

1.0 Introduction

DesertXpress Enterprises, LLC (dba “Brightline West”) proposes to construct and operate the Cajon Pass High-Speed Rail Project, a 49-mile train system capable of speeds up to 180 miles per hour (mph) between Victor Valley, California and Rancho Cucamonga, California (Project). The Project would have three stations; one in each of the following cities in: Rancho Cucamonga, Hesperia, and Victor Valley.

The Project would be powered by overhead electric catenary within the Interstate 15 (I-15) right-of-way (ROW) for 48 miles, and on existing transportation corridors for the last mile into the proposed Rancho Cucamonga station.¹ The Project would require construction of one new traction power substation in the Hesperia area. The maintenance facility that was evaluated with the Brightline West Victor Valley High-Speed Rail (HSR) Passenger Project² will provide the primary maintenance functions, although layover tracks are anticipated at the Rancho Cucamonga station, which could include light maintenance capability, such as interior cleaning and daily inspection.

Trains are expected to operate daily on 45-minute headways between Victor Valley and Rancho Cucamonga. The trip between Victor Valley and Rancho Cucamonga will be approximately 35 minutes. Service will be coordinated with existing and planned Metrolink service at the Rancho Cucamonga station to provide a convenient connection between the high-speed rail and commuter rail systems.³

The Project would be constructed and operated under a lease agreement with the California Department of Transportation (Caltrans) for the use of the I-15 ROW and the station at Hesperia. Brightline West will secure additional agreements for Right-of-Way Use; Design & Construction Oversight and Reimbursement; and Operations & Maintenance, as necessary.

1.1 FEDERAL ROLE

The Federal Railroad Administration (FRA), in coordination with the Federal Highway Administration (FHWA), Surface Transportation Board (STB), and the United States Army Corps of Engineers (USACE) prepared this draft Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 *et seq.*), the Council on Environmental Quality’s (CEQ) implementing regulations (40 CFR Parts 1500-1508), FRA’s Environmental Procedures (23 CFR Parts 771, and 774), and related environmental laws. FRA is the lead Federal agency for NEPA review of the Project. FRA has also prepared a draft evaluation consistent with Section 4(f) of the Department of Transportation Act (49 U.S.C. 303, and 23 U.S.C. 138), and Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. 306108).

¹ The Rancho Cucamonga station is a proposed new elevated station adjacent to the existing at-grade Metrolink station. The Rancho Cucamonga station would have the same access as the existing station for automobiles, bicycles, and pedestrians.

² Also referred to in FRA NEPA documents as DesertXpress (XpressWest – Las Vegas to Victorville)

³ Further data, demonstrating that the Project will have regional benefit in elevating traffic on nearby East-West highways will eventually be incorporated into the PD for the circulated EA.

As the proposed Project would connect to the interstate rail network, it requires approval by STB under the Interstate Commerce Act and is subject to the Board's exclusive jurisdiction pursuant to 49 U.S.C. 10501(b). Therefore, the Project is not subject to review under the California Environmental Quality Act (CEQA).

1.2 BACKGROUND AND PROJECT HISTORY

Early project coordination for HSR service from Victor Valley to Rancho Cucamonga began in 2020, with Brightline West meeting with the San Bernardino County Transportation Authority (SBCTA) to examine a connection between Victor Valley and Rancho Cucamonga. This meeting resulted in a memorandum of understanding (MOU) that was fully executed in July 2020 between Brightline West and SBCTA to study the potential of building HSR within the I-15 ROW between Victor Valley and Rancho Cucamonga. A separate MOU was executed in September 2020 between Brightline West and the SCRRA, which operates Metrolink, for connection to the existing Metrolink station in Rancho Cucamonga. Additionally, the California State Transportation Agency (CalSTA), Caltrans, the California High-Speed Rail Authority, and Brightline West have executed an MOU regarding the Project. The MOU reflects both the regional and statewide interest and value in the Project, including interconnectivity opportunities, and outlines how the parties will work together to advance their shared interest in the success of the Project.

