

### 3.1.6 Traffic and Transportation/Pedestrian and Bicycle Facilities

This section addresses potential impacts to vehicular traffic and circulation. Impacts to the transit system, pedestrian and bicycle facilities, and parking are also addressed.

#### **Regulatory Setting**

Caltrans, as assigned by the Federal Highway Administration (FHWA), directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of federal-aid highway projects (23 CFR 652). It further directs that the special needs of the elderly and the disabled must be considered in all federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

In July 1999, the U.S. Department of Transportation (DOT) issued an Accessibility Policy Statement pledging a fully accessible multimodal transportation system. Accessibility in federally assisted programs is governed by DOT regulations (49 CFR part 27) implementing Section 504 of the Rehabilitation Act (29 U.S.C. 794). FHWA has enacted regulations for the implementation of the 1990 Americans with Disabilities Act (ADA), including a commitment to build transportation facilities that provide equal access for all persons. These regulations require application of the ADA requirements to federal-aid projects, including Transportation Enhancement Activities.

#### **Affected Environment**

The traffic and circulation impact analysis in this section is based on the results of the *High Desert Corridor Traffic Study Report* (June 2014).

The project corridor is divided into three segments as follows:

- **Antelope Valley Segment:** From SR-14 to 100<sup>th</sup> Street East in Palmdale, a distance of approximately 10 miles.
- **High Desert Segment:** From Palmdale city limits to Adelanto city limits in unincorporated Los Angeles and San Bernardino counties, a distance of approximately 26 miles.
- **Victor Valley Segment:** From west of Caughlin Road in Adelanto to SR-18 east of Joshua Road in Apple Valley, a distance of approximately 27 miles.

The traffic analysis study area runs west to east along the proposed corridor from SR-14 in Palmdale on the west to east of Joshua Road in Apple Valley on the east, for a total length of 64 miles. In the north-south direction on the west end, the study area covers the area from the intersection of SR-14 and West Avenue N on the north to the intersection of SR-14 and East Avenue S on the south. On the east side, the study area covers the area from the interchange of I-15 and Dale Evans Parkway on the north to Bear Valley Road on the south.

This section summarizes the characteristics of the existing roadway network in the study area, traffic volumes, truck traffic, and current operating conditions of the roadway network. Future traffic forecasts for the build alternatives and the No Build Alternative are presented in the Environmental Consequences section that follows.

### *Existing Roads and Highways*

#### *Antelope Valley*

##### *Regional Roadway Network*

**State Route 14.** SR-14 is a north–south State highway in southern California, approximately 116.6 miles in length. The southern portion of the highway is signed as Antelope Valley Freeway. The route connects I-5, near Santa Clarita, with US 395, near Inyokern. Rapid suburban growth in Santa Clarita, Lancaster, and Palmdale has made the Antelope Valley Freeway one of the most congested in southern California.

**State Route 138.** SR-138 is an east–west State highway generally following the northern foothills of the San Gabriel Mountains of southern California from its junction with I-5 south of Gorman eastward to Mount Anderson Junction, its eastern junction with SR-18 south of Crestline in the San Bernardino Mountains. The route is approximately 105.4 miles long.

**Interstate 5.** Within California, I-5 is a major north–south route of the Interstate Highway System. This highway links the major California cities of San Diego, Los Angeles, Sacramento, and Redding. From its junction with SR-14, just south of Santa Clarita, I-5 crosses over the Newhall Pass through the Santa Susana Mountains into the San Fernando Valley. Between the Los Angeles Civic Center and SR-14, motorists traverse 28.7 miles of heavily used roadway.

**State Route 58.** SR-58 is a 241-mile, east–west highway across the southern San Joaquin Valley, the Tehachapi Mountains, and the Mojave Desert. It runs between its western terminus at the junction of US 101 and its eastern terminus at Barstow (junction I-15). It has junctions with SR-14 in Mojave and US 395 north of Adelanto. SR-58 is the only freeway/expressway to cross the Sierra Nevada range south of I-80, the only other freeway to cross the Sierra.

##### *Local Roadway Network*

**State Route 138 (Palmdale Boulevard).** Palmdale Boulevard, also known as SR-138 from 10<sup>th</sup> Street West to 50<sup>th</sup> Street East, runs perpendicular to SR-14 (also known as the Antelope Valley Freeway). West of SR-14, Palmdale Boulevard is a four-lane regional arterial with a speed limit of 50 miles per hour (mph) from 10<sup>th</sup> Street West to 5<sup>th</sup> Street West, and 45 mph from 5<sup>th</sup> Street West to the SR-14 southbound ramp terminal intersection. Just east of the SR-14 northbound ramp terminal intersection, the speed limit drops to 40 mph.

Other substantial local roadways and their surrounding land uses were examined and include Avenue Q, Avenue P, 50<sup>th</sup> Street East, 40<sup>th</sup> Street East, 30<sup>th</sup> Street East, 25<sup>th</sup> Street East, 20<sup>th</sup> Street East, 10<sup>th</sup> Street East, Sierra Highway, and 10<sup>th</sup> Street West.

## High Desert

### *Regional and Local Roadway Network*

The High Desert portion of the corridor is currently served by a sparse network of county and local roads that are typically two lanes in width (one through travel lane per direction). Sporadic, short sections of roadway have been widened along frontages of newer land developments as a condition of approval.

Few of these roadways are continuous throughout the High Desert region. East Palmdale Boulevard is one of the longest east–west roadways, extending from Palmdale to 240<sup>th</sup> Street East; continuing east as El Mirage Road/East Avenue P. Sheep Creek Road is one of the longest north–south roadways, extending from SR-138 in Phelan to just north of El Mirage Road. The proposed project build alternatives would construct a new freeway through the High Desert portion of the study area connecting Palmdale and Adelanto, just south of and roughly parallel to Palmdale Boulevard.

## Victor Valley

### *Regional Roadway Network*

**Interstate 15 (Mojave Freeway).** I-15 is a north–south freeway that divides the vicinity of Victorville into east and west sides for about 14 miles through the study area from Bear Valley Road on the south to Dale Evans Parkway on the north. Within this study segment, I-15 is also called the Mojave Freeway. For about 3.5 miles at the southern end of the study area, I-15 and Historic Route 66 share the same road, until reaching Palmdale Road (SR-18), where Route 66 continues on its own alignment to the northeast. At this same interchange, I-15 shares its designation with SR-18 for another 3.5 miles north until its interchange with Route 66 (National Trails Highway).

**U.S. Route 395.** US 395 generally runs in the north–south direction with its southern terminus at I-15 near Hesperia and its northern terminus at the border of Canada. US 395 forms the western border of this portion of the study area for approximately 7 miles. The southern end of the route consists of a few areas with residential frontage and property walls, but the land use is mostly vacant, rural land along the frontage with some scattered residential use set back behind the frontage. US 395, north of the Palmdale Road intersection, creates the western border of Victorville.

**Historic Route 66.** Historic Route 66 was constructed in 1926 and passed through Victorville. Currently, the route follows I-15 for about 3.5 miles from Bear Valley Road north to the Palmdale Road interchange and then separates to what is known as 7<sup>th</sup> Street and continues until just south of the Mojave River, where the route turns northwest and becomes known as the National Trails Highway.

**State Route 18.** SR-18 begins its northwest end at SR-138 near Llano, approximately 24 miles west of I-15, and continues around and then south to SR-210 in San Bernardino. Within this study area, SR-18 has a western and an eastern segment. From the western terminus, SR-18 heads east named as Pearblossom Highway until becoming Palmdale Road and crossing US 395 in Adelanto where the Victor Valley

portion of the study area begins, 4 miles west of I-15. Through Apple Valley and within the study area of Victor Valley, SR-18 becomes an expressway (Happy Trails Highway). It joins with I-15 in Victorville at the Palmdale Road interchange, continuing north to the Route 66 interchange. The expressway begins again east of I-15, heading east and crossing over the Mojave River. It continues east and then south reaching the intersection of Yucca Loma and Navajo roads.

#### *Local Roadway Network*

Many local roadways exist within the project study area, including Adelanto Road, Air Expressway, Village Drive, Stoddard Wells Road, Apple Valley Road, Dale Evans Parkway, Corwin Road, Waalew Road, Yucca Loma Road, Bear Valley Road, Navajo Road, Central Road, and Joshua Road.

#### *Existing Traffic Volumes*

Existing traffic volume information was collected along state routes and at representative intersections located throughout the study area. Traffic volumes along state routes are crucial, as the proposed HDC would funnel traffic to and from SR-14 and I-15 at a focused location and would divert traffic away from local service interchanges along existing and future proposed east–west roadways. Traffic volumes along local east–west and north–south local roads would also shift directional patterns, as traffic flows to the new HDC (and away from Palmdale Boulevard and Palmdale Road) to take advantage of its higher speeds and to avoid traffic signal delays.

#### *State Route 14*

Table 3.1.6-1 summarizes traffic volumes on SR-14 within Los Angeles County, compiled by Caltrans' Division of Traffic Operations, Office of System Planning Management Traffic Data Branch for the year 2011. Annual average daily traffic (AADT) is shown for selected locations along SR-14, with the segments within the focused study area highlighted. These counts represent total vehicles, passenger vehicles and trucks, averaged over 365 days of the year. Peak-month and peak-hour volumes are also reported. All volumes are two-way (northbound plus southbound combined).

As part of the traffic study prepared for this project, Caltrans also conducted vehicle counts during all hours of the day and all days of the month during February and March 2009, and in 2011. These counts were collected at milepost (MP) 59.803, located at the SR-138/Palmdale Boulevard interchange.

The results of the balanced traffic volume along SR-14 within the focused study area are presented in Figure 2-23 of the *High Desert Corridor Traffic Study Report Volume I*.

**Table 3.1.6-1 Traffic Volume along SR-14 (Los Angeles County), 2011**

Off-Ramp or Intersection Location	South			North		
	Peak Hour	Peak Month	AADT	Peak Hour	Peak Month	AADT
Angeles Forest Highway interchange	7,500	99,000	96,000	5,500	72,000	70,000
Palmdale, Avenue S interchange	5,500	72,000	70,000	6,400	81,000	79,000
Palmdale, south junction SR 138, Palmdale Boulevard	6,400	81,000	79,000	7,100	89,000	86,000
Palmdale, 10 <sup>th</sup> Street West interchange	7,100	89,000	86,000	7,200	89,000	86,000
Palmdale, Avenue N interchange	7,200	89,000	86,000	7,700	94,000	91,000
Lancaster, Columbia Way/ Avenue M interchange	7,700	94,000	91,000	7,500	92,000	88,000
Lancaster, Avenue L interchange	7,500	92,000	88,000	6,300	76,000	73,000
Lancaster, Avenue K interchange	6,300	76,000	73,000	5,000	60,000	58,000
Lancaster, Avenue J-8/ 20 <sup>th</sup> Street interchange	5,000	60,000	58,000	3,550	42,000	40,500
Lancaster, Avenue J interchange	3,550	42,000	40,500	4,100	48,500	46,500
Lancaster, Avenue I interchange	4,100	48,500	46,500	3,500	40,500	39,000
Lancaster, Avenue H interchange	3,500	40,500	39,000	3,600	38,000	37,500
Avenue G interchange	3,600	38,000	37,500	3,600	38,000	37,000
Avenue F interchange	3,600	38,000	37,000	3,450	36,500	35,500
North Junction SR 138; Avenue D interchange	3,450	36,500	35,500	3,300	34,000	33,500
Los Angeles/Kern County Line, Avenue A interchange	3,300	34,000	33,500	3,000	31,000	30,000

Source: High Desert Corridor Traffic Study Report, 2014.

### Interstate 15

Table 3.1.6-2 summarizes traffic volumes on I-15 within San Bernardino County, compiled by Caltrans' Division of Traffic Operations for the year 2011. AADT is shown for selected locations along I-15, with the segments within the focused study area highlighted.

As part of the traffic study prepared for this project, vehicle counts were conducted. The balanced traffic volumes for the focused study area along I-15 are presented in Figure 2-27 of the *High Desert Corridor Traffic Study Report Volume I*.

