TRAFFIC STUDY REPORT

Volume I *(1 of 2)*

HIGH DESERT CORRIDOR

Palmdale to Apple Valley

(State Route 14 to State Route 18)

June 2014

Parsons Transportation Group Inc.
100 West Walnut Street
Pasadena, CA 91124

Contract No.: 07A2912
Caltrans Project No.: 0700000080 (EA: 16720)

APPROVAL:

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Caltrans

Metro

Traffic Study Report
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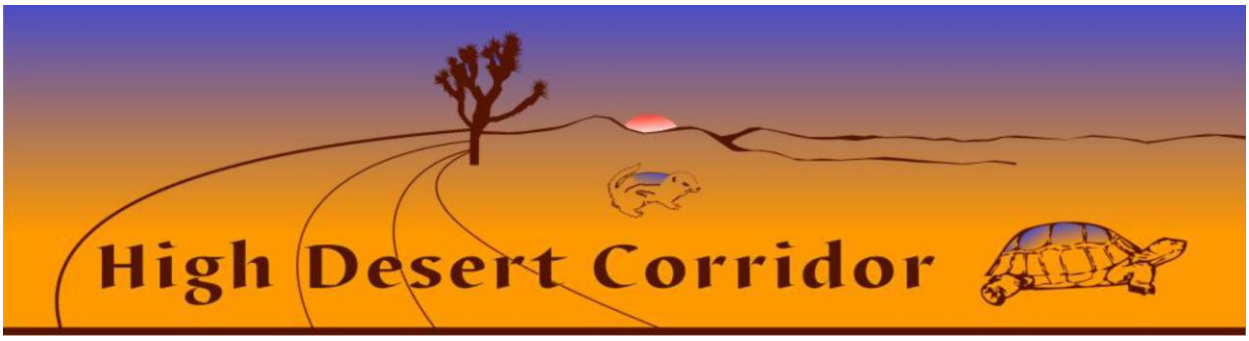

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EXECUTIVE SUMMARY

This project summary attempts to highlight the key steps and crucial factors in completing the High Desert Corridor Traffic Study. It is a complex and detailed study which involved many important processes and analytic techniques which do not lend themselves to a succinct summary. An attempt is made here to provide a broad overview of how and why the study was conducted and offer results and assessment which reflect expected project performance. However, the reader is strongly encouraged to see the full High Desert Corridor Traffic Study documents, which contain full details of all analyses, processes and data. The following summary focuses on four key project steps, listed below.

Establish a thorough understanding of existing conditions by compiling data which includes roadway facility characteristics, intersection configurations, highway traffic volumes, intersection turning movements, signal timing, demographic data, transit services, bicycle routes, schools, and public service providers, to name just a portion. Existing Conditions analysis measuring the operational performance of transportation facilities was then undertaken and assessed.

With a solid appreciation of existing conditions and firm understanding of the project's goals and the study area needs, expected future conditions both with and without the project were projected and assessed. Future traffic volumes for all study roadways and intersections were projected using carefully developed future local area demographic data, observed travel patterns, and state-of-the-art computer traffic modeling.

Using projected future traffic volume data in combination with the design layouts for each project roadway alternative, a series of traffic operations analyses were performed for freeway segments and ramp facilities on the SR 14 and I-15 freeways and over 160 intersections and freeway ramp termini. In addition to the previous Existing Conditions analysis, operating levels of service (LOS) were measured for a No-build condition, Build conditions with five separate and different project alternatives, and Transportation Systems Management (TSM). The results of these analyses provide the data upon which effectiveness and efficiency of the project alternatives are measured.

Finally, with the completion of traffic operations performance testing and assessing their results, a project cost and benefit analysis was conducted utilizing carefully developed estimates of projected total project expenditures along with monetized values associated with environmental pollutants and roadway accident costs. These costs are then compared to benefits associated largely with travel time savings, improved safety, and reduced emissions.

Project Overview

The High Desert Corridor has a long history and has been the subject of numerous, previous studies. It was envisioned in the 1970's as a metropolitan bypass providing alternative travel from I-5 to communities to the east such as San Bernardino, Victorville, Barstow, and Las Vegas via I-15.

In April 2002, Caltrans Districts 7 and 8, in partnership with the Federal Highway Administration, the Southern California Association of Governments, the San Bernardino County Associated Governments, the Los Angeles County Metropolitan Transportation Authority, the County of Los Angeles, the County of San Bernardino, the City of Palmdale, the City of Lancaster, the City of Adelanto, the City of Hesperia, the City of Victorville, and the Town of Apple Valley, completed a 10-year effort that culminated in the publication of the *Regionally Significant Transportation Investment Study* for the High Desert Corridor.

The Regionally Significant Transportation Investment Study steering committee adopted as the locally preferred alternative the proposed east–west corridor depicted in Figure 1.

In 2006, the High Desert Corridor Joint Powers Authority was formed to oversee the financing and construction of a 63-mile stretch of freeway corridor from SR 14 in the Palmdale/Lancaster area through the High Desert cities of Adelanto, Victorville, and Apple Valley—the High Desert Corridor. Its members include the County of San Bernardino, the County of Los Angeles, the Town of Apple Valley and the Cities of Adelanto, Victorville, Lancaster and Palmdale.

In 2007 and 2009, environmental studies were begun on two small components of the High Desert Corridor. The City of Victorville, with oversight from Caltrans District 8, began work on the High Desert Corridor—Phase 1 project in 2007. This project extended between SR 395 and SR 18 on the eastern end of the corridor. On the western end, Caltrans District 7 began working in 2009 on a new alignment for SR 138 between SR 14 and 100th Street East. During the course of conducting these studies and coordinating with regulatory and resource agencies for the proposed projects, it was determined that they should be combined into one large project—the High Desert Corridor—which incorporates the two "end pieces" and fills the gap in between them.

The proposed project is located in the High Desert area of Los Angeles and San Bernardino counties, north of the San Gabriel/San Bernardino mountains. The proposed route would run primarily in an east–west direction between SR 14 and SR 18 and extend for approximately 63 miles.

For the purpose of this traffic study report, the overall project is divided into the following three segments, as illustrated on Figure 2.

- ***Antelope Valley segment***
  From SR 14 to 100th 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.

Graphics and/or text in this report are generally characterized according to these three segments are summarized and presented in much greater detail in Section 2 of this document.[1]

Project Purpose and Need

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

[1] Other project approval/environmental documents may define different limits when describing High Desert Corridor segments.

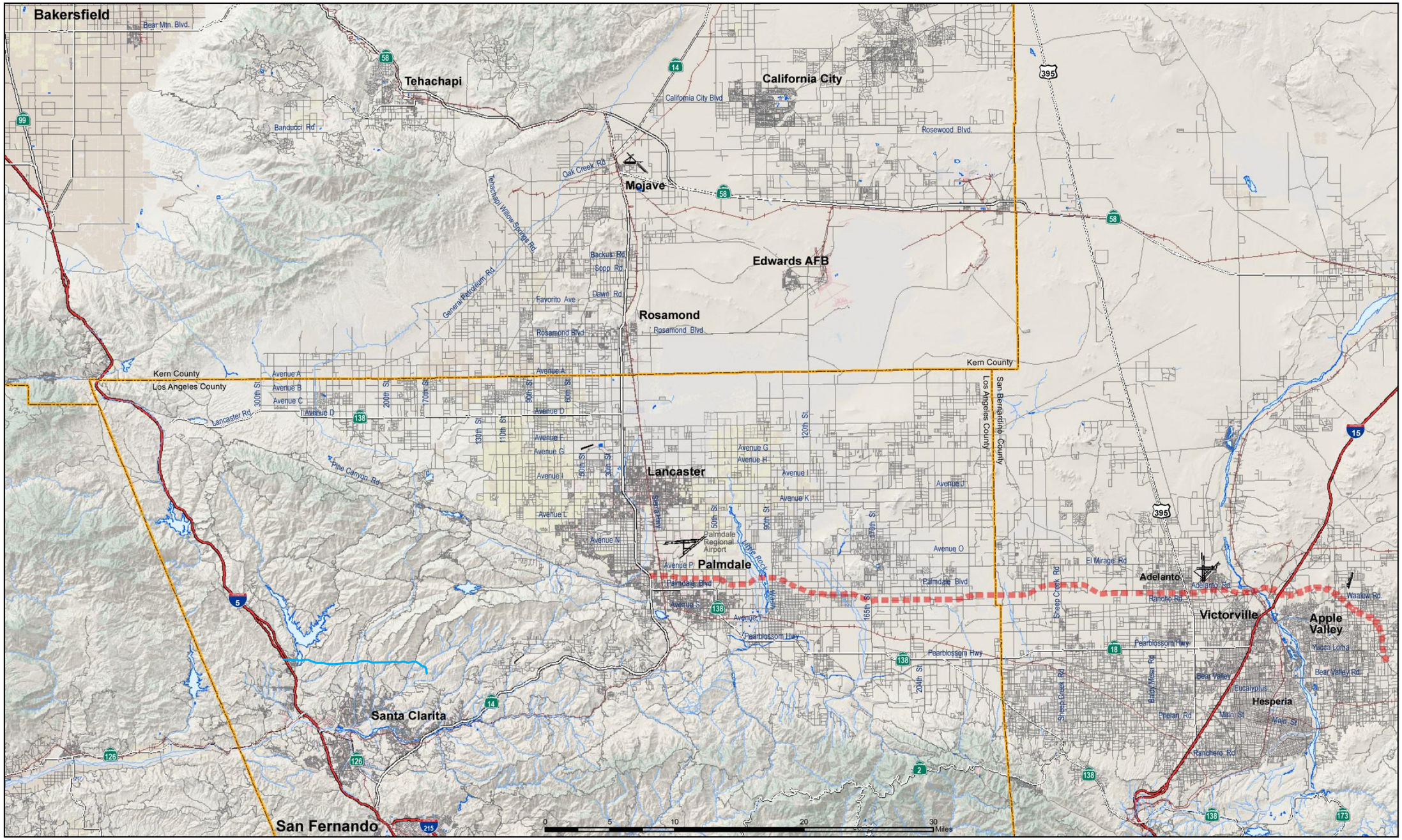
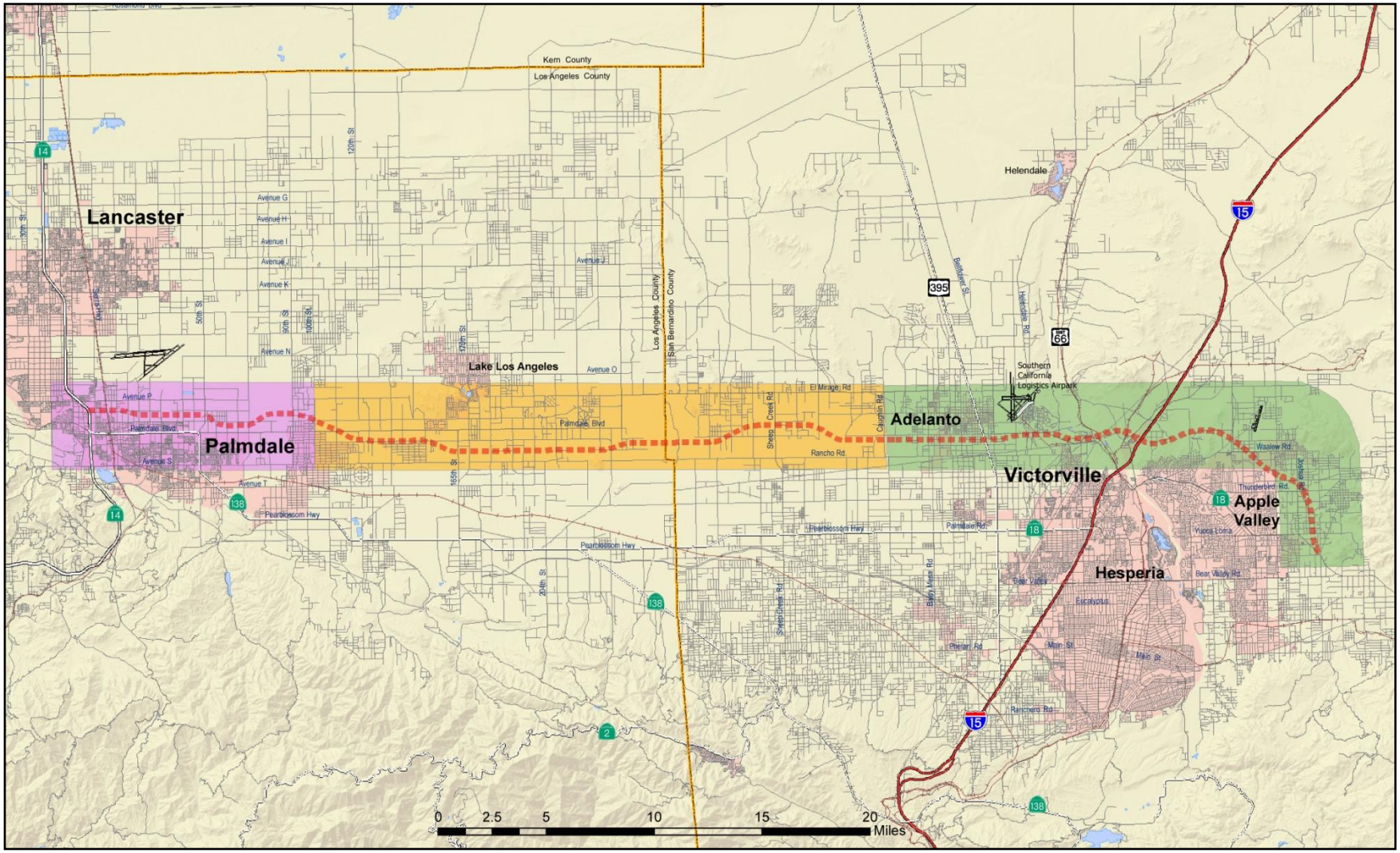


Figure 1: High Desert Corridor General Alignment



ANTELOPE VALLEY	HIGH DESERT	VICTOR VALLEY
Los Angeles County	**Los Angeles County–San Bernardino County**	**San Bernardino County**
Lancaster, Palmdale	Lake Los Angeles, El Mirage	Adelanto, Victorville, Apple Valley, Hesperia

Figure 2: High Desert Corridor Segments

Improvements to this corridor are considered necessary to provide for the existing and projected traffic demand attributed to residential growth and increasing commercial developments in the Antelope Valley, Victor Valley, and Apple Valley areas of Los Angeles and San Bernardino counties. This growth is resulting in inadequate capacity and accessibility along the existing east–west roadways as well as an increasing demand for goods movement and access to regional transportation facilities.

The purpose of the proposed project is to improve east–west mobility within the High Desert region of Southern California by addressing present and future travel demand and mobility needs within the Antelope and Victor valleys. The proposed action is intended to achieve the following objectives:

- Increase capacity of east–west transportation facilities to accommodate existing and future transportation demand
- Improve travel safety and reliability within the High Desert region
- Improve the regional goods movement network
- Provide improved access and connectivity to regional transportation facilities including airports and the existing and future passenger rail systems including the California High Speed Rail system and the proposed XpressWest High Speed Rail system.
- Contribute to State greenhouse gas reduction goals through the use of green energy features.

The specific needs to be addressed by the proposed action include:

- Recent and future population growth within the High Desert region
- Limited and unreliable east–west connectivity within the High Desert region
- Regional demands for goods movement to support the growth of the regional economy
- Future demands for the use of green energy including sustainability and green energy provisions in State law and policy.

The goals for the High Desert Corridor project include:

- Addressing current and future regional growth
- Improving east–west mobility
- Enhancing safety
- Improving connections between regional transportation facilities and efficient movement of goods.

Existing Conditions

Demographics and Land Use

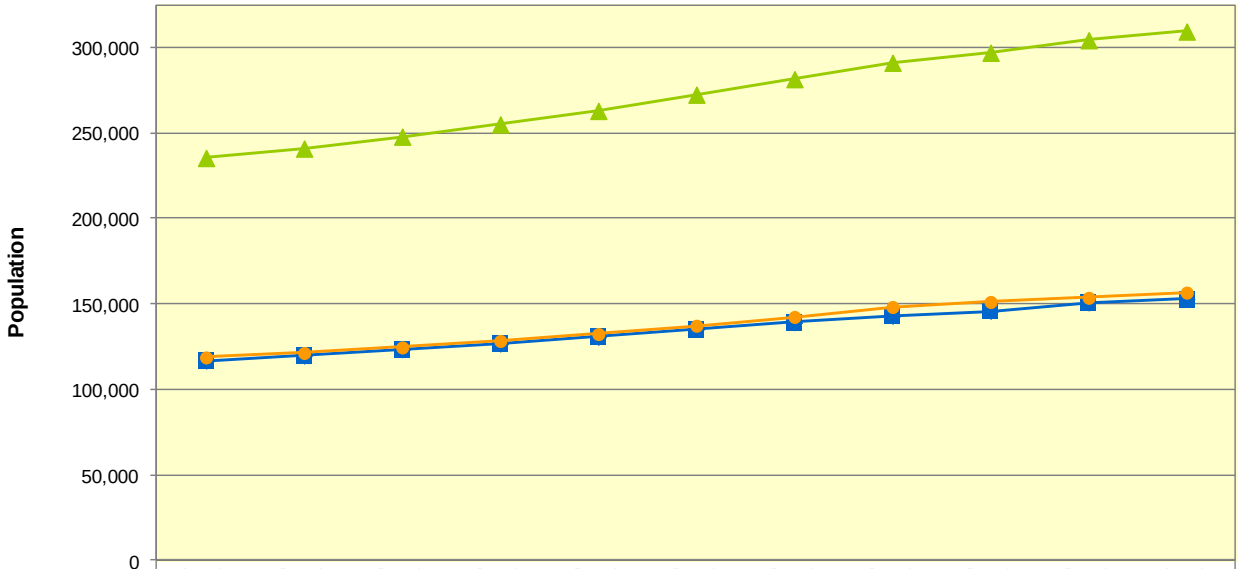
ANTELOPE VALLEY

Population and Housing

The Antelope Valley is located in northern Los Angeles County and the southeastern portion of Kern County, California and constitutes the western tip of the Mojave Desert. It is situated between the Tehachapi and the San Gabriel mountains. In recent decades, the valley has become a bedroom community to the greater Los Angeles area. Major housing tract development and population growth took off beginning in 1983 and the Antelope Valley is now home to more than 475,000 residents. The principal cities in the Antelope Valley are Palmdale and Lancaster.

Palmdale is separated from Los Angeles by the San Gabriel Mountain range. Over the last 25 years, this city has consistently been ranked in the top 25 fastest growing cities in the United States (based on percentage change). The population of Palmdale was 152,750 as of the 2010 U.S. Census, making it the sixth largest and fastest growing city in Los Angeles County. Figure 3 charts the recent population growth in Palmdale and Lancaster.

Lancaster is the fifth largest city in Los Angeles County and the ninth fastest growing city in the United States. It is separated from Bakersfield and the San Joaquin Valley by the Tehachapi Mountain Range to the north. The city of Lancaster has grown from 37,000 residents at the time of incorporation in 1977, to 156,633 residents as of the 2010 U.S. Census.



	Apr 1, 2000	Jan 1, 2001	Jan 1, 2002	Jan 1, 2003	Jan 1, 2004	Jan 1, 2005	Jan 1, 2006	Jan 1, 2007	Jan 1, 2008	Jan 1, 2009	Apr 1, 2010
Palmdale	116,670	119,599	123,308	126,645	130,547	135,179	139,105	142,873	145,777	150,682	152,750
Lancaster	118,718	121,313	124,574	128,362	132,388	137,268	142,417	148,231	151,181	153,613	156,633
Total	235,388	240,912	247,882	255,007	262,935	272,447	281,522	291,104	296,958	304,295	309,383
Housing											
Palmdale	37,096	37,641	38,341	38,991	39,906	41,262	42,780	43,959	44,825	46,161	46,544
Lancaster	41,745	42,105	42,719	43,512	44,376	45,784	48,004	49,975	50,609	51,168	51,835
Total	78,841	79,746	81,060	82,503	84,282	87,046	90,784	93,934	95,434	97,329	98,379

Source: E-8 Historical Population and Housing Estimates for Cities, Counties and the State, 2000–2010, November 2012

Figure 3: Population and Housing in Palmdale and Lancaster

Employment

The most important industry for Palmdale is the aerospace industry. However, in recent times, other manufacturing companies have relocated to Palmdale seeking more affordable land, close proximity to Palmdale Airport, and special tax breaks. Special tax breaks are granted for companies that relocate to the Antelope Valley Enterprise Zone and the Palmdale Federal Foreign Trade Zone. These are special zoning areas within the city that allow for various state and federal tax breaks and municipal grant incentives. These zones were put in effect to help Palmdale and Lancaster draw more jobs to the area so they would be less dependent on the Los Angeles Basin area for employment, thus relieving pollution and traffic congestion and stabilizing the local economy on several industries.

A number of world-class corporations and manufacturing firms have made Palmdale home, diversifying the local economy. A number of medical and related support offices are coming on-line to meet the needs

of the new Palmdale Regional Medical Center. The Antelope Valley Mall is the preeminent retail shopping destination in the region, with a wide variety of dining choices in its Restaurant Row.

Table 1 indicates area-wide employment by industry type.

Table 1. Antelope Valley Employment by Industry

	LOS ANGELES COUNTY	KERN COUNTY	TOTAL
Federal government	367	4,968	5,335
State government	1,981	2,004	3,985
Local government	13,285	3,121	16,406
Agriculture and mining	368	907	1,275
Utilities	334	403	737
Construction	2,736	393	3,129
Manufacturing	7,877	2,188	10,065
Wholesale trade	1,166	174	1,340
Retail trade	11,286	2,203	13,489
Transportation and warehousing	2,158	399	2,557
Management of companies and enterprises and administrative and support and waste management and remediation services	2,048	1,082	3,130
Information	829	143	972
Finance and insurance	3,027	325	3,352
Real estate and rental and leasing	786	225	1,011
Professional, scientific, and technical services	1,601	2,983	4,584
Educational services	758	216	974
Health care and social assistance	8,358	1,388	9,746
Arts, entertainment and recreation	553	361	914
Accommodation and food services	7,379	1,931	9,310
Other services (except public administration)	4,564	639	5,203
Not classified	237	66	304
Total Employment	**71,698**	**26,119**	**97,818**

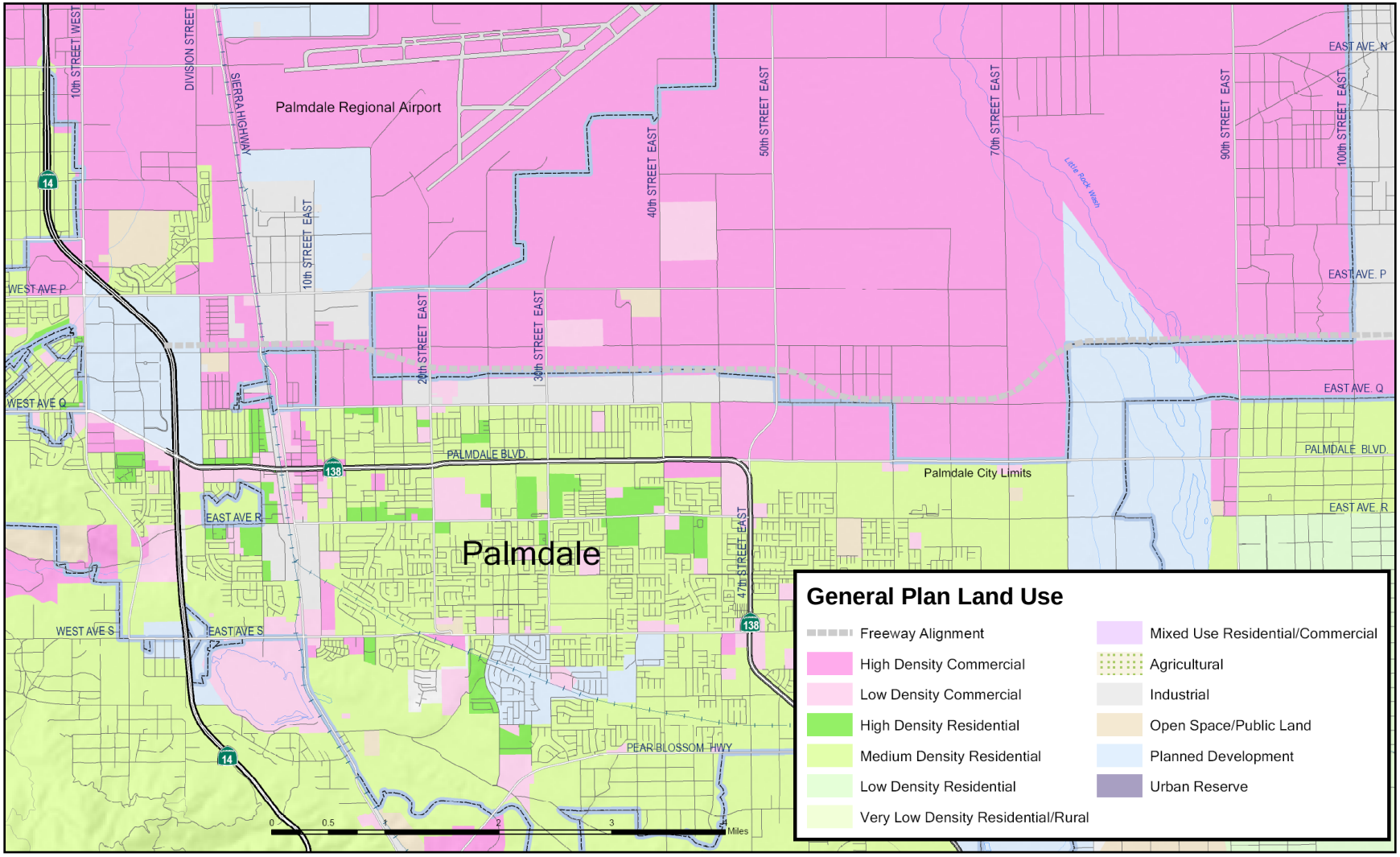
Source: 2013 Economic Roundtable Report, Greater Antelope Valley Economic Alliance

Land Use within Focused Study Area

Figure 4 illustrates the location and type of land uses within the portion of the City of Palmdale being addressed by this traffic study. The existing and planned land use, adopted by General Plan ordinance, indicates concentrations of commercial land uses along arterial streets such as Palmdale Boulevard (SR 138) and 10th Street West; industrial land uses located adjacent to the Los Angeles/Palmdale Regional Airport, and residential lands occupying most of the three-mile wide corridor running between Avenue Q and Pearblossom Highway (Avenue T) located east of SR 14. The majority of retail space is situated along 10th Street West where shopping centers are clustered in the vicinity of the Antelope Valley Mall, at Rancho Vista Boulevard/Avenue P.

Regional Transportation Facilities

Two transportation depots are located within the focused study area, the Los Angeles/ Palmdale Regional Airport and the Palmdale Transportation Center. The Palmdale Transportation Center is a multi-modal facility which serves as a Metrolink train station and a hub for connections between the Antelope Valley Transit Authority and commuter bus service, Santa Clarita Transit bus service, Greyhound bus service and Amtrak Thruway bus service. The Palmdale Transportation Center is also designated as a stop on the future California High Speed Rail line from San Francisco to San Diego.



Source: City of Palmdale

Figure 4: Land Use within the Antelope Valley

HIGH DESERT

Population and Housing

For the purpose of this traffic study report, the "High Desert" is defined as the unincorporated portions of Los Angeles and San Bernardino counties lying between the Palmdale/Lancaster and Adelanto/ Victorville/Hesperia/Apple Valley urbanized areas. The High Desert is highly rural in character. Lake Los Angeles (population 12,328), and Phelan (population 14,304), are the only communities characterized by the 2010 census as "places." The Bureau of Census does not individually report population or housing for the remaining unincorporated communities, which generally have fewer than 2,000 residents. The Southern California Association of Governments travel forecasting model estimates the 2003 population in the High Desert area at 33,646, indicating that the population outside these two designated places is extremely limited.

Employment

The High Desert area is almost entirely composed of unincorporated lands of Los Angeles and San Bernardino. The region is highly rural in character, with a very low density population pattern and sparse employment opportunities. The Southern California Association of Governments travel forecasting model estimates only 5,022 jobs in the entire region as of 2003. Nearly all residents are self-employed or are employed in jobs located in the Antelope and Victor Valley areas. The majority of current employment opportunities are located in the San Bernardino County portion of the High Desert area and nearly all future growth is expected to take place there.

Land Use within Focused Study Area

The land use along the proposed highway is rural in character and its zoning designation is predominately low density residential. General plans prepared for the High Desert area indicate that residents desire to maintain the rural character of their communities, and prefer that growth be focused in the adjacent urbanized areas to the east and west of their communities. Preservation of the rural character of the region is the common vision which unites the communities of the High Desert area. Nevertheless, it is anticipated that both population and employment will approximately double during the 2003 to 2035 (2040) time period considered in this study. Figure 5 illustrates the location and type of land uses within the portion of the study area.

Regional Transportation Facilities

Other than pass-through local service and some limited express bus stops, the High Desert portion of the study area is not directly served by regional transportation facilities. Such facilities are, however, located both to the east and west in the Antelope and Victor Valley areas, respectively.

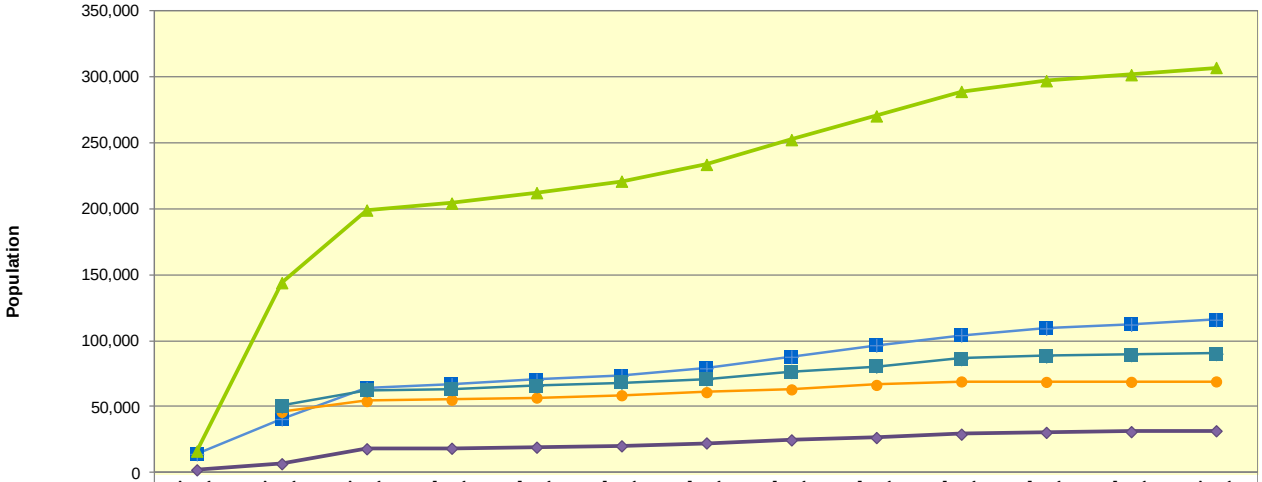
VICTOR VALLEY

Population and Housing

The Victor Valley is located in the southwest area of the Mojave Desert in San Bernardino County, north of the San Bernardino Mountains and Cucamonga Valley, and east of Antelope Valley. The valley has grown from the 1980's to a current population of about 350,000. In this region, there are four incorporated cities—Victorville, Hesperia, Apple Valley, and Adelanto.

