to accommodate up to four lanes of travel in each direction will be protected. The number of lanes to be initially constructed will be determined by traffic analysis and funding capacity.
- The toll section, if adopted, would begin at 100<sup>th</sup> Street East in Palmdale and end at US-395 in Victorville.
- The HSR Feeder/Connector service will run between the Palmdale Transportation Center and the XpressWest HSR station in Victorville. The planned future passenger rail network would potentially connect San Francisco, Central Valley, Los Angeles, Las Vegas, and San Diego.

- HSR Option 1C to connect to the Palmdale Transportation Center was selected, which includes underground segments for both northbound and southbound wye connections to avoid conflicts with the Union Pacific Rail Road (UPRR) and Southern California Regional Rail Authority (SCRRA) tracks near Sierra Highway, Runway Protection Zones at the Plant 42 facility, and the St. Clair Parkway Section 4(f) open space property in Palmdale.

A series of variations were also analyzed and included throughout the environmental clearance process to avoid or minimize impacts to the community (Attachment B). Both the roadway and HSR service line will follow the PA alignment with variations listed below:

- Variation A in Palmdale did not meet the HSR alignment standards due to the presence of sharp horizontal curves. The main alignment was selected and would provide a horizontal tangent (strait line) section for approximately 4.5 miles.
- Variation D in Lake Los Angeles was selected as it will have fewer residential displacements and avoid an existing vineyard.
- Variation B1 in Adelanto will avoid impacts to several water wells owned by the Phelan Piñon Hills Community Services District.
- Variation E in Victorville would have cut through new residential areas and cause greater disruption to communities. The main alignment was selected, which will provide a more direct route and be more cost-effective because the tracks would stay within the HDC median longer and not require two separate additional crossings over the Mojave River.

Bike path between US-395 and 20<sup>th</sup> St. East in Palmdale

- Local residents supported a bicycle facility along the entire length of the HDC alignment. Analysis of bicycle facilities identified that community character and livability would be enhanced as a result of the proposed bike path.

Green energy production and/or transmission corridor

- A March 2012 Metro Board motion by Director Antonovich approved the project to assume a footprint that can accommodate an energy production and/or transmission facility along HDC. It was determined that this component would be recommended as part of this project.
- The green and renewable energy component would contribute to greenhouse gas and energy cost reductions.
- The green energy production and transmission facilities would be constructed within the study area footprint.

Attachment A, Draft High Desert Corridor Preferred Project /Alternative Decision Matrix, provides a detailed comparison of all alternatives considered.

## **FINANCIAL IMPACT**

The FY 2016 Budget identifies \$2 million in Measure R fund in Cost Center 0442, Highway Capital, High Desert Corridor. Since this is a multi-year project, the cost center manager and the Managing Executive Officer of the Highway Program will continue to be responsible for budgeting the cost in

future years.

#### Impact to Budget

The source of funds for this project is Measure R 20% Highway Capital Funds.

#### NEXT STEPS

Metro will continue to work with Caltrans toward completion of the PA/ED in early 2016. The PDT will also work towards completing the Financial Plan that may be required by FHWA as a condition of issuance of a Record of Decision (ROD).

#### ATTACHMENTS

Attachment A - High Desert Corridor Preferred Project/Alternative Decision Matrix

Attachment B - High Desert Corridor Project Map

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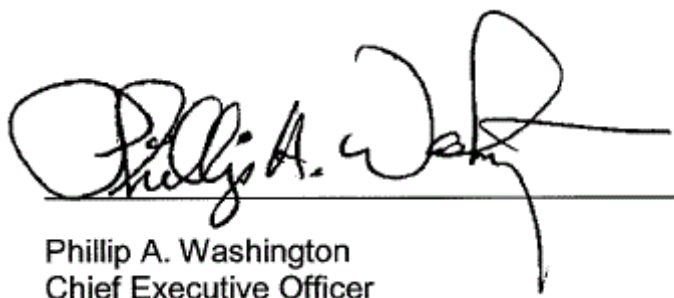
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## High Desert Corridor Preferred Project/Alternative Decision Matrix