**Table 3.1.6-2 Traffic Volume along I-15 (San Bernardino County), 2011**

Off-Ramp or Intersection Location	South			North		
	Peak Hour	Peak Month	AADT	Peak Hour	Peak Month	AADT
Junction Route 138	11,200	160,000	152,000	9,000	137,000	132,000
Oak Hill Road	9,000	137,000	132,000	8,400	129,000	124,000
Junction US 395	8,400	129,000	124,000	7,100	105,000	101,000
Joshua/Palm Avenue	7,100	105,000	101,000	9,700	114,000	104,000
Hesperia, Phelan/Main	9,700	114,000	104,000	9,200	108,000	98,000
Bear Valley	9,200	108,000	98,000	7,900	93,000	85,000
Junction SR-18 South	7,900	93,000	85,000	8,000	94,000	86,000
Victorville, Mojave	7,800	91,000	83,000	7,500	88,000	80,000
Victorville, Junction SR-18	7,500	88,000	80,000	5,600	66,000	60,000
Victorville, E Street	5,600	66,000	60,000	5,600	66,000	6,000
Stoddard Wells Road	5,600	66,000	60,000	6,000	64,000	56,000
N. Junction Stoddard Wells Road	6,000	64,000	56,000	5,900	63,000	55,000
Boulder Road (Dale Evans Boulevard)	5,900	63,000	55,000	5,900	63,000	55,000

Source: *High Desert Corridor Traffic Study Report, 2014.*

### Local Roads

Average daily traffic volumes on avenues and street segments located within the focused study portion of Antelope Valley were assembled by the City of Palmdale traffic engineering staff from a variety of sources on different days of the week and months of the year. Note that these traffic volumes are not “balanced” from one segment to the next; therefore, they may include anomalies.

At a representative “screenline,” just west of 15<sup>th</sup> Street, each of the major arterials, East Avenue P, Palmdale Boulevard, East Avenue R, and East Avenue S, all carry similar volumes of daily traffic, ranging from 25,000 to 30,000 vehicles per day (vpd). The north–south streets carry much less traffic, plus or minus 10,000 vpd along the screenline segments just south of Palmdale Boulevard. The highest daily traffic flows occur along 10<sup>th</sup> Street West, in the vicinity of the Antelope Mall, and along Sierra Highway to the north of East Avenue P.

The average daily traffic volumes on street segments located within the Victor Valley portion of the focused study area were obtained from the *Victor Valley Area Transportation Study*, prepared by Kimley-Horn and Associates, Inc., in March 2008. Bear Valley/Duncan Road between US 395 and Apple Valley is a heavily traveled roadway section with up to nearly 56,000 daily trips. Other segments with significant traffic include Lemon/Tussing Ranch/Desert View between Mojave Street and Mohave Drive (over 28,000 daily trips), Hesperia Road between Eucalyptus and Nisqualli (nearly 40,000 daily trips), Phelan Road/Main Street between US 395 and Cottonwood (over 47,000 daily trips), and Happy Trails Highway (SR-18) between Stoddard Wells and Dale Evans Parkway (over 52,000 daily trips).

Furthermore, the traffic analysis prepared for this project included the acquisition for peak-period traffic counts at all signalized intersections at all freeway ramp connections to local streets and at numerous representative intersections throughout much of the study area (over 150 in total). The location of these facilities is depicted in Figure 3.1.6-1. AM and PM Existing Condition traffic counts can be found in Table 2-8 of the *High Desert Corridor Traffic Study Report Volume I*.

### *Truck Traffic and Volumes*

Truck drivers predominantly choose SR-58 (Tehachapi) or I-5 (the Grapevine) to access Los Angeles and San Bernardino counties from Kern County and points north. Grades along the Grapevine are relatively steady at 6 percent both up to and down from Tejon Pass. Along SR-58, the grades approaching Tehachapi Pass are less steep, ranging between 2.4 and 2.8 percent along the adjacent railroad line.

If a trucker is traveling between Bakersfield (on I-5 or SR-99) and Lancaster, the route choice following SR-58 to SR-14 presents less of a gradient than following I-5 up and down the Grapevine to SR-138. In the winter, SR-58 is less subject to closure due to inclement weather than the Grapevine segment of I-5.

Relative to other State highway facilities in the Inland Empire region, truck volumes on east–west highways between I-5 and I-15 in the High Desert region are very low. The 2009 Caltrans truck count report shows an average daily volume of 1,940 four- and five-axle trucks on SR-14 west of the interchange with Pearblossom Highway (3 percent of the AADT); 616 four- and five-axle trucks on SR-18 west of US 395 (3 percent of the AADT); and 461 four- and five-axle trucks on SR-138 west of the interchange with SR-14 (12 percent of the AADT).

Additional vehicle classification counts were conducted in the HDC study area to supplement the truck volume data compiled by Caltrans. The results generally correspond to the Caltrans truck data presented above.

### *Existing Intersection Levels of Service*

Efficiency of traffic operations on a transportation facility is measured in terms of level of service (LOS), with LOS A representing the best operating conditions and LOS F the worst. This is graphically shown in Figures 1-3 of Section 1.2, Purpose and Need.

Freeway operational performance was measured using computer software developed by the Federal Highway Administration (FHWA). To determine freeway LOS, the number of passenger cars per lane over mile-long freeway segments was calculated using computer software and then compared to the criteria listed in Figure 1-3. In addition, the intersections at the end of freeway interchange ramps were evaluated using the same computer software. The LOS criteria for intersections are shown graphically in Figures 1-3 in Section 1.2, Purpose and Need. Figure 3.1.6-1 shows the locations of study intersections.

Figure 3.1.6-1 Locations of Study Intersections (page 1 of 3)

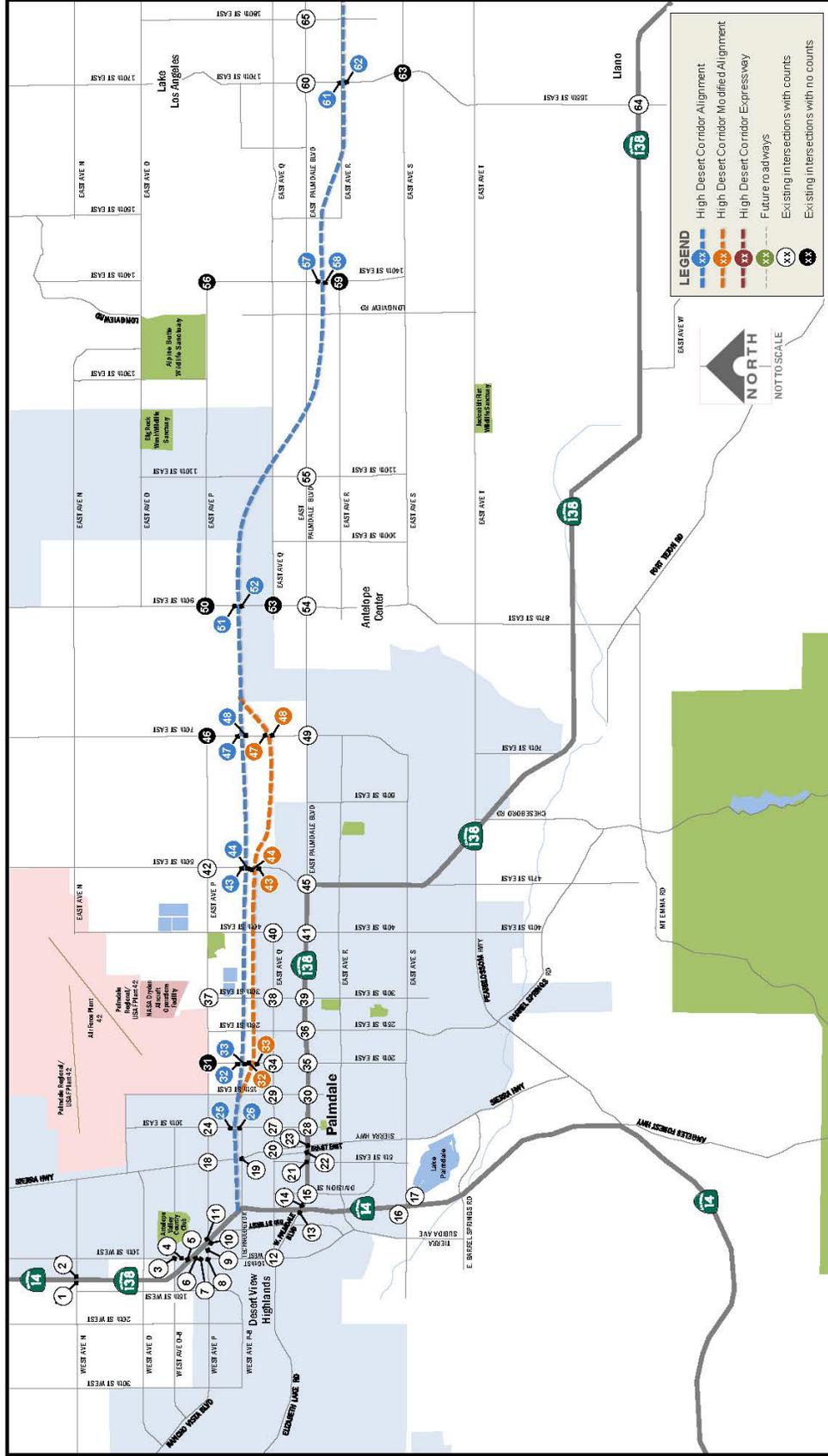
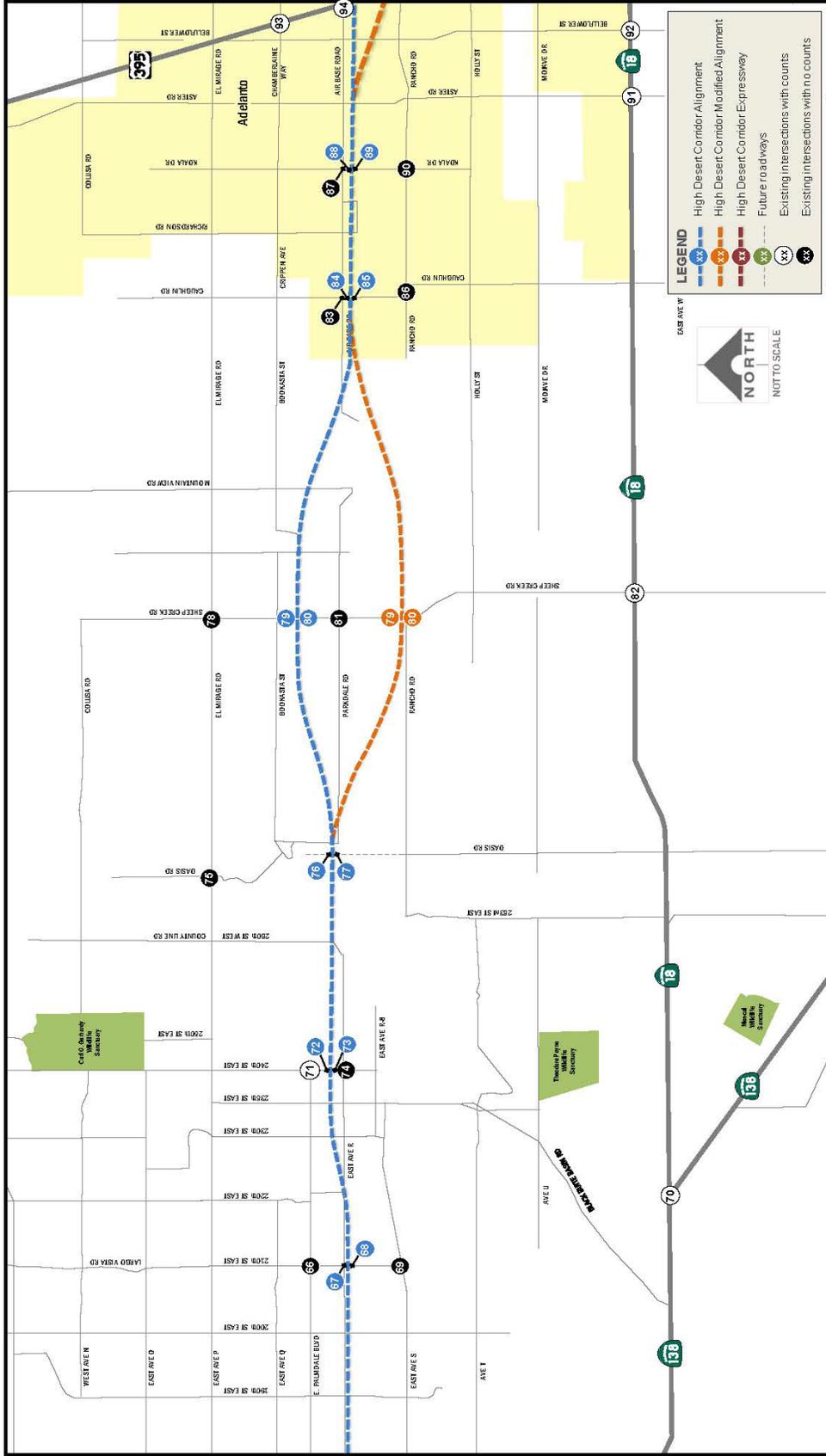


Figure 3.1.6-1 Locations of Study Intersections (page 2 of 3)





The LOS analysis for SR-18/SR-138 indicates, with three exceptions, that the current road network operates adequately in support of existing conditions. All signalized study area intersections operate at LOS D or better during peak hours. Three stop sign controlled intersections operate at LOS E or F as follows (see more detail information in the Environmental Consequence Section below):

- Rancho Vista Boulevard/East Avenue P and 10<sup>th</sup> Street East LOS E (AM) and LOS F (PM)
- Palmdale Boulevard and 15<sup>th</sup> Street East LOS E (PM)
- Palmdale Boulevard and 70<sup>th</sup> Street East LOS F (AM)

In addition, field observation of traffic conditions indicates that the intersection of 10<sup>th</sup> Street West and West Avenue P, adjacent to the Antelope Valley Mall in Palmdale, is also congested during afternoon peak hours.