2.0 Purpose and Need

2.1 PURPOSE

The purpose of the Project is to provide reliable and safe passenger rail transportation between the Los Angeles metropolitan region and the High Desert of San Bernardino County. The Project would provide a convenient, efficient, and environmentally sustainable alternative to automobile travel on the highly congested I-15 freeway. The Project would add capacity to the overall transportation system by introducing a new high-speed rail service from Victor Valley to Rancho Cucamonga. The Project would reduce travel time, improve reliability, and increase the mobility options for travel between metropolitan regions. Travel time from Victor Valley to Rancho Cucamonga as a result of the Project, would be reduced by half compared to driving during normal conditions and substantially more during congestion peak periods. The Project would reduce automobile vehicle miles traveled (VMT) resulting in a corresponding reduction in greenhouse gas emissions (GHG) and air quality emissions.

MULTI-MODAL USE OF THE I-15 CORRIDOR

As described above, operation of the Project would significantly increase the capacity of I-15 as a multi-modal corridor in Southern California. This increase in capacity would benefit freeway operations by providing an alternative to automobile travel that would reduce travel time. This shift of people from automobile to train travel along the I-15 corridor would reduce the need for programmed and/or planned freeway improvement and widening projects.

2.2 NEED FOR THE PROJECT

The Project is needed to address transportation capacity deficiencies, major points of congestion, limited travel mode choices, safety deficiencies, and reduce GHG emissions.

Travel demand analysis completed on behalf of the project in 2020 forecasts 49.1 million one-way trips between Southern California and Las Vegas in 2025, with approximately 85 percent of travelers making the trip by automobile. Most of these trips use the Cajon Pass segment of the I-15, which is capacity constrained. Further, the freeway system leading into the I-15 from points west, east, and south, including the I-10, State Route 210 (SR-210), Interstate 215 (I-215) and State Route 60 (SR-60) have similar delays and capacity constraints. This Project would address this demand, by providing a transportation alternative to vehicle travel and allow access to the Brightline West service from the Greater Los Angeles⁴ and the Riverside-San Bernardino-Ontario Metropolitan areas as well as points beyond with a connection to the Metrolink system in Rancho Cucamonga.

The Project would also support federal and state policies focused on climate change and the need to reduce VMT and associated GHG emissions.

CAPACITY CONSTRAINTS

I-15 through the Cajon Pass is one of the most congested segments of I-15, with no alternative routes that provide comparable direct road travel capability because of the mountainous topography. Through the Cajon Pass, I-15 supports daily workforce commuters, recreational travel, and regional and interstate freight and goods movement. According to the traffic study prepared for the I-15 Corridor Project Initial Study/Environmental Assessment (Caltrans and SBCTA, 2018), unreliability in travel time along segments of I-15 and surrounding roadways is due to roadway capacity constraints, frequent accidents, and various factors that cause unanticipated congestion. Travelers using the Project would no longer need to drive through the most congested parts of the corridor in the Cajon Pass for interstate or commuter trips, thereby avoiding idling and inefficient stop-and-go traffic conditions.

By 2045, travel speeds are expected to decrease on all but one segment of I-15 between the San Bernardino Valley and Apple Valley in the AM peak period, and travel speeds on most segments will also decrease—some by more than 10 mph—in the PM peak period (SCAG, 2020). Based on the Project Report (PR) for the I-15 Corridor Study (addition of express lanes), traffic volumes on I-15 between I-10 and SR-210 are expected to increase in the range of 31 to 38 percent from 2014 to 2045. The report states the existing level of service (LOS) is acceptable in most locations but that there are bottlenecks in each direction of travel that degrade traffic operation, especially between Baseline Road and SR-210. Since the express lane project is increasing capacity by adding express lanes, the traffic volumes are projected to increase by an additional 27 percent. The report further mentions that although the

⁴ Greater Los Angeles, with a 2019 population of 18,710,563,[6] is the second-largest urban region area in the United States, encompassing five counties in southern California extending from Ventura County in the west to San Bernardino County and Riverside County in the east, with Los Angeles County in the center and Orange County to the southeast. According to the U.S. Census Bureau, the Los Angeles–Anaheim–Riverside combined statistical area covers 33,954 square miles (87,940 km²), making it the largest metropolitan region in the United States by land area.

express lane project would improve conditions in the general purpose lanes in many segments, it would cause the segment between the I-10 and 4th street to worsen in the PM peak hour (both directions). In the AM peak hour the segment between Arrow Route and Fourth Street would worsen in the southbound direction. The segment between Baseline Road and SR-210 will continue to operate at over capacity conditions in all scenarios.