Alternative	Pro	Con	Preferred Project/Alternative
<b>Project</b>			
Freeway-Expressway	<ul style="list-style-type: none"> <li>• Would assist in achieving local general plan goals to attract investments to jobs/housing balance.</li> <li>• Would increase east/west mobility.</li> <li>• Would improve regional goods movement.</li> <li>• Would improve travel safety and reliability.</li> </ul>	<ul style="list-style-type: none"> <li>• Would add 995 acres to impervious surface area.</li> </ul>	
Freeway-Tollway	<ul style="list-style-type: none"> <li>• Would assist in achieving local general plan goals to attract investments to jobs/housing balance.</li> <li>• Would increase east/west mobility.</li> <li>• Would improve regional goods movement.</li> <li>• Would improve travel safety and reliability.</li> </ul>	<ul style="list-style-type: none"> <li>• Would add 995 acres to impervious surface area.</li> <li>• Some additional burden could be placed on low-income population due to tollway vs. without.</li> </ul>	
Freeway-Expressway with HSR	<ul style="list-style-type: none"> <li>• Potential to connect the San Francisco, Central Valley, Los Angeles, Las Vegas, and San Diego regions through an HSR system.</li> <li>• Improved access and linkages between various residential communities, businesses, and facilities.</li> <li>• Would assist in achieving local general plan goals to attract investments to jobs/housing balance.</li> <li>• Could help achieve smart growth required by SB 375: in that it could foster higher-density and mixed-use developments near the proposed rail stations in Palmdale and Victorville.</li> <li>• Would increase east/west mobility.</li> <li>• Would improve regional goods movement.</li> <li>• Would improve travel safety and reliability.</li> <li>• Would contribute to a reduction in GHG emissions.</li> </ul>	<ul style="list-style-type: none"> <li>• Would add 1,335 acres to impervious surface area.</li> <li>• Permanent impacts on approximately 1.44 more acres of wetland than other build alts.</li> <li>• Additional 650 acres of sheep grazing land required with HSR than without.</li> <li>• Slightly greater impacts on Section 4(f) resources and cumulative impacts for HSR than other build alternatives without.</li> </ul>	

Alternative	Pro	Con	Preferred Project/Alternative
Freeway-Tollway with HSR	<ul style="list-style-type: none"> <li>Potential to connect the San Francisco, Central Valley, Los Angeles, Las Vegas, and San Diego regions through an HSR system.</li> <li>Improved access to and linkages between various residential communities, businesses, and facilities.</li> <li>Could help achieve smart growth required by SB 375, in that it could foster higher-density and mixed-use developments near the proposed rail stations in Palmdale and Victorville.</li> <li>Would increase east/west mobility.</li> <li>Would improve regional goods movement.</li> <li>Would improve travel safety and reliability.</li> <li>Would contribute to a reduction in GHG emissions.</li> </ul>	<ul style="list-style-type: none"> <li>Adds 1,335 acres to impervious surface area.</li> <li>More future operational energy consumption than Freeway-Exp Alt and Freeway-Toll Alt; slightly more energy consumption than Freeway-Expressway w/HSR.</li> <li>Additional 650 acres of sheep-grazing land required w/HSR than without.</li> <li>Some additional burden could be placed on low-income population due to tollway vs. without.</li> <li>Slightly greater impacts on Section 4(f) resources due to noise and visual proximity impacts on St. Clair Parkway in Palmdale due to relocation of the rail tracks closer to the parkway.</li> <li>Greater cumulative impacts for HSR feeder than other build alternatives without HSR.</li> </ul>	<b>This Alt would be preferred</b>
No Build	<ul style="list-style-type: none"> <li>No funding would be required.</li> <li>No impact to various environmental resources from project construction and operation.</li> </ul>	<ul style="list-style-type: none"> <li>No new transportation infrastructure would be built within the project area to connect Los Angeles and San Bernardino counties, aside from existing SR-138 safety corridor improvements in Los Angeles County and SR-18 corridor improvements in San Bernardino County.</li> <li>Traffic circulation and congestion currently experienced on Palmdale Boulevard, Pearblossom Highway, Air Expressway, Palmdale Road, and Happy Trails Highway (existing SR-18) would remain from increasing transportation demand.</li> <li>Accident rates on SR-138 would remain high or increase.</li> <li>Drivers would have no alternate route to avoid flooding along the SR-18/SR-138 corridor and other area roads during major rain events.</li> <li>The regional movement of goods would be slower due to an overloaded transportation network.</li> <li>Access to regional airports, rail facilities, and other means of transportation would be limited.</li> <li>Opportunities to contribute to State GHG reduction goals resulting from reduction in GHG emissions from the efficient movement of vehicles in the area, as well as green energy facilities that would be part of the HDC Project, would be lost.</li> </ul>	
<b>Segment A</b>			
A-Main	<ul style="list-style-type: none"> <li>Facilitates the use of HSR through this area – the HSR alignment would be on a horizontal</li> </ul>	<ul style="list-style-type: none"> <li>Alignment would encroach onto Los Angeles World Airport</li> </ul>	<b>A-Main would be preferred</b>