Victorville, "Key City of the High Desert," is located northeast of Los Angeles and north of San Bernardino through the Cajon Pass. From the time of its incorporation in 1962, Victorville's population has grown to 115,903 residents. Figure 6 charts the recent population growth in the Victor Valley. Hesperia is just south of Victorville along I-15 and is the second largest city in Victor Valley and incorporated in 1988. Hesperia has grown more than 30 percent from 62,590 in 2000 to 90,173 in 2010.

Figure 5: Land Use in the High Desert Region



	Apr 1, 1980	Apr 1, 1990	Apr 1, 2000	Jan 1, 2001	Jan 1, 2002	Jan 1, 2003	Jan 1, 2004	Jan 1, 2005	Jan 1, 2006	Jan 1, 2007	Jan 1, 2008	Jan 1, 2009	Apr 1, 2010
Victorville	14,220	40,674	64,029	66,904	70,256	73,538	79,081	87,813	96,564	104,218	109,321	112,252	115,903
Apple Valley	*	46,079	54,239	55,269	56,890	58,665	61,005	63,117	66,490	69,127	68,776	68,828	69,135
Hesperia	*	50,418	62,590	63,572	65,704	68,350	70,956	76,548	80,648	86,332	88,356	89,364	90,173
Adelanto	2,164	6,791	18,130	18,512	19,327	20,326	22,528	24,855	26,617	29,181	30,526	31,087	31,765
Total	16,384	143,962	198,988	204,257	212,177	220,879	233,570	252,333	270,319	288,858	296,979	301,531	306,976
Housing Units													
Victorville		15,627	22,498	22,781	23,312	24,046	25,495	27,955	30,527	33,040	34,946	35,782	36,655
Apple Valley		16,672	20,163	20,513	20,909	21,448	22,193	22,985	24,425	25,631	25,792	25,962	26,117
Hesperia		17,359	21,352	21,503	21,816	22,390	22,953	24,628	26,030	27,973	28,650	28,949	29,004
Adelanto		2,754	5,547	5,575	5,711	5,912	6,411	7,047	7,722	8,560	8,840	8,952	9,086
Total		52,412	69,560	70,372	71,748	73,796	77,052	82,615	88,704	95,204	98,228	99,645	100,862

Source: E-8 Historical Population and Housing Estimates for Cities, Counties and the State, 2000–2010, State of California Department of Finance, November 2012

*Apple Valley and Hesperia were unincorporated in 1980—no population figures are available.

Figure 6: Population and Housing in Victorville, Hesperia, Apple Valley and Adelanto

The Town of Apple Valley is east of and adjoining the neighboring cities of Victorville and Hesperia and was incorporated in 1988. Apple Valley grew almost 22 percent from 54,239 in 2000 to 69,135 in 2010. Spring Valley Lake is an unincorporated census designated place, surrounded by Apple Valley. In 2010, it had a population of 8,220.

Adelanto is located adjacent and northwest of Victorville. Incorporated in 1970, Adelanto is the smallest of the cities in Victor Valley. In November of 1992, Adelanto became a charter city. Adelanto has grown more than 40 percent from 18,130 in 2000 to 31,765 in 2010.

Employment

Table 2 indicates area-wide employment by industry type.

The largest single employment concentration in Victor Valley is the Southern California Logistics Airport (SCLA) in Victorville. In July 2000, the Southern California Logistics Airport received the designation of "foreign trade zone" to entice companies that have foreign dealing to the vacant airport. There is also a 24-hour-a-day, seven-day-a-week, onsite U.S. Customs office. By having both the designation of being a foreign trade zone and an onsite U.S. Customs office, many companies have been enticed to open an office or warehouse at Southern California Logistics Airport.

Educational institutions are the largest employers as an industry with each city not only having elementary, middle, and high schools, but also with multiple institutions of higher learning. With all of these schools and school districts combined, education employs more than three times the labor force of the Southern California Logistics Airport.

Table 2. Victor Valley Employment by Industry

INDUSTRY SECTOR	NUMBER OF ESTABLISHMENTS	NUMBER EMPLOYED
Agriculture, forestry, fishing	142	468
Natural resources and mining	5	20
Construction	744	3,855
Manufacturing	347	4,169
Wholesale	278	2,027
Retail	1,921	22,259
Transportation, communications, utilities	324	3,005
Finance, insurance, real estate	781	4,583
Business and professional services	207	9,873
Education and health care services	978	18,581
Total all private sector	7,770	69,301
Total Government and non-profit	413	5,517
Total All Industries	8,183	74,818

Source: Claritas 2009 Data, www.victorvalleyca.com

Within Victor Valley, immediately south and adjacent to the Southern California Logistics Airport is a Federal Correctional Complex that employs more than 800 people to cover the three prisons located there. There is a medium I security complex for men, a medium II security complex for men with a satellite prison camp for low security female prisoners, and a United States penitentiary for high security male prisoners.

Three hospitals and medical centers employing more than 3,000 employees are located in the Victor Valley, including St. Mary's Medical Center, Desert Valley Hospital/Medical Group, and Victor Valley Community Hospital.

Land Use within Focused Study Area

Figure 7 illustrates the location and type of land uses within the Victor Valley portion of the study area. Both existing conditions and future plans indicate a continuation of this land use in the foreseeable future. The proposed project will run just south of the Southern California Logistics Airport and either north or south of the Victorville Federal Correctional Complex, both located between Adelanto and Victorville.

The land use surrounding the corridor of the proposed highway alignment is primarily industrial. At the eastern most extent of the proposed highway, the land use begins to change, with a mix of industrial zoning increasingly supplanted by low density residential as Apple Valley expands to the east.

Regional Transportation Facilities

While no commercial airlines fly into Victor Valley, the Southern California Logistics Airport does service many companies for air cargo and does have the ability to accept any current flying commercial and military aircraft. In fiscal year 2009, the Southern California Logistics Airport enplaned 227 metric tons of cargo compared with 1.95 million metric tons for the Los Angeles region. Southern California Logistics Airport does, however, service executive air travel. Also located within Victor Valley is an airport in Apple Valley and Hesperia. Both airports are open to the public, but neither has the ability to accept commercial aircraft. Insofar as public transportation, Victor Valley Transit Authority is the local bus operator servicing Victor Valley. It operates 18 local bus routes, and one express bus route connecting Victor Valley with Barstow.

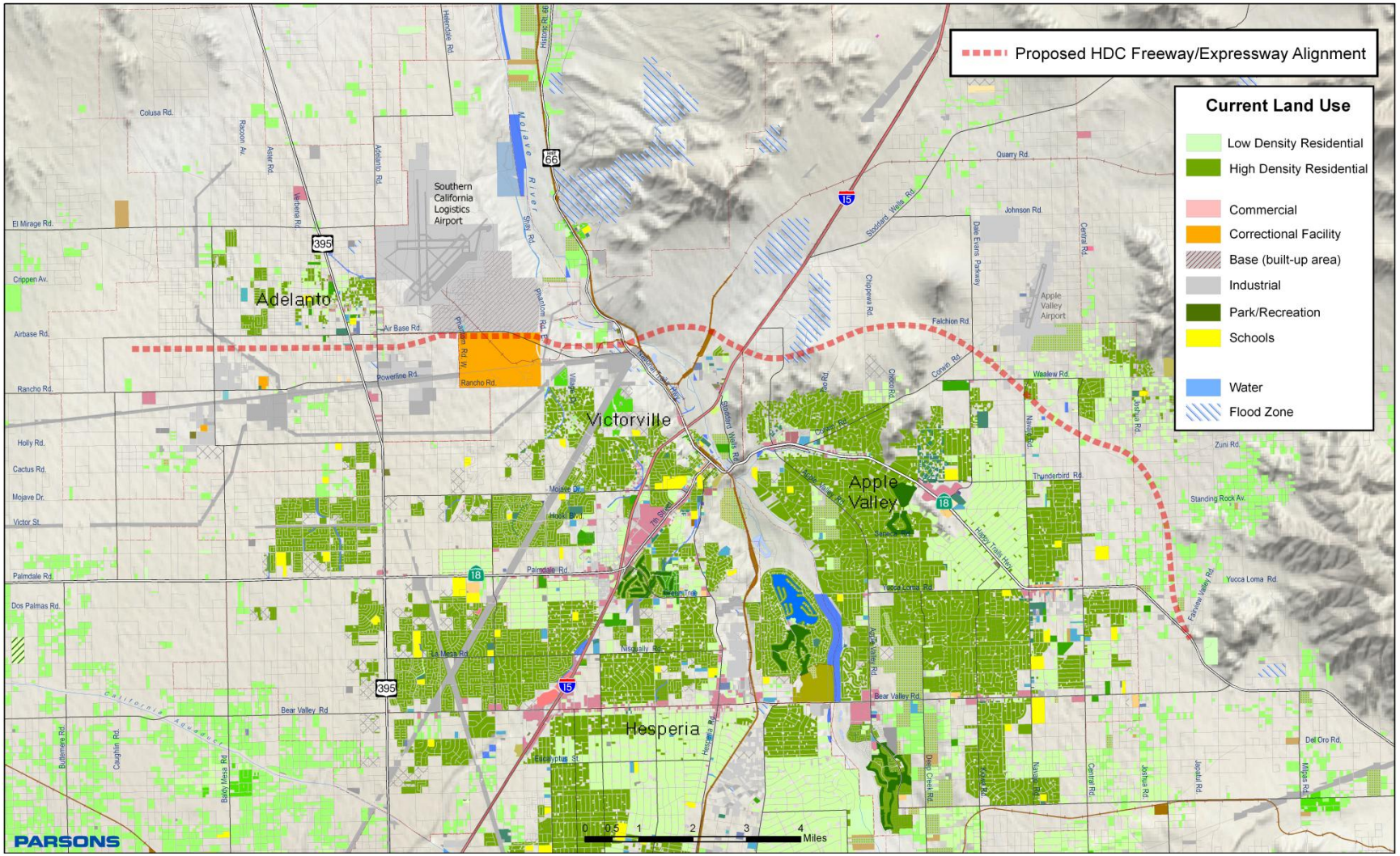


Figure 7: Land Use in Victor Valley

Regional and Local Roadway Facilities

ANTELOPE VALLEY

Regional Roadway Network

State Route 14

State Route 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 U.S. Route 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

State Route 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.

Interstate 15

Within California, I-15 is a major north–south route through San Bernardino, Riverside, and San Diego Counties, and it has a length of 287 miles in the state. It is a major thoroughfare for traffic between Southern California, Las Vegas, Nevada, and points beyond. It is also the main route for traffic between San Diego and the Inland Empire.

State Route 58

State Route 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 U.S. Route 101 and its eastern terminus at Barstow (junction I-15). It has junctions with SR 14 in Mojave. SR 58 is the only freeway 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 10th Street West to 50th 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 mph from 10th Street West to Fifth Street West, and 45 mph from Fifth 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.

From SR 14 and traveling east to 25th Street East, Palmdale Boulevard services a highly concentrated general commercial area. East of 25th Street East to just beyond 35th Street East, Palmdale Boulevard is lined by mixed commercial and single family residential land uses and the speed limit changes to 45 mph. From 35th Street East to 50th Street East, Palmdale Boulevard is surrounded by mainly open space, but the land use is zoned for light industry, single family, and general commercial.

Other substantial local roadways and their surrounding land uses were examined and are discussed in great detail in Section 2 of this report and include: Avenue Q, Avenue P, 50th Street East, 40th Street East, 30th Street East, 25th Street East, 20th Street East, 10th Street East, Sierra Highway, and 10th 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 which 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 240th 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 will 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)

Interstate 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).

I-15 has eight interchanges along this study segment and services various landmarks along the way such as the Mall of Victor Valley at the Bear Valley Road interchange, the City Hall/ Sheriff/ Courthouse from the Palmdale Road interchange, the San Bernardino County Fairgrounds at the Roy Rogers Drive interchange and a landfill at the northern end. The interstate crosses over the Mojave River north of the interchange with Route 66. The land use is mostly vacant land, but includes some hotels or motels, camp grounds, gas stations and a few businesses. There exist some residential areas behind frontage land and at times residential areas with sound walls when close to the freeway.

U.S. Route 395

U.S. Route 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. U.S. Route 395 forms the western border of this portion of the study area for approximately seven 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. U.S. Route 395, north of the Palmdale Road intersection, creates the western border of Victorville. At this intersection, there is a gas station and a shopping center on the northeast corner.

Historic U.S. Route 66

Historic U.S. 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 Seventh Street and continues until just south of the Mojave River, where the route turns northwest and becomes known as the National Trails Highway.

The Seventh Street segment of Route 66 is still the primary street through Old Town Victorville. The land use consists of some schools, small businesses, gas stations, auto shops, an RV park, a shopping center and a Veteran Memorial Park. The National Trails Highway segment of Route 66 follows D Street northwest of Seventh Street. This segment general runs parallel to the BNSF Railroad and has land use that is mostly industrial, utilities, vacant or used by the railroad.

California State Route 18

California SR 18 begins its northwest end at SR 138 near Adelanto, 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 U.S. Route 395 in Adelanto where the Victor Valley portion of the study area begins, four 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 inside of 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.

The land use on the west segment is mixed with shopping centers, businesses, gas stations, auto shops, auto dealerships, restaurants, schools, vacant land, a power plant, some residential, mobile parks and utilities. The east segment starts near the BNSF Railroad and the Mojave River, coming off of D Street or Route 66. It passes the National Guard at Apple Valley Road followed by the St. Mary Regional Medical Center.

Local Roadway Network

A number of substantial local roadways and their surrounding land uses were examined and are discussed in great detail in Section 2 of this report and include: 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 Counts

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 High Desert Corridor freeway will funnel traffic to and from both SR 14 and I-15 at a focused location and will 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 will also shift directional patterns, as traffic flows to the new High Desert Corridor freeway (and away from Palmdale Boulevard and Palmdale Road) to take advantage of its higher speeds and to avoid traffic signal delays. Moreover, establishing a reliable accounting of existing traffic counts provides the basis for reflecting future traffic, whether it be greater or less than existing conditions, or simply diverted elsewhere.

STATE ROUTE 14

Traffic volumes on SR 14 within Los Angeles County were compiled by Caltrans' Division of Traffic Operations, Office of System Planning Management Traffic Data Branch for the year 2011. Annual average daily traffic (AADT) for selected locations along SR 14 were obtained. These counts represent total vehicles, passenger vehicles and trucks, averaged over 365 days of the year. Peak month and peak hour volumes were also included. Traffic volumes show that the morning peak hour is from 7:00 to 8:00 a.m. in both directions during the midweek, Tuesday through Thursday. The afternoon peak hour runs from 5:00 to 6:00 p.m., also during the midweek.

INTERSTATE 15

Traffic volumes on I-15 within San Bernardino County were compiled by Caltrans' Division of Traffic Operations for the year 2011. Annual average daily traffic for selected locations along I-15 were obtained. These counts represent total vehicles, passenger vehicles and trucks, averaged over 365 days of the year. Peak month and peak hour volumes are also included.

For the purpose of this traffic study, Parsons also conducted vehicle counts during all hours of the day for seven days from May 12 to May 18, 2011. These counts were collected at three locations:

1. South of Palmdale Road
2. South of D Street
3. South of Dale Evans Boulevard

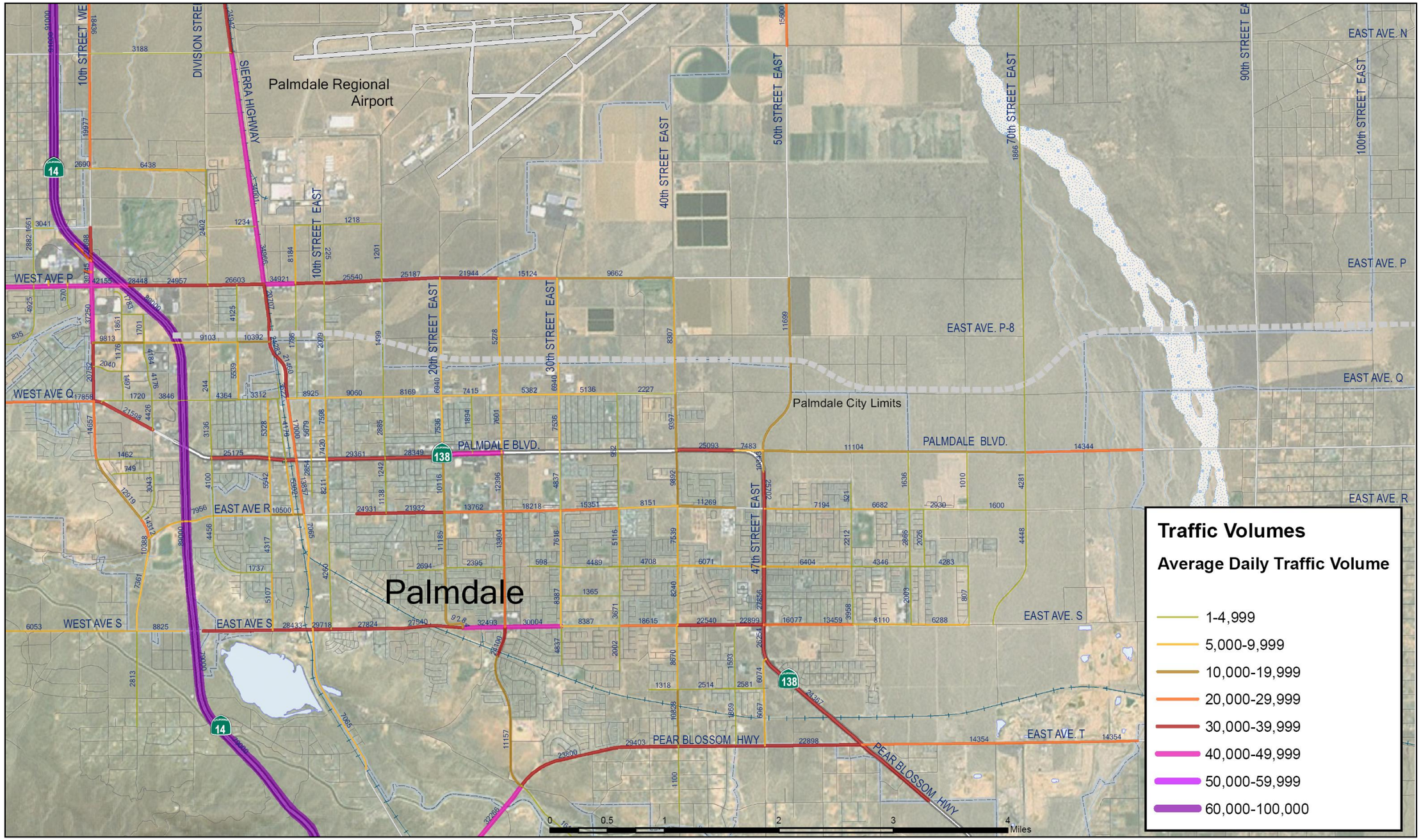
Figure 8 illustrates average daily traffic volumes on avenues and street segments located within the focused study portion of Antelope Valley. These traffic counts were assembled by the City of Palmdale traffic engineering staff from a variety of sources on different days of the week and months of the year. The traffic volumes are not "balanced" from one segment to the next, and may therefore include anomalies.

At a representative "screenline," just west of 15th Street, the graphic illustrates that 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. The north–south streets carry much less traffic, plus or minus 10,000 vehicles per day (VPD) along the screenline segments just south of Palmdale Boulevard.

The highest daily traffic traffic flows occur along 10th Street West, in the vicinity of the Antelope Mall, and along Sierra Highway to the north of East Avenue P.

Traffic Operational Analysis

A very detailed and complex traffic analysis for the study area for all project alternatives and options includes the existing and expected future operations on SR 14 and I-15 freeway mainline and freeway ramp segments. These include operations of traffic flows between two points on a limited-access freeway, as well as the weaving, merging and diverging movements which occur on the mainline between ramps. Further, the analysis includes 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). Traffic operations of each interception were analyzed using current and future configurations, traffic, volumes, and signal timing/stop sign-control parameters.



Source: City of Palmdale

Figure 8: Existing Average Daily Traffic Volumes on Local Roads *(Year 2012)*

FREEWAY MAINLINE SEGMENT AND RAMP ANALYSIS

In addition to collecting traffic volume counts, travel time data were collected to identify congestion points and segments along the corridor and to provide data for calibrating a traffic simulation model. The analysis began with observations of traffic conditions during morning (7:00 to 9:00 a.m.) and afternoon (4:00 to 6:00 p.m.) peak periods.

Corridor analysis for existing conditions utilized the CORSIM traffic simulation model. CORSIM (corridor simulation) is a software package funded by the Federal Highway Administration (FHWA) and widely used for analyzing existing conditions and evaluating plans for new construction. Additionally, once the model is calibrated to more closely reflect existing travel patterns within a study area, it can be used to analyze both existing conditions and future scenarios by providing qualitative measures of performance.

Level of service (LOS) is the qualitative measure used to gauge the operational performance of a given roadway segment or intersection by describing the driver's experience within a traffic stream, generally in terms of service measures such as speed and travel time, freedom to maneuver, traffic interruptions and delay, and comfort and convenience. Six levels of service are defined by the Highway Capacity Manual (HCM) 2000. Letters designate each level—from LOS A (indicating traffic flows with little or no delay) to LOS F (indicating over-saturated conditions where traffic flow exceeds freeway capacity, generally resulting in long queues and delays). To determine freeway LOS, the density of each mainline segment was extracted from the CORSIM output and compared to the criteria for freeways listed on Table 3.

Along SR 14, the results show that the mixed flow lanes operate at the equivalent of LOS A or LOS B during the AM peak period, with only two segments operating at LOS C in the southbound direction. All HOV lane segments operate at the equivalent of LOS A—free flow conditions.

Table 3. Mainline and Ramp Level of Service Definitions

LOS	DESCRIPTION	DENSITY (pc/mi/ln)	
		MAINLINE	RAMPS
A	Describes free-flow operations. Free-flow speeds prevail.	<11	<10
B	Represents reasonably free-flow operations and free-flow speeds are maintained.	>11 and <18	>10 and <20
C	Provides for flow with speeds at or near the free-flow speed of the freeway.	>18 and <26	>20 and <28
D	Describes the level at which speeds begin to decline slightly with increasing flows and density begins to increase somewhat more quickly.	>26 and <35	>28 and <35
E	At this level's highest density value, it describes operation that is at capacity of the freeway.	>35 and <45	>35
F	Describes breakdown in vehicular flow and queues forming behind the breakdown points.	>45	Demand exceeds capacity

Source: Highway Capacity Manual 2000

During the PM peak period, the mixed flow lanes are slightly more congested, but virtually all segments operate at LOS B or LOS C. Speeds remain high, ranging from 56 to 63 mph. By virtue of the unconstrained speeds and good level of service in the mixed flow lanes, the HOV lanes are not well utilized, and operate at LOS A.

Along I-15, the results show that the freeway operates at the equivalent of LOS A or LOS B during both AM and PM peak periods. This performance relates to weekday peak periods. Midday on Fridays, the northbound level of service is worse, based on observation of traffic conditions. The same observation applies to Sunday afternoons for southbound level of service.

Freeway weave segments, as well as on-ramp merge and off-ramp diverge influence areas were also analyzed using the CORSIM simulation model. The analysis results of the weaving, merging, and diverging areas along the corridor are generally all acceptable during the AM and PM peak periods.

FREEWAY INTERCHANGE RAMP TERMINI AND INTERSECTION ANALYSIS

Level of service criteria were once again used in evaluating the performance of the freeway interchange ramp termini and other local intersections. The CORSIM software was again used for the intersection analysis, as both the SR 14 and I-15 freeways and the ramp intersections were modeled as an integrated system. Intersections in the vicinity of the Antelope Valley Mall, were analyzed using CORSIM. The remaining isolated intersections were analyzed using TRAFFIX version 8.0 software. Level of service definitions for ramp termini and local intersections are listed on Table 4.

A complete accounting of study area intersections is listed in Table 5 and illustrated on Figure 9.

The results indicate that all signalized study intersections operate at LOS D or better. Three stop sign controlled intersections operate at LOS E or F as follows:

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

In addition to the analysis of intersection operations using CORSIM and TRAFFIX computer software, traffic conditions were observed in the field. Field observation indicates that the intersection of 10th Street West and West Avenue P/Rancho Vista Boulevard (adjacent to the Antelope Valley Mall) is also congested during afternoon peak hours. This congestion creates traffic queues which spill back to the north along 10th Street West.

Table 4. Level of Service Definitions for Intersections

LOS	DESCRIPTION	CONTROL DELAY PER VEHICLE (sec/veh)	
		UNSIGNALIZED	SIGNALIZED
A	Traffic flows with very little delay and optimal speeds. Most vehicles do not stop at all.	0–10	<10
B	Traffic flows with very little delay and speeds may be slightly reduced. Very infrequent and short waits at traffic signals. More vehicles stop at intersections than for LOS A.	>10–15	>10–20
C	Traffic speeds continue to slow. Some vehicles may stop at this level, although many vehicles still pass through the intersection without stopping.	>15–25	>20–35
D	Congestion becomes more noticeable. Many vehicles stop and the proportion of vehicles not stopping declines.	>25–35	>35–55
E	Low speeds and traffic backups at intersections. Often considered to be the limit of acceptable delay.	>35–50	>55–80
F	Very slow speeds and congestion. Long traffic backups. Very likely to wait for multiple greens to get through an intersection. This is considered to be unacceptable to most drivers.	>50	>80

Source: Highway Capacity Manual 2000

Table 5. Study Area Intersections *(1 of 3)*

NO.	INTERSECTION
1	SR 14 southbound off-ramp and West Avenue
2	SR 14 northbound off-ramp and West Avenue N
3	10th Street West and West Avenue O-8
4	10th Street West and Sam's Club access
5	10th Street West and SR 14 northbound on-ramp
6	10th Street West and SR 14 southbound off-ramp
7	10th Street West and Mall Ring Road
8	10th Street West and West Avenue P
9	Lowe's Driveway and West Avenue P
10	SR 14 southbound on-ramp and West Avenue P
11	SR 14 northbound off-ramp and West Avenue P
12	10th Street West and West Palmdale Boulevard
13	SR 14 southbound off-/on-ramps and West Palmdale Boulevard
14	SR 14 northbound off-/on-ramps and East Palmdale Boulevard
15	Division Street and East Palmdale Boulevard
16	SR 14 southbound off-ramp and West Avenue S
17	SR 14 northbound off-ramp and East Avenue S
18	Sierra Highway and East Avenue P
19	Sierra Highway and Technology Drive
20	Sierra Highway and East Avenue Q
21	5th Street East and East Palmdale Boulevard
22	6th Street East and East Palmdale Boulevard
23	Sierra Highway and East Palmdale Boulevard
24	10th Street East and East Avenue P
25	10th Street East or 30th Street East and westbound High Desert Corridor
26	10th Street East or 30th Street East and eastbound High Desert Corridor
27	10th Street East and East Avenue Q
28	10th Street East and East Palmdale Boulevard
29	15th Street East and East Avenue Q
30	15th Street East and East Palmdale Boulevard
31	20th Street East and East Avenue P
32	20th Street East and westbound High Desert Corridor
33	20th Street East and eastbound High Desert Corridor
34	20th Street East and East Avenue Q
35	20th Street East and East Palmdale Boulevard
36	25th Street East and East Palmdale Boulevard
37	30th Street East and East Avenue P
38	30th Street East and East Avenue Q
39	30th Street East and East Palmdale Boulevard
40	40th Street East and East Avenue Q
41	40th Street East and East Palmdale Boulevard
42	50th Street East and East Avenue P
43	50th Street East and westbound High Desert Corridor
44	50th Street East and eastbound High Desert Corridor
45	50th Street East and East Palmdale Avenue
46	70th Street East and East Avenue P
47	70th Street and westbound High Desert Corridor
48	70th Street and eastbound High Desert Corridor
49	70th Street East and East Palmdale Boulevard
50	90th Street East and East Avenue P
51	90th Street East and westbound High Desert Corridor
52	90th Street East and eastbound High Desert Corridor
53	90th Street East and East Avenue Q
54	90th Street East and East Palmdale Boulevard
55	110th Street East and East Palmdale Boulevard
56	140th Street and East Palmdale Boulevard
57	140th Street and westbound High Desert Corridor
58	140th Street and eastbound High Desert Corridor
59	140th Street and East Avenue R
60	170th Street East an East Palmdale Boulevard
61	170th Street East and westbound High Desert Corridor
62	170th Street East and eastbound High Desert Corridor
63	170th Street East and East Avenue S
64	165th Street East and SR 138
65	180th Street East and East Palmdale Boulevard
66	210th Street and East Palmdale Boulevard
67	210th Street and westbound High Desert Corridor

Table 5. List of Study Intersections *(2 of 3)*

NO.	INTERSECTION
68	210th Street and eastbound High Desert Corridor
69	210th Street and East Avenue S
70	SR 138 and SR 18
71	240th Street and East Palmdale Boulevard
72	240th Street East and westbound High Desert Corridor
73	240th Street East and eastbound High Desert Corridor
74	240th Street East and East Avenue R
75	Oasis Road and El Mirage Road
76	Oasis Road and westbound High Desert Corridor
77	Oasis Road and eastbound High Desert Corridor
78	Sheep Creek Road and El Mirage Road
79	Sheep Creek Road and westbound High Desert Corridor
80	Sheep Creek Road and eastbound High Desert Corridor
81	Sheep Creek Road and Holly Street
82	Sheep Creek Road and SR 18
83	Caughlin Road and Air Base Road
84	Caughlin Road and westbound High Desert Corridor
85	Caughlin Road and eastbound High Desert Corridor
86	Caughlin Road and Rancho Road
87	Koala Road and Air Base Road
88	Koala Road and westbound High Desert Corridor
89	Koala Road and eastbound High Desert Corridor
90	Koala Road and Rancho Road
91	Aster Road and SR 18
92	Bellflower Street and SR 18
93	U.S. 395 and Chamberlaine Way
94	U.S. 395 and Air Base Road
95	U.S. 395 and westbound High Desert Corridor
96	U.S. 395 and eastbound High Desert Corridor
97	U.S. 395 and Rancho Road
98	U.S. 395 and Mojave Drive
99	U.S. 395 and SR 18
100	Phantom Street and Mustang Street
101	Phantom St West and westbound High Desert Corridor
102	Phantom St West and eastbound High Desert Corridor
103	Phantom Street and Rancho Road
104	Topaz Road and SR 18
105	Amethyst Road and SR 18
106	Phantom St East and westbound High Desert Corridor
107	Phantom St East and eastbound High Desert Corridor
108	El Evado Road and Air Expressway Boulevard
109	Village Drive and Air Expressway Boulevard
110	El Evado Road and SR 18
111	National Trails Highway and westbound High Desert Corridor
112	National Trails Highway and eastbound High Desert Corridor
113	National Trails Highway and Air Expressway Boulevard
114	I-15 southbound off-/on-ramps and Mojave Drive
115	I-15 northbound off-/on-ramps and Mojave Drive
116	I-15 southbound off-/on-ramps and Roy Rogers Drive
117	I-15 northbound off-/on-ramps and Roy Rogers Drive
118	Amargosa Road and SR 18
119	Kentwood Boulevard and SR 18
120	Park Avenue and SR 18
121	I-15 southbound off-ramp and Palmdale Road
122	I-15 northbound on-ramp and Palmdale Road
123	I-15 northbound off-ramp and Mariposa Road
124	I-15 southbound off-/on-ramps and National Trails Highway/D Street
125	I-15 northbound off-/on-ramps and National Trails Highway/D Street
126	West Frontage Road and E Street
127	I-15 northbound off-/on-ramps and E Street
128	Gateway and north Frontage Road
129	Gateway and south Frontage Road
130	I-15 southbound off-ramp and Stoddard Wells Road
131	I-15 northbound on-ramp and Stoddard Wells Road/Frontage Road
132	I-15 West Frontage Road and Stoddard Wells Road
133	Stoddard Wells Road and I-15 Frontage Road
134	Stoddard Wells Road and SR 18

Table 5. List of Study Intersections *(3 of 3)*

NO.	INTERSECTION
135	Apple Valley Road and SR 18
136	I-15 southbound off-/on-ramps and Victorville Quarry Road
137	I-15 northbound off-/on-ramps and Stoddard Wells Road (north)
138	I-15 southbound off-/on-ramps and Dale Evans Parkway
139	I-15 northbound off-/on-ramps and Dale Evans Parkway
140	Choco Road and Frontage Road
141	Choco Road and westbound High Desert Corridor
142	Choco Road and eastbound High Desert Corridor
143	Choco Road and Falchion Road
144	Dale Evans Parkway and Air Expressway Boulevard
145	Dale Evans Parkway and westbound High Desert Corridor
146	Dale Evans Parkway and eastbound High Desert Corridor
147	Dale Evans Parkway and SR 18

NO.	INTERSECTION
148	Navajo Road and Waalew Road
149	High Desert Corridor and Waalew Road
150	Central Road and Waalew Road
151	High Desert Corridor and Central Road
152	Central Road and Thunderbird Road
153	Central Road and SR 18
154	Joshua Road and Cahuilla Road
155	Joshua Road and High Desert Corridor
156	Joshua Road and Thunderbird Road
157	Joshua Road and Standing Rock Road
158	Joshua Road and Yucca Loma Road
159	Joshua Road and Nisqually Road
160	High Desert Corridor and Standing Rock Road
161	High Desert Corridor and Yucca Loma Road
162	High Desert Corridor and Nisqually Road
163	Bear Valley Road and SR 18
175	West Frontage Road and I-15 southbound on-ramp

Truck Traffic

The importance of truck traffic as part of the overall freight moving system in Southern California cannot be overstated. This report examined existing truck traffic conditions in the Los Angeles/Inland Empire region, essentially defined as San Bernardino and Riverside Counties.