As documented above, given the attractiveness of the Origins and Destinations, the transportation Capacity Constraints on I-15 as described in current and predicted average daily traffic (ADT) and LOS limit reasonable highway access between Rancho Cucamonga, Hesperia, and Victor Valley.

I-10 is the primary commuter corridor from San Bernardino County and the San Gabriel Valley to Los Angeles. Based on the Final Environmental Impact Report (FEIR) by Caltrans in 2012 for I-10 HOV lanes from Puente Avenue to SR 57/SR 71, the westbound direction of I-10 experiences recurrent congestion in the AM peak hour and eastbound direction experiences recurrent congestion in the PM peak hour. Additionally, most of I-10 operates at capacity in both the AM and PM peak hour with spillbacks at the SR-57/SR-71 interchange and I-605 interchange. In addition, due to short spacing between interchanges, there is insufficient weaving distance leading to much lower speeds in the right lanes of the freeway. The FEIR also indicated that even with the HOV lanes, the forecast volumes (year 2035) are generally going to result in continued recurrent congestion.

Due to heavy congestion, both SBCTA and LA Metro are currently converting HOV lanes on the I-10, on which operations are degraded according to Federal standards to High-Occupancy Toll/Express Lanes (priced lanes). In addition, LA Metro and Metrolink are also coordinating to extend service on the Gold Line to Azusa and eventually to Montclair in San Bernardino County. The Brightline service would provide an option that addresses longer distance trips that would otherwise burden the peak travel periods on I-10 and other roadways.

Travel Demand

In addition to providing an alternative to congested travel conditions on I-15, the proposed Project is anticipated to reduce VMT, vehicle hours traveled (VHT), criteria air pollutants, and GHG emissions by offering residents of San Bernardino and Los Angeles, Riverside, Orange, and San Diego Counties a reliable and environmentally friendly alternative to driving as well as shortened driving distances to access the Brightline West high-speed rail system to Las Vegas. While the proposed Victor Valley station site would be located at the convergence of all the highways enroute to Las Vegas for Southern California travelers, the Rancho Cucamonga station would be closer to major population centers in Southern California. Compared to the Victor Valley station, the HSR station in Rancho Cucamonga, located in Greater Los Angeles provides more direct access to the densely populated centers in Southern California for both drivers and Metrolink rider; 87 percent of the potential market for trips between Las Vegas and Southern California (equivalent to 42.7 million of the one-way in-scope trips in 2025) and 37.3 million people live within 75 miles of the Rancho Cucamonga station location. A station in Rancho Cucamonga, with an express rail connection to Los Angeles, will further meet the forecasted demand of the 49.1 million one-way trips between Las Vegas and Southern California estimated in 2025. Similarly, the proposed Hesperia station would be at the convergence of US-395 and I-15, so it would serve commuters to Greater Los Angeles from the major corridors in the Victor Valley.

The Project also supports SCAG's Connect SoCal Passenger Rail Technical Report, which identifies closing connectivity gaps as a major strategy to increase mobility and improve sustainability. The Project would facilitate transit connections and allow residents of the Greater Los Angeles and the Riverside-San Bernardino-Ontario Metropolitan areas to travel exclusively by mass transit and passenger rail to and from the high desert of San Bernardino. Southern California residents could take the Los Angeles Metro rail, regional bus systems, Amtrak, or Metrolink to Los Angeles Union Station to connect via the Metrolink San Bernardino Line to the Rancho Cucamonga station. Residents could also take the planned West Valley Connector Bus Rapid Transit service that will operate between the Pomona station on the Metrolink Riverside Line in eastern Los Angeles County and the Rancho Cucamonga station.