#### *Traffic Accident Data*

Caltrans maintains a traffic safety database called the Traffic Accident Surveillance and Analysis System (TASAS). The database tabulates crash rates for all highways in California, identified by post miles (PM). Data is reported based on the number of lanes, whether the crash occurred on wet or dry pavement, whether it occurred during the night or day, and whether the crash resulted in fatalities. Data collected between 2008 and 2011 indicate that the crash rate for mainline SR-14 between PM 58.17 and PM 63.67 is lower than the statewide average accident rate for similar facilities. Most of the ramps accessing this segment of SR-14 have accident rates lower or comparable to the statewide average accident rate for similar facilities; however, four of the ramps that provide access to and from SR-138 have accident rates at least 1.6 times higher than the statewide average. Most of the accidents on the off-ramps to SR-138 are rear-end collisions and broadside collisions.

The crash rate for SR-138 between PM 43.42 and PM 57.18 is 15 percent higher than the statewide average accident rate for similar facilities. The report indicates that 27 percent of the accidents are broadside accidents, mainly associated with movements through intersections and with left-turn movements in and out of driveways. Furthermore, 39 percent of the accidents are rear-end collisions and 13 percent are sideswipe collisions, and both are associated with traffic congestion. The crash rate for I-15 between PM 43.0 and PM 49.0 is approximately 50 percent of the statewide average rate for similar facilities, insofar as total accidents.

#### *Parking Facilities*

Much of the developed study area is characterized by typical commercial and suburban residential neighborhoods, with on-street and off-street parking in residential areas and generally plentiful off-street surface parking in commercial lots. Parking conditions vary along the major arterials within the study area.

Park-and-ride lots are used to encourage carpooling. Caltrans has developed a park-and-ride program that supports transit service and carpooling. The goals of the program include increasing the person throughput on the State Highway System,

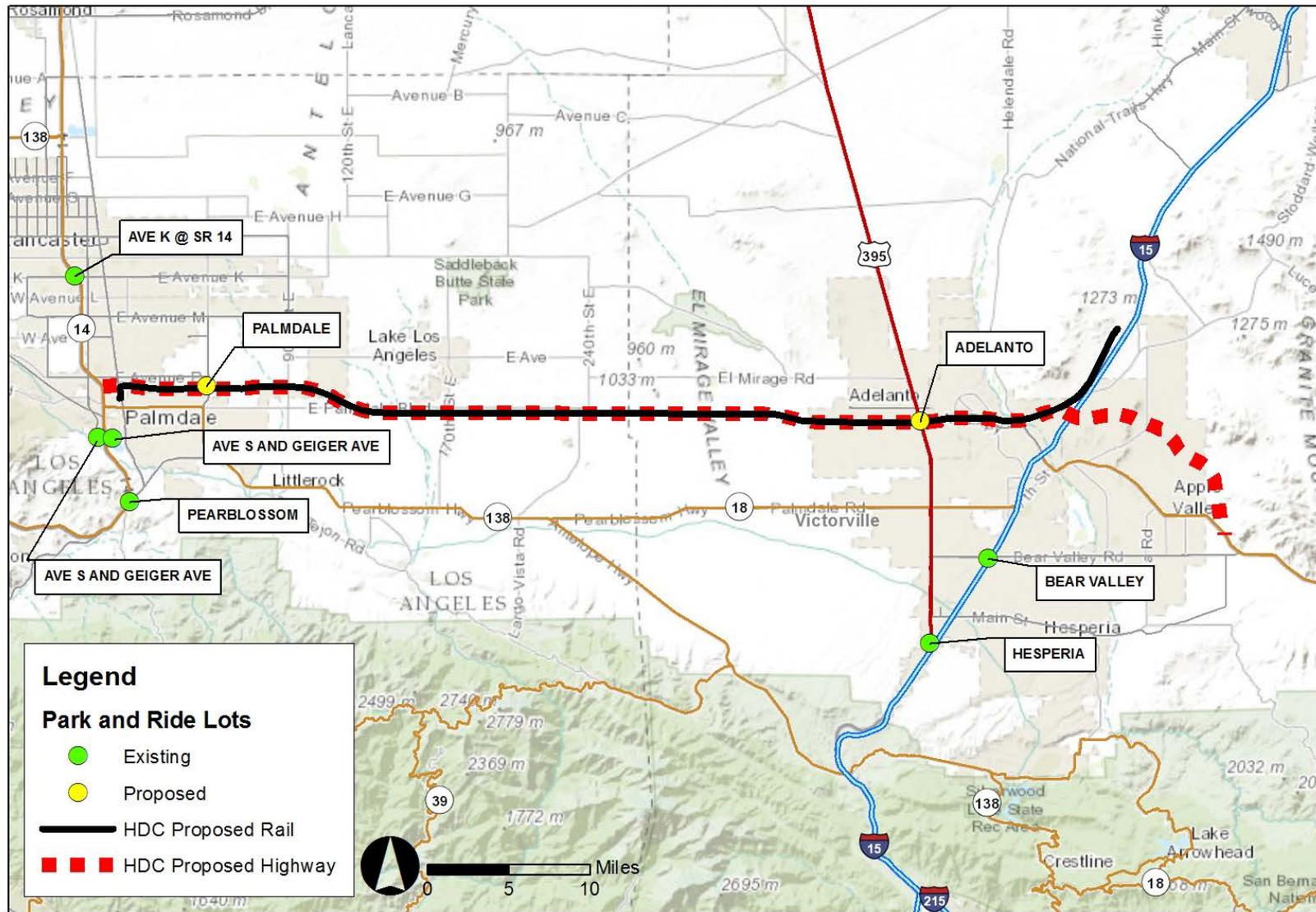
decreasing the number of vehicle trips, decreasing the greenhouse gas (GHG) and air pollution associated with transportation, and decreasing congestion on transportation facilities.

The location of park-and-ride facilities located throughout Caltrans Districts 7 and 8 are illustrated in Figure 3.1.6-2, with lots located within the HDC highlighted on the accompanying inventory of facilities.

- Lot ID #10 District 7 is located within the SR-14 interchange with Sierra Highway, adjacent to the southbound on-ramp and the northbound off-ramp. The lot is owned by the State and has 213 spaces.
- Lot ID #11 District 7 is located along West Avenue S at Geiger Road. The facility has 430 spaces and is owned by the State. A short distance away, along East Avenue S, at 2<sup>nd</sup>/3<sup>rd</sup> Street East, a 1,082-space park-and-ride lot is situated. This lot is owned by the City of Palmdale. A third park-and-ride lot is located on West Avenue R-8 at Pelona Vista Park. This facility provides 445 spaces.
- Lot ID #12 District 7 is located at SR-14 and West Avenue K, within the southbound loop on-ramp. The lot has 118 spaces and is owned by the State.
- Lot ID #31 District 8 is located at the I-15 interchange with Bear Valley Road. The 70-space lot is well utilized and is accessed from Amargosa Road, adjacent to the southbound I-15 on-ramp. The lot is owned by the State.
- Lot ID #34 District 8 is located adjacent to US 395 at Joshua Street in Hesperia, immediately west of I-15. The 186 spaces in this lot are routinely well-utilized. The City of Hesperia and the State own and operate the lot.

In addition to the above auto-to-auto mode transfer facilities, auto to transit park-and-ride facilities are located at the Victor Valley Transit Center in Victorville, along D Street east of I-15, and the Palmdale Transportation Center, located north of East Palmdale Boulevard.

Figure 3.1.6-2 Locations of Park-and-Ride Facilities



As an add-on element to the HDC Project, two park-and-ride lots are proposed for construction by others in conjunction with the build alternatives. One of these lots is proposed to be located in Palmdale adjacent to the HDC interchange at 50<sup>th</sup> Street East, and the second lot is proposed to be located in Adelanto near the HDC interchange at US 395. Caltrans' *Park and Ride Program Resource Guide*, 2010, would be consulted by local sponsoring agencies, such as Metro, to advance the development of these proposed add-on elements to be constructed by others. The two proposed park-and-ride lots illustrated in Figure 3.1.6-2 are not part of the project.

### *Public Transit Service*

#### *Antelope Valley*

The Antelope Valley Transit Authority was created in 1992 by Los Angeles County and the cities of Lancaster and Palmdale to provide transit service to residents of Antelope Valley communities. The Antelope Valley Transit Authority provides three services: local fixed-route buses (including school routes), on-demand "Dial-A-Ride" paratransit vehicles, and longer distance commuter coach service. Public transportation services revolve around the Palmdale Transportation Center as the major transfer center in Palmdale and Lancaster City Park as the major transfer center in Lancaster. Figure 3.1.6-3 shows the Antelope Valley Transit Authority bus lines.

#### *Local Bus*

The Antelope Valley Transit Authority's local bus service operates five bus routes within the Antelope Valley area from East Avenue P, Technology Drive, Sierra Highway, and Carriage Way to Palmdale Transportation Center.

To the east, the Lake L.A. Express route, which operates on 60-minute headways, crosses the proposed freeway alignment at 40<sup>th</sup> Street East.

#### *Commuter Bus*

The Antelope Valley Transit Authority provides commuter bus service to Los Angeles and the San Fernando Valley. Commuter bus routes serve three locations from Palmdale Transportation Center, including Downtown Los Angeles, West Los Angeles, and West San Fernando Valley.

#### *Commuter Rail*

Rail service is available from the Antelope Valley to Santa Clarita, the San Fernando Valley, and Los Angeles Basin cities on Monday through Saturday by Metrolink.



### Victor Valley

The Victor Valley Transit Authority (VVTA) provides local bus service for the communities of Adelanto, Apple Valley, Hesperia, Victorville, and San Bernardino County. Most of the public transportation servicing the Victor Valley area revolves around the Victor Valley Transit Center. The VVTA was established through a Joint Powers Authority in 1991. The Joint Powers Authority includes the four cities of Adelanto, Apple Valley, Hesperia, and Victorville and certain unincorporated portions of San Bernardino County, including Oro Grande, Helendale, Lucerne Valley, Phelan, Pinon Hills, and Wrightwood. Service is also provided to Barstow and Fort Irwin. Figure 3.1.6-4 shows the VVTA bus lines.

#### *Local Bus*

The VVTA operates public bus service throughout Victor Valley. A total of 18 different bus routes running Monday through Saturday are being operated.

#### *Commuter Bus*

The NTC Commuter Route is a relatively new service provided by the Victor Valley Transportation Authority with a Monday through Friday schedule between Victorville and Fort Irwin. The Victor Valley Transportation Authority also offers the B-V (Barstow to Victor Valley) Link Lifeline Services, which links Fort Irwin, Barstow, Apple Valley, Victorville, and San Bernardino Valley. The current service operates on Monday, Wednesday, and Friday.