ROUTE CHOICE TO ACCESS THE HIGH DESERT CORRIDOR

Truckers predominately choose SR 58 (Tehachapi) or I-5 (the Grapevine) to access Los Angeles and San Bernardino counties from Kern County and points north. The Grapevine's profile is relatively steady at six percent both up and down. On SR 58, the elevation of Tehachapi Pass is about the same, just over 4,000 feet. The Tehachapi profile illustrates that the grade is less steep, however, 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.

TRUCK VOLUMES

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. Figure 10 illustrates the magnitude of four- and five-axle or greater truck volumes on state routes in the Inland Empire region. 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 SR 18 (three percent of the AADT); 616 four- and five-axle trucks on SR 18 east of U.S. Route 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).

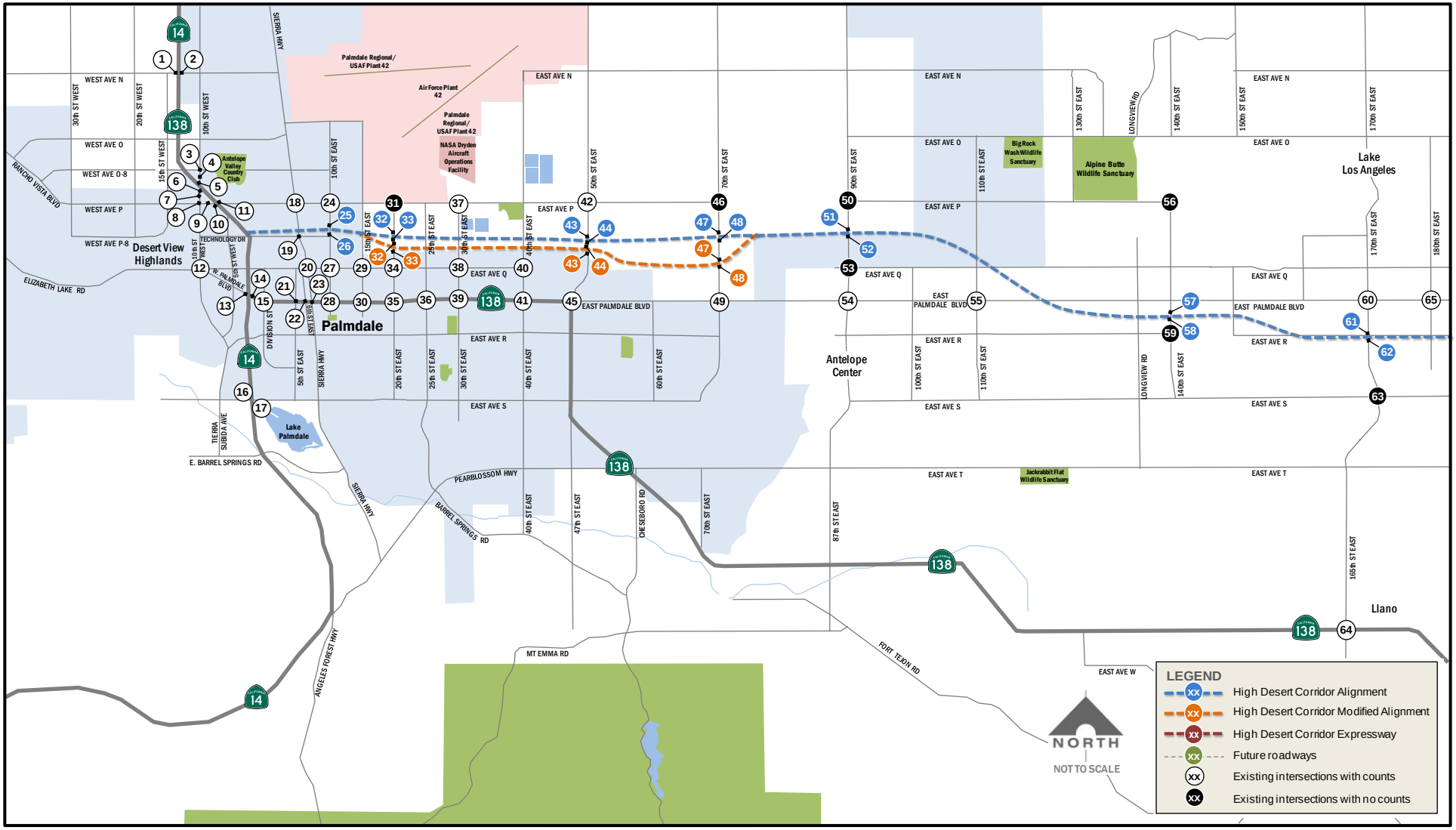


Figure 9: Locations of Study Intersections *(1 of 3)*

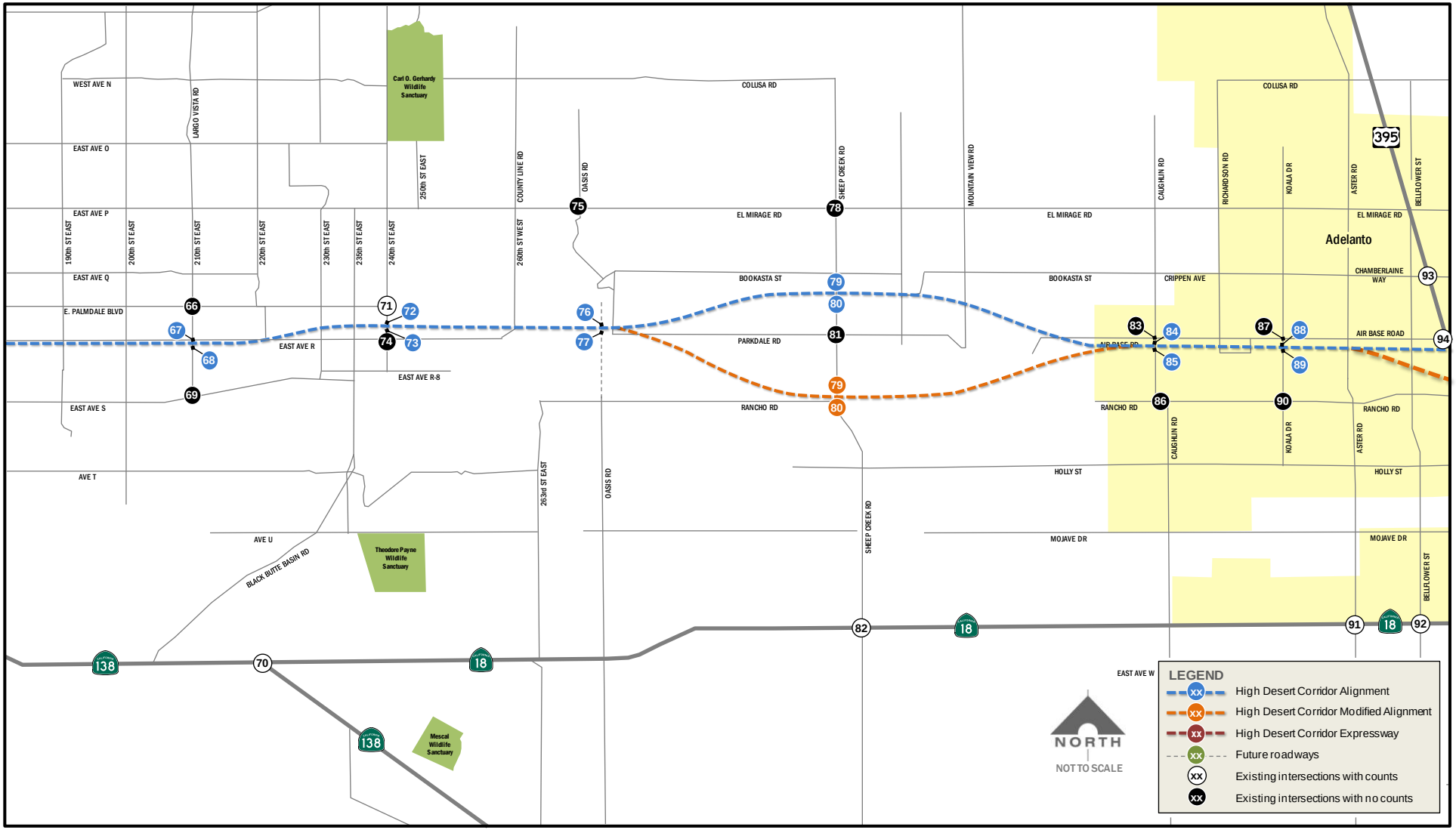
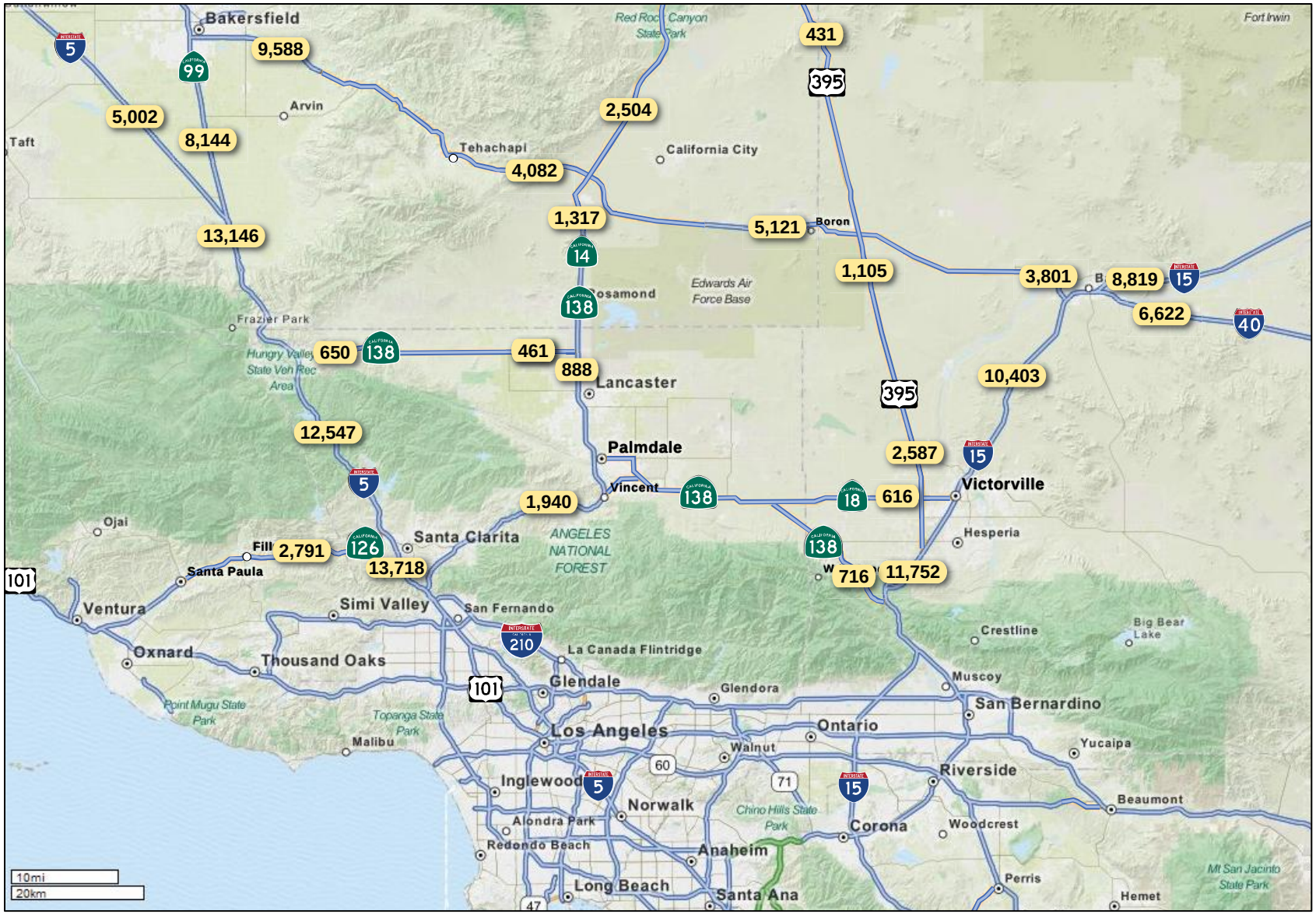


Figure 9: Locations of Study Intersections *(2 of 3)*

Figure 9: Locations of Study Intersections *(3 of 3)*



Source: Caltrans, 2009 Traffic Volumes on the State Highway System, Truck Data

Figure 10: Medium–Heavy (4-Axle) and Heavy–Heavy (5- and 6-Axle) Truck Volumes in the High Desert Corridor

Additional vehicle classification counts were conducted in the High Desert Corridor study area to supplement the truck volume data compiled by Caltrans. Table 6 summarizes the two-way traffic count data, following the Caltrans method of vehicle classification. Mid-weekday (Tuesday through Thursday) daily average count data is presented. This supplemental truck count data generally corresponds to the Caltrans truck data presented previously.

Table 6. Supplemental Truck Counts in High Desert Corridor from Truck Count Data
(Year 2011)

LOCATION TIME	ADT TOTAL	TOTAL TRUCKS	TOTAL TRUCK %	2- AND 3-AXLE VOLUME	2- AND 3-AXLE AS % OF ADT	4- AND 5+-AXLE VOLUME	4- AND 5+-AXLE AS % OF ADT
Palmdale Boulevard (SR 138) East of 25th Street East							
Weekday average	21,143	584	2.8%	401	1.9%	183	0.9%
Pearblossom Highway (SR 18) between SR 138 and 233rd Street							
Weekday average	4,271	419	9.8%	205	4.8%	215	5.0%
Palmdale Road (SR 18) between U.S. Route 395 and Amethyst Road							
Weekday average	17,807	1702	9.6%	1,597	9.0%	105	0.6%
Happy Trail Highway N (SR 18) west of Navajo Road							
Weekday average	14,935	1,696	11.4%	1,210	8.1%	486	3.3%
U.S. Route 395 north of Air Expressway Boulevard							
Weekday average	11,676	3,178	27.2%	1,522	13.0%	1,656	14.2%
U.S. Route 395 north of Palmdale Boulevard							
Weekday average	22,959	1,875	8.2%	879	3.8%	997	4.3%

Note: Weekday average of counts taken May 12 through May 18, 2011.

Public Transportation

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. The Antelope Valley Transit Authority provides commuter bus service to Los Angeles and the San Fernando Valley. 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. 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.

The proposed alignment and grade separations of the proposed multimodal High Desert Corridor project will not affect access to these facilities or services.

VICTOR VALLEY

The Victor Valley Transit Authority provides local bus service for the communities of Adelanto, Apple Valley, Hesperia, Victorville, and San Bernardino County. The majority of the public transportation servicing the Victor Valley area revolves around the Victor Valley Transit Center.

The Victor Valley Transit Authority operates 11 different local fixed-routes bus schedules which run Monday through Saturday in addition to ADA complementary paratransit bus services in the Victor Valley. The NTC Commuter Route is a relatively new and popular service with a Monday-Friday schedule between Victorville and Fort Irwin.

Also offered is the B-V (Barstow to Victor Valley) Link Lifeline Services, which link Fort Irwin, Barstow, Apple Valley, Victorville and San Bernardino Valley. The current service operates on Monday, Wednesdays, and Fridays. The Amtrak Southwest Chief, which travels between Chicago and Los Angeles, provides the only train route through Victorville, with one train west to Los Angeles in the morning and one returning train in the evening.

The proposed alignment and grade separations of the proposed multimodal High Desert Corridor project will not affect access to these facilities or services.

Traffic Volume Forecasts

The traffic forecasts contained in this document were produced using the Southern California Association of Governments (SCAG) 2008 RTP Regional Transportation Model. The model is calibrated to year 2000 travel behavior and validated to year 2003 travel statistics. A complete description of the model is provided in a January 2008 report entitled *2003 Model Validation and Summary* which may be viewed at *www.scag.ca.gov/modeling/index.htm.*

The SCAG Regional Transportation Model covers the entire SCAG region which includes six counties and 187 cities located within those counties. The coverage of the SCAG regional model is illustrated on Figure 11 along with the boundaries of traffic analysis zones (TAZ).

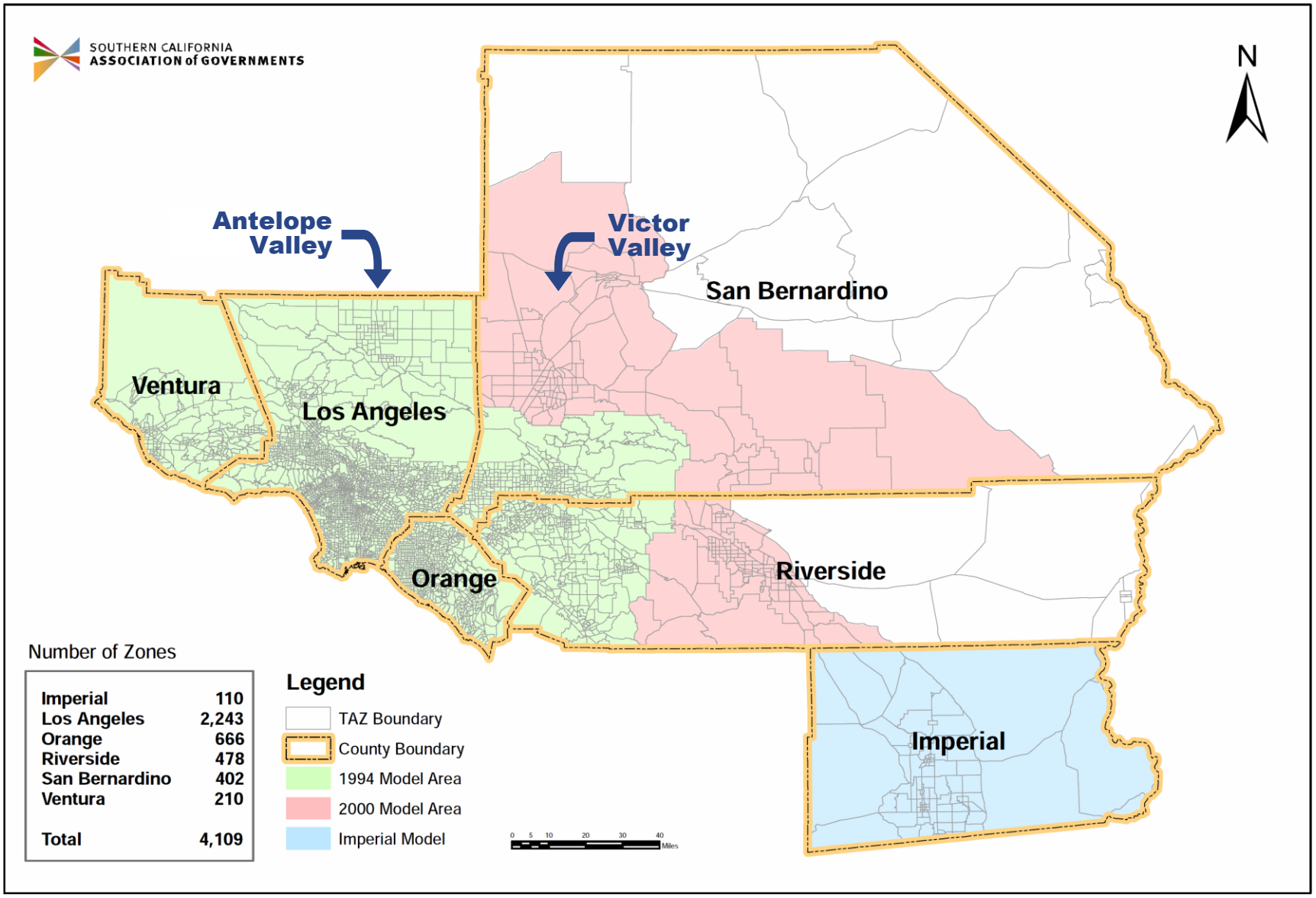
Traffic analysis zones provide the spatial unit (or geographical area) within which travel behavior and traffic generation are estimated. The regional model zone system contains 4,109 TAZs, 31 port related TAZs, 12 airport TAZs and 40 cordon stations (points of entry and exit along streets and highways at the perimeter of the modeling area).

User Defined Modifications

The SCAG Regional Transportation Model consists of numerous submodels which can be grouped according to the following major categories:

- Trip generation model
- Trip distribution model
- Mode choice model
- Assignment model.

The publication *User Guide for the SCAG Planning Model in TransCAD 5.0*, June 2008, details procedures for defining scenarios for testing land use and network modifications. Most aspects of the model are not eligible for (non-SCAG staff) user modifications.



Source: Southern California Associations of Governments, Year 2003 Model Validation and Summary: Regional Transportation Model, http://www.scag.ca.gov/modeling/

Figure 11: SCAG Traffic Analysis Zone System

For the *High Desert Corridor Traffic Study*, the following user-defined modifications were made to the SCAG model.

- Freeway ramp capacity
- Subdivision of traffic analysis zones
- Addition of roadway network detail
- Antelope Valley Mall employment reclassification
- Palmdale high-speed rail station characteristics
- XpressWest (formerly DesertXpress) high-speed passenger train characteristics
- Year 2030 peak hour vehicle trips generated for Victorville Station
- Truck trip characteristics for major distribution centers.

Land Use Assumptions

Insofar as Los Angeles County, the SCAG adopted 2008 Regional Transportation Plan growth forecast for year 2035 is 10 percent higher than the 2013 Department of Finance forecast for year 2040. The SCAG Draft 2012 Regional Transportation Plan growth forecast for year 2035 is seven percent higher than the 2013 Department of Finance forecast for 2035.

In San Bernardino County, the SCAG adopted Regional Transportation Plan population forecast for year 2035 is five percent higher than the 2013 Department of Finance forecast for year 2040. The SCAG draft 2012 Regional Transportation Plan population for year 2035 is one percent higher than the 2013 Department of Finance forecast 2035.

Given these findings of forecast consistency and the delayed (2013) release of the Department of Finance interim projections, the High Desert Corridor project development team elected to utilize the SCAG 2008 adopted Regional Transportation Plan growth forecast for year 2035 as the basis of the 2040(+) design year traffic volumes, along with the corresponding year 2035 highway and transit networks which meet air quality conformity determinations. Year 2040 screenline volumes as developed in this report are presented on Table 7 and illustrated on Figure 12.

Traffic Volume Forecast Comparison

As noted earlier, two subregional traffic studies have been conducted in the Victor Valley portion of the study area within the past five years. The most recent, the *High Desert Corridor SR-18 Realignment Traffic Analysis Report*, was prepared for the City of Victorville by PBAmericas, Inc., and was finalized in March 2010. The *Victor Valley Area Transportation Study* subregional transportation forecast model was applied to develop the traffic forecasts, taking into account two modifications. In order to account for trucking activity at the Southern California Logistics Airport, 25,300 additional truck trips were added to the Victor Valley Area Transportation Study truck trip tables, into and out of the Southern California Logistics Airport each weekday, representing full buildout of the Southern California Logistics Airport, as documented in the *Southern California Logistics Airport AM and PM Peak Hour Intersection Analysis* traffic impact report prepared for the City of Victorville by RBF Consulting. PBAmericas additionally added trips associated with the full buildout of the *Desert Gateway Specific Plan* to the *Victor Valley Area Transportation Study* traffic model. Full buildout of the *Desert Gateway Specific Plan* area would provide for 26,100 residential units, housing a population of 82,900, and some 22,590,000 square feet of office, commercial and industrial uses.

Table 7. Year 2040 High Desert Corridor Screenline Volumes

LOCATION	AM PEAK		MID PEAK		PM PEAK		NIGHT		DAILY	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
NO-BUILD ALTERNATIVE										
East Avenue G	2,962	548	2,571	1,633	3,403	5,751	1,112	864	10,048	8,796
El Mirage Road	5,050	1,067	5,573	4,602	4,478	8,684	1,803	1,794	16,903	16,148
High Desert Corridor	—	—	—	—	—	—	—	—	—	—
233rd Street East/SR 18	1,929	1,388	3,369	2,772	3,290	2,858	2,117	2,302	10,706	9,320
State Highway 138	5,235	2,072	7,489	6,518	4,723	7,507	5,082	6,473	22,529	22,571
Angeles Crest Highway	2,763	305	3,051	1,748	3,202	4,718	316	393	9,331	7,164
Total	**17,939**	**5,380**	**22,053**	**17,273**	**19,096**	**29,518**	**10,430**	**11,826**	**69,517**	**63,999**
NEW FREEWAY/EXPRESSWAY BUILD ALTERNATIVE										
East Avenue G	607	88	395	178	1,200	1,357	168	95	2,371	1,718
El Mirage Road	469	26	163	53	214	1,569	70	16	916	1,664
High Desert Corridor	15,628	5,293	18,951	15,945	16,904	24,436	7,877	8,715	59,360	54,388
233rd Street East/SR 18	595	243	381	593	626	1,425	258	317	1,860	2,579
State Highway 138	3,667	1,820	6,265	4,660	4,168	6,503	4,656	5,367	18,757	18,349
Angeles Crest Highway	1,670	291	1,260	604	1,742	2,877	243	350	4,914	4,122
Total	**22,636**	**7,761**	**27,415**	**22,033**	**24,854**	**38,167**	**13,272**	**14,860**	**88,178**	**82,820**
NEW FREEWAY/EXPRESSWAY BUILD ALTERNATIVE—ALTERNATE ALIGNMENT										
East Avenue G	612	90	402	176	1,211	1,423	171	96	2,396	1,785
El Mirage Road	563	28	164	55	256	1,683	73	17	1,055	1,783
High Desert Corridor	15,575	5,332	18,901	16,014	16,868	24,302	7,906	8,770	59,252	54,418
233rd Street East/SR 18	564	243	375	564	561	1,408	244	286	1,744	2,501
State Highway 138	3,687	1,773	6,253	4,627	4,202	6,470	4,635	5,329	18,777	18,200
Angeles Crest Highway	1,648	290	1,306	604	1,743	2,881	243	356	4,940	4,132
Total	**22,649**	**7,756**	**27,402**	**22,040**	**24,841**	**38,167**	**13,272**	**14,854**	**88,164**	**82,819**
NEW FREEWAY WITH TOLLS ALTERNATIVE										
East Avenue G	1,051	324	1,227	575	1,901	2,336	456	327	4,635	3,562
El Mirage Road	1,892	611	1,882	1,172	1,519	3,292	958	618	6,251	5,693
High Desert Corridor	11,848	3,278	12,259	10,203	12,303	19,842	4,037	4,639	40,447	37,962
233rd Street East/SR 18	844	774	1,250	1,660	1,165	1,688	1,224	1,512	4,483	5,634
State Highway 138	4,161	2,207	7,275	6,810	4,622	6,989	5,289	6,507	21,347	22,513
Angeles Crest Highway	2,255	322	2,624	929	2,580	3,224	321	397	7,780	4,872
Total	**22,051**	**7,516**	**26,517**	**21,349**	**24,090**	**37,371**	**12,285**	**14,000**	**84,943**	**80,236**
TRANSPORTATION SYSTEMS MANAGEMENT ALTERNATIVE										
East Avenue G	2,692	508	2,346	1,489	3,044	5,399	968	804	9,050	8,200
El Mirage Road	4,874	1,074	5,282	4,246	4,408	8,448	1,688	1,619	16,252	15,387
High Desert Corridor	—	—	—	—	—	—	—	—	—	—
233rd Street East/SR 18	2,816	1,721	4,798	3,913	4,264	3,934	2,836	3,005	14,714	12,573
State Highway 138	4,916	2,071	7,409	6,616	4,665	7,132	5,104	6,502	22,094	22,321
Angeles Crest Highway	2,815	157	2,895	1,589	1,999	5,175	229	286	7,938	7,207
Total	**18,113**	**5,531**	**22,730**	**17,853**	**18,380**	**30,088**	**10,825**	**12,216**	**70,048**	**65,688**

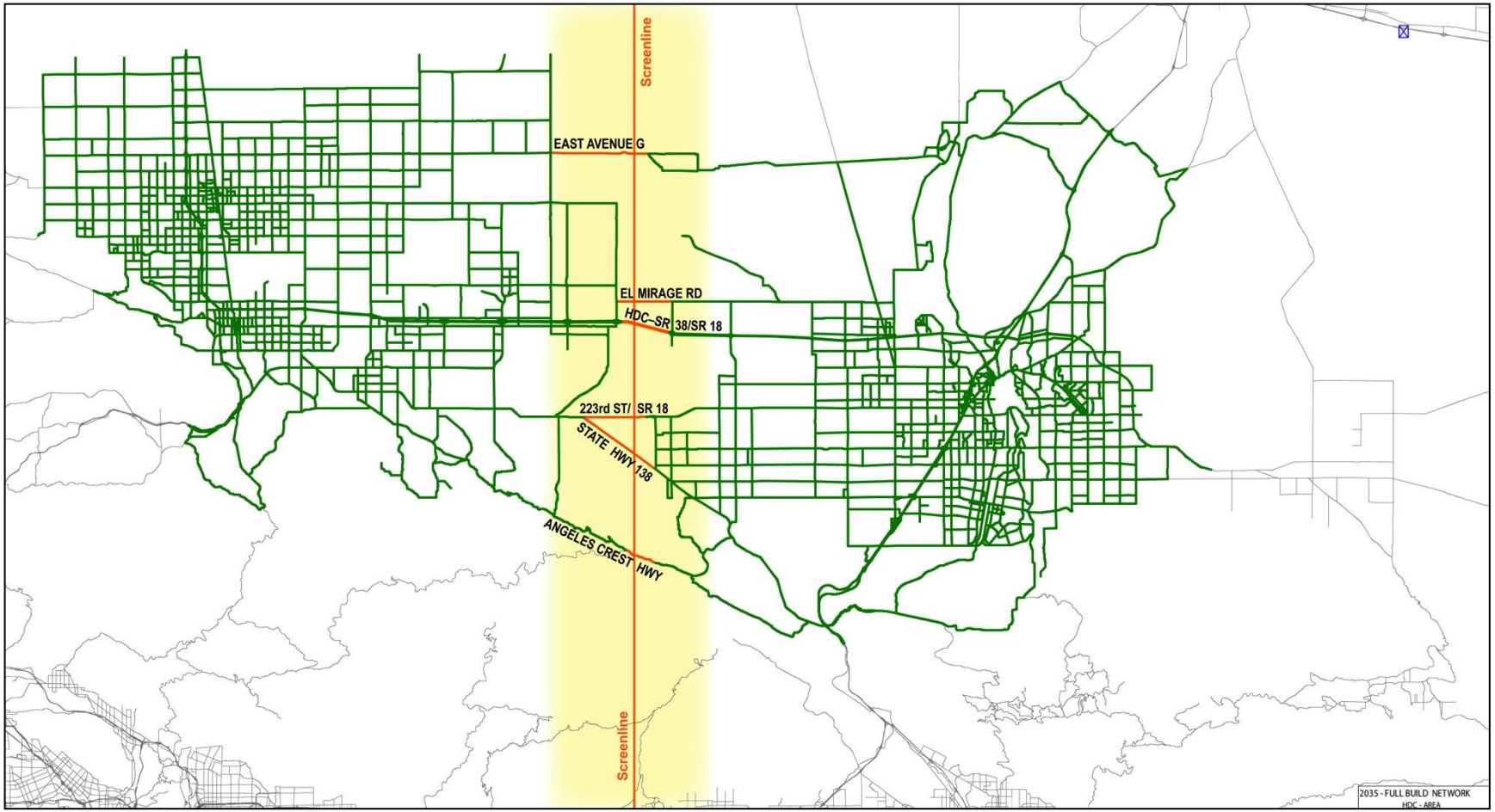


Figure 12: Los Angeles/San Bernardino County Screenline for Traffic Volume Comparison

As noted above, the High Desert Corridor SR-18 Realignment Traffic Study utilized the Victor Valley Area Transportation Study subregional travel forecast model. The Victor Valley Area Transportation Study was prepared for SANBAG by Kimley-Horn and Associates, Inc. and the final report was published in March 2008. The Victor Valley Area Transportation Study utilized an interim version of the SCAG regional model as a starting point, and disaggregated the model's zone system from 68 zones in the SCAG interim model to 582 zones in the Victor Valley Area Transportation Study model. The Victor Valley Area Transportation Study base year model was validated to year 2003 traffic counts. During the validation process, it was found that the afternoon PM peak period forecasts were more consistent with the traffic counts than total daily volume forecasts. To address this issue, it was determined that daily traffic volumes used in the *Victor Valley Area Transportation Study* would be developed by multiplying the afternoon peak period traffic volumes by a factor of 3.5, and by post processing the results to address anomalies.