Alternative	Pro	Con	Preferred Project/Alternative
	tangent section for approximately 4.5 miles from the Wye connection to 70th St.	property.	
Variation A	<ul style="list-style-type: none"> <li>Alignment would be within the Los Angeles World Airport dedicated easement.</li> </ul>	<ul style="list-style-type: none"> <li>Alignment would not allow a southern wye connection to the CHST station platform without shifting the station platform further south.</li> <li>Track alignment would still be out of the LAWA dedicated easement because HSR alignment standards would not be able to follow tight horizontal curves of the easement.</li> <li>Variation A has three more parcels with hazardous waste than A-Main.</li> </ul>	
<b>Segment B</b>			
D-Main	<ul style="list-style-type: none"> <li>The alignment is shorter than Variation D and would require less right-of-way and material (concrete, track) to build.</li> <li>Would create less impervious surface.</li> <li>HDC and HSR alignments would be on a horizontal tangent section for approximately 20 miles from 140th St to Mountain View Rd.</li> </ul>	<ul style="list-style-type: none"> <li>Alignment would pass through an existing vineyard.</li> <li>Would have two more hazardous waste sites than Variation D.</li> </ul>	
Variation D	<ul style="list-style-type: none"> <li>HDC and HSR alignments would avoid the existing vineyard.</li> <li>HSR would maintain a design speed of 180 mph. Variation D would have less of an impact on the community of Lake Los Angeles.</li> </ul>	<ul style="list-style-type: none"> <li>Alignment would include a reverse curve to leave main alignment and another reverse curve to re-enter the main alignment.</li> <li>Is longer and would require more right-of-way and material (concrete, track) to build.</li> <li>Would create more impervious surface.</li> </ul>	<b>Variation D would be preferred</b>
<b>Segment C</b>			
B-Main	<ul style="list-style-type: none"> <li>HSR alignment would be on a horizontal tangent section for approximately 20 miles from 140th St to Mountain View Rd.</li> <li>Is a shorter and more direct route than Variation B. Would require less right-of-way and material to build.</li> </ul>	<ul style="list-style-type: none"> <li>Alignment would pass through property owned by the Phelan-Pinon Hills Community Conservation District. .</li> </ul>	
Variation B	<ul style="list-style-type: none"> <li>HSR alignment would avoid property owned by the Phelan-Pinon Hills Community Conservation District. and Krey Field Airport.</li> <li>HSR would maintain a design speed of 180 mph.</li> </ul>	<ul style="list-style-type: none"> <li>This variation would increase track and highway length and also introduce a reverse curve to leave main alignment and another reverse curve to re-enter the main alignment.</li> </ul>	