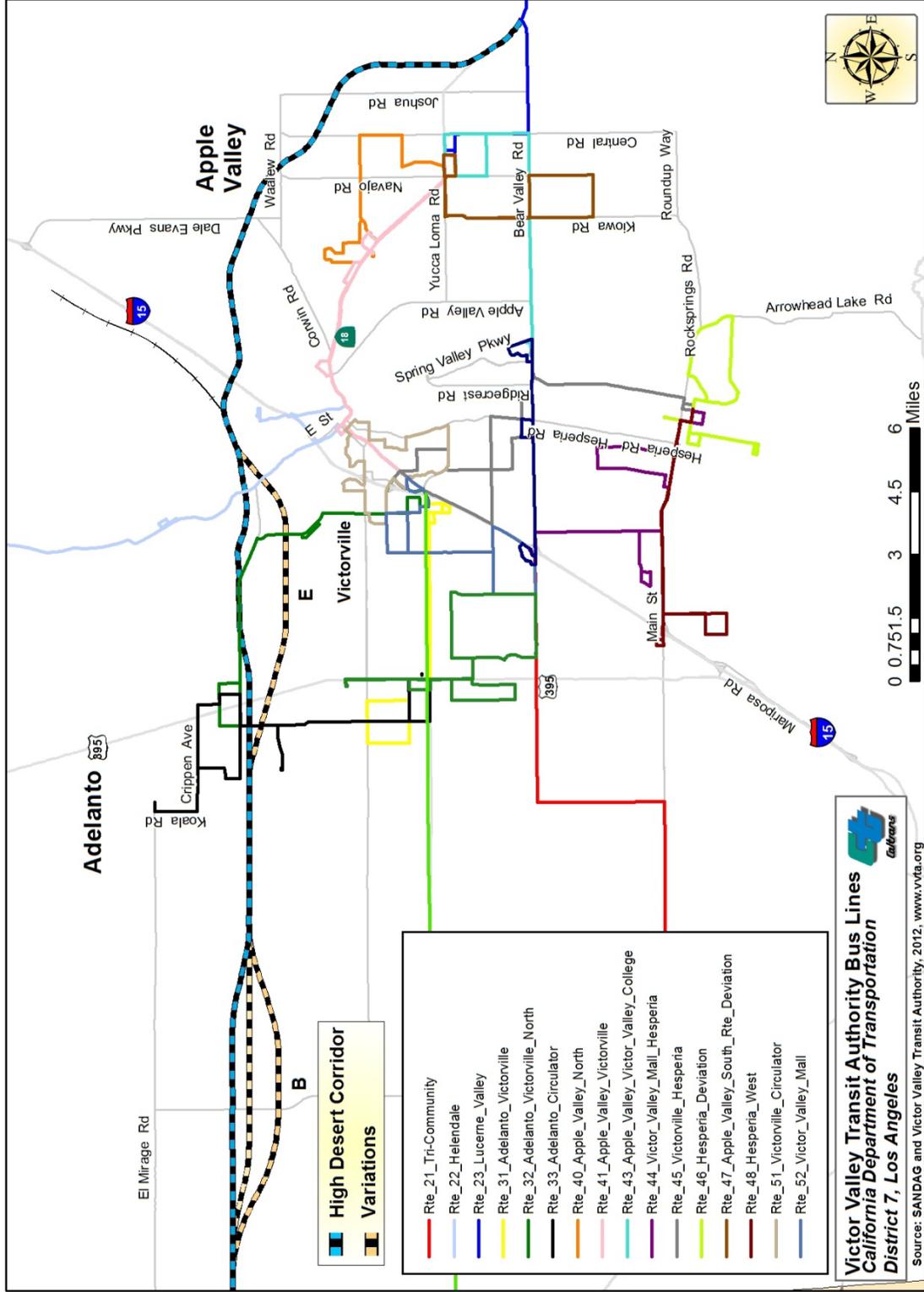
#### *Pedestrian and Bicycle Facilities*

The Los Angeles County Bicycle Master Plan map identifies many proposed north-south and east-west Class II Bike Lanes and Class III Bike Routes within the Antelope Valley. Within the proposed HDC study area, the adopted master plan routes cross the proposed HDC alignment along Sierra Highway, 40<sup>th</sup> Street East, 50<sup>th</sup> Street East, and 90<sup>th</sup> Street East.

There are many bicycling opportunities for High Desert bicycle riders but not a significant number of specified trails. The popularity of cycling continues to grow, and there are several active bicycle clubs that ride through the High Desert portion of the study area on surface roadways and on several disconnected trails, due largely to the rugged terrain and available access points.

According to the San Bernardino County Non-Motorized Transportation Plan, there are no existing bike paths near the Adelanto area. There are future Class II facilities planned for US 395 from approximately Holly Road to south of Bear Valley Road. Additional Class II facilities are planned for Mojave Drive, both east and west of US 395. The adopted master plans indicate that no existing or future planned proposed bicycle routes, lanes, or paths cross the proposed HDC alignment along US 395, Phantom East, and National Trails Highway, all of which would be grade separated.

Figure 3.1.6-4 Victor Valley Transit Authority Bus Lines



### **Environmental Consequences**

This analysis addresses the build alternatives and No Build Alternative during the opening year (2020) and the 20-year design life (2040) of the project. The project analysis evaluates the changes in traffic patterns as a result of the HDC. The traffic conditions for the future years are also compared against the baseline 2011 conditions.

The HDC will function as part of the collective transportation system serving local and regional travel needs in north Los Angeles County and San Bernardino County. The corridor will accommodate substantially increased vehicle capacity demands in the future. The geographic location of the proposed project makes it an alternate corridor with potential to avoid congestion in the Los Angeles Basin by routing traffic around congested freeways located immediately south of the San Gabriel Mountains.

Using projected future traffic volume data in combination with the design layouts for each project alternative, a series of traffic operations analyses were performed for freeway segments and ramp facilities on SR-14 and I-15 and more than 160 intersections and freeway ramp termini (see Figure 3.1.6-1). In addition to the previous existing conditions analysis, operating levels of service (LOS) were measured for a no-build and various build alternatives. The results of these analyses provide the data upon which effectiveness and efficiency of the project alternatives are measured.

The no-build was analyzed for opening year (2020) and design year (2040) traffic demand conditions using the CORSIM (corridor simulation) traffic simulation model. Consistent with the evaluation of existing conditions, model output was extracted on a link-by-link and ramp basis to include demand volumes, operationally constrained (CORSIM served) volumes, travel time, delay time, speed, density, and LOS. Freeway and ramp traffic operational analysis was conducted for 11 network alternatives under SCAG land use assumptions, and 1 network alternative under local land use assumptions as a sensitivity test.

The same analysis as described under the No Build Alternative was performed for the Freeway/Expressway and Freeway/Tollway Alternatives.

Two of the alternatives proposed for the HDC would provide HSR feeder service between Palmdale and Victorville with trains continuing to Las Vegas. The hours of operation are assumed to run between 6:00 a.m. and 12:00 midnight. Train frequencies will be 20 to 60 minutes and service will operate 365 days per year. Electric multiple unit propulsion technology is assumed, providing a top speed of 150 miles per hour. A typical one-way trip by high speed train between Palmdale and Las Vegas is assumed to require 105 to 110 minutes of travel time including station dwell time in Victorville.

Initial ridership forecasts for the high speed passenger rail service between Victorville and Las Vegas were prepared for the project sponsor by URS Corporation in 2005, and modified in early 2008 by Cambridge Systematics, Inc. as part of a peer review commissioned by the Federal Railroad Administration. Both sets of forecasts were based on population and Las Vegas visitation growth projections, reflecting trends

predating the 2007–2010 economic recession. In consideration of these events, the ridership forecasts were reviewed and revised by Infraconsult for the purpose of a “Public-Private Partnership Feasibility Evaluation” of the High Desert Corridor. These updated forecasts were based on the revised operating parameters, which reduced the Victorville to Las Vegas travel time assumption from 100 minutes to 80 minutes, and more recent growth projections of population, tourism, and traffic for the corridor.

Table 3.1.6-3 presents the annual rail passenger ridership for the Palmdale to Victorville segment of the high speed train service, with this service continuing to Las Vegas. The ridership volumes reflect round trips.

**Table 3.1.6-3. Palmdale to Victorville Rail Ridership  
(Annual Round Trips)**

Year	Ridership Volumes (Round Trips)
2020	2,910,000
2030	3,390,000
2040	3,870,000
2050	4,300,000

Source: *Public–Private Partnership Feasibility Study; High Desert Multipurpose Corridor*, Infraconsult LLC, December 2012

A two-seat ride between Los Angeles and Las Vegas, whereby a transfer would be required between Metrolink and XpressWest trains at the Palmdale Transportation Center, was assumed for the purpose of the HDC assessment of traffic related impacts. Day-by-day traffic data collected at the California/Nevada border, by direction was used to distribute passengers by day of the week and direction. Table 3.1.6-4 presents these daily forecasts for the opening year of the freeway facility, 2020, and the 2040 design year.

Passenger trips diverted from auto and bus modes to rail will reduce traffic volumes on the HDC freeway/tollway between SR 14 and I-15. Approximately 13.4 percent of the rail ridership is forecast to be diverted from the air transportation mode, and these riders will not affect vehicular use of the HDC.

**Table 3.1.6-4. Daily Distribution of Palmdale to Victorville HSR  
Ridership**

Day	2020		2040	
	North/ Eastbound	South/ Westbound	North/ Eastbound	South/ Westbound
Monday	6,329	8,355	8,417	11,111
Tuesday	5,886	5,933	7,826	7,891
Wednesday	6,134	5,844	8,156	7,770
Thursday	7,076	6,423	9,410	8,543

Friday	11,541	7,933	15,352	10,549
Saturday	10,099	7,381	13,430	9,817
Sunday	8,743	13,939	11,628	18,538
Weekly Total	55,808	55,808	74,219	74,219
Annual	2,910,000	2,910,000	3,870,000	3,870,000

Note: Reflects individual riders.

Source: High Desert Corridor Traffic Study Report, 2014

Approximately 81.2 percent of the ridership will be diverted from the auto mode and approximately 5.3 percent of the rail passenger ridership is forecast to be diverted from intercity bus. Taking all three modes (air, auto, and bus) into account, the number of rail passengers can be converted to vehicles removed from the High Desert Corridor using a rate of 2.454 passengers per vehicle, excluding reductions due to passenger trips diverted from the air mode.

The resulting day-by-day and peak hour vehicle reductions on the High Desert Corridor freeway/tollway alternatives are reported on Table 3.1.6-5.

**Table 3.1.6-5. Year 2040 Vehicle Reductions on HDC Resulting from Rail Feeder Service between Palmdale and Victorville**

Day	Eastbound			Westbound		
	Peak Hour		Daily	Peak Hour		Daily
	AM (0700)	PM (1700)		AM (0700)	PM (1700)	
Monday	125	150	2,916	140	208	3,848
Tuesday	122	92	2,711	85	156	2,733
Wednesday	130	119	2,825	75	170	2,691
Thursday	140	130	3,260	80	169	2,959
Friday	181	255	5,317	69	230	3,654
Saturday	293	177	4,652	105	187	3,400
Sunday	169	201	4,027	96	437	6,421

Note: Reflects individual vehicles.

Source: Parsons, 2014

### *Traffic Operation Performance Results for Build Alternatives*

The traffic operations analysis conducted for this project considers the overall performance of the highway network and the performance of the freeways (specifically SR-14, the new HDC, and I-15), local street intersections, and local traffic circulation to be affected by the project build alternatives.

### *Freeway Mainline and Ramp Segment Analysis Results*

Freeway segments and ramp facilities that do not meet an acceptable level of LOS D or better are listed in Tables 3.1.6-6 and 3.1.6-7 for year 2020 and in Tables 3.1.6-8 and 3.1.6-9 for year 2040 results.

*No Build Alternative*

The No Build Alternative clearly has more segments along SR-14 operating at LOS E or F, compared to the build alternative(s), by 2040. A southbound auxiliary lane from the West Avenue N on-ramp(s) to the 10<sup>th</sup> Street West off-ramp, along with a northbound auxiliary lane from the East Avenue S on-ramp to the Palmdale Boulevard off-ramp, would address most of the congestion issues associated with the No Build Alternative.