Overall, the forecast results of the SCAG Regional Transportation Model and these subregional models are similar, taking into account that: (1) the roadway networks used in the model were different, as this traffic report reflects the full construction of the High Desert Corridor New Freeway/Expressway between I-15 and SR 14, whereas the subregional studies did not reflect construction of the High Desert Corridor west of U.S. Route 395; and (2) the land use assumptions are different.

Freeway and Ramp Peak Hour and Daily Traffic Volumes

Daily, morning and afternoon peak period and peak hour forecasts were prepared for the 2020 and 2035 (2040) network scenarios. The AM peak hour, PM peak hour and average daily traffic volumes are "post-processed" to augment the direct model output with other methods to achieve reasonable levels of sensitivity. In this regard, post-processing allows the user to account for traffic model assignment validation adjustments and micro area diurnal (time of day) peak hour factors specific to individual freeway on- and off-ramps.

Individual ramp peak hour factors were determined by analyzing existing condition peak hour, peak period and daily traffic counts for interchanges serving primarily residential, employment, retail and mixed land uses. Engineering judgment was then applied to translate direct peak period model output to post-processed peak hour forecasts.

Subsequent to a lengthy and detailed analysis initially conducted for this study, the freeway access in Palmdale was revised based on design review and local input. The interchange proposed for the High Desert Corridor freeway at 10th Street East was deleted, a new High Desert Corridor interchange at 30th Street East was added along with a connector ramp from Palmdale Boulevard to eastbound High Desert Corridor.

Intersection Turning Movement Forecast Volumes

Traffic volume forecasts were prepared for all study area intersections. The SCAG 2008 Regional Travel Forecast Model was used to create the forecasts for the design year (2040+) and the opening year (2020+) of the High Desert Corridor new freeway.

Volumes IV and V of this report reports the intersection turning movement traffic volumes assigned to the highway network by the SCAG model. These volumes have been post-processed to enhance accuracy.

Peak period forecasts have been factored to reflect single AM and PM 60-minute time slices (peak hour). The AM peak period traffic assignments cover three morning hours from 6:00 to 9:00 a.m. These

three-hour forecasts were factored by 0.35 to arrive at the AM peak hour. The PM peak period traffic assignments cover a four-hour period from 3:00 to 7:00 p.m. These four-hour forecasts were factored by 0.27 to yield the PM peak hour forecast.

Volumes III and IV of this report contains nine sets of intersection turning movement forecasts covering five network alternatives for 2040 and four network alternatives for 2020. Each set of tables consists of two tables, with one table reporting AM peak hour volumes and the second table providing PM peak hour volumes. Volume V presents results for the refined definition of the build alternatives, as discussed below.

Revised Palmdale Access Forecasts

Subsequent to the forecasts prepared for the initial definition of the alternatives, the sensitivity tests, and the inclusion of high speed rail services within the High Desert Corridor, the proposed access to Palmdale was refined. The proposed High Desert Corridor interchange at 10th Street East was eliminated. An interchange at 30th Street East was added. Ramp access at West Palmdale Boulevard to northbound SR 14 was revised, and direct access to the eastbound High Desert Corridor freeway was added. Miscellaneous Palmdale circulation system improvements were also added to the definition of the no-build and build alternatives.

The Revised Palmdale Access forecasts were prepared using the SCAG 2008 RTP model for three 2020 network scenarios and three 2035 (2040) network scenarios as follows.

- 2020 No-build with Palmdale Circulation System Improvements
- 2020 Revised Palmdale Access Build
- 2020 Revised Palmdale Access Build with Tolls
- 2040 No-Build with Palmdale Circulation System Improvements
- 2040 Revised Palmdale Access Build
- 2040 Revised Palmdale Access Build with Tolls.

Project Traffic Operations Results Summary

Refined Project Description

ANTELOPE VALLEY SEGMENT

This 10-mile long project segment would construct a new freeway, expandable to four lanes in each direction, running in an east–west direction near Avenue P-8, between SR 14 and 100th Street East in Palmdale, California. A freeway-to-freeway interchange for SR 14/High Desert Corridor would be constructed with direct ramp connectors. New local interchanges are proposed at 20th Street East, 30th Street East, 50th Street East, and 90th Street East (Note: This traffic study initially analyzed an interchange at 10th Street East in lieu of the interchange at 30th Street East. The results of both access configurations are reported in this traffic study report.) New frontage roads would be built to mitigate street closures, where required. The existing partial interchange at SR 14/Rancho Vista Boulevard would be closed and a full interchange constructed at 10th Street West.

HIGH DESERT SEGMENT

The project would construct a new east–west freeway connecting Palmdale with Adelanto, three lanes in each direction, running parallel and approximately one-quarter mile south of Palmdale Boulevard. With right-of-way acquisition, the freeway could support an ultimate facility of four lanes plus a high-speed passenger rail line in each direction. The High Desert segment may serve as a toll facility, with proposed tolling limits extending from 90th Street East to U.S. Route 395. New local interchanges are currently proposed at Longview Road/140th Street, 170th Street, 210th Street, and 240th Street in Los Angeles County, and Oasis Road, Sheep Creek Road and Caughlin Road in San Bernardino County.
Alternatives to the above project description include the following.

- A slightly different centerline alignment between 180th Street East and 230th Street East. This version of the centerline alignment would run parallel and approximately one-half mile south of Palmdale Boulevard.
- A different centerline alignment between Saint George Avenue and just west of Caughlin Road. This version of the centerline alignment would pass Krey Field Airport on its south side.

VICTOR VALLEY SEGMENT

The project would construct a new east-west freeway, generally following the alignment of Air Expressway Boulevard between Caughlin Road in Adelanto and Dale Evans Parkway in Apple Valley. It would then continue southeasterly as an expressway, joining SR 18 just east of Joshua Road. Once constructed, the existing alignment of SR 18 west of Joshua Road would be relinquished, and the new freeway/expressway designated as SR 18 east of I-15. The freeway portion of the facility between Caughlin Road and I-15 would be six lanes wide, continuing to Dale Evans Parkway as a four- or six-lane facility, initially. Right-of-way would be acquired to support an ultimate facility of four lanes plus a high-speed passenger rail line in each direction. East of Dale Evans Parkway, an access-controlled, four-lane divided expressway would be constructed for the remaining extent of the project as it continues easterly toward the Apple Valley Airport before turning south-easterly to align with the existing SR 18, north of Bear Valley cutoff. This entire segment would be constructed within a minimum 300-foot right-of-way to provide for an ultimate 8-lane multi-modal facility.

A freeway-freeway interchange for I-15/High Desert Corridor/SR 18 would be constructed with direct ramp connectors. For the access-controlled, expressway portion of the project east of Dale Evans Parkway, at-grade, traffic signal controlled intersections are proposed at Waalew Road, Central Road, Joshua Road, Standing Rock Road and Yucca Loma Road.

Alternatives to the above project description include a different centerline alignment between Aster Road and Quarry Road. This version of the centerline alignment would run parallel to Rancho Road, approximately one-half mile south of Air Expressway Boulevard, to pass by the Victorville Federal Correctional Complex on the south side of this facility. The southern alignment would omit the local service interchange at Phantom Road east.

Project Alternatives

Several alternatives have been proposed to satisfy the purpose and need for this project. This traffic study report will be used in part to evaluate the performance of these alternatives. The following alternatives have been studied.

- ***Freeway/expressway alternative***

  In summary, this alternative consists of a combination, controlled-access freeway and expressway. It generally follows Avenue P-8 in Los Angeles County and runs just south of El Mirage Road in San Bernardino County. This alternative then extends to Air Expressway Road near I-15 and curves south, terminating at Bear Valley Road. Four physical alignment variations are under consideration and depicted on Figures 13 and 14.

  - Variation A
    - Located in the city of Palmdale, the freeway/expressway would dip slightly south of the main alignment, approximately between 15th Street East and Little Rock Wash.
  - Variation B (south)
    - East of the county line, the freeway/expressway would dip slightly south of the main alignment between Oasis Road and Caughlin Road.
  - Variation D
    - Near the community of Lake Los Angeles, the freeway/expressway would dip slightly south of the main alignment just south of Avenue R, approximately between 180th Street East and 230th Street East.
  - Variation E
    - Located near the cities of Adelanto and Victorville, the freeway/expressway would dip south of the federal prison.

  For the purpose of this traffic study report, alignment variations A and B do not affect traffic forecast volumes or traffic operations. The project description without or with these alignment variations is therefore treated as one. Throughout this document, the freeway/expressway alternative is referenced as the **build alternative.**

  For the purpose of this traffic study report, alignment variation E was tested along with a slightly different array of local service interchanges. This alternative was labeled **build alternative with reduced interchanges.** The interchanges at Oasis Road and Phantom St East Street were removed from this alternative; however, a local service interchange at 70th Street was added.

- ***Freeway/tollway alternative***

  This alternative follows the same route as the freeway/expressway alternative (including variations A, B, D and E), but would have sections operate as tollways. Details of this operating feature are being evaluated as part of the ongoing public–private partnership analysis. The incorporation of green technologies and a bike path will also be considered.

  For the purpose of this traffic study report, this alternative is labeled **build toll alternative.** The tolled portion of the project has been defined as extending from 90th Street East in Palmdale to U.S. Route 395 in Adelanto. Alignment variation E has not been tested by this traffic study.

- ***Freeway/expressway alternative with high-speed rail feeder service***

  This alternative is the same as the freeway/expressway alternative (including variations A, B, D and E) and includes a high-speed rail feeder service between Palmdale and Victorville. The location of the high-speed rail feeder service in relation to the High Desert Corridor is being evaluated considering design travel speeds, alignment of tracks, and connections to existing rail stations.

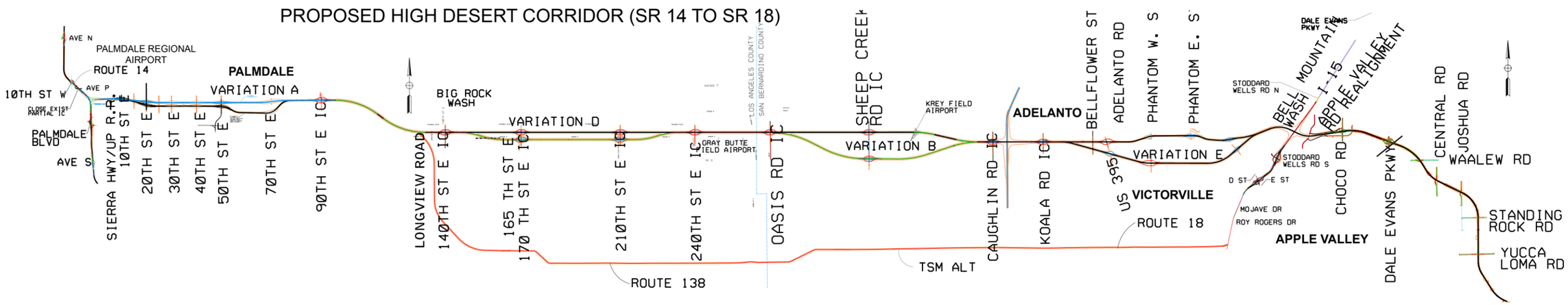
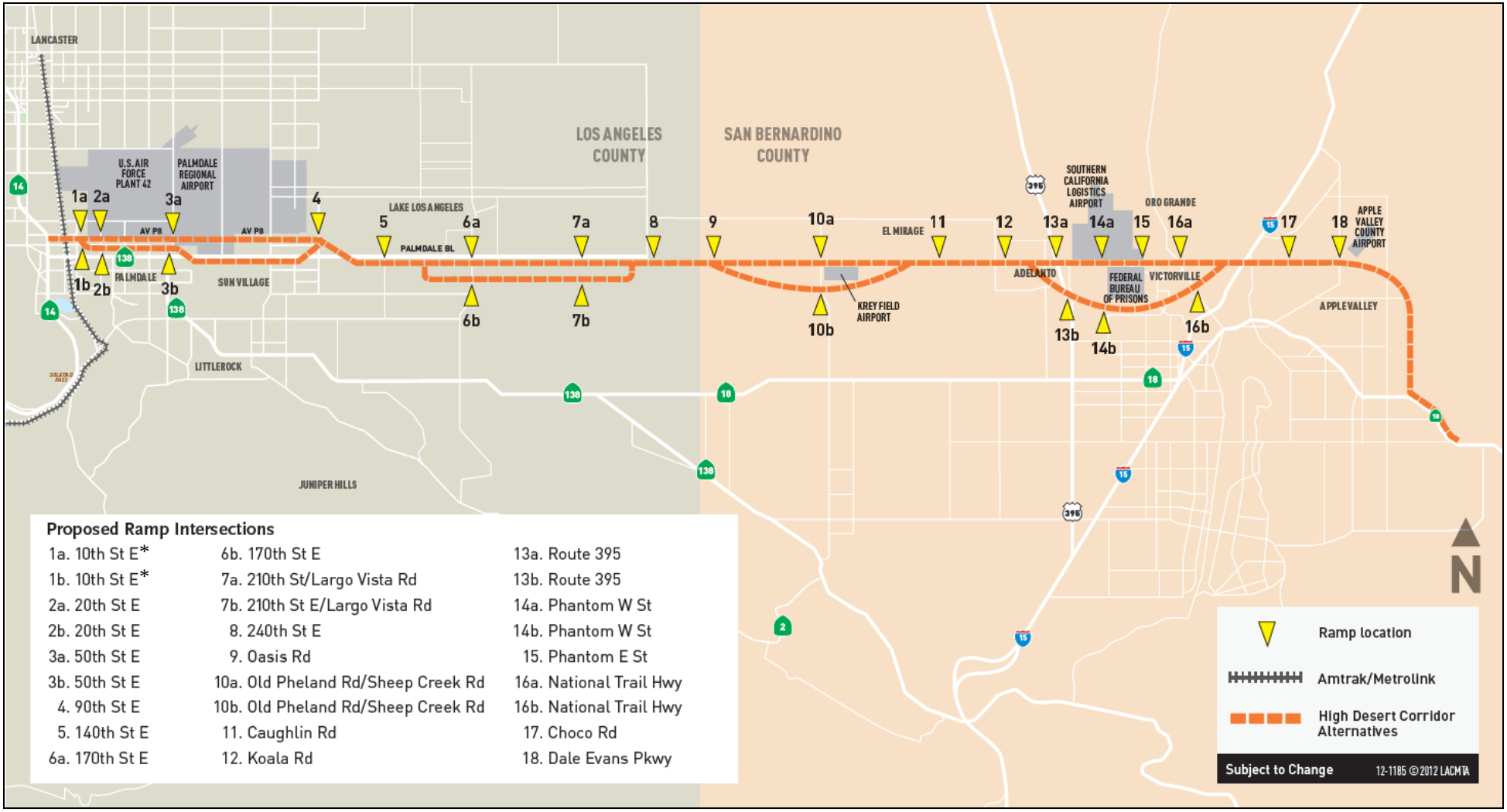


Figure 13: High Desert Corridor Project Scope



Source: metro.net, http://www.metro.net/projects/high-desert-corridor/
*Replaced by 30th Street East.

Figure 14: High Desert Corridor Alignments with Proposed Ramp Locations

- ***Freeway/tollway alternative with high speed rail feeder service***
  This alternative is the same as the freeway/tollway alternative (including variations A, B, D and E) and includes a high-speed rail feeder service between Palmdale and Victorville. Details of this operating feature are being evaluated as part of the ongoing public–private partnership analysis. The location of the high-speed rail feeder service in relation to the High Desert Corridor is being evaluated considering design travel speeds, alignment of tracks and connections to existing rail stations. The incorporation of green energy technologies and a bike path will also be considered.

- ***Transportation system/demand management alternative***
  The transportation system/demand management alternative is a collection of lower cost roadway improvements through the project corridor that can be evaluated against the proposed project alternatives. The transportation system/demand management alternative focuses on improvements that connect SR 14 with SR 138 and then extend east to connect with U.S. Route 395, I-15 and SR 18. The key elements under consideration for this alternative include:

  - An eight-lane grade-separated freeway from SR 14 to 30th Street East
  - A transition to a four-lane at-grade expressway from 30th Street East to Longview Road
  - A four-lane at-grade highway connecting to SR 138 and extending east to U.S. Route 395 along SR 18
  - A six-lane arterial highway along SR 18 (Palmdale Road) from U.S. Route 395 to I-15
  - Minor roadway and signal improvements along SR 18 from I-15 to Bear Valley Road

  Except for the freeway portion between SR 14 and 30th Street East, these transportation system demand management roadway improvements would maintain at-grade intersections with local roads and driveway access. The TSM Alternative alignment is shown on Figure 15 and intersection and ramp termini operational analysis results reported in Table 21.

  For the purpose of this traffic study report, this alternative is labeled **transportation systems management alternative.** Efforts to manage transportation demand are ongoing by SCAG and are assumed as background (no-build) conditions for all alternatives.

- ***Hybrid alternative***
  This alternative would consist of a combination of the previously identified alternatives, whose elements (transportation system demand management, freeway, expressway, tollway, high-speed rail feeder service, green energy technologies, bike path) would be pieced together to best fit the needs of each section of the corridor. The determination of which elements to use, and at which locations, would be based on the results of the traffic study, environmental studies and public input.

  For this purpose of this traffic report, the hybrid alternative is assumed to consist of elements defined for the freeway/expressway alternative extending from SR 14 to 90th Street East in Palmdale and from U.S. Route 395 to I-15 in Adelanto and Victorville, extending east to join with SR 18 east of the town of Apple Valley.

  This alternative will be tested for year 2020 conditions as an interim improvement, intended to serve as Phase 1 of the ultimate build alternative (with alignment variations A, B, C and E). For the purpose of this traffic study report, this alternative is labeled **no toll partial build alternative.**

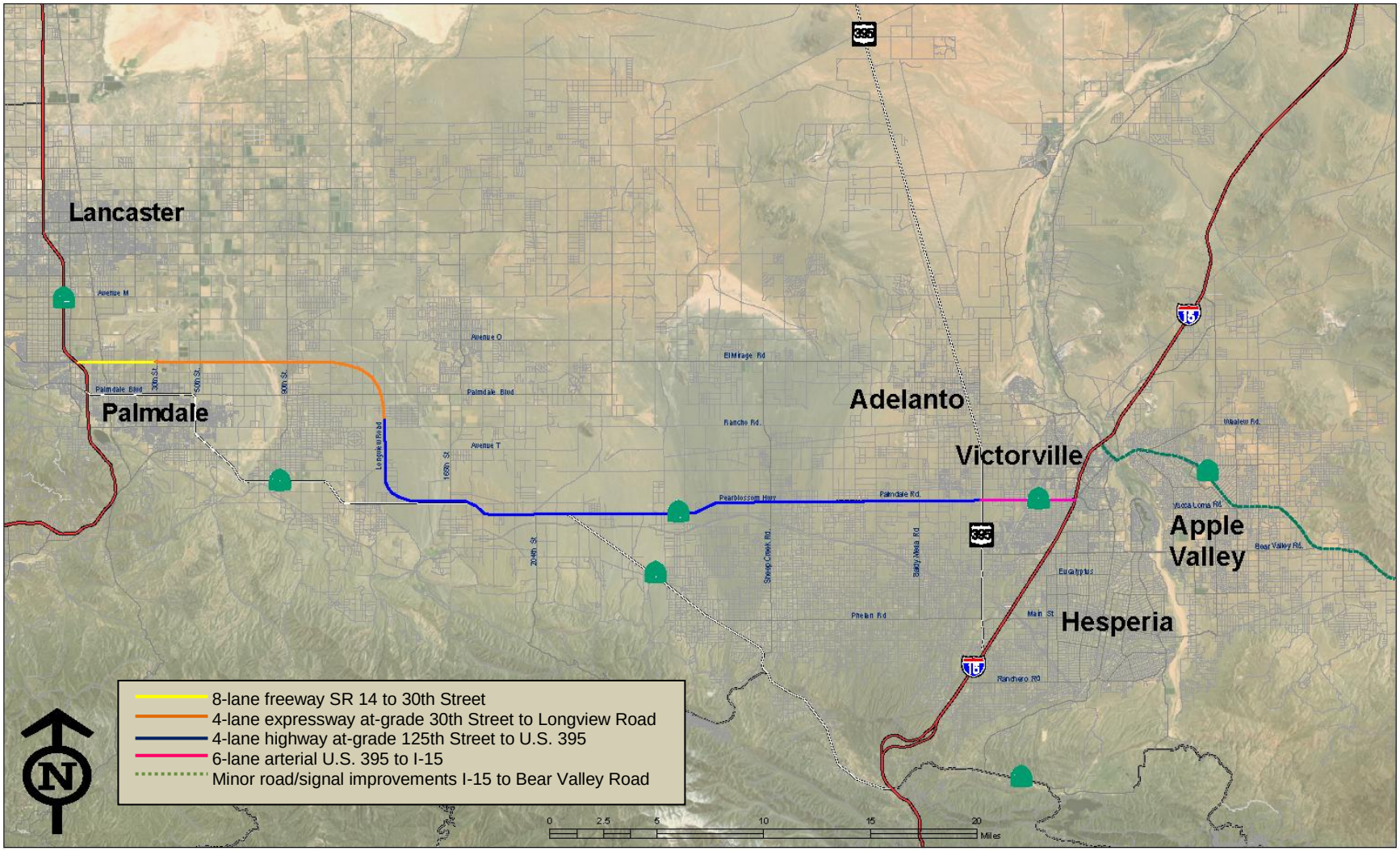


Figure 15: Transportation Systems Management Alternative

- ***No-build alternative***
  The no-build alternative consists of those transportation projects that are already planned and have committed funds to be constructed by or before 2040. Consequently, the no-build alternative represents future travel conditions in the High Desert Corridor study area without the High Desert Corridor project and is the baseline against which other transportation alternatives proposed for the study area will be assessed.

Traffic Operation Performance Results for Project Alternatives

The traffic operations analysis conducted for this report considers the overall performance of the highway network, the performance of the freeways affected by the project (specifically SR 14, the new High Desert Corridor freeway, and I-15), local street intersections impacted by the project, and local traffic circulation impacts. These areas of interest are addressed for the opening year of the project, 2020, and a horizon year of 2040, which constitutes the design year for new construction related to the High Desert Corridor project. The careful assessment and collection of existing conditions and data, combined with the detailed analysis and application of traffic forecasting knowledge and technologies, as outlined earlier, now allows for a powerful and effective tool with which to assess and measure potential project impacts.

The no-build and interim build alternatives were analyzed for opening year (2020) and design year (2040) traffic demand conditions using the CORSIM 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 level of service. Freeway and ramp traffic operational analysis was conducted for eleven network alternatives under SCAG land use assumptions, and one network alternative under local land use assumptions as a sensitivity test.

Two network scenarios addressed by the *High Desert Corridor Traffic Study* are not listed in freeway and ramp analysis results.

- ***2040 build alternative with reduced interchanges***
  The operational analysis of freeway mainline and ramp performance was not undertaken for this alternative due to the similarity of design year traffic volumes with those forecast for the Build alternative.

- ***Build alternative with reduced interchanges and high speed rail feeder service (2020 and 2040)***
  The operational analysis of freeway mainline and ramp performance was not undertaken for this alternative due to the similarity of opening and design year traffic volumes with those forecast for the build alternative.

Subsequent to the analysis of the above alternatives, the proposed access to Palmdale was refined. The proposed High Desert Corridor interchange at 10th Street East was eliminated. An interchange at 30th Street East was added. Ramp access at West Palmdale Boulevard to northbound SR 14 was revised, and direct access to the eastbound High Desert Corridor freeway was added. A number of interchange configurations were also refined based on additional design studies. As a result of these access revisions, the freeway and ramp analysis was recomputed for a subset of the initial test alternatives.

FREEWAY MAINLINE AND RAMP SEGMENT ANALYSIS RESULTS

Freeway segments and ramp facilities which do not meet an acceptable level of LOS D or better are illustrated below. Tables 8 and 9 and Figures 16 through 21 are associated with year 2020 results. Tables 10 and 11 and Figures 22 and through 27 are associated with year 2040 results. Tables 12 and 13 and Figures 28 through 31 are associated with year 2020 results with the addition of Palmdale access changes. Tables 14 and 15 and Figures 32 and 33 are associated with year 2040 results with the addition of Palmdale access changes.

FREEWAY MAINLINE AND RAMP ANALYSIS SUMMARY

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 particularly for the revised Palmdale access alternatives. A southbound auxiliary lane from the West Avenue N on-ramp(s) to the 10th 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.

The build alternatives 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.

With respect to traffic implications associated with the High Speed Rail Feeder Alternative, it should be noted that **the operational analysis indicates that the performance of the freeway system is virtually unchanged when comparing the no feeder rail service alternatives with those which include rail feeder service.** These results reflect weekday, morning (0700 to 0800 hours) and afternoon (1700 to 1800 hours) 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 time of the day and day of the week periods.

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 on Figure 9. For these future years, the number of intersections analyzed was expanded from the 89 investigated as part of the existing conditions to 163 for the initial alternatives and 164 for the revised Palmdale access definition of the alternatives. The new study area intersections include the addition of new interchange ramp termini intersections accessing the High Desert Corridor new freeway/expressway, along with intersections adjacent to these new ramp termini.

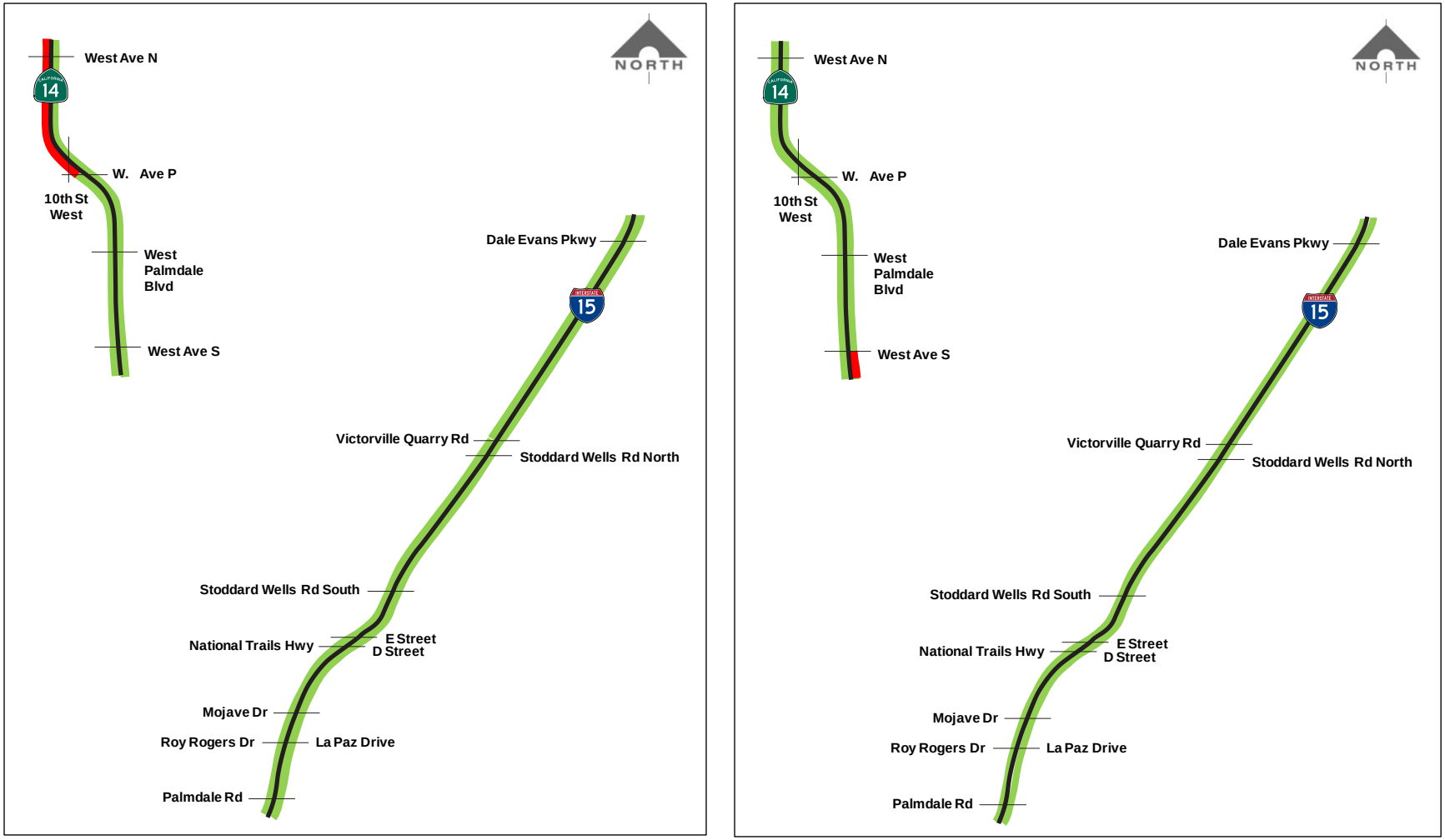
Ramp termini and intersections that are not expected to operate at LOS D or better for years 2020 and 2040 (both with and without revised Palmdale access) and for each alternative are reported in Tables 16 through 19.