Alternative	Pro	Con	Preferred Project/Alternative
Variation B1	<ul style="list-style-type: none"> <li>HDC and HSR alignments would avoid property owned by the Phelan-Pinon Hills Community Conservation District. Is a shorter and more direct route than Variation B. Would require less right-of-way and material to build.</li> <li>HSR would maintain a design speed of 180 mph.</li> </ul>	<ul style="list-style-type: none"> <li>HDC and HSR alignments would pass through existing Krey Field Airport.</li> <li>The alignments would cut the straight tangent section from 20 miles down to 15 miles.</li> <li>Krey Field Airport may have unidentified hazardous waste.</li> </ul>	<b>Variation B1 would be preferred</b>
<b>Segment E</b>			
E-Main	<ul style="list-style-type: none"> <li>HSR alignment is the more direct route and would require the least track length and right-of-way.</li> <li>Would provide a more direct access to the federal prison and SCLA.</li> <li>Would not disrupt the City of Victorville's rail spur.</li> </ul>	<ul style="list-style-type: none"> <li>Right of way would be cut down to 290' between the federal prison and SCLA.</li> <li>Alignment would pass through numerous environmentally sensitive areas.</li> <li>There would be additional cost associated with installing crash barriers between the HSR and road.</li> </ul>	<b>E-Main is preferred for both Highway and HSR</b>
Variation E	<ul style="list-style-type: none"> <li>HSR alignment would avoid the space constraints between the federal correction facility and the Southern California Logistics Airport.</li> <li>It also would bypass environmentally sensitive areas located before the Mojave River.</li> <li>Variation E would not need a <i>de minimus</i> determination for the Westwinds Golf Course.</li> </ul>	<ul style="list-style-type: none"> <li>HSR alignment would require more track and right-of-way.</li> <li>It would cut through new residential area and cause greater disruption to communities than other variations.</li> <li>HSR alignment would have to leave the HDC R/W earlier which would require more R/W solely for the track.</li> <li>Variation E would also require 3 bridge structures, which have span lengths of 5,000', 4,500' and 9,000'.</li> <li>Variation E would result in impacts on a larger acreage of Waters of the U.S. wetlands than other variations.</li> <li>Variation E would have additional substantial impacts on the State and federally listed southwestern willow flycatcher and least Bell's vireo species.</li> <li>Would provide a less direct access to the federal prison and SCLA.</li> <li>Would disrupt the City of Victorville's rail spur.</li> </ul>	
<b>Palmdale Rail Connection</b>			



Alternative	Pro	Con	Preferred Project/Alternative
Rail Option 1 Variation A	<ul style="list-style-type: none"> <li>• HSR alignment would be underground for both northbound and southbound wye connections. The northbound connection would be in bored tunnel leaving the HDC and would cross under the conventional UPRR and Metrolink tracks, avoiding any potential conflicts.</li> <li>• Being underground the northbound tracks would also avoid any Runway Protection Zone conflicts with the Air Force Plant 42 runways.</li> <li>• This alignment would require the least amount of R/W once it leaves the HDC median.</li> <li>• The southbound connector would terminate approximately at the current Palmdale Transportation Center therefore no shift of the PTC will be necessary.</li> <li>• The cost estimate for this Wye connection in 2014 dollars is \$2.87 billion. It will be the least cost alignment out of Alternative 1 options.</li> </ul>	<ul style="list-style-type: none"> <li>• Exceptional grade of 3.5% had to be used for the southbound connector tracks to be able join the CHSR tracks out of the tunnel section. HSR profile standard grades of 1.5% are desirable.</li> <li>• The Sierra Hwy realignment would either need to go on a high aerial structure or deep tunnel to cross the conventional and high speed rail tracks.</li> <li>• Due to right-of -Way limitations, there would be 4F issues with St Clair Parkway at the 6 track section of the high speed rail station platforms.</li> <li>• Realignment of Sierra Hwy would be necessary to be able to fit in 6 high speed rail tracks and 4 conventional tracks at the station platform section.</li> <li>• Realigning Sierra highway would encroach onto the Palmdale Sheriff station at located on the southeastern corner of Ave Q and Sierra Hwy.</li> </ul>	
Rail Option 1 Variation B	<ul style="list-style-type: none"> <li>• HSR alignment would be underground for both northbound and southbound wye connections. The northbound connection would be in bored tunnel leaving the HDC, and would cross under the conventional UPRR and Metrolink tracks, avoiding any potential conflicts.</li> <li>• Being underground, the northbound tracks would also avoid any Runway Protection Zone conflicts with the Air Force Plant 42 runways.</li> <li>• The southbound connector would terminate approximately 500' south of the current Palmdale Transportation Center. A minimal shift of the PTC would be necessary to accommodate this location of CHSR station platforms.</li> <li>• Realignment of Sierra Hwy at the Station platform would not be necessary due to the CHSR tracks being shifted approx. 50' to the west.</li> <li>• Profile grades climbing out of the tunnel section would be at maximum 2.5%, which is within minimum design criteria.</li> </ul>	<ul style="list-style-type: none"> <li>• With this option, the Sierra Hwy realignment would either have to go on a high aerial structure or deep tunnel to cross the conventional and high speed rail tracks.</li> <li>• Due to Right of Way limitations there would be 4F issues with St Clair Parkway at the 6 track section of the high speed rail station platforms.</li> <li>• The cost estimate for this Wye connection in 2014 dollars is \$2.94 billion. It would be the most costly alignment out of Alternative 1 options due to the extended length of tunneling required.</li> </ul>	