Additionally, SBCTA and SCAG's 2015 Advanced Regional Rail Integrated Vision – East (ARRIVE Corridor) plan proposes strategies for transitioning the Metrolink San Bernardino Line, which would serve the Rancho Cucamonga Station, from a traditional commuter rail line to one that promotes transit-oriented development. Improvements to Metrolink, its transit connections, and additional development of the station areas with transit-supportive uses at greater densities and intensities will encourage the formation of areas that are walkable and that provide mobility options in the region. The Project would further the goals of the ARRIVE Corridor plan, increasing the activity centers that can be accessed by Southern California's rail network. The Metrolink SCORE program also includes capital improvements within the Metrolink corridor that would improve service to Rancho Cucamonga including the Marengo Siding Extension, El Monte Siding Extension / Tyler and Cogswell Grade Crossing Improvements, Rancho Siding Extension, and Lone Hill to White Double Track.

SCAG forecasts, in its 2020-2045 RTP/SCS, that the population of San Bernardino County will grow to 2,815,000 by 2045, a 29 percent increase from the US Census Bureau's 2018 population estimate of 2,180,085, and that the number of households will grow to 875,000, a 39 percent increase over the 2018 household estimate of 630,633 (US Census Bureau, 2020). Additionally, the 2020-2045 RTP/SCS forecasts employment in San Bernardino County will increase to 1,064,000 by 2045, a 72 percent increase from the US Census Bureau's estimate of 617,828 in 2018.

The anticipated substantial increases in population, housing, and employment in San Bernardino County will result in greater demand for transportation facilities and services including increased travel demand that will result in congestion on roadways if capacity does not keep up with the demand. The Project stations in the High Desert will provide convenient connections between High Desert communities and the more urbanized San Bernardino Valley and Metropolitan LA. The High Desert provides lower cost housing options for Southern California residents, while the Rancho Cucamonga/Ontario area around Ontario International Airport has become a significant employment center.

In 2010, the San Bernardino Associated Governments (the predecessor agency to SBCTA) completed the Victor Valley Long Distance Commuter Needs Assessment, which identified a phased set of commuter improvement projects. Those projects ranged from expanded park and ride facilities to an express bus service linking the Victor Valley area of the High Desert to the Rancho Cucamonga Metrolink station. In 2017, SCAG and SBCTA amended the Transportation Improvement Program to include an expansion of the Hesperia Park & Ride area at Joshua Street from 188 spaces to nearly 400 spaces. The Joshua Street Park & Ride is next to the proposed Project station in Hesperia. Such commuter-focused planned

improvements highlight the need for travel options that reduce the number of single occupancy automobiles on I-15 in San Bernardino County, particularly through the Cajon Pass.

SCAG's Connect SoCal Goods Movement Technical Report identifies I-15 as part of the USDOT's Primary Highway Freight Network and among the network segments that carry the highest volumes of truck traffic in the region. It also identifies the entirety of the Cajon Pass as a truck bottleneck, with over 15,000 annual vehicle hours of delay. FHWA has previously invested \$200 million in improvements to the I-15/I-215 interchange at the southern end of the Cajon Pass because of the corridor's significance as a major truck and trade route.

FHWA's Southern California Regional Freight Study (USDOT, 2020) identifies I-15 as a major interstate highway corridor that provides access to the interior of the United States, for goods arriving at the ports of the Los Angeles region and ranks it among the highest truck volume corridors in the Western United States. Caltrans' 2015 Interregional Transportation Strategic Plan identifies I-15 as a high priority corridor, among six nationally identified "Corridors of the Future," and a "a vital link between Mexico, Southern California, and locations to the north and east of the region." I-15 also connects Southern California and the southwestern United States to the San Joaquin Valley's agricultural goods via State Route 58. By providing passenger rail capacity in the corridor, the Project will help maintain freeway capacity for truck freight use by removing passenger vehicles from the roadway network.

SAFETY

Alternatives to automobile travel would provide improved safety conditions on the I-15 corridor with diversion of vehicle trips to HSR. On a national level, comparing miles traveled via commercial aircraft, train, and automobiles on highways, auto travel on highways has by far the highest rate of passenger fatalities per mile traveled. In 2019, the average rate of passenger fatalities from highway travel was more than 75 times the comparable rate for travel by air, and 34 times the comparable rate by rail.⁵ For the year 2016, the Bureau of Transportation Statistics' National Transportation Statistics (USDOT, 2018) reported a rate of passenger fatalities per 100 million passenger miles traveled by highway nearly 10 times greater than the rates for travel by air or rail. High-speed rail is one of the safest forms of travel.