*Freeway/Expressway and Freeway/Tollway Alternatives*

Traffic operation under these build alternatives would generally meet the LOS D or better design standard for all segments with few exceptions. The one notable exception is southbound SR-14 during the AM peak period assuming the SCAG land use projection. Under this scenario, traffic spills back from the uphill grade, which begins south of the Avenue S interchange, approaching the Pearblossom Highway interchange. The uphill grade slows traffic, which when combined with on-ramp traffic, increases vehicle density.

*Freeway/Expressway and Freeway/Tollway with HSR Alternatives*

The results of the traffic operational analysis indicate that the performance of the freeway system is virtually unchanged when comparing the no HSR feeder service alternatives with those that include HSR feeder service. These results reflect weekday, morning (7:00 to 8:00 a.m.), and afternoon (5:00 to 6:00 p.m.) time periods. Rail ridership for the Palmdale–Victorville–Las Vegas XpressWest service is projected to be significantly higher during the midday, on Fridays, weekends, and holidays. The performance of the highway system is not addressed for those higher rail ridership times of the day and day of the week periods.

**Table 3.1.6-6 Year 2020 Freeway Mainline Level of Service Analysis Results Summary  
(Segments Operating at LOS E or Worse)**

	Freeway Segment (LOS)		
	No-Build	Build*	Build Toll*
<b>AM Peak</b>			
SR-14 NB	None	None	None
SR-14 SB	SR-14 from north end of the network to West Avenue N off-ramp (F) West Avenue N off-ramp to West Avenue N loop on-ramp (F) West Avenue N loop on-ramp to West Avenue N direct on-ramp (F) West Avenue N direct on-ramp to 10 <sup>th</sup> Street West off-ramp (F)	East Avenue S on-ramp to Angeles Forest Highway off-ramp (E overall; F mixed flow)	East Avenue S on-ramp to Angeles Forest Highway off-ramp (E)
HDC EB	Not Applicable	None	None
HDC WB	Not Applicable	None	None
I-15 NB	None	None	None
I-15 SB	None	None	None
<b>PM Peak</b>			
SR 14 NB	South end of network to East Avenue S off-ramp (F)	None	None
SR 14 SB	None	None	None
HDC EB	Not Applicable	None	None
HDC WB	Not Applicable	None	None
I-15 NB	None	None	None
I-15 SB	None	None	None

\*Note: Performance of the freeway system is virtually unchanged when comparing the no High Speed Rail feeder service alternatives with those that include High Speed Rail feeder service.

Source: High Desert Corridor Traffic Study Report, 2014.

**Table 3.1.6-7 Year 2020 Weaving and Ramp Merging/Diverging Level of Service Analysis Results Summary  
(Segments Operating at LOS E or Worse)**

	Segment (LOS–Type)		
	No-Build	Build*	Build Toll*
<b>AM Peak</b>			
SR-14 NB	None	None	None
SR-14 SB	West Avenue N loop (E–merging) West Avenue N direct (E–merging) West Rancho Vista Boulevard (E–merging) West Avenue N (E–merging) 10 <sup>th</sup> Street West (E–diverging)	None	None
HDC EB	Not Applicable	None	None
HDC WB	Not Applicable	None	None
I-15 NB	None	None	None
I-15 SB	None	None	None
<b>PM Peak</b>			
SR-14 NB	None	None	West Avenue N (E–diverging)
SR-14 SB	None	None	None
HDC EB	Not Applicable	None	None
HDC WB	Not Applicable	None	None
I-15 NB	None	Palmdale Road (E–diverging)	Palmdale Road (E–diverging)
I-15 SB	None	None	None

\*Note: Performance of the freeway system is virtually unchanged when comparing the no High Speed Rail feeder service alternatives with those that include High Speed Rail feeder service.

Source: High Desert Corridor Traffic Study Report, 2014.

**Table 3.1.6-8 Year 2040 Freeway Mainline Level of Service Analysis Results Summary  
(Segments Operating at LOS E or Worse)**

	Segment (LOS/Type)		
	No-Build	Build	Build Toll
<b>AM Peak</b>			
SR-14 NB	None	None	None
SR-14 SB	SR-14 from north end of the network to West Avenue N off-ramp (F) West Avenue N off-ramp to West Avenue N loop on-ramp (F) West Avenue N loop on-ramp to West Avenue N direct on-ramp (F) West Avenue N direct on-ramp to 10 <sup>th</sup> Street West off-ramp (F) East Avenue S on-ramp to SR-14 southbound south end of the network (E overall; F mixed flow)	East Avenue S off-ramp to East Avenue S on-ramp (F) East Avenue S on-ramp to Angeles Forest Highway off-ramp (F overall and mixed flow; E HOV)	East Avenue S on-ramp to Angeles Forest Highway off-ramp (F overall and mixed flow; E HOV)
HDC EB	Not Applicable	West end of the network to SR-14 northbound on-ramp (E)	West end of the network to SR-14 northbound on-ramp (E)
HDC WB	Not Applicable	None	None
I-15 NB	None	None	None
I-15 SB	None	None	None
<b>PM Peak</b>			
SR-14 NB	Pearblossom Highway direct on-ramp to East Avenue S off-ramp (F) East Avenue S off-ramp to East Avenue S on-ramp (F) East Avenue S on-ramp to West Palmdale Boulevard off-ramp (F)	Pearblossom Highway direct on-ramp to East Avenue S off-ramp (F overall and mixed flow; E HOV)	Pearblossom Highway direct on-ramp to East Avenue S off-ramp (F overall and mixed flow; E HOV)
SR-14 SB	West Avenue N direct on-ramp to 10 <sup>th</sup> Street West off-ramp (E) HDC off-ramp to 10 <sup>th</sup> Street West on-ramp (F)	None	None
HDC EB	Not Applicable	West end of the network to SR-14 NB on-ramp (E)	West end of the network to SR-14 NB on-ramp (E)
HDC WB	Not Applicable	Southbound off-ramp to SR-138 west end of network (E)	Southbound off-ramp to SR-138 west end of network (E)
I-15 NB	South end of network to Palmdale Road off-ramp (E)	South end of network to Palmdale Road off-ramp (F)	South end of network to Palmdale Road off-ramp (F)
I-15 SB	None	None	None
I-15 SB	None	None	None

\*Note: Performance of the freeway system is virtually unchanged when comparing the no High Speed Rail feeder service alternatives with those that include High Speed Rail feeder service.

Source: High Desert Corridor Traffic Study Report, 2014.

**Table 3.1.6-9 Year 2040 Weaving and Ramp Merging/Diverging Level of Service Analysis Results Summary  
(Segments Operating at LOS E or Worse)**

	Segment (LOS–Type)		
	No-Build	Build*	Build Toll*
<b>AM Peak</b>			
SR-14 NB	None	None	None
SR-14 SB	West Avenue N loop (E–merging) West Avenue N (E–diverging) West Avenue N direct (E–merging) 10 <sup>th</sup> Street West (E–diverging) East Avenue S (E–merging)	East Avenue S (E–merging)	East Avenue S (E–merging)
HDC EB	Not Applicable	None	None
HDC WB	Not Applicable	None	None
I-15 NB	None	None	None
I-15 SB	None	None	None
<b>PM Peak</b>			
SR-14 NB	East Avenue S (E–merging) West Palmdale Boulevard (E–diverging) East Avenue S (E–diverging)	East Avenue S (E–diverging)	East Avenue S (E–diverging)
SR-14 SB	West Avenue N direct (E–merging) 10 <sup>th</sup> Street West (E–diverging) West Rancho Vista Boulevard (E–merging) West Palmdale Boulevard (E–diverging)	None	None
HDC EB	Not Applicable	None	None
HDC WB	Not Applicable	None	US 395 (E–diverging) SR-14 SB (E–diverging)
I-15 NB	Mojave Drive (E–merging) Stoddard Wells Road S (E–merging) Palmdale Road (E–diverging)	Palmdale Road loop (E–merging) Mojave Drive (E–merging) Palmdale Road (E–diverging)	Palmdale Road loop (E–merging) Mojave Drive (E–merging) Palmdale Road (E–diverging)
I-15 SB	None	None	None

\*Note: Performance of the freeway system is virtually unchanged when comparing the no High Speed Rail feeder service alternatives with those that include High Speed Rail feeder service.

Source: High Desert Corridor Traffic Study Report, 2014.

### Ramp Termini and Study Area Intersection Analysis Results

The location of the ramp termini and study area intersections included as part of the analysis of opening year (2020) conditions were illustrated previously in Figure 3.1.6-1. For these future years, the number of intersections analyzed was expanded from the 89 investigated as part of the existing conditions to 164. Ramp termini and intersections that are not expected to operate at LOS D or better for years 2020 and 2040 and for each alternative are reported in Tables 3.1.6-10 and 3.1.6-11.

#### *No Build Alternative*

Based on the results of the traffic operational analysis at studied intersections, the No Build Alternative performs poorly when compared to the build alternatives. For the No Build 2020 opening year scenario, 115 intersections were analyzed. During the AM peak hour, 9 intersections (8 percent) are projected to operate at LOS E or LOS F. During the PM peak hour, this number increases to 20 intersections, equal to 17 percent of the intersections studied.

#### *Freeway/Expressway Alternative*

All ramp termini intersections perform at LOS D or better for Year 2020, except for stop sign controlled intersections at the I-15 and Stoddard Wells Road south interchange. The LOS improves to LOS A or B with the installation of traffic signals at these locations. For the ramp termini intersections reported in Year 2040, all ramp intersections for the build alternatives perform at LOS D or better, assuming that traffic signals are installed at the I-15 and Stoddard Wells south interchange.

The Freeway/Expressway Alternative performs much better at the studied intersections when compared to the No Build condition. Only 2 of the 164 intersections studied perform at LOS E or LOS F during the AM peak hour, while 5 intersections perform poorly during the PM peak hour. These poorly performing intersections are listed below.

- 15<sup>th</sup> Street East and East Palmdale Boulevard (AM, PM)
- 50<sup>th</sup> Street East and East Palmdale Boulevard (AM, PM)
- 140<sup>th</sup> Street East and East Palmdale Boulevard (PM-Toll Alternative)
- 140<sup>th</sup> Street East and East Avenue R (PM-Toll Alternative)
- SR 138 and SR 18 (PM)

#### *Freeway/Tollway Alternative*

The same finding is the case with respect to the Freeway/Tollway Alternative, except that Intersection 16, the southbound SR-14 off-ramp termini at West Avenue S, performs at LOS E during the AM peak hour.