Table 8. 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	BUILD PARTIAL	BUILD FEEDER RAIL	BUILD TOLL + FEEDER RAIL
AM PEAK						
SR 14 NB	None	None	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 10th Street West off-ramp (*F*)	East Avenue S off-ramp to East Avenue S on-ramp (*E*) East Avenue S on-ramp to Angeles Forest Highway off-ramp (*F*)	East Avenue S on-ramp to Angeles Forest Highway off-ramp (*F*)	East Avenue S on-ramp to Angeles Forest Highway off-ramp (*F*)	East Avenue S off-ramp to East Avenue S on-ramp (*E*) East Avenue S on-ramp to Angeles Forest Highway off-ramp (*F*)	East Avenue S off-ramp to East Avenue S on-ramp (*E*) East Avenue S on-ramp to Angeles Forest Highway off-ramp (*F*)
HDC EB	N/A	None	None	None	None	None
HDC WB	N/A	None	None	None	None	None
I-15 NB	None	None	None	None	None	None
I-15 SB	None	None	None	None	None	None
PM PEAK						
SR 14 NB	SR 14 NB south end of the network to East Avenue South off-ramp (*F*)	None	None	None	West Avenue N off-ramp to West Avenue N loop on-ramp (*E*)	None
SR 14 SB	None	None	None	None	None	None
HDC EB	N/A	None	None	None	None	None
HDC WB	N/A	None	None	None	None	None
I-15 NB	None	None	None	None	None	None
I-15 SB	None	None	None	None	None	None

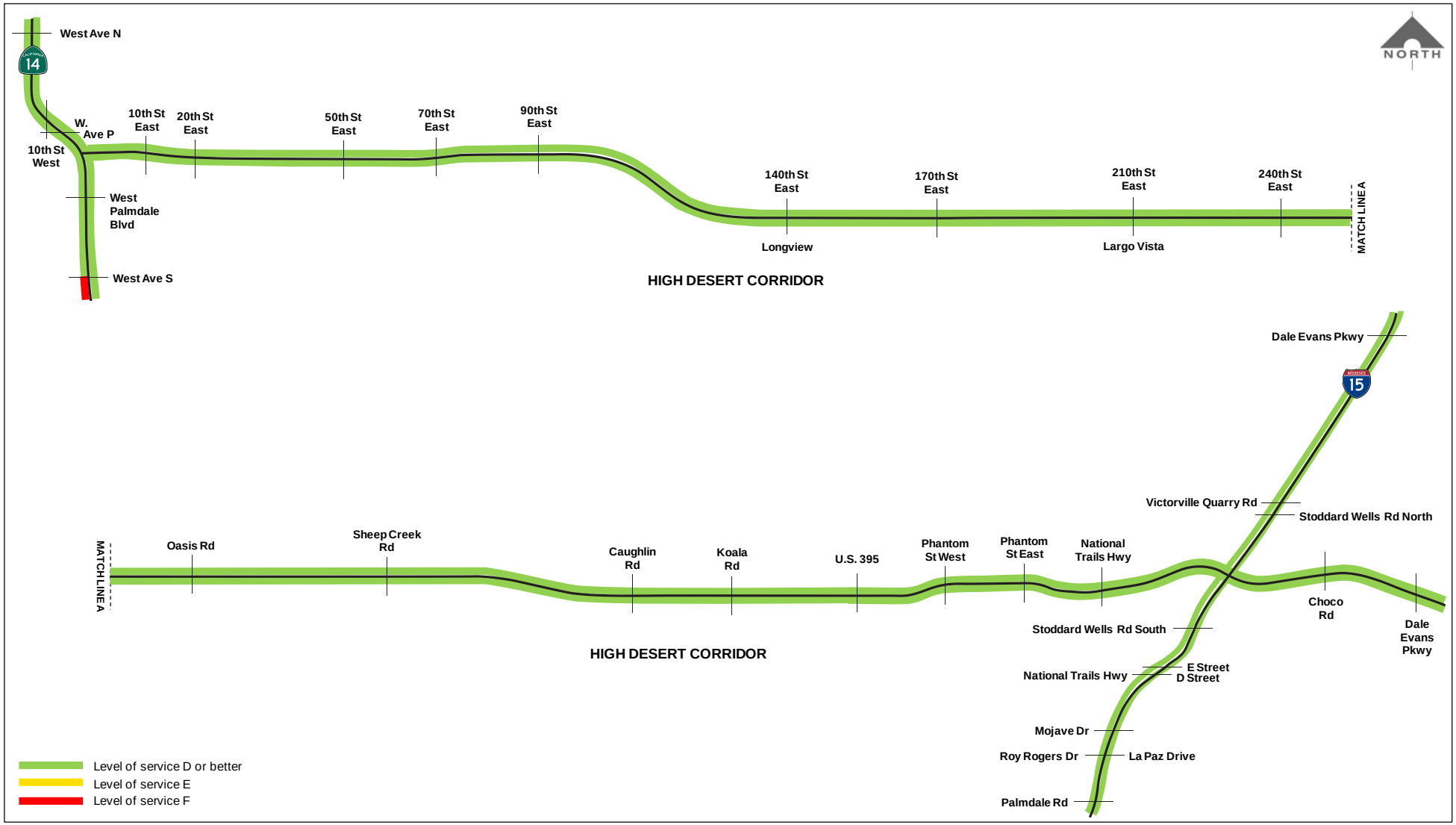
Table 9. Year 2020 Weaving and Ramp Merging/Diverging Level of Service Analysis Results Summary *(segments operating at LOS E or worse)*

	SEGMENT *(LOS–TYPE)*					
	NO-BUILD	BUILD	BUILD TOLL	BUILD PARTIAL	BUILD FEEDER RAIL	BUILD TOLL + FEEDER RAIL
AM PEAK						
SR 14 NB	None	None	None	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*) 10th Street West (*E–diverging)*	East Avenue S (*E–merging)* 10th Street West (*E–diverging)*	East Avenue S (*E–merging)*	None	East Avenue S (*E–merging)* 10th Street West (*E–diverging)*	East Avenue S (*E–merging)*
HDC EB	N/A	None	None	None	None	None
HDC WB	N/A	None	None	None	None	None
I-15 NB	None	None	None	None	None	None
I-15 SB	None	None	None	None	None	None
PM PEAK						
SR 14 NB	None	West Avenue N (*E–diverging)*	None	None	West Avenue N (*E/diverging)*	None
SR 14 SB	None	None	None	None	None	None
HDC EB	N/A	None	None	None	None	None
HDC WB	N/A	None	None	None	None	None
I-15 NB	None	Palmdale Road (*E–diverging)*	Palmdale Road (*E–diverging)*	Palmdale Road (*E–diverging)*	None	Palmdale Road (*E–diverging)*
I-15 SB	None	None	None	None	None	None



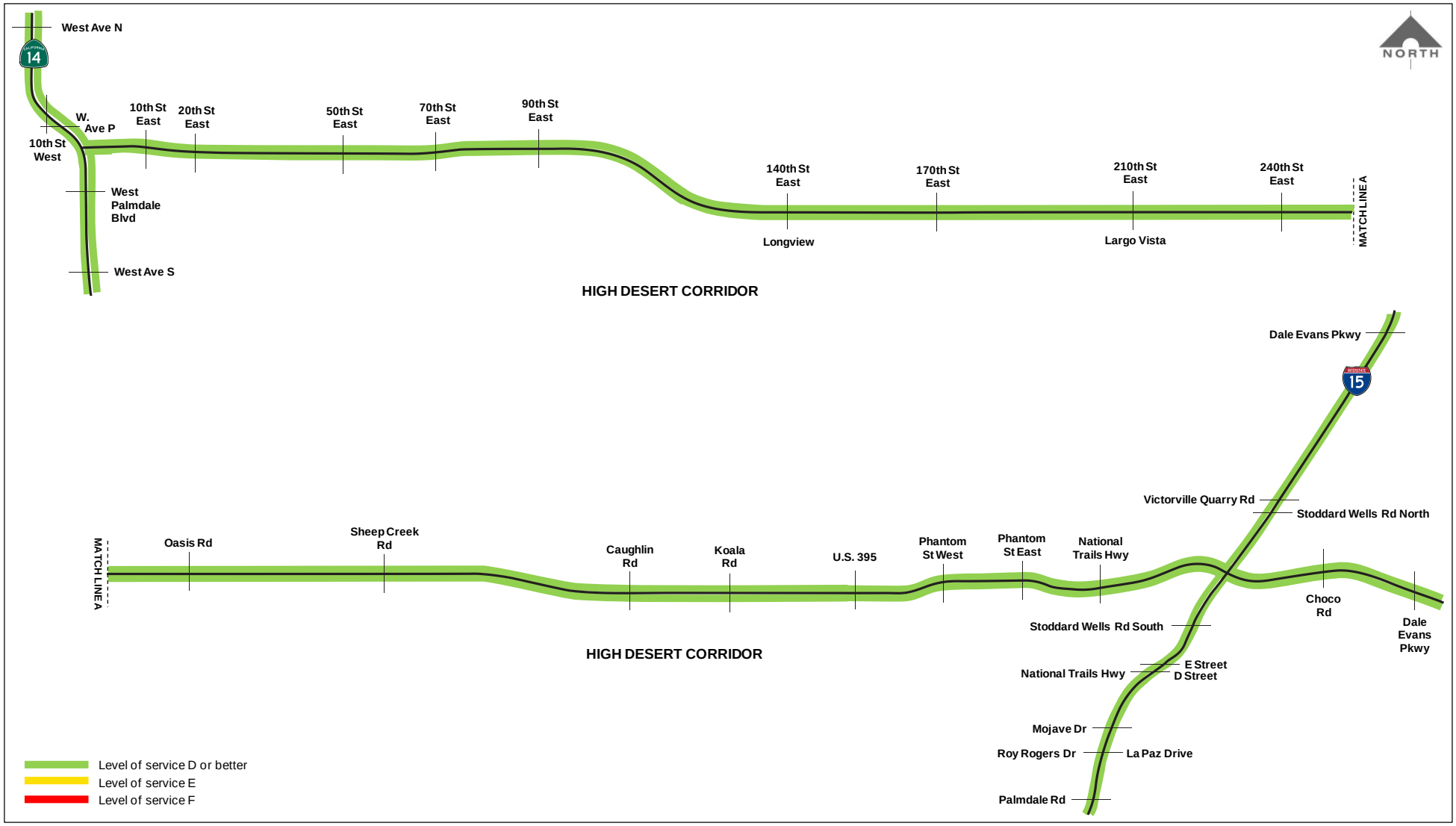
Level of service D or better
Level of service E
Level of service F

Figure 16: Year 2020 No-build Alternative Freeway Mainline Level of Service



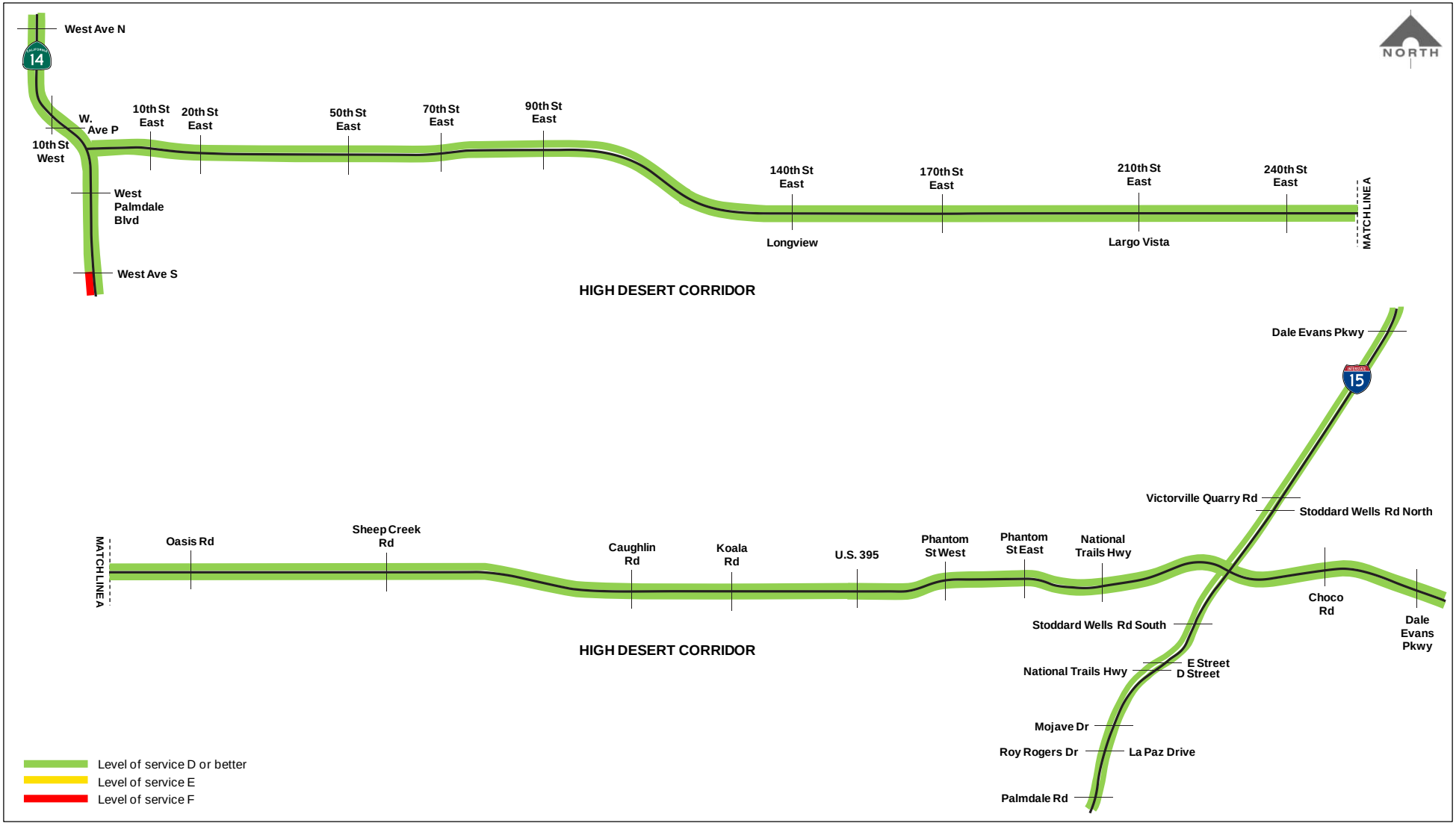
AM PEAK HOUR

Figure 17: Year 2020 Build Alternative Freeway Mainline Level of Service *(1 of 2)*



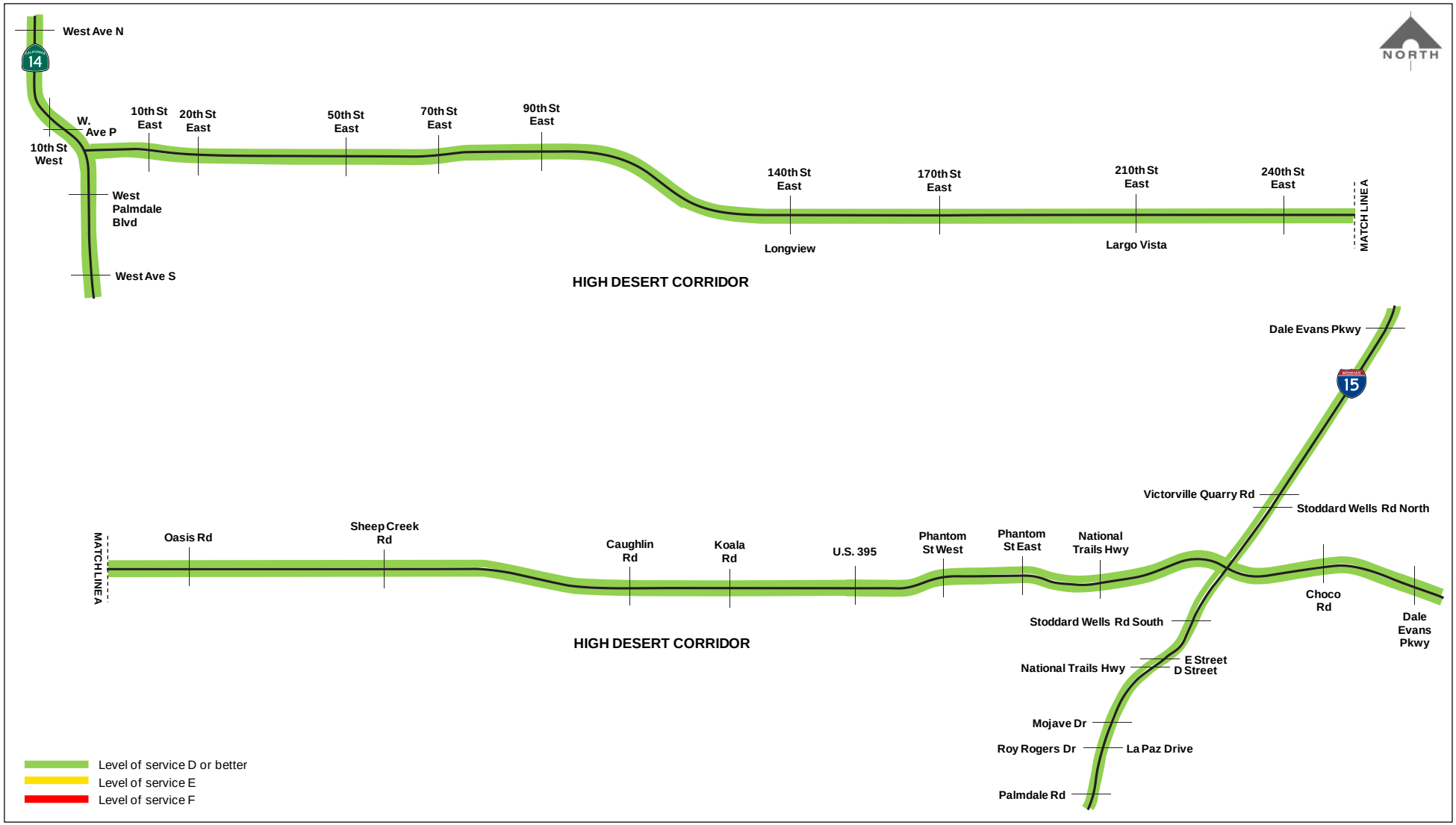
PM PEAK HOUR

Figure 17: Year 2020 Build Alternative Freeway Mainline Level of Service *(2 of 2)*



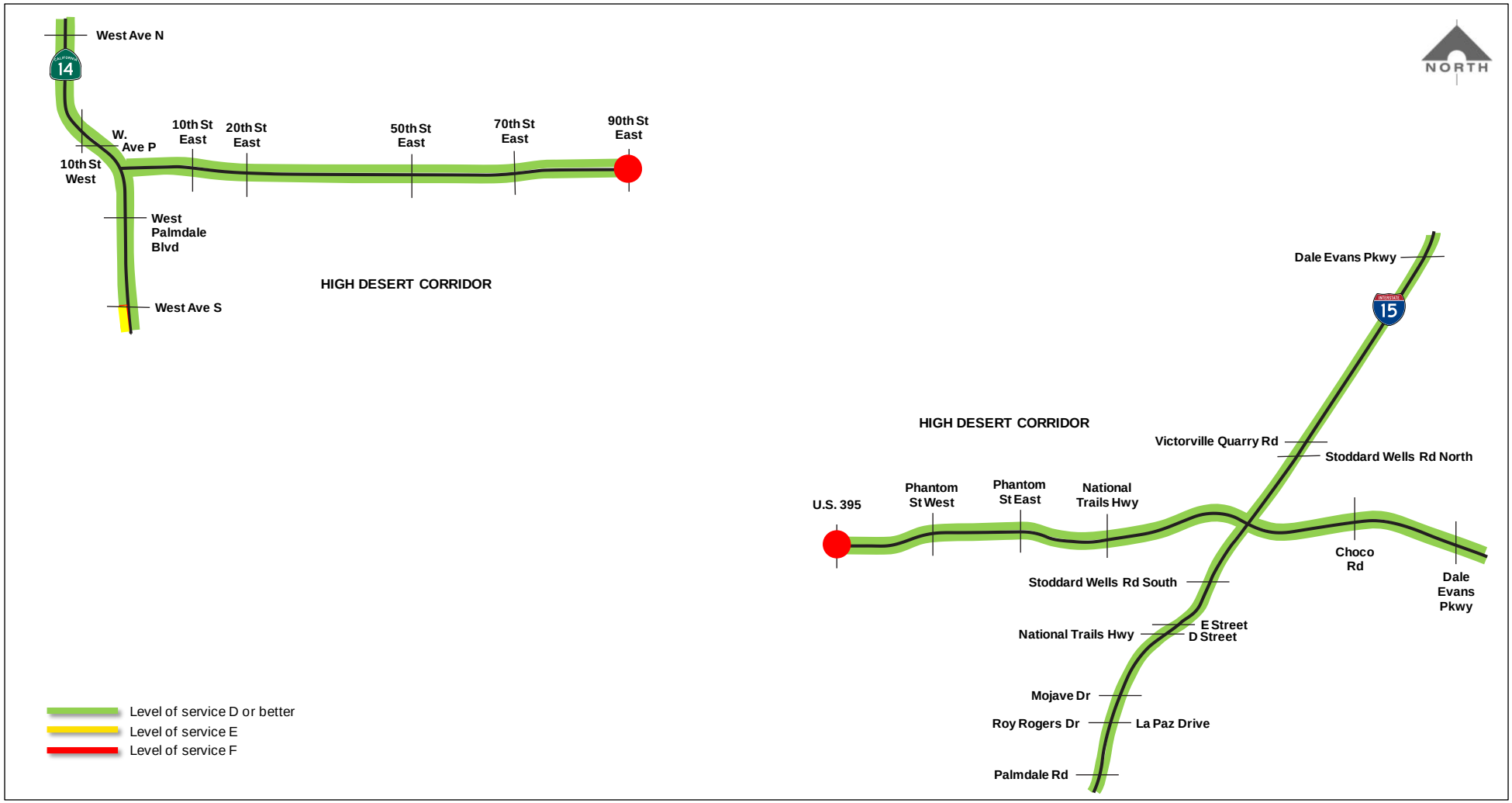
AM PEAK HOUR

Figure 18: Year 2020 Build Alternative with Tolls Freeway Mainline Level of Service *(1 of 2)*



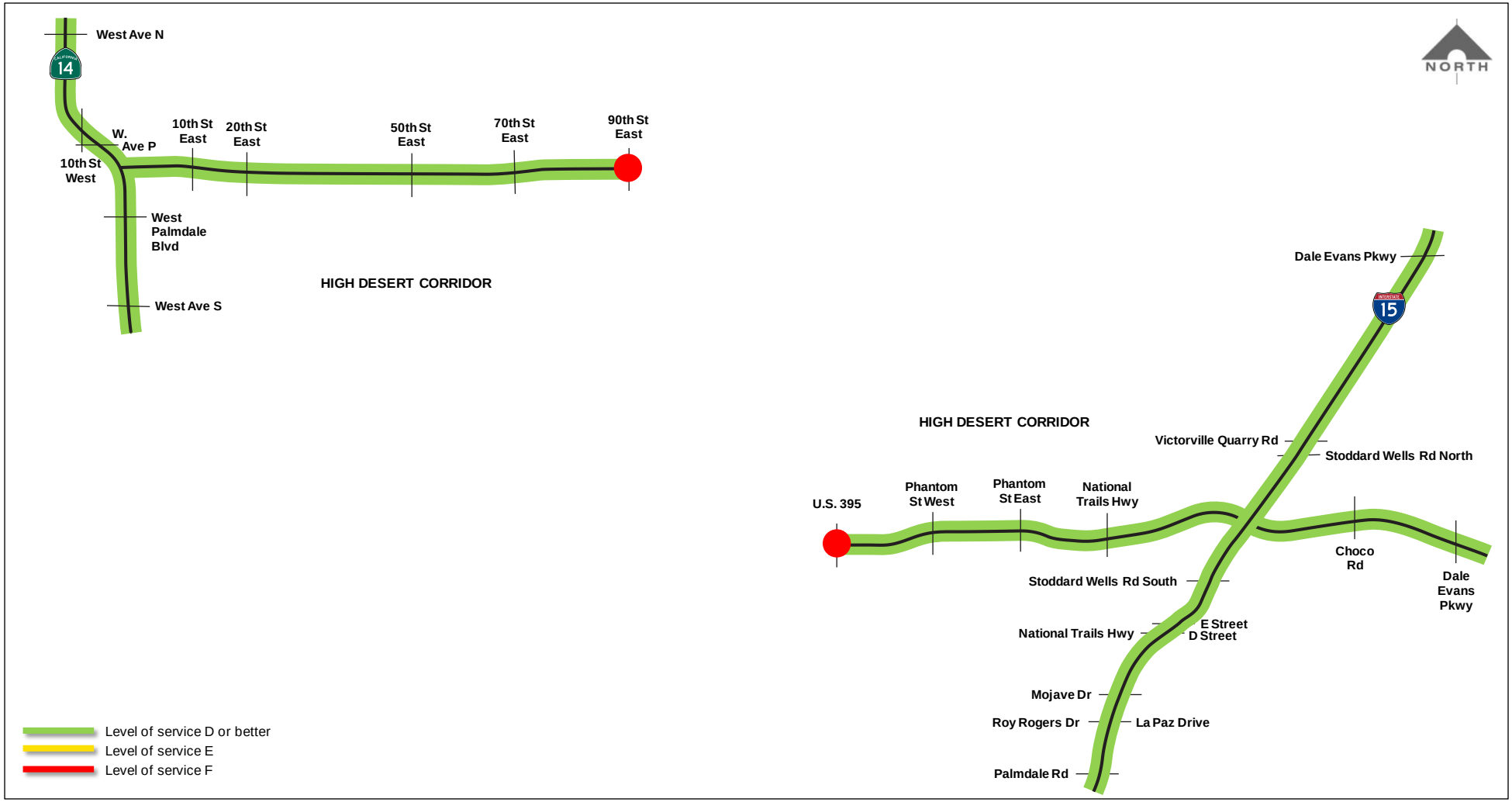
PM PEAK HOUR

Figure 18: Year 2020 Build Alternative with Tolls Freeway Mainline Level of Service *(2 of 2)*



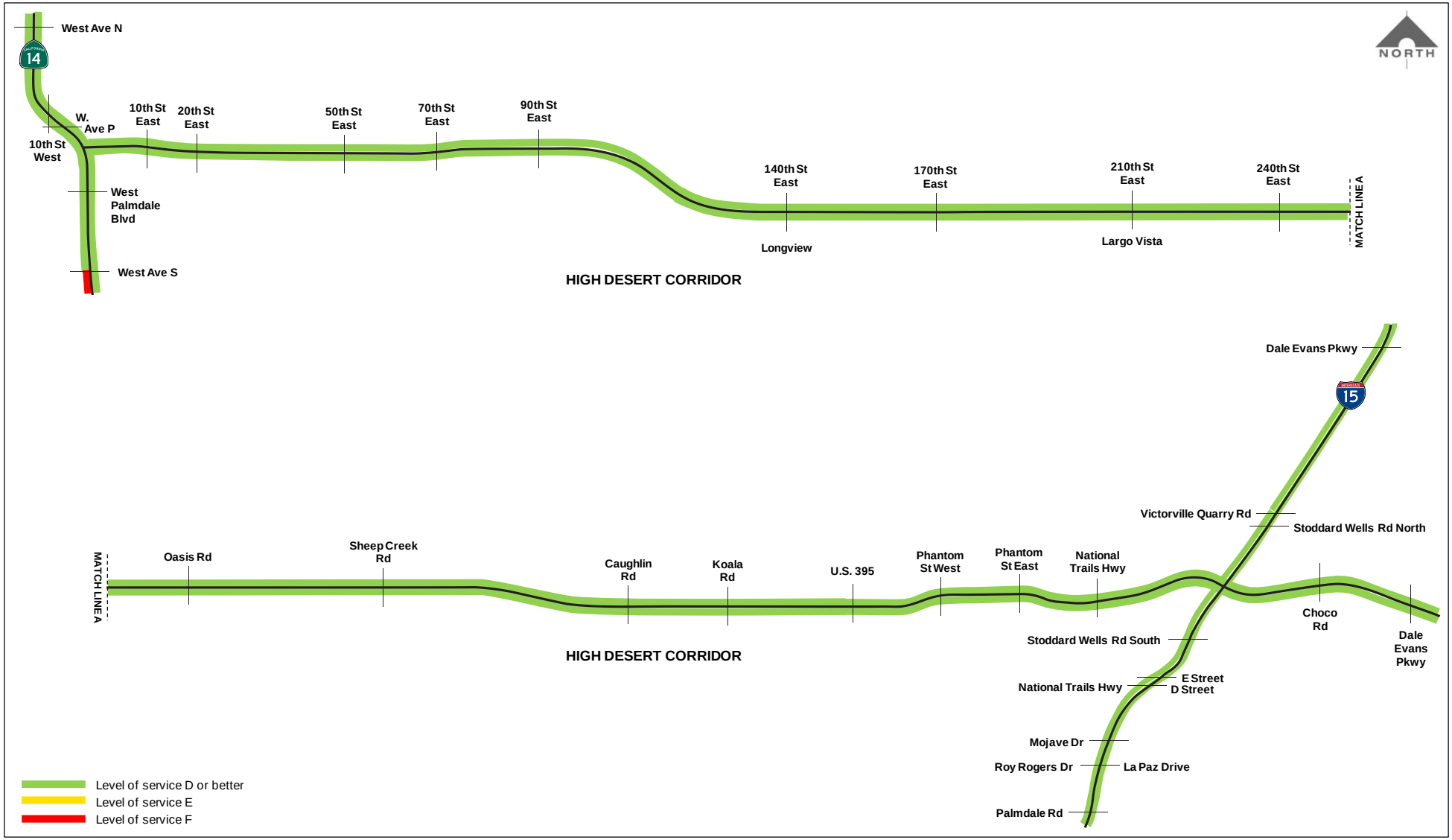
AM PEAK HOUR

Figure 19: Year 2020 Build Partial High Desert Corridor Freeway Mainline Level of Service *(1 of 2)*