The California Office of Traffic Safety (OTS) ranks San Bernardino County 16th worst out of 58 counties for total fatal and injury crashes in 2018 (the most recent year of data available). According to the University of California, Berkeley, and SafeTREC's Transportation Injury Mapping System, there were 819 collisions with one or more deaths or injuries along I-15 in San Bernardino County in 2019. Of these, nearly one quarter (199) occurred in the 12 miles of the Cajon Pass, although the Pass accounts for only 6.5 percent of the length of I-15 in the county.

A study by the I-15 Mobility Alliance found that the segment of I-15 from I-215 in San Bernardino to I-40 in Barstow had a fatality rate 0.009 per million vehicle miles traveled, well above the alliance's performance goal of 0.003. Segments immediately north were even more deadly (I-15 Mobility Alliance,

⁵ National Transportation Safety Board, US Transportation fatalities in 2019 by mode. Accessed on April 15, 2021. Available at: https://www.nts.gov/investigations/data/Pages/Data_Stats.aspx

2015). By connecting the Victor Valley to Rancho Cucamonga, the Project will allow more travelers to stay off the most dangerous segments of I-15.

3.0 Project Description

3.1 EVALUATION OF ALTERNATIVES

This Draft EA evaluates the Build Alternative for construction and operation of the proposed high-speed train between Victor Valley and Rancho Cucamonga, and a No-Build Alternative.

NO-BUILD ALTERNATIVE

Under the No Build Alternative, none of the Project features would be constructed. The No Build Alternative provides a baseline against which to compare the Build Alternative. The existing transportation facilities within the project area would remain unchanged except for planned and programmed improvements, such as projects listed in state and local plans. For example, SBCTA's proposed I-15 Corridor Project will add managed lanes within the median of I-15 from the Riverside County line to Duncan Canyon Road. Metrolink proposes 30-minute headways throughout the day across its network and adding improvements to the San Bernardino Subdivision under the SCORE program, including implementing new double track segments to accommodate future growth.

BUILD ALTERNATIVE

The Build Alternative consists of a rail alignment located predominantly in the median or immediately alongside the I-15 freeway between Victor Valley and Rancho Cucamonga, within the Caltrans I-15 ROW. The rail alignment would be predominately at-grade (the same elevation as the existing freeway), with select segments of the alignment on aerial structures or in a trench to allow for grade separations and to provide a safe incline for train operation. The rail alignment within the I-15 ROW would be predominately single-track, with limited double-track segments in Victor Valley (2.6 miles), Hesperia (5.5 miles), and Rancho Cucamonga (2.1 miles). This would allow for 45-minute headways between Victor Valley and Rancho Cucamonga. These headways along with the ability to couple trains (double passenger capacity), would address projected ridership needs for the foreseeable future.

Temporary construction areas, or TCAs, are properties that would be temporarily utilized for construction staging and storage. The Project would require TCAs along the alignment between Victor Valley and Rancho Cucamonga. TCAs have been included in the project footprint and are shown in Figures 1 through 18.

For analytical purposes, the Build Alternative is described in sections. Sections were developed to reflect similarly developed areas with similar environmental sensitivity and are shown on Figures 1 through 18. They include:

- **Section 1:** High Desert - From the Victor Valley Passenger Station, continuing south along I-15, to the I-15/Oak Hill Road interchange in Hesperia
- **Section 2:** Cajon Pass - From the Oak Hill Road interchange continuing south along I-15, through the Cajon Pass, to the I-15/Kenwood Avenue interchange

- **Section 3:** Greater Los Angeles⁶ - From the I-15/Kenwood Avenue interchange in San Bernardino continuing south along I-15, through the existing Metrolink Station in Rancho Cucamonga to Haven Avenue