Alternative	Pro	Con	Preferred Project/Alternative
Rail Option 1 Variation C	<ul style="list-style-type: none"> <li>• HSR alignment would be underground for both northbound and southbound wye connections. The northbound connection would be in bored tunnel leaving the HDC and would cross under the conventional UPRR and Metrolink tracks avoiding any potential conflicts.</li> <li>• Being underground, the northbound tracks would also avoid any Runway Protection Zone conflicts with the Air Force Plant 42 runways.</li> <li>• The southbound connector tracks would be approx. 500' west of the SCRRA right-of-way, which would completely avoid the 4F issues with St Clair Parkway.</li> <li>• The location of the tracks farther west would provide greater flexibility for the realignment and grade separation of Sierra Hwy.</li> <li>• Southbound and northbound connector tracks would be completely out of the UPRR right-of-way.</li> </ul>	<ul style="list-style-type: none"> <li>• The Palmdale Transportation Center would need to be moved 500' west and 1,500' south of its current location. This would entail realigning the Metrolink tracks and moving the Metrolink station platform to follow.</li> <li>• Additional right-of-way would need to be taken along 6th St East, which would affect businesses and residential properties.</li> </ul>	<p><b>Palmdale Rail Connection Option 1 Variation C would be preferred.</b></p>
Rail Option 7 Variation A	<ul style="list-style-type: none"> <li>• HSR alignment would have profile grades within the standard minimum limits.</li> <li>• The cost estimate for this Wye connection in 2014 dollars is \$1.44 billion. It is the least-cost alignment among the alignment options.</li> <li>• The HSR station platform would utilize the existing PTC location and layout.</li> </ul>	<ul style="list-style-type: none"> <li>• HSR northbound and southbound wye connectors would be on at-grade embankment after leaving the HDC.</li> <li>• Major street crossings would be grade-separated, however the tracks would split parcels of land diagonally.</li> <li>• HSR alignment would fall within UPRR and SCRRA right of way, therefore careful coordination would be required with those two entities.</li> <li>• Existing storage facility would need to be removed completely to accommodate the realigned Metrolink and freight tracks.</li> <li>• A portion of St Clair Parkway would need to be taken, thereby causing 4F issues.</li> <li>• Northbound connector would be on an aerial structure crossing over the conventional tracks. Due to the required geometry, the aerial structure would encroach onto Plant 42 right of way.</li> </ul>	

Alternative	Pro	Con	Preferred Project/Alternative
Rail Option 7 Variation B	<ul style="list-style-type: none"> <li>• HSR alignment would have profile grades within the minimum limits.</li> <li>• This option is almost identical to Option 7 Variation A except for the station platform being shifted 500' farther south.</li> </ul>	<ul style="list-style-type: none"> <li>• HSR northbound and southbound wye connectors would be on at-grade embankment after leaving the HDC.</li> <li>• Major street crossings would be grade separated, however the tracks would split parcels of land diagonally.</li> <li>• HSR alignment would fall within UPRR and SCRRA right-of-way; therefore, careful coordination would be required with those two entities.</li> <li>• Half of St Clair Parkway would need to be taken, thereby causing 4F issues.</li> <li>• Northbound connector would be on an aerial structure crossing over the conventional tracks. Due to the required geometry, the aerial structure would encroach onto Plant 42 right-of-way.</li> <li>• CHSR station platform is approximately 500' south of the existing Palmdale Transportation Center; therefore the PTC will have to be shifted.</li> </ul>	
Rail Option 7 Variation C	<ul style="list-style-type: none"> <li>• HSR alignment would have profile grades within the minimum limits.</li> <li>• The southbound connector tracks would be approx. 500' west of the SCRRA right-of-way, which would completely avoid the 4F issues with St Clair Parkway.</li> <li>• The location of the tracks farther west would provide greater flexibility for the realignment and grade-separation of Sierra Hwy.</li> <li>• Southbound and northbound connector tracks would be completely out of the UPRR right-of-way.</li> <li>• Also the northbound connector tracks would avoid Plant 42 property limits.</li> </ul>	<ul style="list-style-type: none"> <li>• HSR northbound and southbound wye connectors would be on at-grade embankment after leaving the HDC.</li> <li>• The northbound connector would be in direct conflict with the Rancho Vista Grade Separation Project, because it would be on a high aerial structure.</li> <li>• The Palmdale Transportation Center would need to be moved 500' west and 1,500' south of its current location. This would entail realigning the Metrolink tracks and moving the Metrolink station platform to follow.</li> <li>• Additional right-of-way would need to be taken along 6th St East, which would affect businesses and residential properties.</li> </ul>	
XpressWest Rail Connection			