**Table 3.1.6-10 Year 2020 High Desert Corridor Intersection Level of Service Summary**

ID No.	Intersection	Type of Control	Existing Condition				Open Year 2020 No-Build Condition				Open Year 2020 Build Alternative				Open Year 2020 Build Alternative with Tolls			
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
19*	Sierra Highway and Technology Drive	Signal	B	14.3	B	16.8	D	43.6	E	78.5	B	13.1	B	16.7	B	13.1	B	16.7
23*	Sierra Highway and East Palmdale Boulevard	Signal	C	25.5	C	27.3	D	39.8	E	71.4	C	26.8	C	29.6	C	26.9	C	29.4
24	10 <sup>th</sup> Street East and East Avenue P	Existing–stop NB/SB; future–signal	E*	39.0	F*	>300	B*	16.6	B*	19.8	C	29.4	C	28.5	C	22.1	C	30.8
30*	15 <sup>th</sup> Street East and East Palmdale Boulevard	Stop NB/SB	D	25.2	E	36.1	F	>300	F	>300	F	>300	F	>300	F	>300	F	>300
35*	20 <sup>th</sup> Street East and East Palmdale Boulevard	Signal	B	19.9	C	22.9	C	32.6	E	58.0	C	25.7	D	39.4	C	25.7	D	39.4
38*	30 <sup>th</sup> Street East and East Avenue Q	4-way stop; future–signal	B	11.6	B	11.6	C	18.6	F	70.0	C	29.9	C	29.3	C	31.7	C	30.1
45*	50 <sup>th</sup> Street East and East Palmdale Avenue	Roundabout	B	14.0	A	8.9	F	132.4	F	96.1	F	52.9	F	95.7	F	138.4	F	141.8
49*	70 <sup>th</sup> Street East and East Palmdale Boulevard	Stop NB/SB	F	>300	C	20.9	F	>300	F	>300	B	12.0	C	22.9	B	13.3	C	16.1
56	140 <sup>th</sup> Street and East Palmdale Boulevard	Stop EB/WB	A*	9.3	A*	9.6	C*	15.2	E*	42.3	A	8.9	A	5.6	B	14.1	F	>300
59	140 <sup>th</sup> Street and East Avenue R	Stop EB/WB	Does not exist				B*	11.4	C*	17.5	A	2.7	A	4.2	B	11.4	E	39.2
64*	165 <sup>th</sup> Street East and SR-138	Signal	C	20.6	C	21.7	E	57.2	D	38.9	C	31.4	C	24.9	D	44.9	C	31.7
70*	SR-138 and SR-18	Stop WB, yield EB	B	10.0	B	11.7	F	104.7	F	>300	C	21.0	F	>300	C	24.6	F	>300
71	240 <sup>th</sup> Street and East Palmdale Boulevard	Stop EB/WB	A*	8.7	A*	8.8	F*	>300	F*	>300	A	3.3	A	4.4	C	24.4	B	13.0
78	Sheep Creek Road and El Mirage Road	Stop NB/SB	Does not exist				E*	40.5	F*	>300	A	3.5	A	5.8	A	9.4	C	18.5
82*	Sheep Creek Road and SR-18	Existing–stop NB/SB; future–signal	B	12.8	C	19.7	F	>300	F	>300	C	32.9	D	35.5	C	33.6	C	34.5

**Table 3.1.6-10 Year 2020 High Desert Corridor Intersection Level of Service Summary**

ID No.	Intersection	Type of Control	Existing Condition				Open Year 2020 No-Build Condition				Open Year 2020 Build Alternative				Open Year 2020 Build Alternative with Tolls			
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
86	Caughlin Road and Rancho Road	Stop EB/WB	Does not exist				C*	16.1	E*	39.1	A	3.9	A	4.1	A	6.6	A	9.4
92*	Bellflower Street and SR-18	Existing–stop NB/SB; future–signal	C	20.8	D	27.4	E	45.5	F	176.0	B	17.2	B	15.7	B	15.8	B	14.2
99*	US 395 and SR-18	Signal	C	34.0	D	36.5	D	47.0	E	68.1	D	39.7	D	49.4	D	39.8	D	49.4
118*	Amargosa Road and SR-18	Signal	C	28.2	D	39.9	D	35.4	F	88.3	C	24.8	C	32.4	C	25.0	C	33.1
130	I-15 southbound off-ramp and Stoddard Wells Road	Existing–stop NB/SB	A	2.6	A	2.7	C	23.5	F	>300	F	>300	F	>300	F	>300	F	>300
		Improvements–signal	N/A	N/A	N/A	N/A	B	14.0	A	9.1	A	9.3	B	17.6	B	10.3	B	18.6
131	I-15 northbound on-ramp and Stoddard Wells Road/ Frontage Road	Existing–stop EB/WB	A	3.7	A	3.7	A	5.9	A	4.9	F	>300	F	>300	F	>300	F	>300
		No-build–stop EB/WB; improvements–stop EB/WB**	N/A	N/A	N/A	N/A	A	5.8	A	4.8	A	7.0	A	7.1	A	6.5	A	5.6
132	I-15 southbound on-ramp and Stoddard Wells Road	Existing–stop EB/WB	A	3.0	A	2.1	B	13.2	E	42.0	F	>300	F	>300	F	>300	F	>300
		Improvements–signal	N/A	N/A	N/A	N/A	B	14.9	B	10.8	B	13.5	A	8.3	B	10.0	A	5.0
133	Stoddard Wells Road and I-15 Frontage Road	Existing–stop EB/WB	A	5.6	A	1.2	D	30.7	E	48.0	F	>300	F	>300	F	>300	F	>300
		Improvements–signal	N/A	N/A	N/A	N/A	C	23.3	C	26.1	B	13.8	B	14.0	B	16.3	B	15.6
137	I-15 northbound off-/on-ramps and Stoddard Wells Road (north)	Existing–stop NB/SB; future–4-way stop	A	4.3	A	2.3	C	15.6	F	134.9	A	2.5	A	3.4	A	4.6	A	5.1

Notes:  
1. Proposed additional geometry improvements.  
2. Two-way stop control LOS reported for worst approach.  
3. 4-way stop reported for overall LOS.  
4. Intersection LOS calculations are based on HCM 2000, excepted where noted with \*.  
\*Intersection LOS was calculated using TRAFFIX software.

LOS E  
 LOS F

Source: High Desert Corridor Traffic Study Report, 2014.

**Table 3.1.6-11 Year 2040 High Desert Corridor Intersection Level of Service Summary**

ID No.	Intersection	Type of Control	Existing Condition				Design Year 2040 No-Build Condition				Design Year 2040 Build Alternative				Design Year 2040 Build Alternative with Toll			
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
1	SR-14 southbound off-ramp and West Avenue N	Existing–stop NB/SB; future–signal	A	7.2	B	12.6	A	5.4	E	69.7	A	5.6	A	6.0	A	5.6	A	5.3
8	10 <sup>th</sup> Street West and West Avenue P	Signal	C	31.3	C	30.3	C	32.7	E	74.8	C	29.0	C	28.7	C	28.1	C	33.1
9	Lowe's Driveway and West Avenue P	Signal	B	10.2	C	29.1	B	18.2	E	65.7	B	19.3	B	15.5	B	19.8	B	18.9
10	SR-14 southbound on-ramp and West Avenue P	Existing–stop NB/SB; future–signal	A	1.4	A	1.0	A	1.7	E	43.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11	SR-14 northbound off-ramp and West Avenue P	Signal	B	14.3	C	20.6	A	8.5	E	55.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
15*	Division Street and East Palmdale Boulevard	Signal	C	27.9	C	28.0	E	64.1	E	71.4	C	29.4	C	31.1	C	27.9	C	31.1
16	SR-14 southbound off-ramp and West Avenue S	Signal	C	28.7	C	30.3	D	38.1	B	19.1	D	48.5	C	27.8	E	65.1	C	28.5
18*	Sierra Highway and East Avenue P	Signal	C	33.4	C	34.6	D	45.1	E	58.5	D	36.5	D	51.9	C	34.5	D	42.1
19*	Sierra Highway and Technology Drive	Signal	B	14.3	B	16.8	D	50.9	F	115.4	B	14.1	B	18.0	B	13.9	B	17.7
22*	6 <sup>th</sup> Street East and East Palmdale Boulevard	Signal	C	20.7	C	25.3	E	55.7	E	78.0	C	29.4	C	32.3	C	28.7	C	30.5
23*	Sierra Highway and East Palmdale Boulevard	Signal	C	25.5	C	27.3	F	82.1	F	94.6	C	29.7	C	32.2	C	30.9	D	35.1
24	10 <sup>th</sup> Street East and East Avenue P	Existing–stop NB/SB; future–signal	E*	39.0	F*	>300	B*	16.3	C*	20.8	C	27.1	C	30.2	C	21.1	C	22.2
28*	10 <sup>th</sup> Street East and East Palmdale Boulevard	Signal	B	17.2	C	20.0	C	31.3	D	50.6	C	32.3	E	60.8	C	29.1	D	49.5
30*	15 <sup>th</sup> Street East and East Palmdale Boulevard	Stop NB/SB	D	25.2	E	36.1	F	>300	F	>300	F	>300	F	>300	F	>300	F	>300
35*	20 <sup>th</sup> Street East and East Palmdale Boulevard	Signal	B	19.9	C	22.9	C	34.1	E	63.8	C	31.6	D	43.2	C	26.4	D	42.7

**Table 3.1.6-11 Year 2040 High Desert Corridor Intersection Level of Service Summary**

ID No.	Intersection	Type of Control	Existing Condition				Design Year 2040 No-Build Condition				Design Year 2040 Build Alternative				Design Year 2040 Build Alternative with Toll			
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
36*	25 <sup>th</sup> Street East and East Palmdale Boulevard	Signal	C	26.2	C	30.9	D	42.2	E	64.5	C	34.9	D	41.0	C	33.2	D	36.2
38*	30 <sup>th</sup> Street East and East Avenue Q	4-way stop	B	11.6	B	11.6	E	46.0	F	145.3	C	31.0	C	28.9	C	18.2	F	51.8
40*	40 <sup>th</sup> Street East and East Avenue Q	Stop EB/WB	C	16.2	C	16.0	D	34.4	F	98.6	C	21.9	D	26.8	C	19.3	C	22.7
41*	40 <sup>th</sup> Street East and East Palmdale Boulevard	Signal	C	21.9	C	23.7	D	39.1	E	71.6	C	29.4	D	38.3	C	28.4	D	35.4
45*	50 <sup>th</sup> Street East and East Palmdale Avenue	Roundabout	B	14.0	A	8.9	F	>300	F	>300	F	>300	F	>300	F	119.5	F	56.7
49*	70 <sup>th</sup> Street East and East Palmdale Boulevard	Stop NB/SB	F	>300	C	20.9	F	>300	F	>300	C	15.6	F	60.1	B	14.0	E	35.0
54*	90 <sup>th</sup> Street East and East Palmdale Boulevard	Signal	C	23.9	C	24.1	D	46.3	E	76.2	D	35.2	D	36.8	C	34.8	D	35.0
56	140 <sup>th</sup> Street and East Palmdale Boulevard	Stop EB/WB	A*	9.3	A*	9.6	C*	24.9	F*	>300	A	6.8	A	6.2	A	8.3	B	13.2
60	170 <sup>th</sup> Street East and East Palmdale Boulevard	Existing–4-way stop; future–stop EB/WB	A*	7.6	A*	8.1	B*	13.5	F*	70.0	A	2.4	A	4.7	A	4.5	E	36.2
64*	165 <sup>th</sup> Street East and SR-138	Signal	C	20.6	C	21.7	F	109.7	E	56.8	D	36.6	C	29.5	D	54.0	D	52.9
70*	SR-138 and SR-18	Stop WB, yield EB	B	10.0	B	11.7	F	>300	F	>300	D	30.2	F	>300	E	39.1	F	>300
71	240 <sup>th</sup> Street and East Palmdale Boulevard	Stop EB/WB	A*	8.7	A*	8.8	F*	>300	F*	>300	A	4.4	A	6.9	F	>300	E	38.7
74	240 <sup>th</sup> Street East and East Avenue R	Stop EB/WB	Does not exist				E*	41.7	F*	183.1	A	2.4	A	2.7	B	12.9	C	22.9
75	Oasis Road and El Mirage Road	Stop EB/WB	Does not exist				F*	>300	F*	>300	A	2.4	A	3.5	A	3.5	A	6.3
78	Sheep Creek Road and El Mirage Road	Stop NB/SB	Does not exist				F*	132.2	F*	>300	A	4.3	A	5.3	B	12.1	C	19.2
82*	Sheep Creek Road and SR-18	Existing–stop NB/SB; future–signal	B	12.8	C	19.7	F	>300	F	>300	D	36.6	D	46.9	D	54.4	F	291.0