SECTION 1 – HIGH DESERT

Section 1 is shown in Figures 1 through 9. The rail alignment would leave the proposed Victor Valley Passenger Station in Apple Valley and cross to the west side of I-15 when leaving the station, then continue along the western side of I-15 at-grade. A section would then be elevated to cross over an existing short-line freight railway. The rail alignment throughout Section 1 is predominantly single track; however, the rail alignment will be double track north of Stoddard Wells Road to the northern terminus of the alignment to accommodate track siding locations. North of the Stoddard Wells Road north interchange, one or more towers of the existing Southern California Edison (SCE) Boulder Dam – San Bernardino Transmission Line would be relocated to accommodate the rail alignment. Just north of the Mojave River, the existing southbound off-ramp to Stoddard Wells Road would be realigned and reconstructed to cross over the proposed at-grade rail alignment. The rail alignment would then transition to an elevated configuration to cross over the existing frontage road on the west side of the I-15 freeway, which would be realigned. The rail alignment would cross the Mojave River on a new bridge and then remain elevated to cross the southbound ramps of the D Street/E Street interchange. The alignment would then cross above the southbound lanes of the I-15 freeway and transition to an at-grade configuration in the I-15 median.

The alignment would continue at-grade in the I-15 median for the remainder of Segment 1. Beginning at the Mojave Drive interchange, portions of the I-15 freeway would be shifted outward to accommodate the train and minor widening or relocation of off-ramps and frontage roads would be required, but interchanges would retain their existing configurations. This portion of the alignment would interface with the following interchanges: Roy Rogers Drive/Hook Road, Palmdale Road, Nisqualli Road, Bear Valley Road, Main Street, Phelan Road, Joshua Street, US 395, Ranchero Road, and Oak Hill Road.

A new substation would be constructed to support the project along I-15, between Mesa Street and Mojave Street. The area is currently largely undeveloped other than existing overhead power lines and utility access.

Hesperia Station

Section 1 includes a new passenger station in Hesperia, at the Joshua Street interchange. This station would serve daily travelers between the High Desert of San Bernardino County and the Los Angeles Basin. Station parking will be accessed via Outpost Road and located between I-15 and US Highway 395 (US-395). To accommodate the rail alignment, the existing US-395 northbound connector and the existing Joshua Street bridge would be replaced. The Joshua Street bridge would be reconstructed at a higher elevation, requiring the raising of the I-15 ramps and Mariposa Road. The passenger platform would be located within the I-15 median with access via a pedestrian bridge crossing over the southbound lanes of I-15 from the proposed parking area and directly from the reconstructed Joshua

Street bridge. This in-line station would be located at the southern end of the double track segment in Hesperia.

Design Elements

Bridges/Viaducts: Bridge over I-15 leaving Victor Valley Station, extended viaduct approximately 2.5 miles in length at Mojave River crossing including D Street/E Street interchange and entry into the I-15 freeway median south of Mojave River

Reconstructions/Interchange Modifications: Stoddard Wells Road southbound off-ramp; Roy Rogers Drive/Hook Road; Palmdale Road; Nisqualli Road; Bear Valley Road; Main Street; Phelan Road; US 395; Ranchero Road; Oak Hill Road; Joshua Street Bridge replacement and interchange modifications, I-15 ramps at Mariposa Road

Station area: Hesperia Station platform, pedestrian bridge, station access/infrastructure, surface parking lot accommodating approximately 360 vehicles, bus pick up/drop off areas, Kiss and Ride

SECTION 2 – CAJON PASS

Section 2 is shown in Figures 9 through 13. Beginning at the Oak Hill Road interchange traveling south, the alignment would run on the west side of the I-15 northbound lanes at-grade and within the existing I-15 right-of-way. In this area the I-15 runs through the San Bernardino National Forest (approximately 12 miles). The rail alignment throughout Section 2 will be entirely single track. The Project would require relocation of California Highway Patrol (CHP) emergency crossovers where the new guideway would block existing crossovers. New crossover locations would be placed to take advantage of existing CHP access between the separated I-15 alignments wherever possible. The alignment would remain at-grade throughout Segment 2.

Where I-15 northbound and southbound lanes reconnect at the foot of the Cajon Pass, the rail alignment would be within the I-15 median. This would require widening portions of the I-15 freeway and minor realignment of ramps at the I-15/State Route 138 (SR-138) interchange.