Alternative	Pro	Con	Preferred Project/Alternative
XpressWest Rail Main Alignment	<ul style="list-style-type: none"> <li>Track alignment length for this alternative is 2,300' less than for Variation E.</li> <li>HSR alignment would require less R/W because the tracks would leave the HDC approximately 1.8 miles after the HDC crosses the Mojave River.</li> <li>This alternative would be more cost-effective because the tracks would stay within the HDC median longer and because two separate crossings over the Mojave River would not be required.</li> </ul>	<ul style="list-style-type: none"> <li>HDC right-of-way would be reduced to 290' between Phantom West St and Phantom East St due to property constraints between SCLA and the Federal Prison.</li> <li>The area where the tracks would leave the HDC median also coincides with the Mojave Railroad freight crossing. This would require a complicated 3-level crossing, with the HSR tracks on the lowest level, the freight tracks in the middle, and the HDC highway on the upper level.</li> <li>HSR alignment design speed would be reduced to 150 mph after the tracks leave the median of the HDC to meet the XpressWest connection</li> </ul>	<b>Main Alignment is preferred</b>
XpressWest Rail Variation E Alignment	<ul style="list-style-type: none"> <li>HDC would have a continuous 500' Right-of-way</li> <li>Track would maintain a 180-mph design speed throughout the segment 3 alignment.</li> </ul>	<ul style="list-style-type: none"> <li>Track alignment length for this alternative is 2,300' more than the main alignment.</li> <li>This alternative would require two separate bridge crossings over the Mojave River that would be approximately 3,000' apart.</li> <li>Track alignment would cross over additional "Environmentally Sensitive Areas" once the tracks leave the HDC median.</li> <li>HSR alignment would cross over the HDC highway twice, once leaving the HDC median and then another crossing over the HDC and its eastbound and westbound connector ramps with I-15.</li> <li>Realignment of Stoddard Wells Road would be necessary because the track alignment would encroach onto the roadway.</li> <li>HSR alignment would require over 9000' of bridge structure at high elevation.</li> </ul>	
<b>Bike Path</b>			
Bike Path	<ul style="list-style-type: none"> <li>Community character and livability would be enhanced as a result of the proposed bike path.</li> <li>Studies have highlighted the social benefits of paths that can accommodate pedestrians and bicycles, including contributing to healthier lifestyles, spaces to encounter neighbors, and enhanced civic pride.</li> <li>Incorporation of a bike path would provide the community with an additional transportation option.</li> </ul>	<ul style="list-style-type: none"> <li>Riding a bicycle in the summer sun could lead to extreme dehydration.</li> </ul>	Bike path is preferred.

Alternative	Pro	Con	Preferred Project/Alternative
Green Energy			
Green Energy Corridor	<ul style="list-style-type: none"> <li>The green and renewable energy component would contribute to greenhouse gas and energy cost reductions.</li> <li>The green energy production and transmission facilities would be constructed within the freeway/tollway right-of-way, thus resulting in no additional impacts on environmental resources.</li> </ul>	<ul style="list-style-type: none"> <li>Due to the ongoing development of new green and renewable energy technologies and the unsecured funding at the present time, choosing any technology at this point may not be feasible.</li> <li>Also Caltrans is not in the business of operating and maintaining the renewable energy system, therefore funding and operation and maintenance of the system would have to be done through a PPP or a utility company.</li> </ul>	Green Energy should be considered a part of the project. Specific technologies, including funding, construction, and operation, would be selected by the PPP or utility company.

# High Desert Corridor