**Table 3.1.6-11 Year 2040 High Desert Corridor Intersection Level of Service Summary**

ID No.	Intersection	Type of Control	Existing Condition				Design Year 2040 No-Build Condition				Design Year 2040 Build Alternative				Design Year 2040 Build Alternative with Toll			
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
86	Caughlin Road and Rancho Road	Stop EB/WB	Does not exist				E*	35.8	F*	58.8	A	6.3	B	14.0	A	5.1	A	7.2
92*	Bellflower Street and SR-18	Existing–stop NB/SB; future–signal	C	20.8	D	27.4	F	89.2	F	>300	C	30.2	C	30.3	C	27.2	C	30.0
94	US 395 and Air Base Road	Signal	C*	30.3	C*	34.9	D*	45.6	E*	75.0	C	25.4	C	30.4	C	21.8	C	24.4
97	US 395 and Rancho Road	Signal	C*	24.6	C*	26.4	D*	48.2	F*	107.7	C	23.2	C	31.3	C	20.9	D	43.5
99*	US 395 and SR-18	Signal	C	34.0	D	36.5	E	61.1	F	90.6	D	42.2	E	64.1	D	39.7	D	47.0
104*	Topaz Road and SR-18	Signal	D	43.3	C	27.5	F	97.3	F	160.2	D	42.2	E	59.5	D	39.7	D	49.1
105*	Amethyst Road and SR-18	Signal	C	28.8	C	30.4	D	48.9	F	108.3	C	34.5	D	42.6	C	33.9	D	37.7
110*	El Evado Road and SR-18	Signal	C	28.0	C	28.1	D	40.9	F	80.9	D	39.0	D	46.6	D	37.5	D	39.3
118*	Amargosa Road and SR-18	Signal	C	28.2	D	39.9	F	84.9	F	200.0	C	27.3	D	36.9	C	26.4	D	36.6
130	I-15 southbound off-ramp and Stoddard Wells Road	Existing–stop NB/SB	A	2.6	A	2.7	F	>300	F	>300	F	>300	F	>300	F	>300	F	>300
		Improvements–signal	N/A	N/A	N/A	N/A	B	12.7	B	10.9	B	10.9	B	10.1	B	12.2	A	9.7
131	I-15 northbound on-ramp and Stoddard Wells Road/Frontage Road	Existing–stop EB/WB	A	3.7	A	3.7	C	15.1	D	33.9	F	>300	F	>300	F	>300	F	>300
		Improvements–stop EB/WB**	N/A	N/A	N/A	N/A	A	7.3	A	8.3	A	9.5	A	9.8	B	10.6	B	11.5
132	I-15 southbound on-ramp and Stoddard Wells Road	Existing–stop EB/WB	A	3.0	A	2.1	B	10.2	D	29.4	F	>300	F	>300	F	>300	F	>300
		Improvements–signal	N/A	N/A	N/A	N/A	B	12.6	A	8.9	B	10.0	A	4.9	A	9.2	A	4.6
133	Stoddard Wells Road and I-15 Frontage Road	Existing–stop EB/WB	A	5.6	A	1.2	F	118.2	F	>300	F	>300	F	>300	F	>300	F	>300
		Improvements–signal	N/A	N/A	N/A	N/A	B	15.6	B	16.5	B	14.5	B	14.5	B	14.3	B	14.9
134*	Stoddard Wells Road and SR-18	Signal	B	12.7	C	23.2	B	17.7	F	87.2	B	12.5	D	41.0	B	10.4	C	26.0

**Table 3.1.6-11 Year 2040 High Desert Corridor Intersection Level of Service Summary**

ID No.	Intersection	Type of Control	Existing Condition				Design Year 2040 No-Build Condition				Design Year 2040 Build Alternative				Design Year 2040 Build Alternative with Toll			
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
135*	Apple Valley Road and SR-18	Signal	C	33.1	D	40.2	F	81.3	F	150.3	D	50.0	E	72.2	D	42.4	D	51.2
147*	Dale Evans Parkway and SR-18	Signal	B	17.8	C	21.0	C	30.2	E	78.2	C	22.5	D	43.5	C	21.5	D	35.5
156	Joshua Road and Thunderbird Road	Stop EB/WB	Does not exist				C*	18.6	F*	127.5	A	5.4	B	12.9	A	6.5	C	19.6
158	Joshua Road and Yucca Loma Road	Existing—stop NB/SB; future—4-way stop	B*	10.3	A*	9.5	F*	61.2	F*	276.1	A	3.7	C	17.4	A	3.7	C	15.5
159	Joshua Road and Nisqually Road	4-way stop	Does not exist				C*	15.9	E*	46.2	A	2.5	A	3.8	A	2.5	A	3.9

Notes:  
Proposed additional geometry improvements.  
Two-way stop control LOS reported for worst approach.  
4-way stop reported for overall LOS.  
Intersection LOS calculations are based on HCM 2000, excepted where noted with \*.  
\*Intersection LOS was calculated using TRAFFIX software.

LOS E

LOS F

Source: High Desert Corridor Traffic Study Report, 2014.

Insofar as overall performance for the No Build Alternative and build alternatives under design year (2040) conditions, the number of study intersections projected to operate at LOS E or LOS F is summarized in Table 3.1.6-12.

**Table 3.1.6-12 Summary of Study Intersection Year 2040  
Level of Service Performance**

	No Build		Build		Build with Tolls	
	AM	PM	AM	PM	AM	PM
Number of intersections studied	116		159		159	
Intersections performing at LOS E or F	23	45	2	8	5	7
Percent performing at LOS E or F	20	39	1	5	3	4

Source: High Desert Corridor Traffic Study Report, 2014.

*Freeway/Expressway and Freeway/Tollway with HSR Alternatives*

The operational performance for most intersections under the HSR feeder service alternatives is the same as reported for the build alternative and the build alternative with tolls; however, key study intersections located near the Palmdale and Victorville train stations would be affected.

Tables 3.1.6-13 and 3.1.6-14 list the key study intersections in the immediate vicinity of the Palmdale Transportation Center and the proposed Victorville XpressWest station.

**Table 3.1.6-13. Year 2020 Intersection Level of Service near Palmdale and Victorville High Speed Train Stations**

ID NO.	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION				OPEN YEAR 2020 NO-BUILD CONDITION				OPEN YEAR 2020 BUILD ALTERNATIVE				OPEN YEAR 2020 BUILD ALTERNATIVE WITH TOLL				OPEN YEAR 2020 BUILD ALTERNATIVE WITH RAIL				OPEN YEAR 2020 BUILD ALTERNATIVE WITH TOLL AND RAIL			
			AM PEAK		PM PEAK		AM PEAK		PM PEAK		AM PEAK		PM PEAK		AM PEAK		PM PEAK		AM PEAK		PM PEAK		AM PEAK		PM PEAK	
			LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY
13*	SR 14 SB off-/on-ramps and West Palmdale Blvd	Signal	B	11.3	B	11.1	C	26.7	C	24.3	A	7.4	B	14.5	A	7.5	B	15.1	A	8.0	B	14.3	A	7.4	B	15.2
14*	SR 14 NB off-/on-ramps and East Palmdale Boulevard	Signal	A	7.4	B	10.1	B	11.3	B	10.8	C	27.3	C	23.7	C	29.0	C	22.4	C	27.6	C	23.6	C	28.7	C	22.6
15*	Division St and East Palmdale Blvd	Signal	C	27.9	C	28.0	D	37.8	D	38.0	C	22.5	C	24.7	C	22.3	C	24.6	C	23.0	C	25.1	C	22.9	C	25.0
19*	Sierra Hwy and Technology Drive	Signal	B	14.3	B	16.8	D	43.6	E	78.5	B	13.1	B	16.7	B	13.1	B	16.7	B	14.0	B	16.8	B	14.0	B	16.8
20*	Sierra Hwy and East Ave Q	Signal	B	16.0	B	15.4	B	14.1	B	15.2	B	16.0	B	15.3	B	16.0	B	15.3	B	16.0	B	15.3	B	16.0	B	15.3
21*	5th St East and East Palmdale Blvd	Signal	C	22.1	C	23.8	B	17.9	C	24.0	C	23.1	C	26.3	C	22.8	C	26.5	C	23.2	C	26.0	C	23.2	C	26.8
22*	6th St East and East Palmdale Blvd	Signal	C	20.7	C	25.3	D	39.9	D	44.4	C	27.9	C	28.2	C	27.7	C	28.2	C	27.7	C	28.3	C	27.7	C	28.3
23*	Sierra Hwy and East Palmdale Blvd	Signal	C	25.5	C	27.3	D	39.8	E	71.4	C	26.8	C	29.6	C	26.9	C	29.4	C	31.0	C	29.6	C	26.9	C	29.4
27*	10th St East and East Ave Q	Existing—4-way stop Future—signal	B*	10.3	B*	12.6	C*	22.0	C*	23.2	C	32.8	C	23.2	C	31.9	C	25.5	C	24.7	C	26.1	C	25.6	C	26.0
28*	10th St East and East Palmdale Blvd	Signal	B	17.2	C	20.0	C	28.4	D	37.6	C	27.3	C	28.4	C	29.9	C	26.9	C	31.0	D	40.3	C	25.7	C	33.3
32*	20th St East and WB High Desert Corridor ramps	Signal	Does not exist				Does not exist				C	27.0	C	24.4	C	27.6	C	25.5	C	33.6	C	23.0	C	31.1	C	24.9
33*	20th St East and EB High Desert Corridor ramps	Signal	Does not exist				Does not exist				C	31.0	D	40.3	C	25.7	C	33.3	C	27.6	C	28.2	C	29.9	C	26.2
138*	I-15 SB off-/on-ramps and Dale Evans Pkwy	Existing—stop NB/SB Future—signal	A	4.7	A	3.1	A	7.2	B	10.3	C	21.0	C	22.9	C	20.5	C	22.9	A	7.2	C	20.3	A	6.9	C	15.5
139*	I-15 NB off-/on-ramps and Dale Evans Pkwy	Existing—stop NB/SB Future—signal	A	4.3	A	3.1	A	8.6	A	8.2	C	20.3	B	16.3	C	20.2	B	16.4	A	8.3	B	11.8	B	11.8	A	7.2

Notes:

- Two-way stop control level of service reported for worst approach
  - 4-way stop reported for overall level of service
  - Intersection level of service calculations are based on HCM 2000, except where noted with \*
- \*Intersection level of service was calculated using TRAFFIX software

 Level of service E  
 Level of service F

Source: High Desert Corridor Traffic Study Report, 2014.

**Table 3.1.6-14. Year 2040 Intersection Level of Service near Palmdale and Victorville High Speed Train Stations**

ID NO.	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION				DESIGN YEAR 2040 NO-BUILD CONDITION				DESIGN YEAR 2040 BUILD ALTERNATIVE				DESIGN YEAR 2040 BUILD ALTERNATIVE WITH TOLL				OPEN YEAR 2040 BUILD ALTERNATIVE WITH RAIL				DESIGN YEAR 2040 BUILD ALTERNATIVE WITH TOLL AND RAIL			
			AM PEAK		PM PEAK		AM PEAK		PM PEAK		AM PEAK		PM PEAK		AM PEAK		PM PEAK		AM PEAK		PM PEAK		AM PEAK		PM PEAK	
			LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY
13*	SR 14 SB off-/on-ramps and West Palmdale Blvd	Signal	B	11.3	B	11.1	C	27.6	C	30.1	A	8.0	B	16.2	A	7.3	B	11.6	A	8.6	B	16.0	A	8.0	B	14.8
14*	SR 14 NB off-/on-ramps and East Palmdale Blvd	Signal	A	7.4	B	10.1	A	7.6	B	17.3	C	29.6	C	26.5	A	8.6	B	14.4	C	29.7	C	29.4	C	29.1	C	26.2
15*	Division St and East Palmdale Blvd	Signal	C	27.9	C	28.0	E	64.1	E	71.4	C	29.4	C	31.1	C	27.9	C	31.1	C	31.3	C	32.2	C	29.3	C	29.9
19*	Sierra Hwy and Technology Dr	Signal	B	14.3	B	16.8	D	50.9	F	115.4	B	14.1	B	18.0	B	13.9	B	17.7	B	14.7	B	17.7	B	14.6	B	16.8
20*	Sierra Hwy and East Ave Q	Signal	B	16.0	B	15.4	B	15.0	B	15.3	B	17.1	B	16.0	B	16.9	B	15.8	B	17.7	B	15.8	B	17.5	B	15.3
21*	5th St East and East Palmdale Blvd	Signal	C	22.1	C	23.8	C	21.4	C	31.4	C	25.4	C	28.7	C	25.0	C	27.3	C	25.5	C	28.7	C	24.9	C	26.0
22*	6th St East and East Palmdale Blvd	Signal	C	20.7	C	25.3	E	55.7	E	78.0	C	29.4	C	32.3	C	28.7	C	30.5	C	29.4	C	32.3	C	28.8	C	28.3
23*	Sierra Hwy and East Palmdale Blvd	Signal	C	25.5	C	27.3	F	82.1	F	94.6	C	29.7	C	32.2	C	30.9	D	35.1	C	29.7	C	32.2	C	27.5	C	29.6
27*	10th St East and East Ave Q	Existing—4-way stop Future—signal	B*	10.3	B*	12.6	C*	22.7	C*	29.3	C	28.1	C	24.8	C	26.3	C	26.5	C	25.3	C	27.5	C	24.5	C	26.1
28*	10th St East and East Palmdale Blvd	Signal	B	17.2	C	20.0	C	31.3	D	50.6	C	32.3	E	60.8	C	29.1	D	49.5	C	32.3	D	52.2	C	30.3	D	40.3
32*	20th St East and WB High Desert Corridor ramps	Signal	Does not exist				Does not exist				D	39.2	C	24.6	D	40.1	C	29.9	D	38.3	C	24.9	D	37.3	C	28.8
33*	20th St East and EB High Desert Corridor ramps	Signal	Does not exist				Does not exist				C	25.6	C	26.6	C	26.5	C	24.7	C	26.2	C	27.0	C	28.3	C	28.1
138*	I-15 SB off-/on-ramps and Dale Evans Pkwy	Existing—stop NB/SB Future—signal	A	4.7	A	3.1	C	28.2	C	24.8	C	23.7	C	26.7	C	23.9	C	25.4	C	29.4	C	30.9	C	29.2	C	30.9
139*	I-15 NB off-/on-ramps and Dale Evans Pkwy	Existing—stop NB/SB Future—signal	A	4.3	A	3.1	B	13.1	B	12.8	C	22.5	B	17.7	C	21.7	B	18.3	B	14.7	A	8.5	B	18.7	A	9.1

Notes:

- Two-way stop control level of service reported for worst approach
- 2-way stop reported for overall level of service
- Intersection level of service calculations are based on HCM 2000, except where noted with \*

\*Intersection level of service was calculated using TRAFFIX software

 Level of service E

 Level of service F

Source: High Desert Corridor Traffic Study Report, 2014.