Design Elements

Bridges/Viaducts: None

Reconstructions/Interchange Modifications: Widening portions of the I-15 freeway and realignment of ramps at the I-15/State Route 138 (SR-138) interchange

Other facilities: CHP emergency crossovers

SECTION 3 – GREATER LOS ANGELES

Section 3 is shown in Figures 13 through 18. Beginning at the Kenwood Avenue interchange, the rail alignment would continue at-grade in the I-15 median. At the I-15/I-215 interchange, the alignment would continue between the divided I-15 freeway at the same elevation as the freeway, curving to the southwest parallel to freeway. The rail alignment would require I-15 freeway and interchange ramp modifications at SR-210, Beech Avenue, Duncan Canyon Road, and Glen Helen Parkway.

The rail alignment would transition to an aerial alignment south of Base Line Road to cross over the I-15 southbound lanes south of Church Street and continue along the west side of the I-15 freeway on an elevated alignment to enter the San Gabriel Subdivision and 8th Street corridor. The alignment would transition onto an aerial structure and turn west, running parallel to and partially within the existing rail corridor and partially within the 8th Street right-of-way before entering the existing Rancho Cucamonga Metrolink station area on an elevated structure. The rail alignment would maintain a single-track configuration prior existing the freeway median south of Church Street, where it would transition to a double track configuration for the remaining distance to the Rancho Cucamonga Station. At the Rancho Cucamonga station, an elevated station with a center platform and tracks on either side would be constructed parallel to and above the existing eastbound Metrolink platform, extending over Milliken Avenue. A storage track(s) would extend west of the station towards Haven Avenue.

Design Elements

Bridges/Viaducts: Viaduct of approximately 3.5 miles to cross I-15 southbound lanes and along existing rail corridor near Rancho Cucamonga Station.

Reconstructions/Interchange Modifications: I-15 freeway and interchange ramp modifications at SR-210, Beach Avenue, Duncan Canyon Road, and Glen Helen Parkway.

Station: The proposed Project includes the construction of a dedicated Brightline station adjacent to the existing Rancho Cucamonga Metrolink station with vertical circulation down to the platform, shared access with existing Metrolink station, a share parking structure for vehicles, and a bus plaza.

3.2 TRAIN TECHNOLOGY AND OPERATIONS

TECHNOLOGY

The Project would use high-speed electric trainsets powered by an overhead catenary wire system. The Electric Multiple Unit (EMU) technology under consideration is used on existing European intercity high-speed train systems and would be customized for the unique characteristics of the corridor. Brightline West has identified a Siemens train set, the Velaro, as a representative example of the EMU technology. Various derivations of the Velaro trains are currently operating throughout the world including Great Britain, France, Germany, Turkey, Russia and China. Signaling Systems

The planned signaling system will be the European Train Control System (ETCS) that relies on axle counters and train detection technology that is embedded in balises placed directly on select concrete ties throughout the rail corridor. There are no track circuits or wayside signaling required. The ETCS technology includes all the features required to achieve certification for Positive Train Control.

OPERATIONS

Each train set would include 7-car EMU trains capable of seating approximately 400 passengers. The Project would allow trains to operate in coupled train sets of 14 cars with a total of 800 seats between the Rancho Cucamonga and Victor Valley stations.

Based on the projected performance of the trains, as established using manufacturer-provided data, the estimated transit time for the Project is approximately 35 minutes per trip, per direction, between Victor Valley and Rancho Cucamonga.

A total of 23 departures would occur in each direction on a typical day at 45-minute intervals between Rancho Cucamonga and Victor Valley. Trains would run from 5:30 a.m. to 11:15 p.m.

4.0 Permits and Approvals

Brightline West is responsible for securing the necessary financing and approvals to construct and operate the proposed Project. The Sponsor is also responsible for Project design, construction, operation, and maintenance in accordance with applicable law. Implementation of the proposed Project would require coordination and approvals from the following Federal agencies:

Table 1 **Federal Permits and Approvals**

USFWS	Consultation consistent with Section 7 of the Endangered Species Act
USACOE	Section 404 Permit, pursuant to the Federal Clean Water Act
STB	Approval for Construction
FRA	Authority to regulate the safety of railroads, per 49 U.S.C. 20101, et seq.
FHWA	Jurisdiction over the use of and/or modification of Interstate highway ROW
USFS	TBD