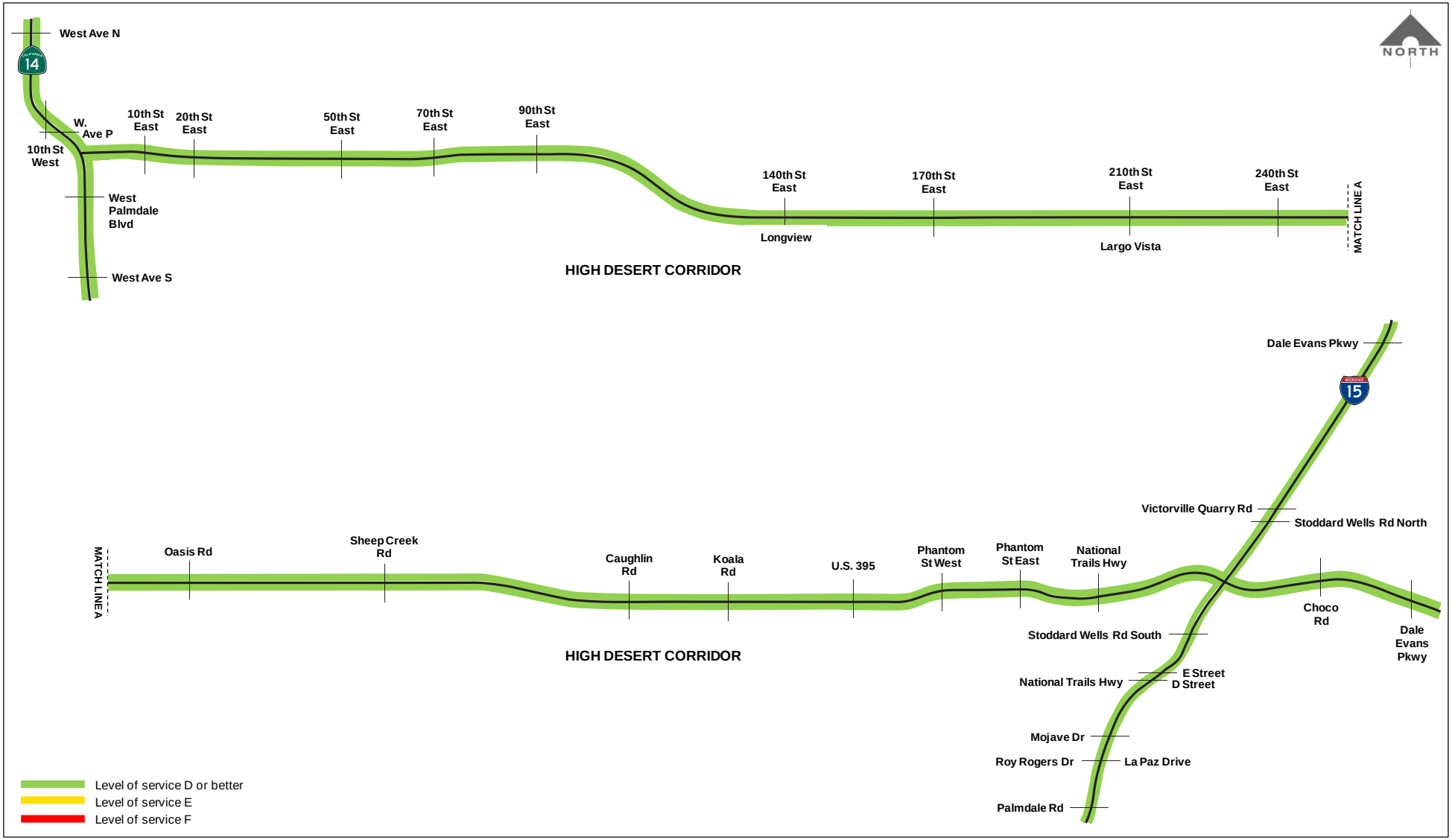
PM PEAK HOUR

Figure 19: Year 2020 Build Partial High Desert Corridor Freeway Mainline Level of Service *(2 of 2)*



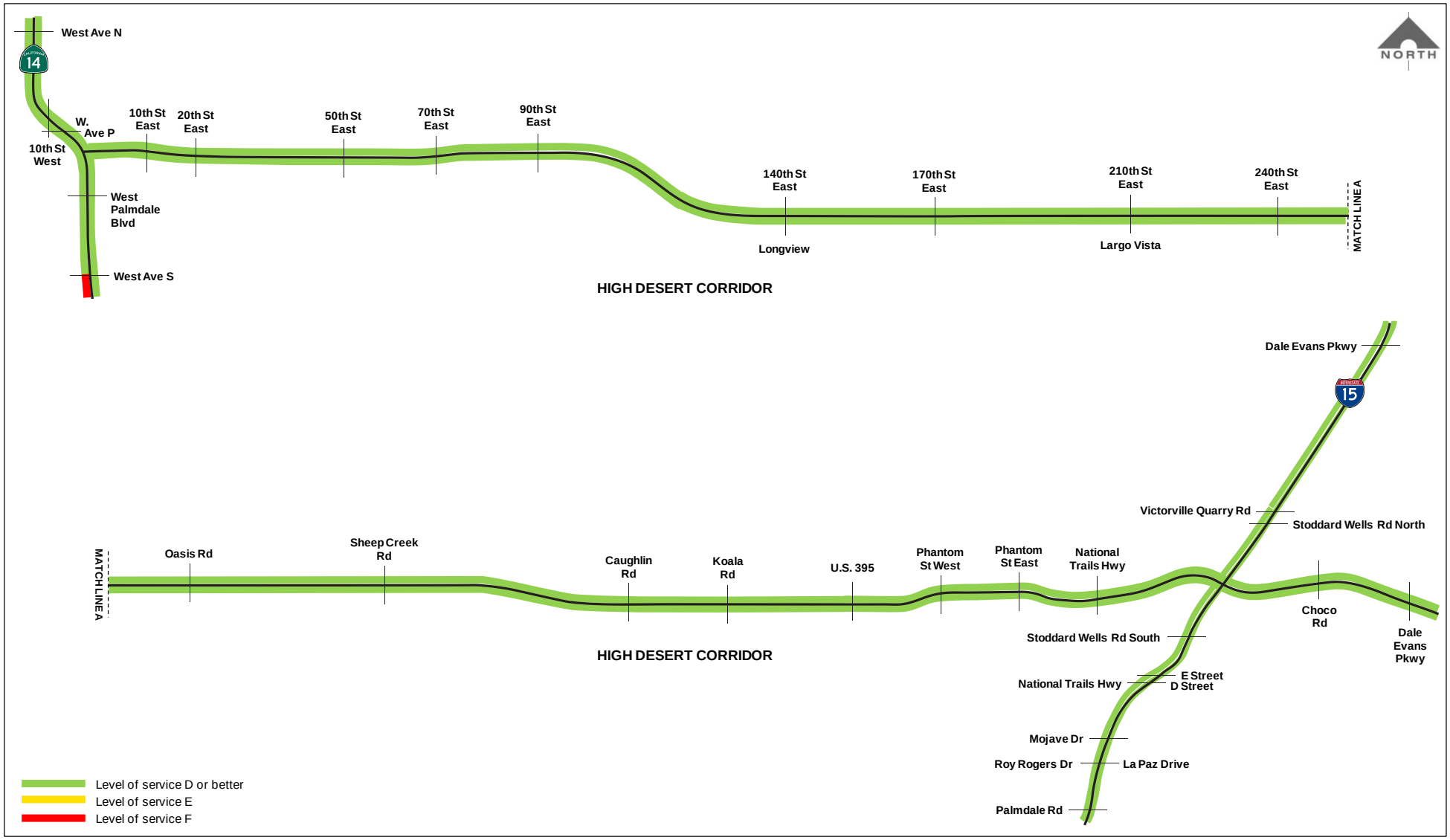
AM PEAK HOUR

Figure 20: Year 2020 Build Alternative with High Speed Rail Feeder Service Freeway Mainline Level of Service *(1 of 2)*



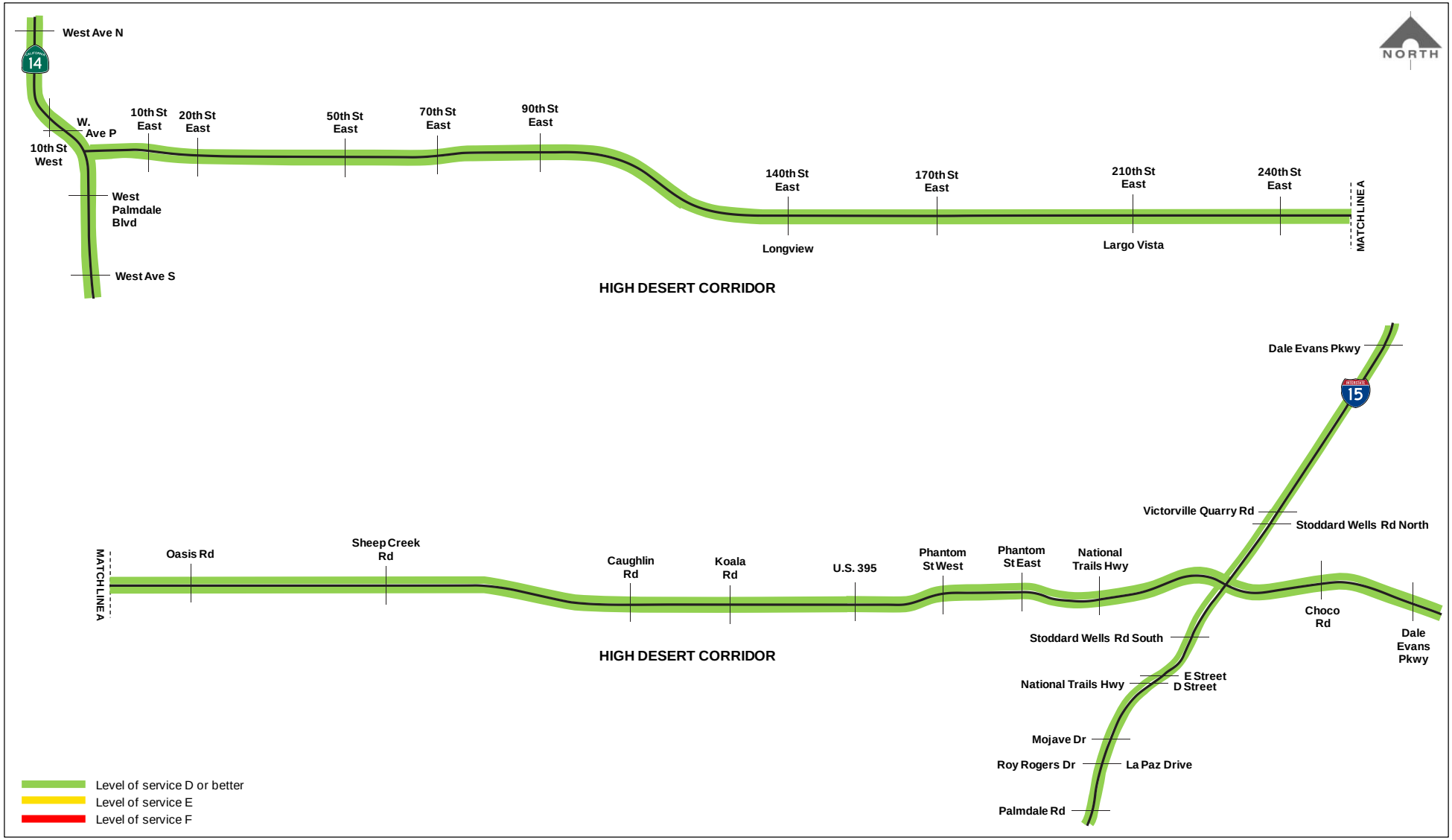
PM PEAK HOUR

Figure 20: Year 2020 Build Alternative with High Speed Rail Feeder Service Freeway Mainline Level of Service *(2 of 2)*



AM PEAK HOUR

Figure 21: Year 2020 Build Alternative with Tolls and High Speed Rail Feeder Service Freeway Mainline Level of Service *(1 of 2)*



PM PEAK HOUR

Figure 21: Year 2020 Build Alternative with Tolls and High Speed Rail Feeder Service Freeway Mainline Level of Service *(2 of 2)*

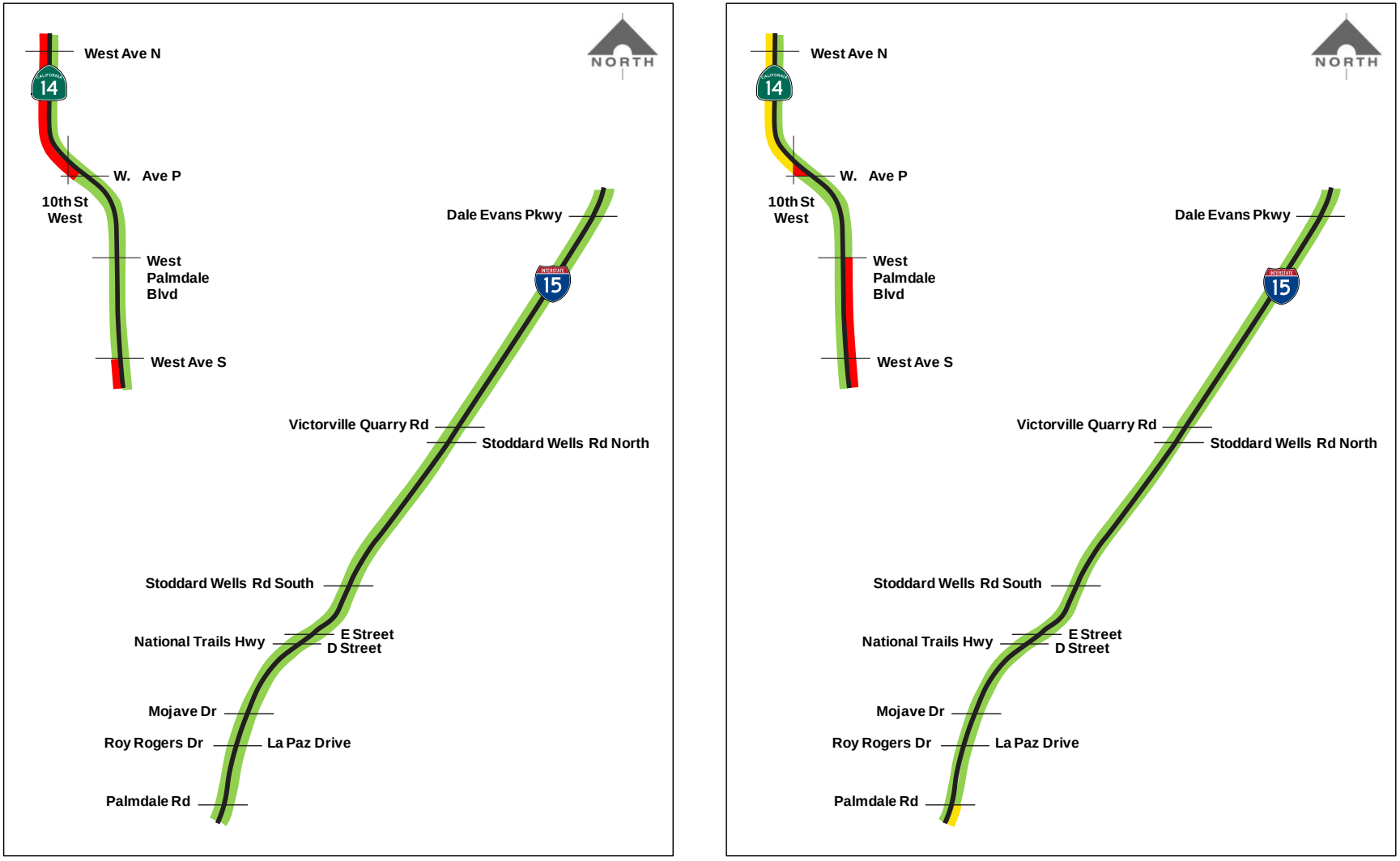
Table 10. Year 2040 Freeway Mainline Level of Service Analysis Results Summary *(segments operating at LOS E or worse)*

	FREEWAY SEGMENT *(LOS)*					
	NO-BUILD	BUILD	BUILD TOLL	BUILD FEEDER RAIL	BUILD TOLL+ FEEDER RAIL	BUILD LAND USE SENSITIVITY
AM PEAK						
SR 14 NB	None	None	None	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 10th Street West off-ramp (*F*) East Avenue S on-ramp to SR 14 SB 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*)	East Avenue S off-ramp to East Avenue S on-ramp (*E*) East Avenue S on-ramp to Angeles Forest Highway off-ramp (*F*)	East Avenue S off-ramp to East Avenue S on-ramp (*E*) East Avenue S on-ramp to Angeles Forest Highway off-ramp (*F* overall and mixed flow; *E* HOV)	East Avenue S off-ramp to East Avenue S on-ramp (*E*) East Avenue S on-ramp to Angeles Forest Highway off-ramp (*F* overall and mixed flow; *E* HOV)	West Avenue M on-ramp to West Avenue N off-ramp (*F*) West Avenue N off-ramp to West Avenue N loop on-ramp (*F* overall and mixed flow; *E* HOV) West Avenue N loop on-ramp to West Avenue N direct on-ramp (*F* overall and mixed flow; *E* HOV) West Avenue N direct on-ramp to 10th Street West off-ramp (*F*) 10th Street West off-ramp to HCD off-ramp (*E* overall; *F* mixed flow)
HDC EB	N/A	West end of the network to SR 14 NB on-ramp (*E*)	West end of the network to SR 14 NB on-ramp (*E*)	West end of the network to SR 14 NB on-ramp (*E*)	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	N/A	None	None	None	None	None
I-15 NB	None	None	None	None	None	None
I-15 SB	None	None	None	None	None	None
PM PEAK						
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*)	Pearblossom Highway direct on ramp to East Avenue S 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)	Pearblossom Highway direct on ramp to East Avenue S off-ramp (*F*) 10th Street West off-ramp to HDC on-ramp (*D* overall; *E* mixed flow) HDC on-ramp to 10th Street West on-ramp (*F*) 10th Street West loop on-ramp to 10th Street West direct on-ramp (*F*) 10th Street West direct on-ramp to West Avenue N off-ramp (*F*)
SR 14 SB	West Avenue N direct on-ramp to 10th Street W off-ramp (*E*) HDC off-ramp to 10th Street W on-ramp (*F*)	None	None	None	None	West Avenue M on-ramp 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 10th Street West off-ramp (*F*) 10th Street West off-ramp to HCD off-ramp (*E*)
HDC EB	N/A	None	West end of the network to SR 14 NB on-ramp (*E*)	None	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	N/A	None	SB off-ramp to SR 138 WB end of network (*E*)	None	10th Street E off-ramp to 10th Street E on-ramp (*E*) 10th Street E on-ramp to SR 14 SB on-ramp (*E*) SR 14 SB off-ramp to SR 138 west end of network (*E*)	140th Street E off-ramp to 140th Street E on-ramp (*E*) 50th Street E on-ramp to 20th Street E off-ramp (*F*) 20th Street E off-ramp to 20th Street E on-ramp (*F*) 20th Street E on-ramp to 10th Street E off-ramp (*F*) 10th Street E off-ramp to 10th Street E on-ramp (*F*) 10th Street E off-ramp to SR 14 SB off-ramp (*F*) SR 14 SB on-ramp to SR 138 WB west end of network (*F*)
I-15 NB	South of the network to Palmdale Road off-ramp (*E*) Palmdale Road loop off-ramp to Palmdale Road direct on-ramp (*E*)	South of the network to Palmdale Road off-ramp (*F*)	South of the network to Palmdale Road off-ramp (*E*)	South of the network to Palmdale Road off-ramp (*F*)	South of the network to Palmdale Road off-ramp (*E*)	South of the network to Palmdale Road off-ramp (*E*) Palmdale Road loop on-ramp to Palmdale Road direct on-ramp (*E*)
I-15 SB	None	None	None	None	None	None

Table 11. Year 2040 Weaving and Ramp Merging/Diverging Level of Service Analysis Results Summary

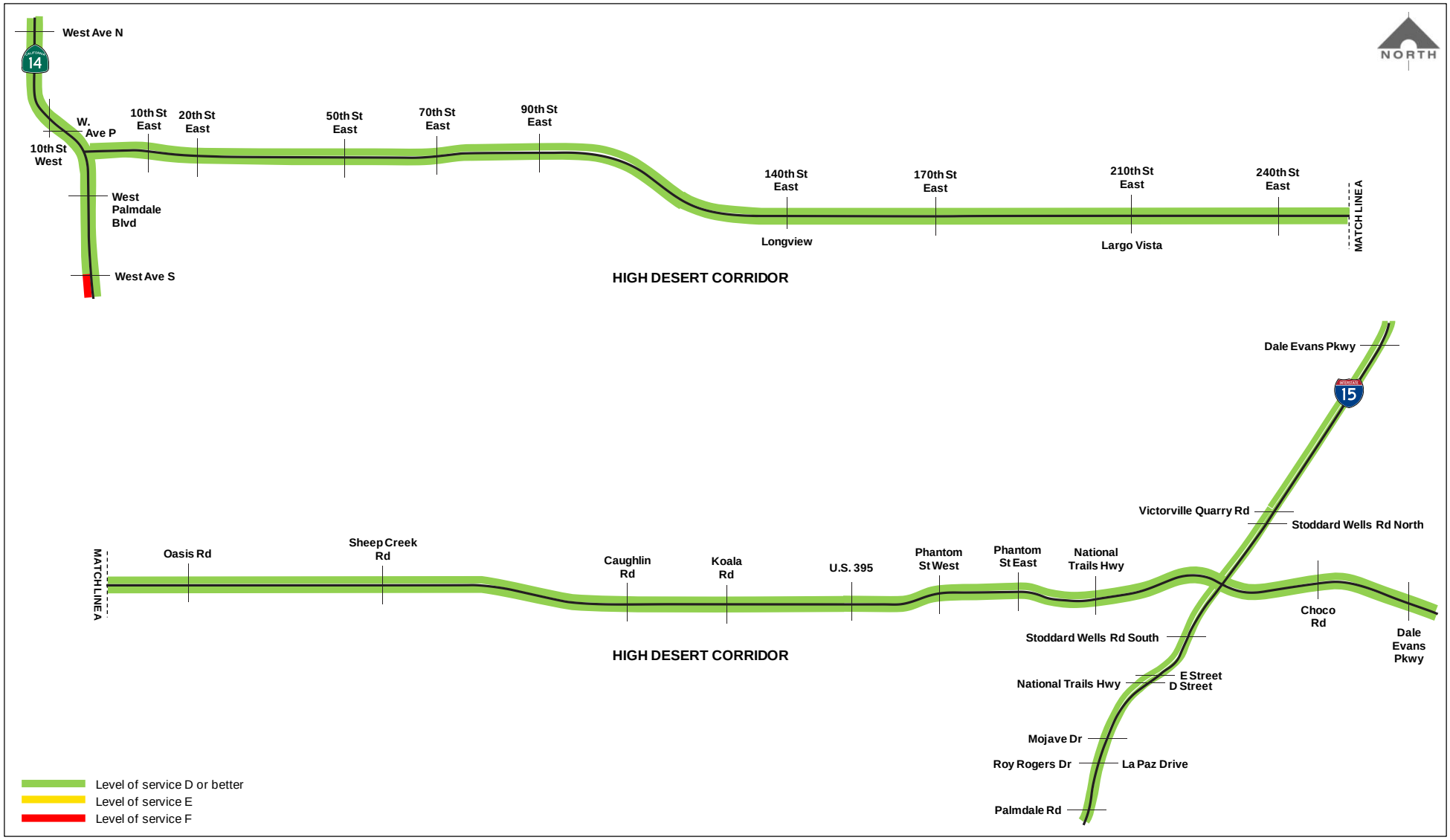
(segments operating at LOS E or worse)

	SEGMENT *(LOS–TYPE)*					
	NO-BUILD	**BUILD**	**BUILD TOLL**	**BUILD FEEDER RAIL**	**BUILD TOLL + FEEDER RAIL**	**BUILD LAND USE SENSITIVITY**
AM PEAK						
SR 14 NB	None	None	None	None	None	None
SR 14 SB	West Avenue N loop (*E–merging*) West Avenue N direct (*E–merging*) East Avenue S (*E–merging*) West Avenue N (*E–diverging*) 10th Street West (*E–diverging*)	East Avenue S (*E–merging*)	East Avenue S (*E–merging*)	East Avenue S (*E–merging*) 10th Street West (*E–diverging*)	East Avenue S (*E merging*)	West Avenue N loop (*E–merging*) West Avenue N direct (*E–merging*) West Avenue N (*E–diverging*) 10th Street West (*E–diverging*) SR 138 EB (*E–diverging*)
HDC EB	N/A	None	None	None	None	None
HDC WB	N/A	None	None	None	None	None
I-15 NB	None	None	None	None	None	None
I-15 SB	None	None	None	None	None	None
PM PEAK						
SR 14 NB	East Avenue S (*E–merging*) East Avenue S (*E–diverging*) West Palmdale Boulevard (*E–diverging*)	None	East Avenue S (*E–diverging*)	East Avenue S (*E–diverging*)	East Avenue S (*E–diverging*) 10th Street West (*E–diverging*)	SR 138 WB (*E–merging*) 10th Street West loop (*E–merging*) 10th Street direct (*E–merging*) East Avenue S (*E–diverging*)
SR 14 SB	West Avenue N direct (*E–merging*) West Rancho Vista Boulevard (*E–merging*) 10th Street West (*E–diverging*) West Palmdale Boulevard (*E–diverging*)	East Avenue S (*E–diverging*)	10th Street W (*E–diverging*)	None	None	West Avenue N loop (*E–merging*) West Avenue N direct (*E–merging*) West Avenue N (*E–diverging*) 10th Street West (*E–diverging*) SR 138 EB (*E–diverging*)
HDC EB	N/A	None	None	None	None	None
HDC WB	N/A	Phantom East Street direct (*E–merging*)	10th Street E (*E–merging*) SR 14 SB (*E–diverging*)	Phantom East Street direct (*E–merging*)	10th Street E (*E–merging*) Route 395 (*E–diverging*) SR 14 SB (*E–diverging*)	140th Street East (*E–merging*) 50th Street East (*E–merging*) 10th Street East (*E–merging*) 20th Street East (*E–diverging*) SR 14 EB (*E–diverging*) 20th Street East to 10th Street East (*F–weaving*)
I-15 NB	None	Palmdale Road loop (*E–merging*) Mojave Drive (*E–merging*) Palmdale Road (*E–diverging*)	Mojave Drive (*E–merging*) Palmdale Road (*E–diverging*)	Palmdale Road (*E–diverging*)	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	None	None	None



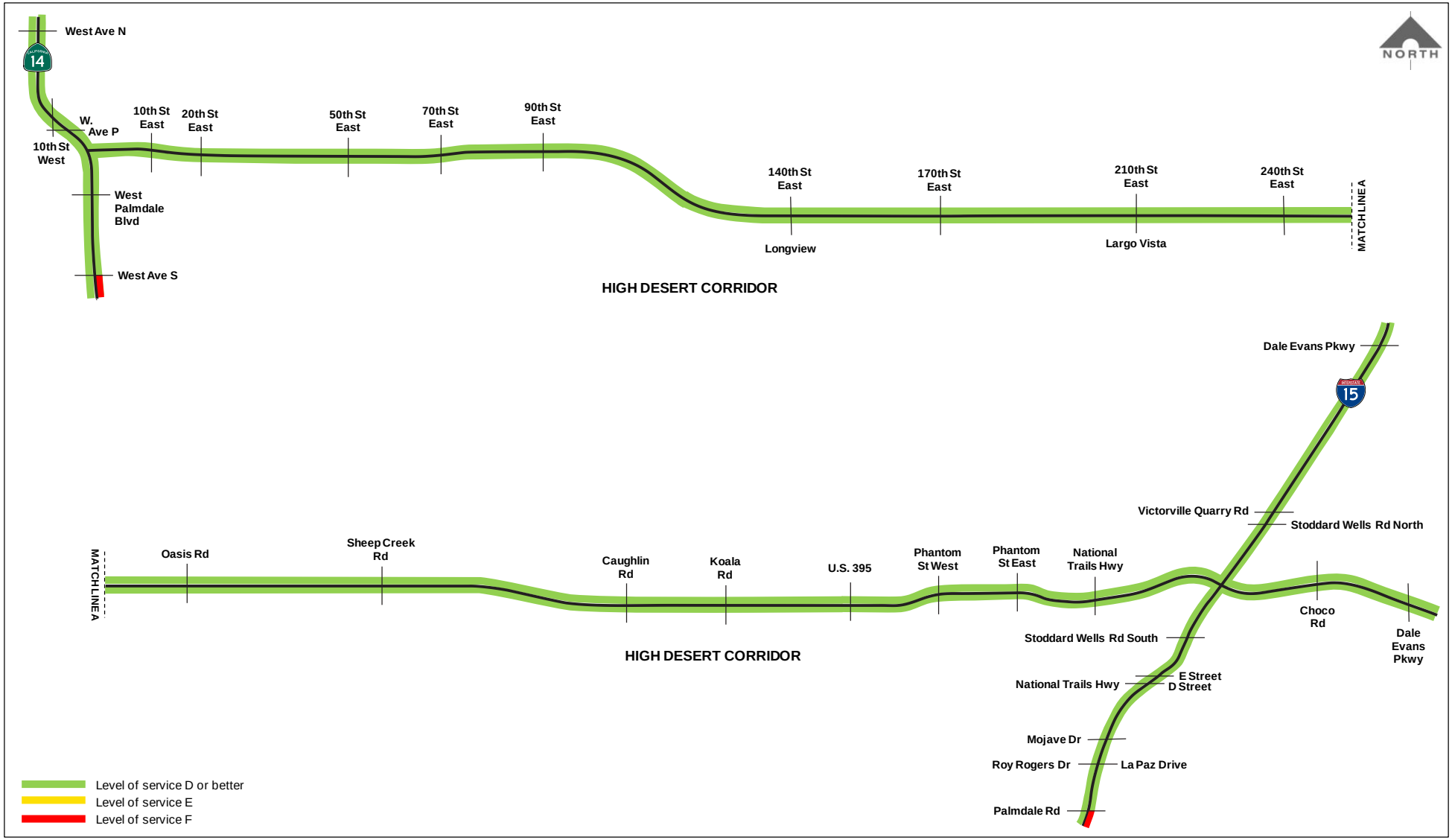
Level of service D or better
Level of service E
Level of service F

Figure 22: Year 2040 No-build Alternative Freeway Mainline Level of Service



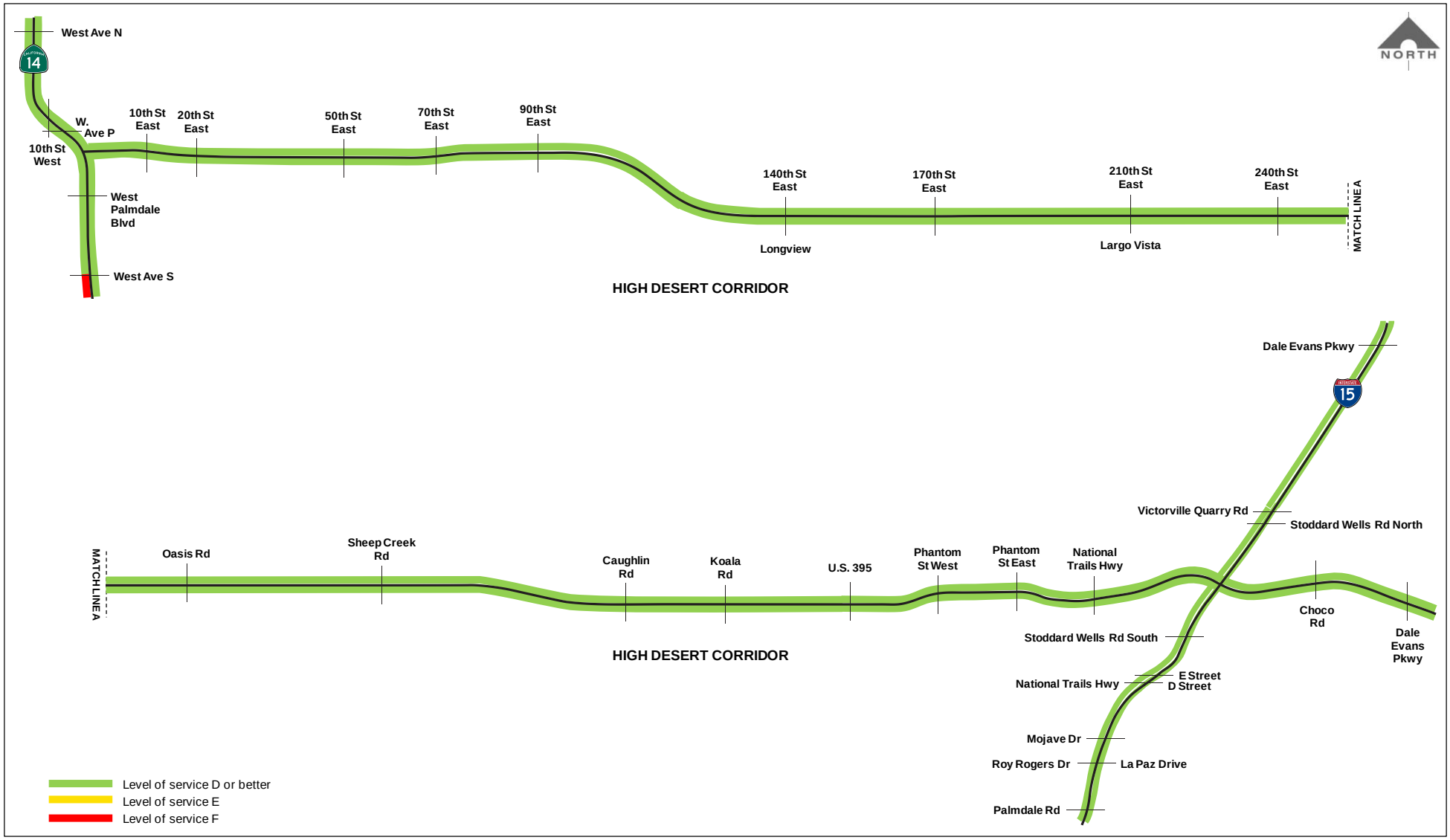
AM PEAK HOUR

Figure 23: Year 2040 Build Alternative Freeway Mainline Level of Service *(1 of 2)*