### *Local Roadway Access Modifications and Circulation Impacts*

The HDC Project build alternatives would construct freeway-to-freeway “system” interchanges at I-15 and SR-14, local “service” interchanges at north–south crossings of arterial streets, grade separations (i.e., overcrossings or undercrossings) of local streets having no freeway access, and at-grade, traffic signal-controlled intersections along the expressway portion of the project east of Dale Evans Parkway. The locations of the local service interchanges, grade separations proposed for initial construction, and at-grade signalized intersections currently proposed as part of the HDC build alternatives are illustrated in Figure 3.1.6-5.

Construction of the HDC freeway/expressway would potentially sever many primarily north–south running local roads that are planned for future development. For the most part, these severed roads are “paper streets,” which are located in relatively undeveloped areas. Local roads running parallel to the HDC would provide access to north–south roads identified for interchanges or grade separations. Additional grade separations may be proposed and constructed at a later date when land development warrants additional north–south circulation capacity.

Table 4-41 of the *High Desert Corridor Traffic Study Report* catalogs the proposed interchanges, grade separations, and signalized intersections along the HDC freeway/expressway build alternative. The same table also lists the candidate grade separations identified in the *High Desert Corridor Traffic Study Report*. These candidate locations may or may not be constructed at a later date when land development and local circulation needs warrant. The table also lists local roads that would be severed by the project.<sup>5</sup> Many of these local roads are “paper streets,” as noted above. Cul-de-sac turnarounds would be constructed for most of the street closures. New frontage roads may also be constructed in a limited number of cases to mitigate street closures.

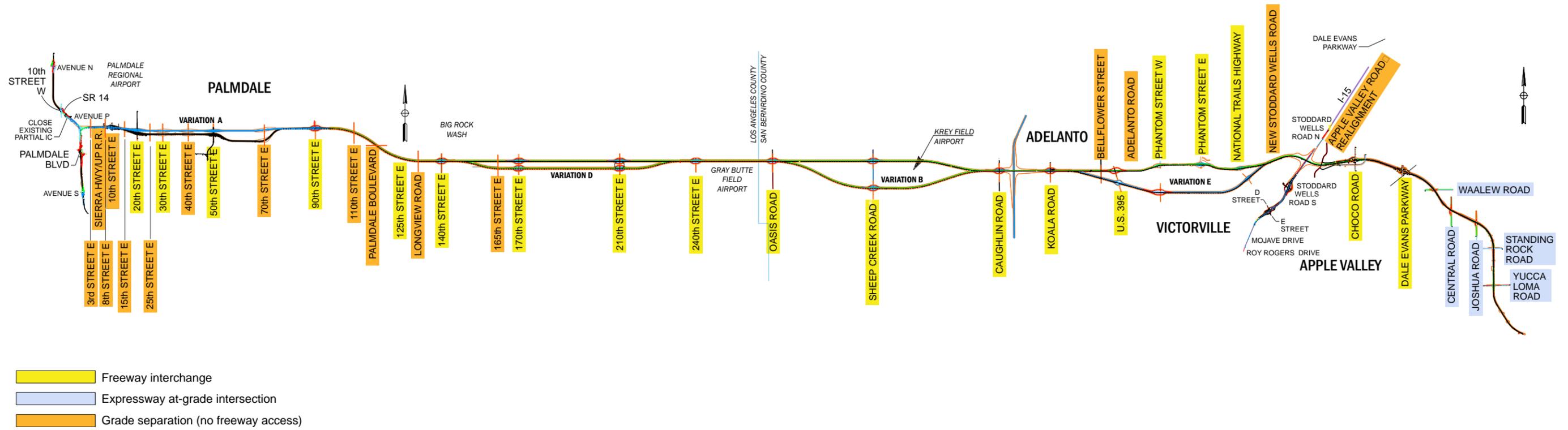
### *Transit Service Impacts*

Antelope Valley Transit Authority Routes 3 and 10 would cross the proposed HDC at 10<sup>th</sup> Street East and Sierra Highway, respectively. Grade-separated crossings are provided, as the freeway is on a viaduct structure; therefore, the route alignments would not be affected. The Lake Los Angeles Express route would also cross the proposed HDC in the viaduct section and on Palmdale Boulevard in the vicinity of 120<sup>th</sup> Street East. This crossing of Palmdale Boulevard would be grade separated so the route alignment would not be affected.

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<sup>5</sup> The local roads to be severed vary by alignment alternative. Aerial photographs of the freeway alignment, included in the appendix, should be examined for clarification of which roads would be potentially impacted.

Figure 3.1.6-5 Proposed Locations of Interchanges, Grade Separations and At-grade Intersections along the High Desert Corridor



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VVTA Routes 22, 32, 33, and the B–V Link would also cross the proposed HDC alignment. Route 22, Helendale, runs along National Trails Highway, which would be grade separated. Route 33, Adelanto Circulator, would cross the proposed HDC alignment along Bellflower Street, which would also be grade separated. The B–V Link connects Fort Irwin and Barstow with the San Bernardino Valley and runs along I-15. None of these routes would be impacted by the alignment of the proposed HDC.

Route 32, Adelanto–Victorville North, would be impacted by the proposed alignment of the HDC. A portion of the route running along Air Expressway Boulevard west of the Victorville Federal Correctional Complex would need to be rerouted if the HDC follows the Air Expressway alignment passing between the Correctional Complex and the Southern California Logistics Airport (SCLA). If alignment Variation E is selected for the freeway, running along the south side of the correctional complex, the HDC alignment would cross over Village Drive on a viaduct structure, and the route would not be affected.

### *Freeway Access Modifications*

The build alternatives would entail construction of new and revised interchange access points along I-15 and SR-14. Along I-15, a new freeway-to-freeway “system” interchange is proposed to connect the HDC with I-15. The interchange would be located in Victorville, north of Stoddard Wells Road, subject to approval by FHWA. Along SR-14, a new freeway-to-freeway system interchange is proposed to connect the HDC with SR-14. The interchange would be located in Palmdale, north of Palmdale Boulevard (existing SR-138), subject to approval by the California Transportation Commission (CTC).

This system interchange is physically located 1 mile north of Palmdale Boulevard and 1 mile south of 10<sup>th</sup> Street West. A system of collector-distributor roads and braided ramps extends the operational spacing of the interchange to 2 miles or more in both northbound and southbound directions. To achieve this 2-mile spacing, a design guideline for the proximity of system to local interchanges, the on- and off-ramps serving the partial interchange at Rancho Vista Boulevard (West Avenue P), would need to be relocated.<sup>6</sup> The geometric layout plans for SR-14 indicate that the northbound off-ramp and the southbound on-ramp would be relocated from Rancho Vista Boulevard to 10<sup>th</sup> Street West. The 10<sup>th</sup> Street West and Rancho Vista Boulevard (West Avenue P) intersection is in close proximity to the adjacent Antelope Valley Regional Shopping center.

The intersection LOS analysis indicates that the proposed relocation of ramps would maintain and/or improve LOS performance at the study intersections located in close proximity to the Antelope Valley Mall. The general improvement of traffic conditions, between the build versus no-build alternatives, results from Antelope

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<sup>6</sup> While the ramp braids and collector-distributor roads would address traffic operational issues, the interchange spacing remains nonstandard, requiring a mandatory design exception fact sheet.

Valley Mall-related traffic being able to avoid the intersection of 10<sup>th</sup> Street West and Rancho Vista Boulevard when traveling to and from the south on SR-14.

### *Travel Times*

Projected travel speeds are forecast to be increasingly slower over time. It is projected during the design year (2040) that motorists would average approximately 33 to 34 miles per hour (mph) using existing highways. The freeway/expressway alternatives would result in substantial travel time savings in comparison with travel times for the future condition without the project. Without a new facility, travel times across a 70.6-mile-long route during the AM and PM peak periods are projected to be 123 minutes and 127 minutes, respectively. With a new freeway/expressway facility, travel times for the same periods across a more direct 67.0-mile-long route are projected to be approximately 77 minutes and 75 minutes, respectively. Travel times using the Palmdale to Victorville HSR facility would be generally less, under 30 minutes, based on HSR operating speeds being higher than freeway/expressway operating speeds.

### *Pedestrian and Bicycle Facility Impacts*

Overall, the project would be designed to retain existing pedestrian and bicycle travelways to the extent feasible. The project build alternatives would incorporate a bicycle facility in both Los Angeles and San Bernardino counties along the proposed corridor, as outlined in Chapter 2 of this Draft EIR/EIS. The impact is considered beneficial. In addition, the project will be designed to comply with all applicable ADA requirements.

### *Parking Impacts*

The project would not displace existing parking supplies. The project could place additional demand for existing park-and-ride lots located in Palmdale. Existing park-and-ride lots in Victor Valley are located 6 and 12 miles away from the HDC and would not be impacted. Two new park-and-ride lots are proposed adjacent to the HDC at 50<sup>th</sup> Street East in Palmdale and at US 395 in Adelanto. These proposed lots are not part of the project and would need to be constructed by others as add-on elements.

Two of the project build alternatives include the provision of HSR service between Palmdale and Victorville, with service continuing to Las Vegas. Within the High Desert region, the service would include new stations at Palmdale, in the vicinity of the Palmdale Transportation Center, and in Victorville, to the west of I-15 at the Dale Evans Parkway interchange. (The Victorville Station is not part of the HDC Project.) Both stations would have parking constructed as part of the HSR service. Preliminary plans call for the provision of approximately 6,000 parking spaces at the Palmdale Station to serve Palmdale to Las Vegas HSR patrons. This parking supply would be in addition to existing parking supplies serving the Palmdale Transportation Center patrons and new parking supplies that would be constructed to serve riders of the proposed California HSR service between northern and southern California.

**Avoidance, Minimization, and/or Mitigation Measures**

No impacts to traffic operations are anticipated; therefore, no mitigation is required.

The project would incorporate bicycle facility components. The impact is beneficial; hence, no mitigation is required.

Additional parking would be required as a result of the inclusion of the HSR service between Palmdale and Victorville, with service continuing to Las Vegas. Adequate parking supplies would be provided as part of the HSR station design; therefore, impacts to parking are not anticipated, and no further mitigation is required.

Impacts to public transit services will be mitigated by having close coordination with VVTA during the final design to determine the modified route and notify the users well in advance of the change.

**T-1:** If the HDC freeway following the Air Expressway alignment passing between the Correctional Complex and the SCLA is selected, Caltrans and Metro shall coordinate with VVTA during the final design to request and comply with applicable procedures for any required route relocation or other disruptions to transit service during construction.

Standard conditions to minimize traffic impacts during project construction are provided in Section 3.6, Construction Impacts.

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