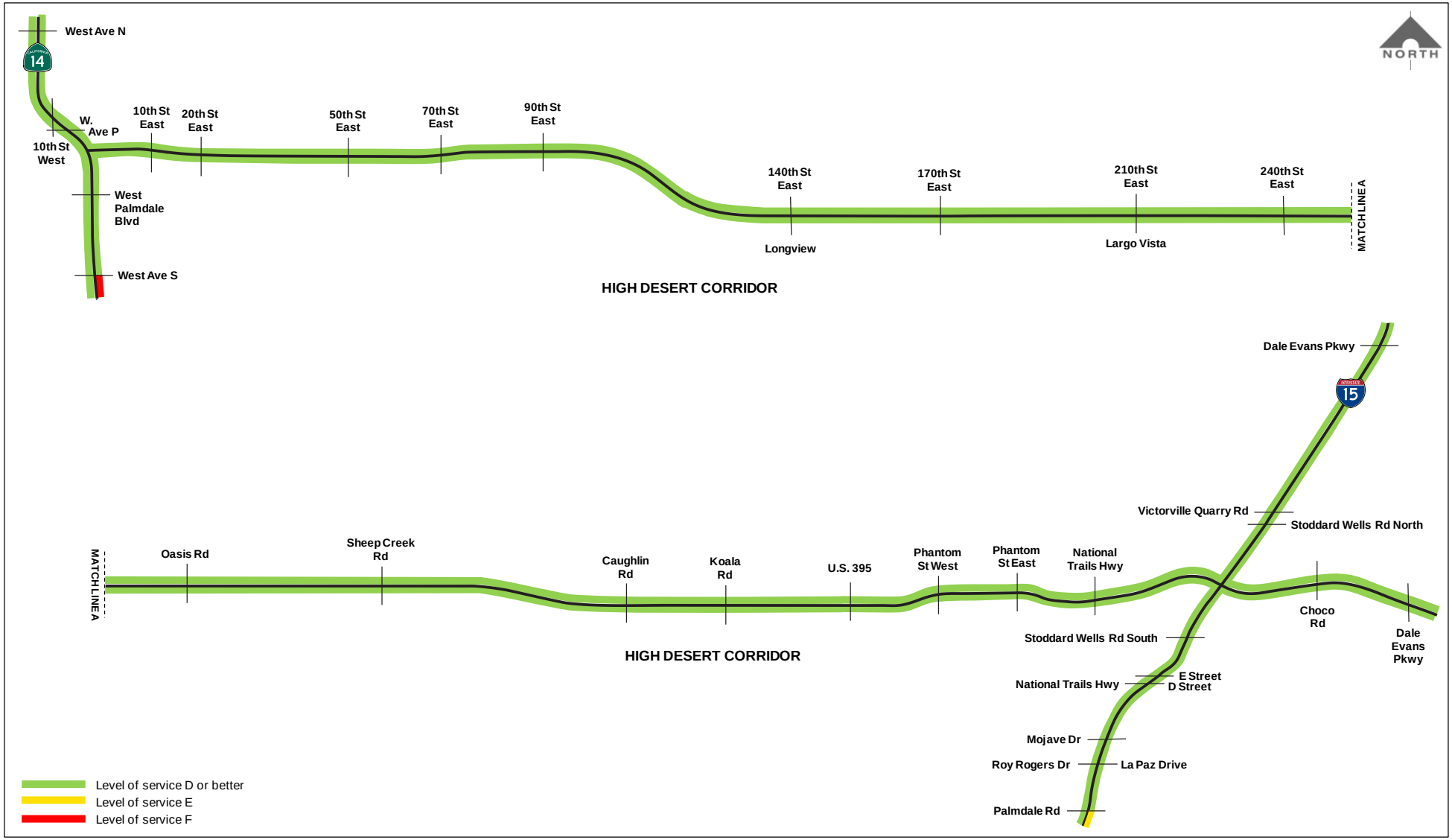
PM PEAK HOUR

Figure 23: Year 2040 Build Alternative Freeway Mainline Level of Service *(2 of 2)*



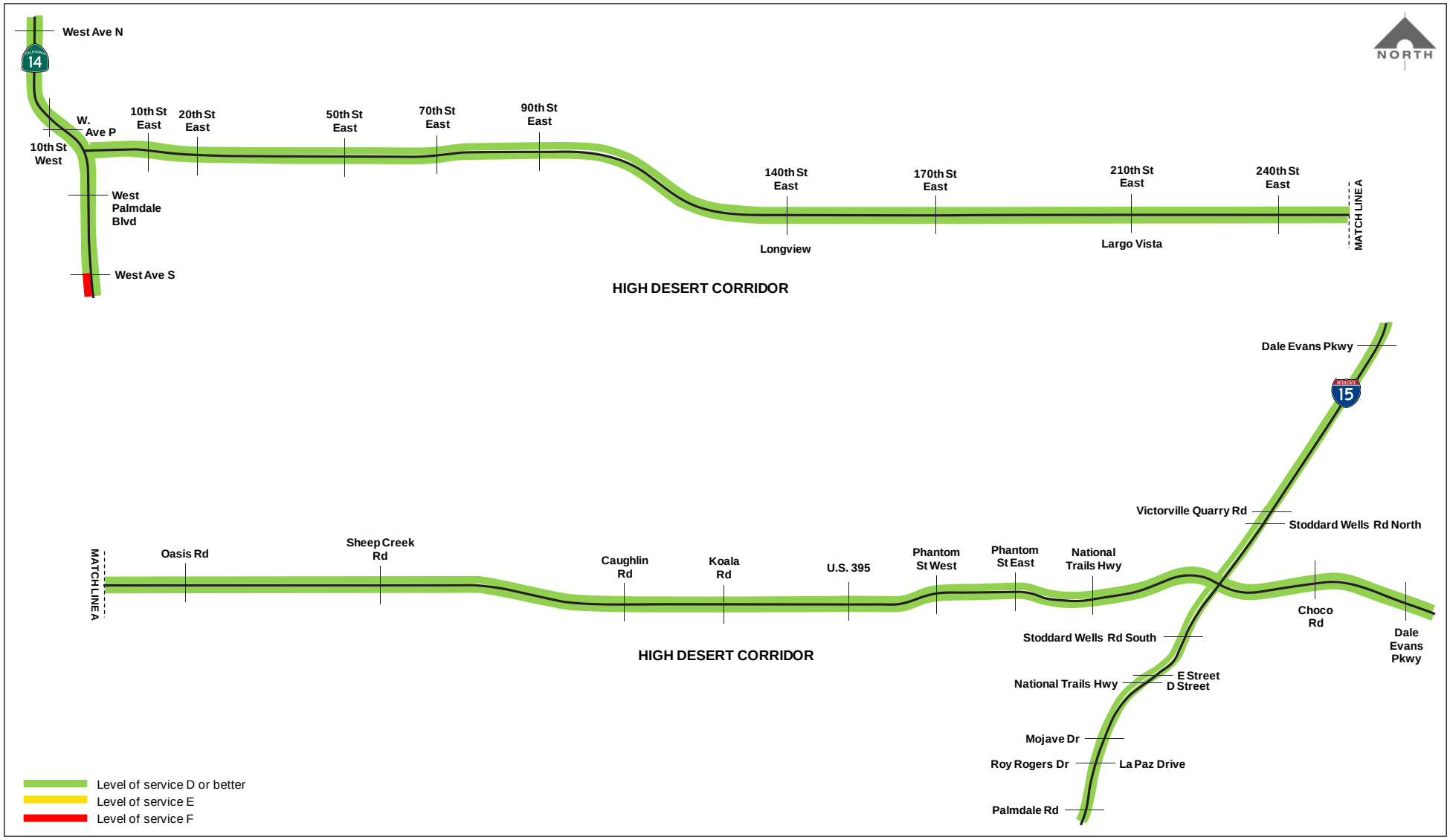
AM PEAK PERIOD

Figure 24: Year 2040 Build Alternative with Tolls Freeway Mainline Level of Service *(1 of 2)*



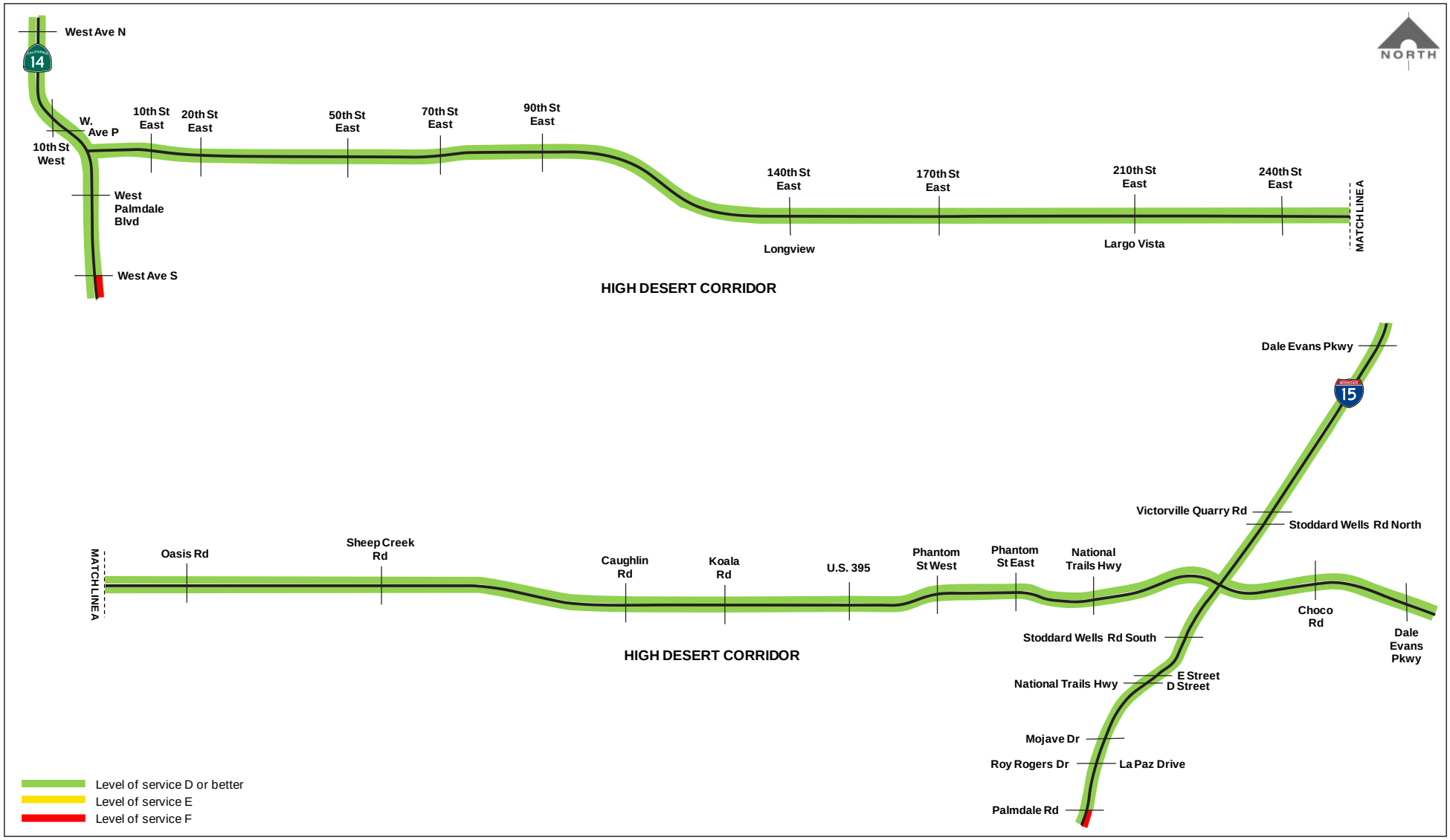
PM PEAK PERIOD

Figure 24: Year 2040 Build Alternative with Tolls Freeway Mainline Level of Service *(2 of 2)*



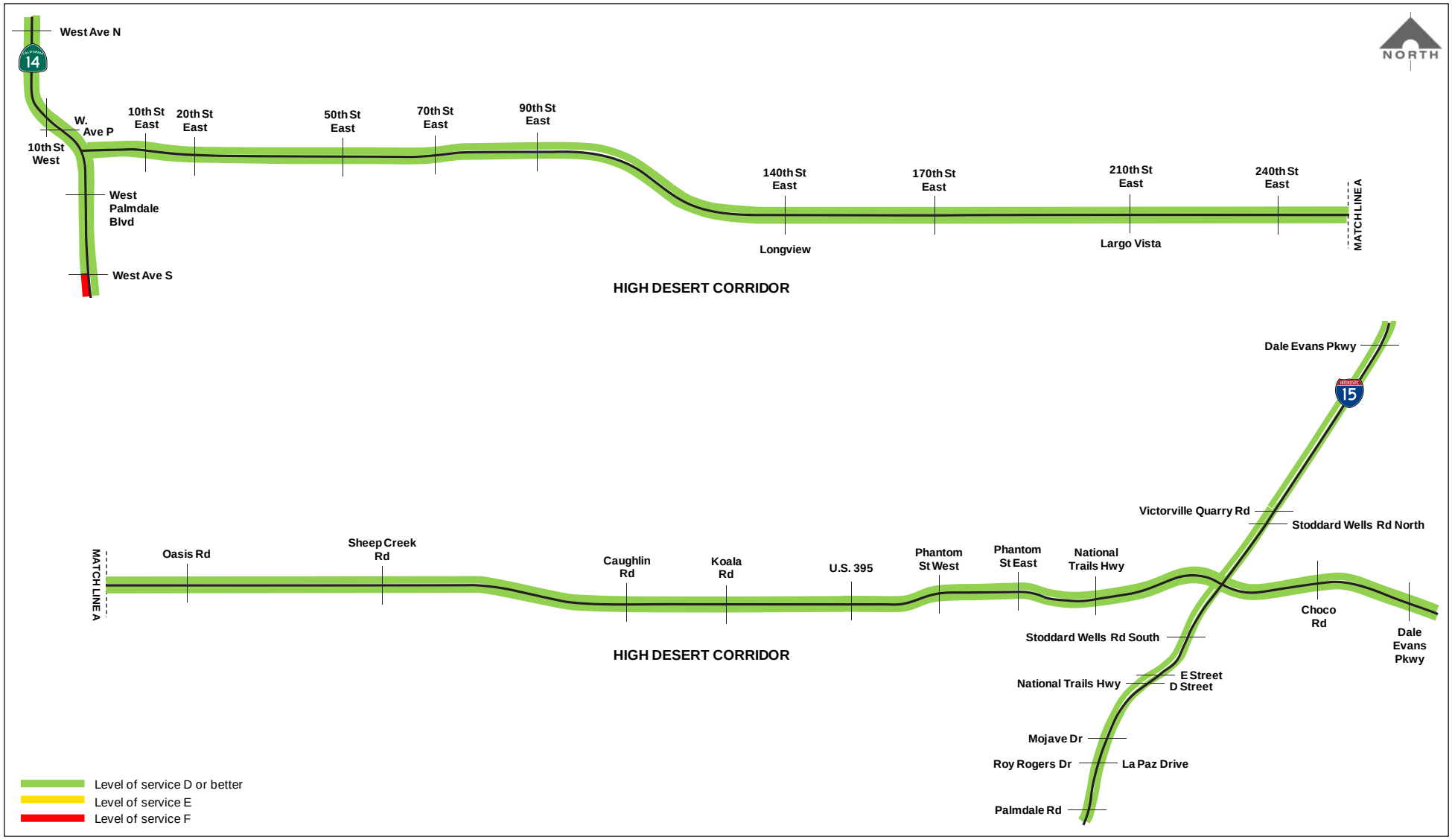
AM PEAK HOUR

Figure 25: Year 2040 Build Alternative with High Speed Rail Feeder Service Freeway Mainline Level of Service *(1 of 2)*



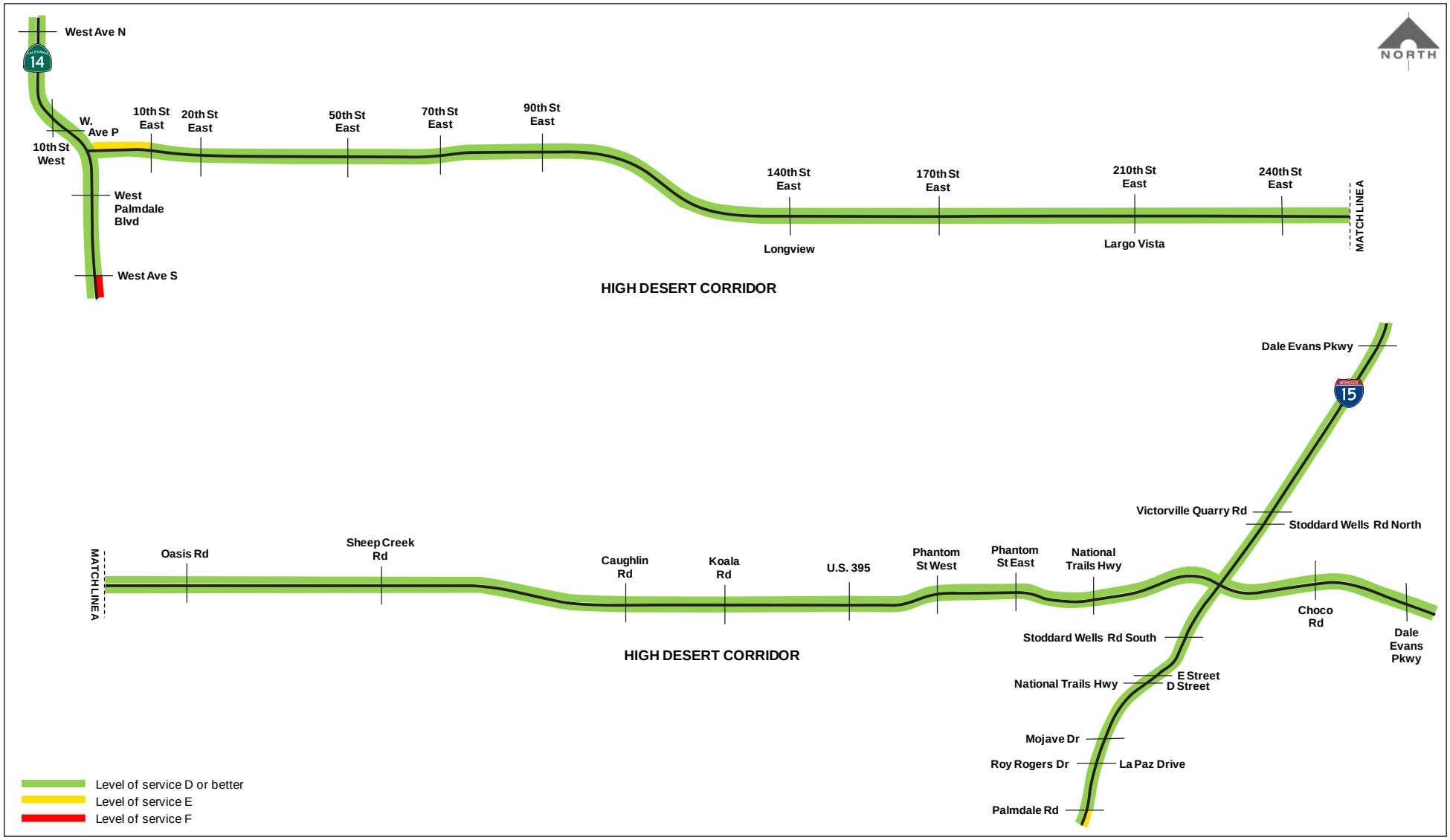
PM PEAK HOUR

Figure 25: Year 2040 Build Alternative with High Speed Rail Feeder Service Freeway Mainline Level of Service *(2 of 2)*



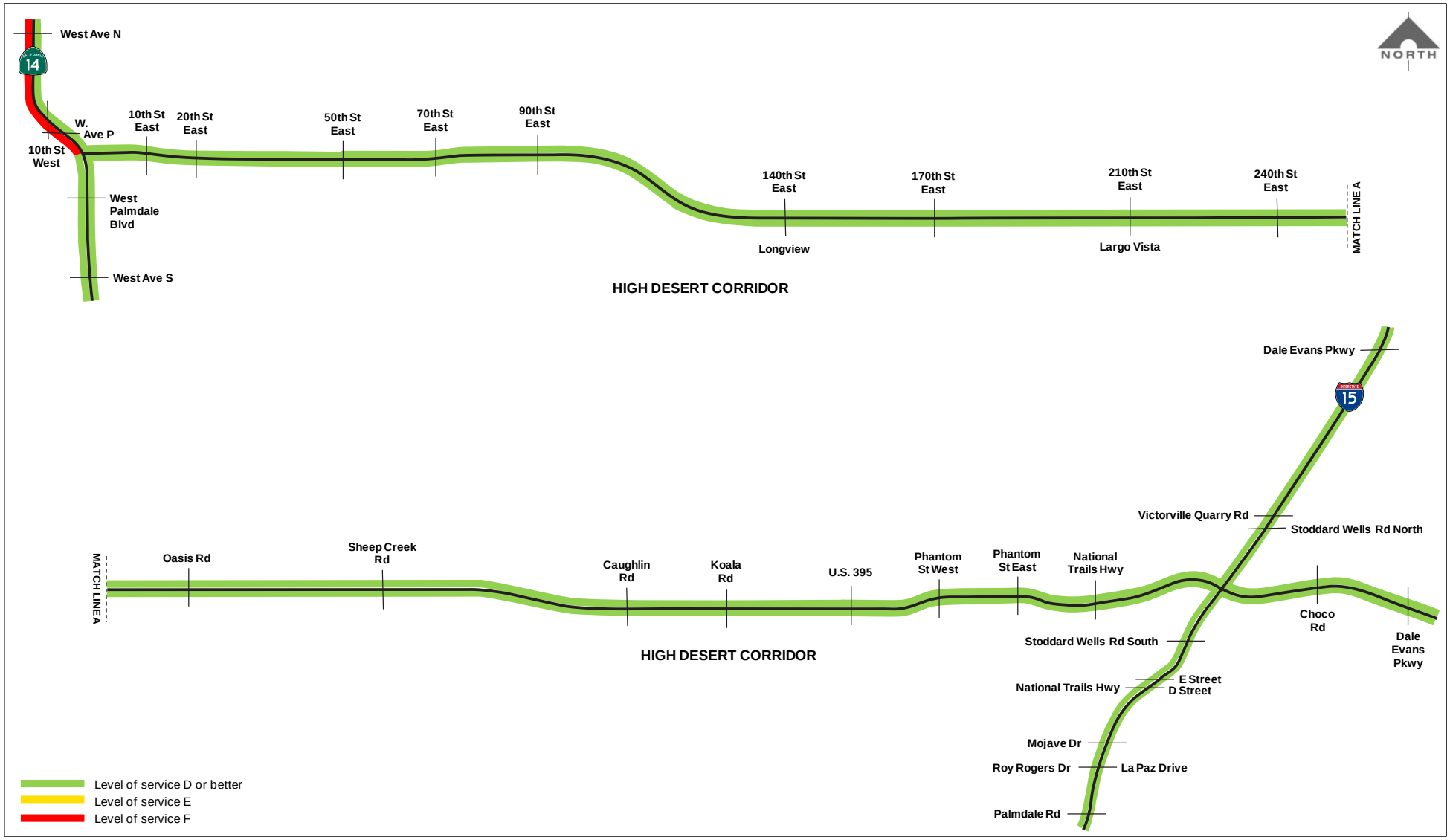
AM PEAK HOUR

Figure 26: Year 2040 Build Alternative with Tolls and High Speed Rail Feeder Service Freeway Mainline Level of Service *(1 of 2)*



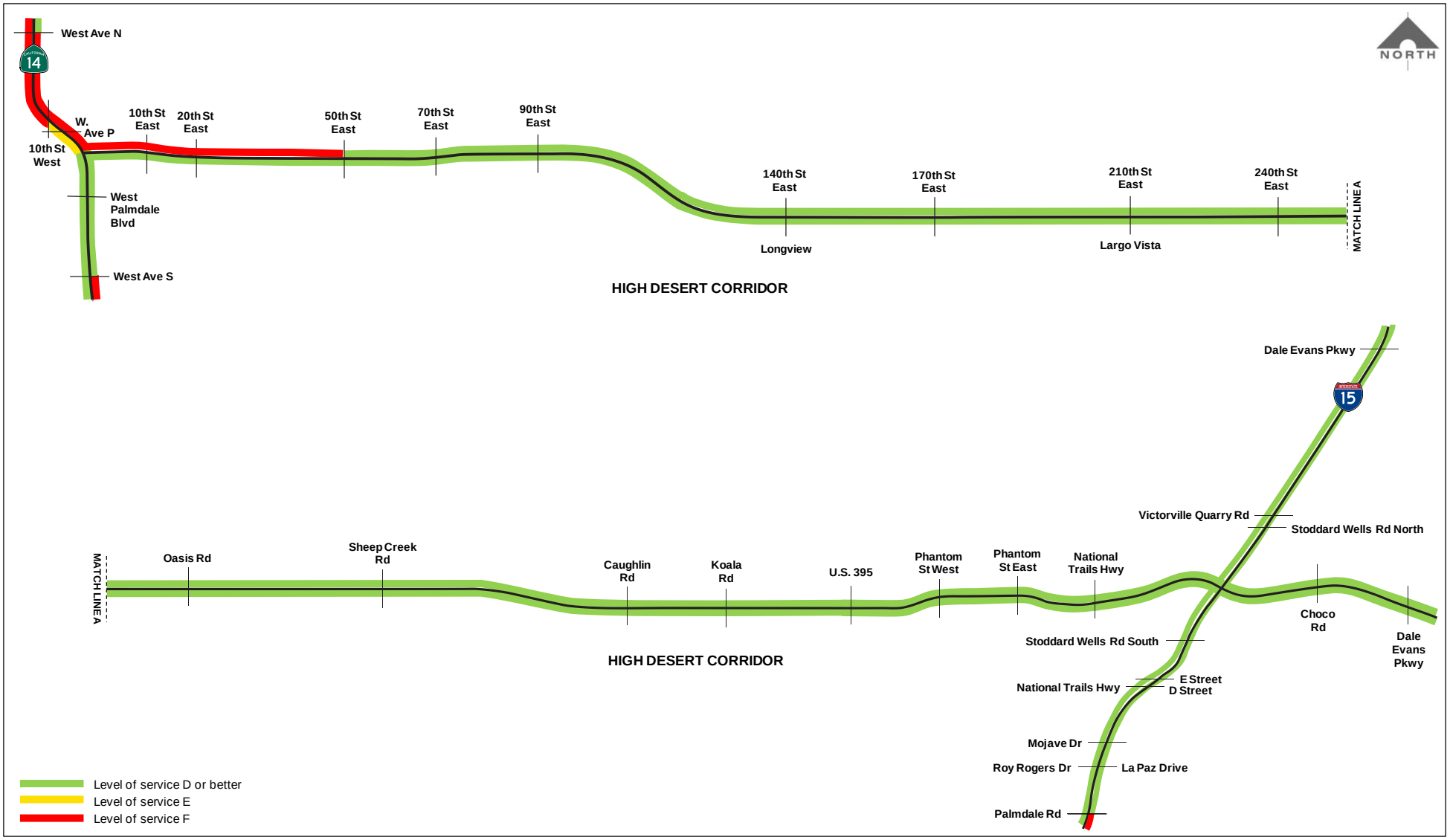
PM PEAK HOUR

Figure 26: Year 2040 Build Alternative with Tolls and High Speed Rail Feeder Service Freeway Mainline Level of Service *(2 of 2)*



AM PEAK HOUR

Figure 27: Year 2040 Build with Land Use Sensitivity Test Freeway Mainline Level of Service *(1 of 2)*



PM PEAK HOUR

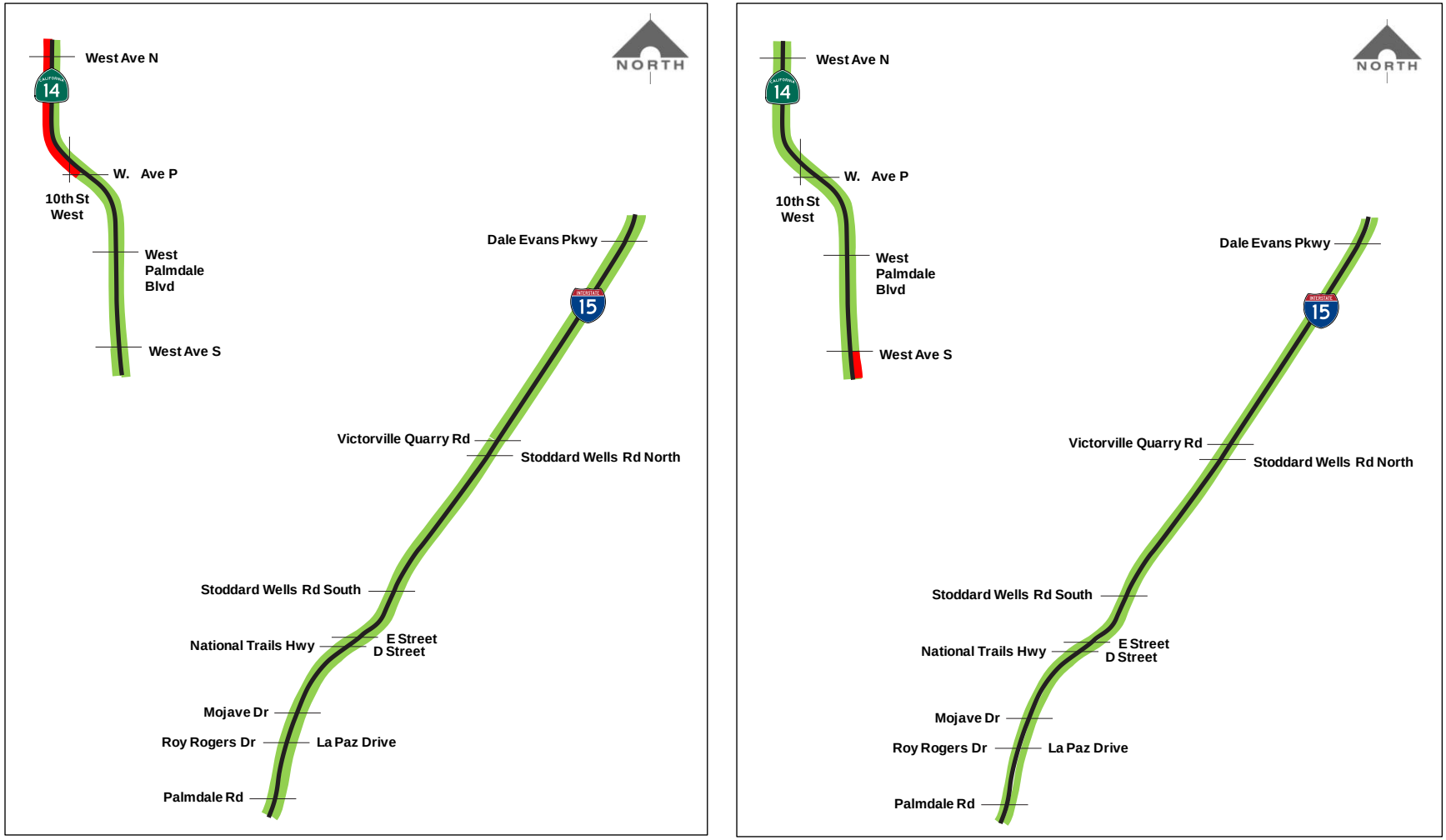
Figure 27: Year 2040 Build with Land Use Sensitivity Test Freeway Mainline Level of Service *(2 of 2)*

Table 12. Year 2020 Revised Palmdale Access Freeway Mainline Level of Service Analysis Results Summary *(segments operating at LOS E or worse)*

	FREEWAY SEGMENT (LOS)		
	NO-BUILD	BUILD	BUILD TOLL
AM PEAK			
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 10th 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	N/A	None	None
HDC WB	N/A	None	None
I-15 NB	None	None	None
I-15 SB	None	None	None
PM PEAK			
SR 14 NB	South end of network to East Avenue S off-ramp (*F*)	None	None
SR 14 SB	None	None	None
HDC EB	N/A	None	None
HDC WB	N/A	None	None
I-15 NB	None	None	None
I-15 SB	None	None	None

Table 13. Year 2020 Revised Palmdale Access Weaving and Ramp Merging/Diverging Level of Service Analysis Results Summary *(segments operating at LOS E or worse)*

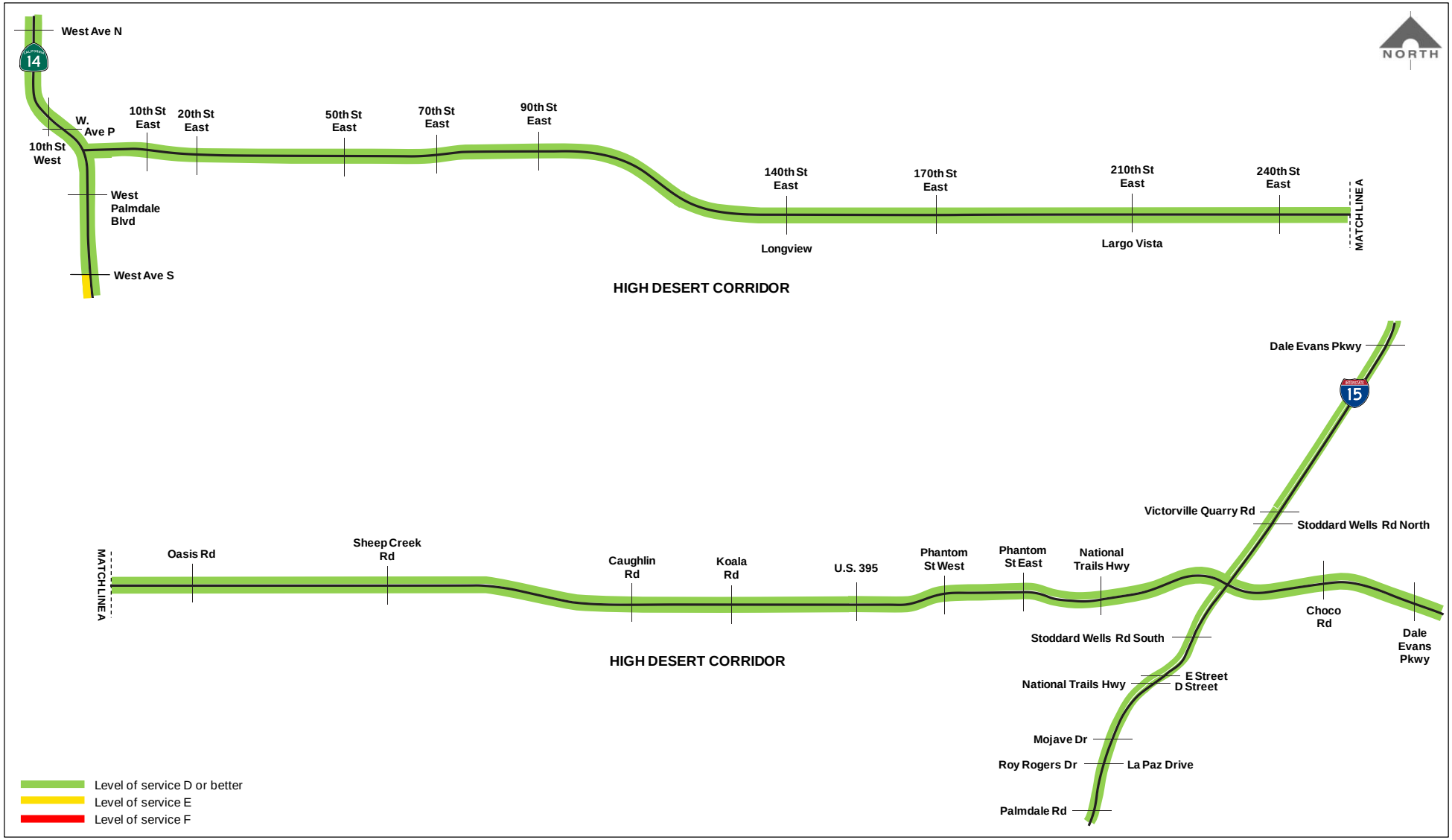
	SEGMENT *(LOS–TYPE)*		
	NO-BUILD	BUILD	BUILD TOLL
AM PEAK			
SR 14 NB	None	None	None
SR 14 SB	West Avenue N loop (*E–merging)* West Avenue N direct (*E–merging)* West Rancho Vista Boulevard (*E–merging)* West Avenue N (*E–merging)* 10th Street West (*E–diverging)*	None	None
HDC EB	N/A	None	None
HDC WB	N/A	None	None
I-15 NB	None	None	None
I-15 SB	None	None	None
PM PEAK			
SR 14 NB	None	None	West Avenue N (*E–diverging)*
SR 14 SB	None	None	None
HDC EB	N/A	None	None
HDC WB	N/A	None	None
I-15 NB	None	Palmdale Road (*E–diverging)*	Palmdale Road (*E–diverging)*
I-15 SB	None	None	None



AM **PM**

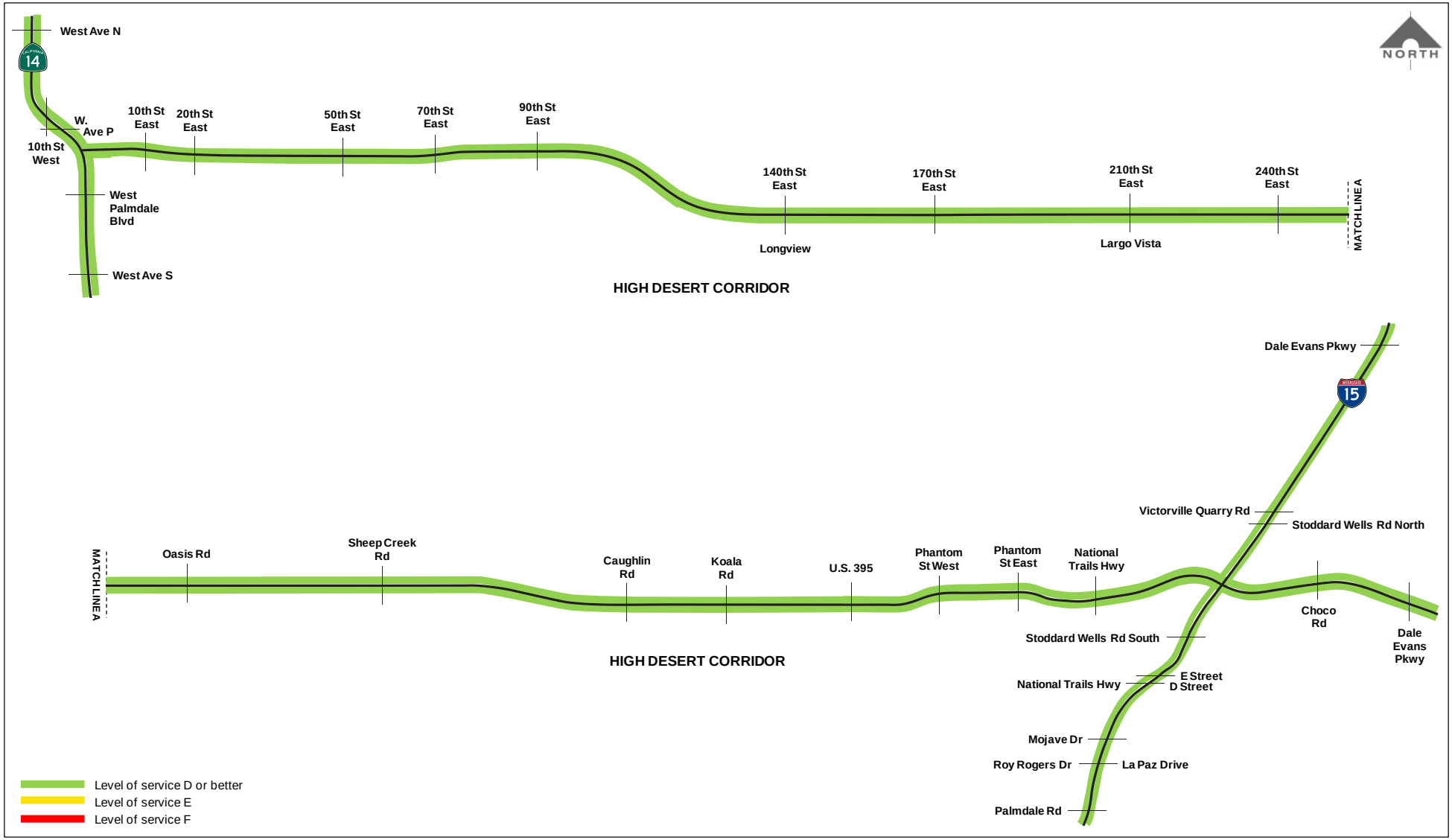
Level of service D or better
Level of service E
Level of service F

Figure 28: Year 2020 No-build Alternative with Revised Palmdale Access Freeway Mainline Level of Service



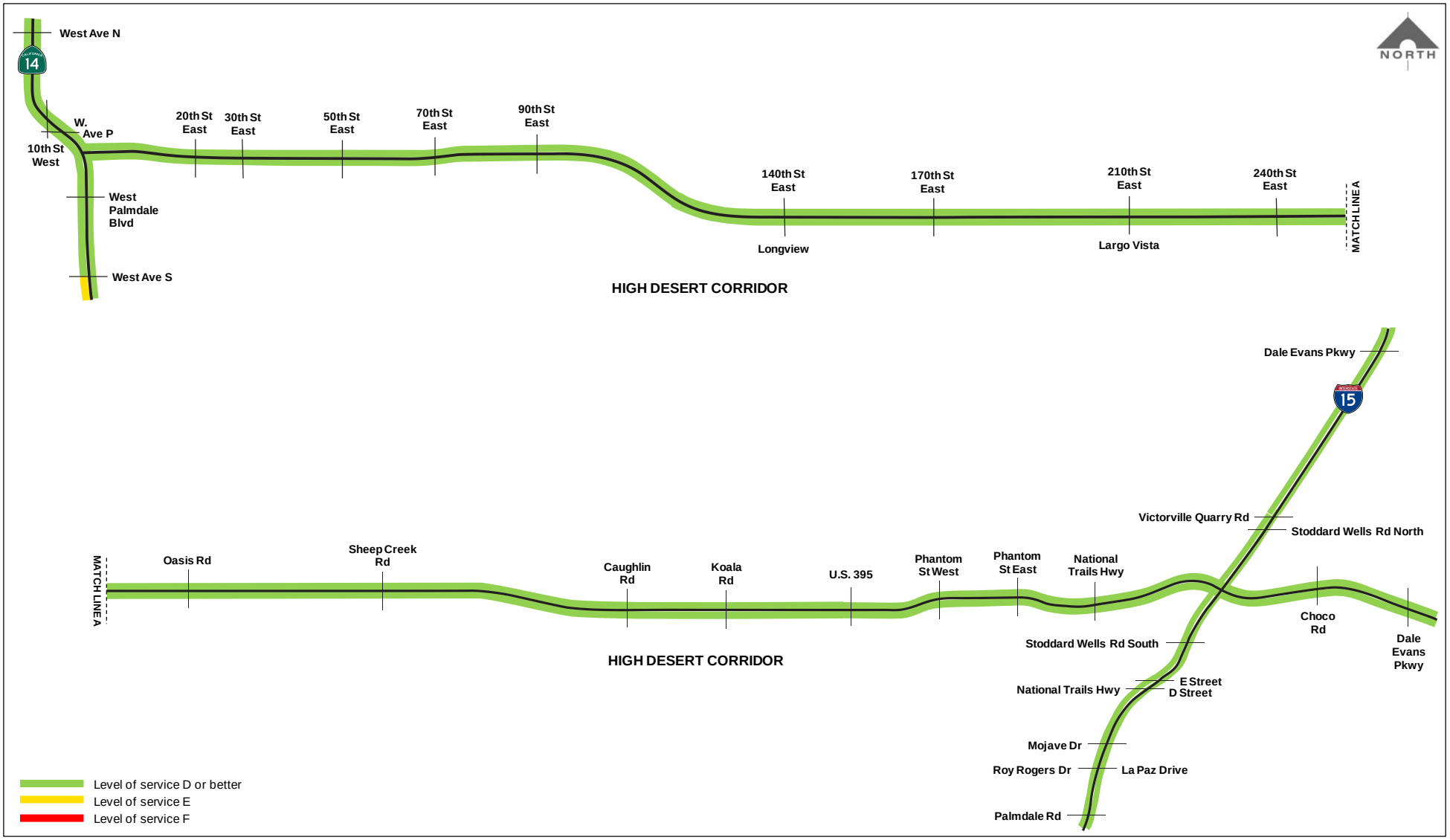
AM PEAK HOUR

Figure 29: Year 2020 Build Alternative with Revised Palmdale Access Freeway Mainline Level of Service *(1 of 2)*



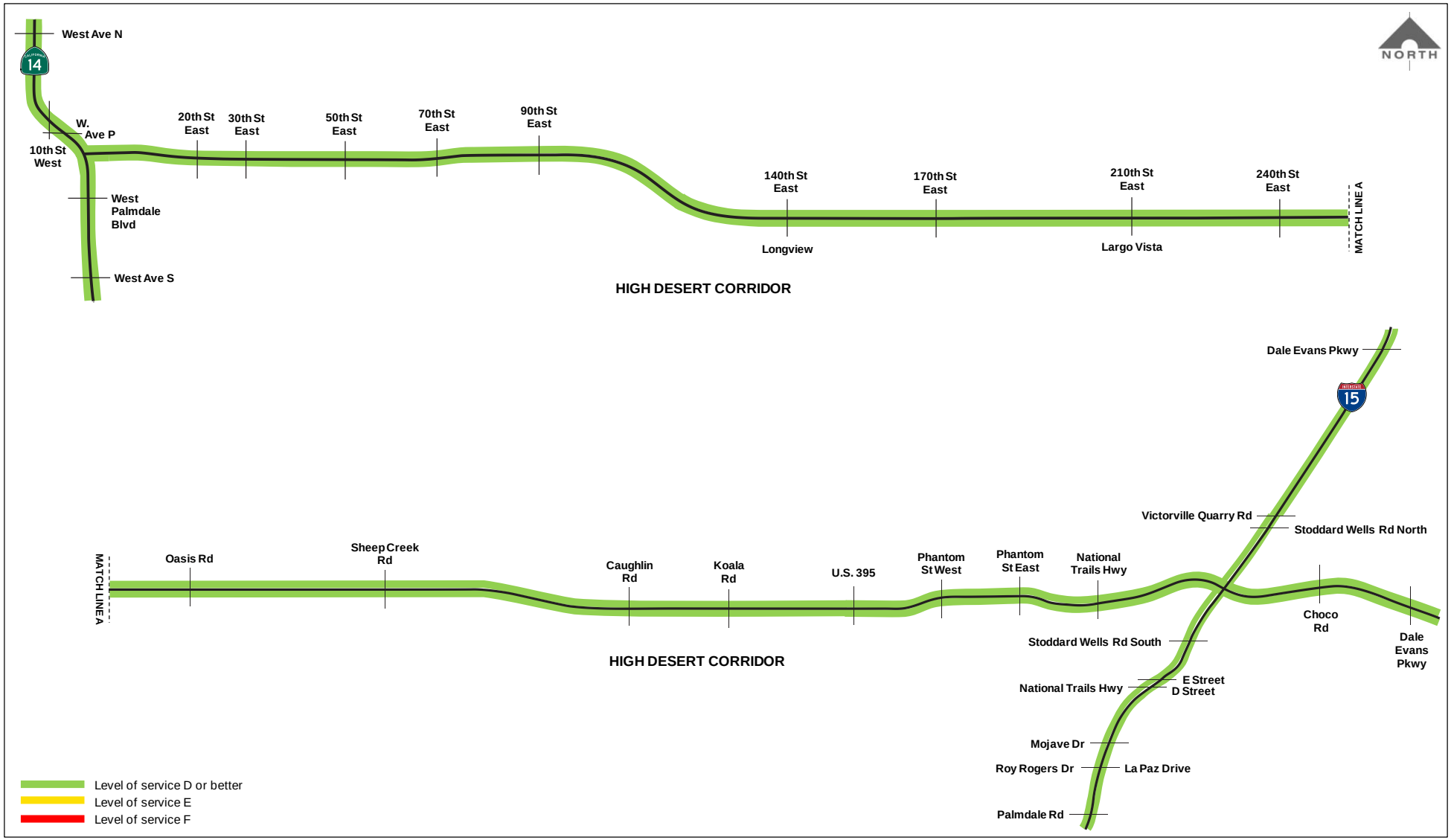
PM PEAK HOUR

Figure 29: Year 2020 Build Alternative with Revised Palmdale Access Freeway Mainline Level of Service *(2 of 2)*



AM PEAK HOUR

Figure 30: Year 2020 Build Alternative with Tolls and Revised Palmdale Access Freeway Mainline Level of Service *(1 of 2)*



PM PEAK HOUR

Figure 30: Year 2020 Build Alternative with Tolls and Revised Palmdale Access Freeway Mainline Level of Service *(2 of 2)*

Table 14. Year 2040 Revised Palmdale Access Freeway Mainline Level of Service Analysis Results Summary *(segments operating at LOS E or worse)*

	SEGMENT (LOS/TYPE)		
	NO-BUILD	BUILD	BUILD TOLL
AM PEAK			
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 10th Street West off-ramp (*F*) East Avenue S on-ramp to SR 14 SB 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	N/A	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	N/A	None	None
I-15 NB	None	None	None
I-15 SB	None	None	None
PM PEAK			
SR 14 NB	Pearblossom Hwy 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 Blvd 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 10th Street West off-ramp (*E*) HDC off-ramp to 10th Street West on-ramp (*F*)	None	None
HDC EB	N/A	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	N/A	SB off-ramp to SR 138 west end of network (*E*)	SB 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 (E)	South end of network to Palmdale Road off-ramp (*F*)
I-15 SB	None	None	None

Table 15. Year 2040 Revised Palmdale Access 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
AM PEAK				
SR 14 NB	None		None	None
SR 14 SB	West Avenue N loop *(E–merging)* West Avenue N direct *(E–merging)* East Avenue S *(E–merging)*	West Avenue N (*E–diverging)* 10th Street West (*E–diverging)*	East Avenue S *(E–merging)*	East Avenue S *(E–merging)*
HDC EB	N/A		None	None
HDC WB	N/A		None	None
I-15 NB	None		None	None
I-15 SB	None		None	None
PM PEAK				
SR 14 NB	East Avenue S (*E–merging)* East Avenue S (*E–diverging)*	West Palmdale Boulevard *(E–diverging)*	East Avenue S *(E–diverging)*	East Avenue S *(E–diverging)*
SR 14 SB	West Avenue N direct *(E–merging)* West Rancho Vista Boulevard *(E–merging)*	10th Street West *(E–diverging)* West Palmdale Boulevard *(E–diverging)*	None	None
HDC EB	N/A		None	None
HDC WB	N/A		None	Route 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

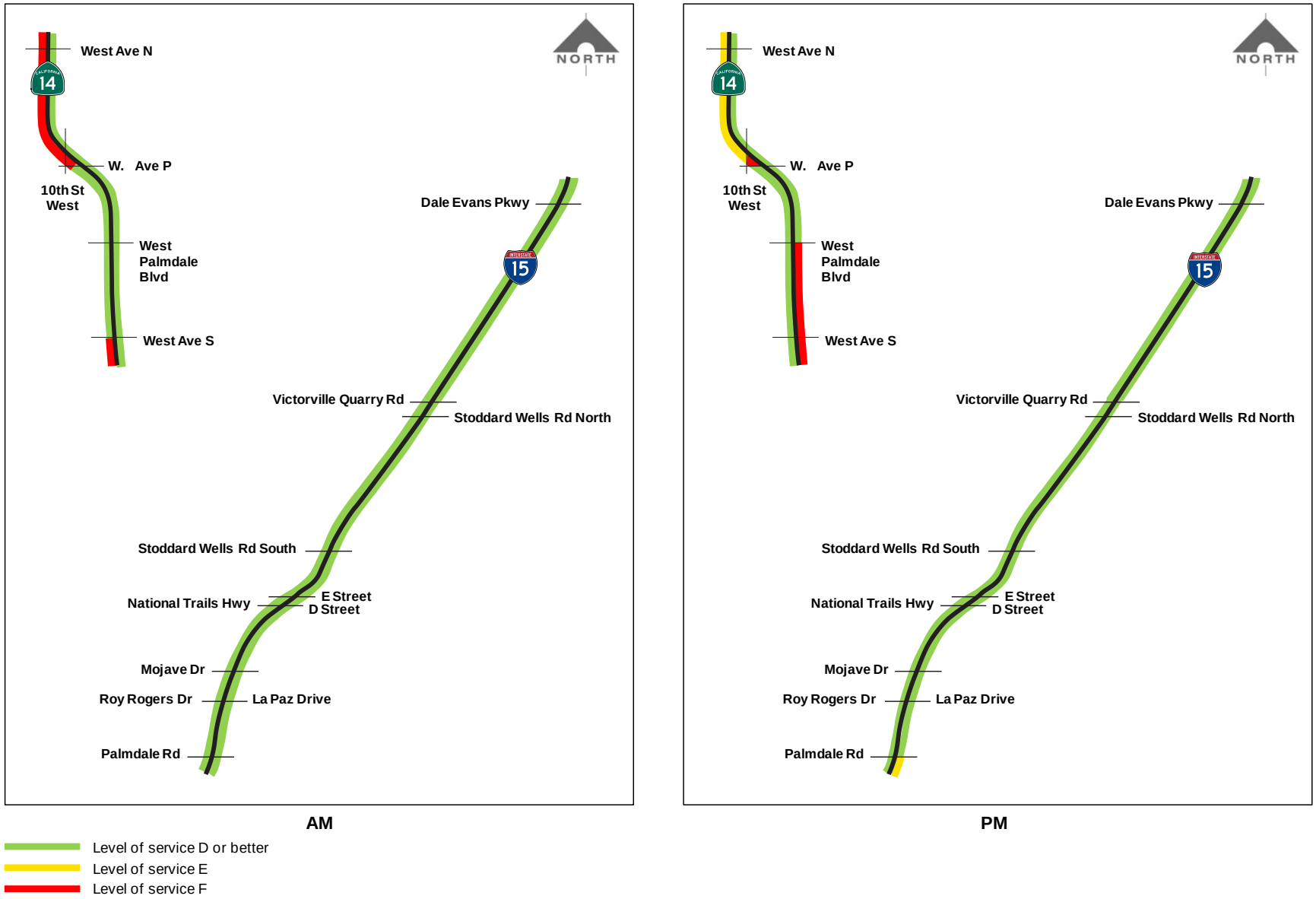
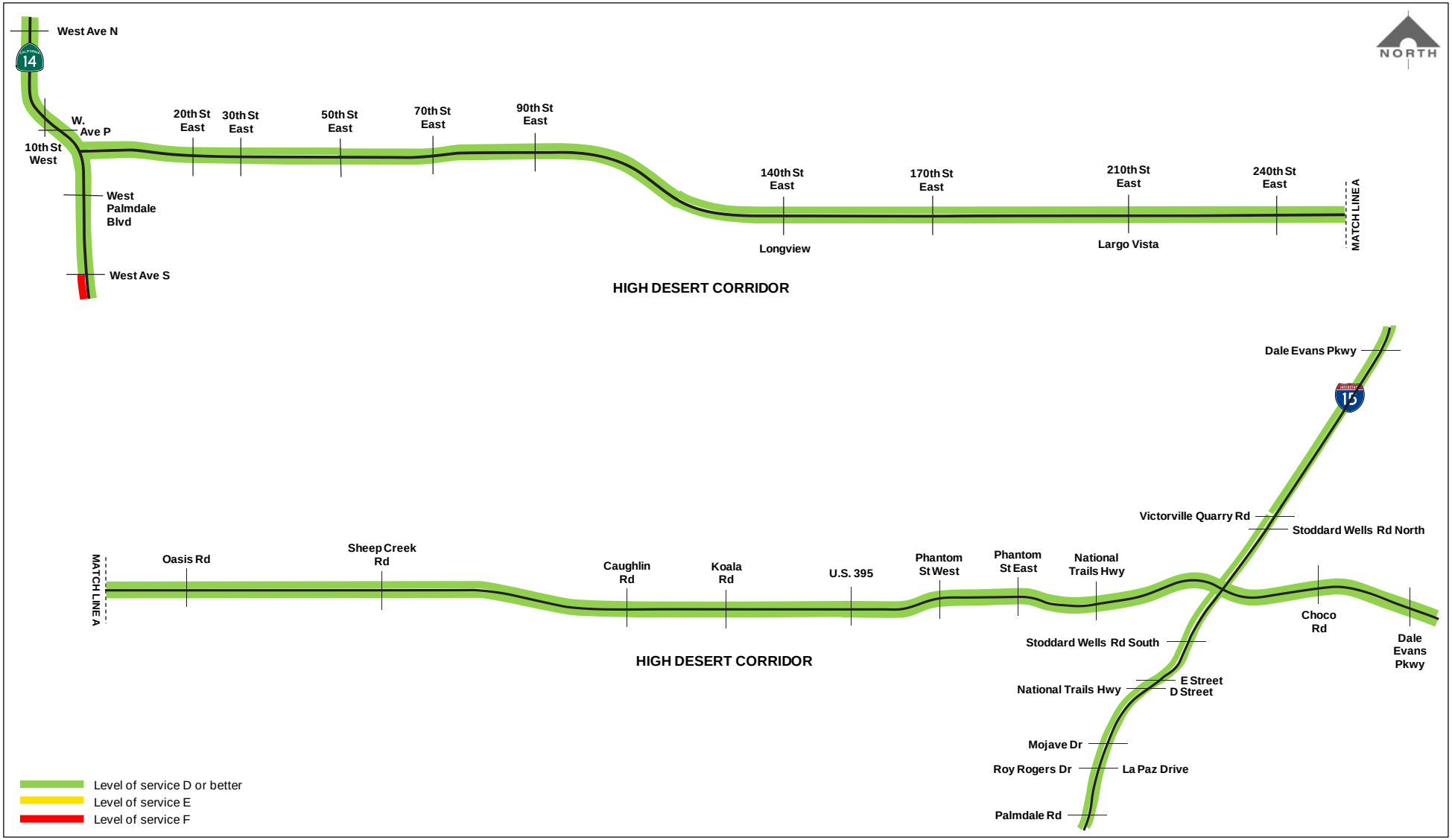
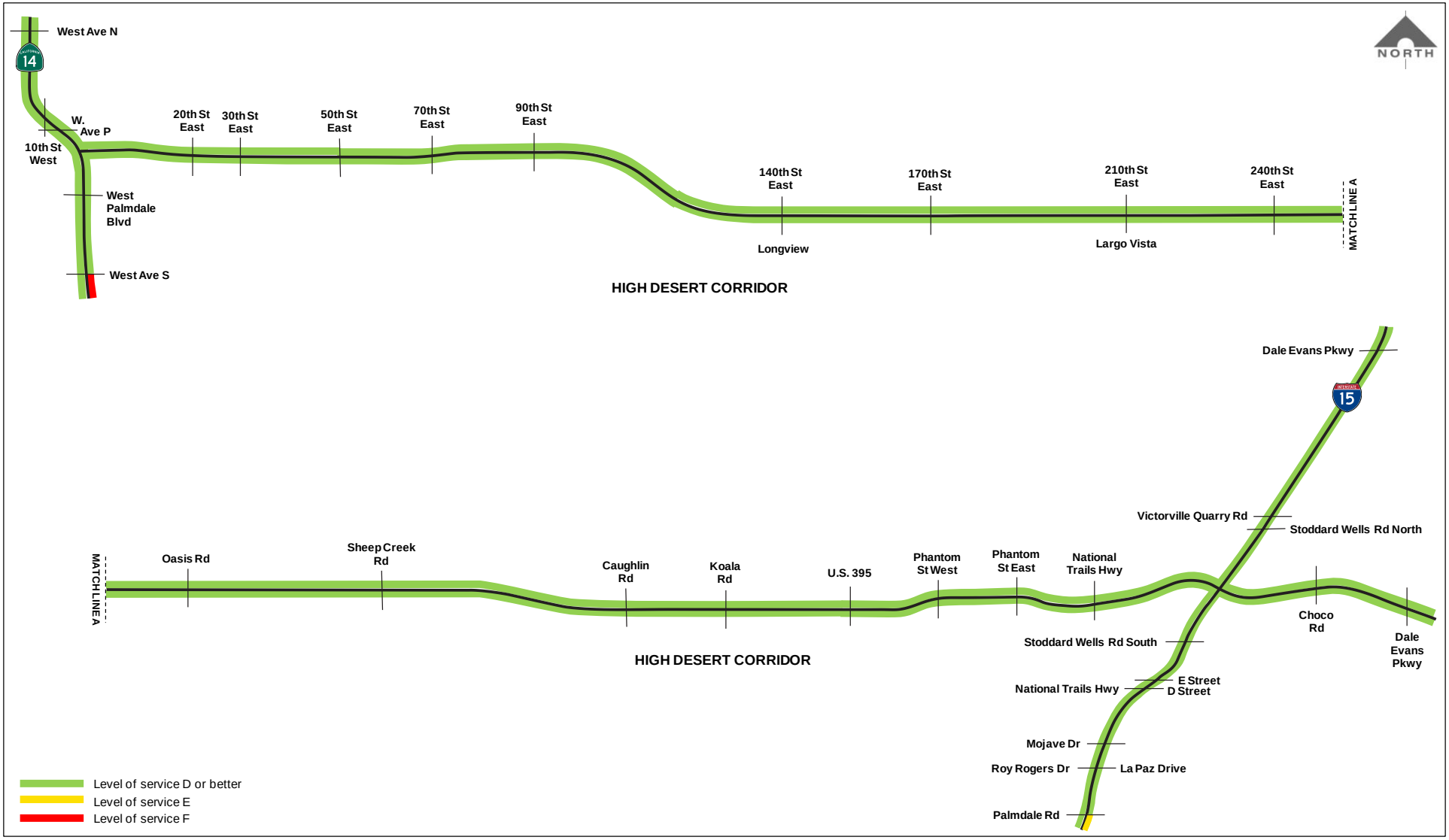


Figure 31: Year 2040 No-build Alternative with Revised Palmdale Access Freeway Mainline Level of Service



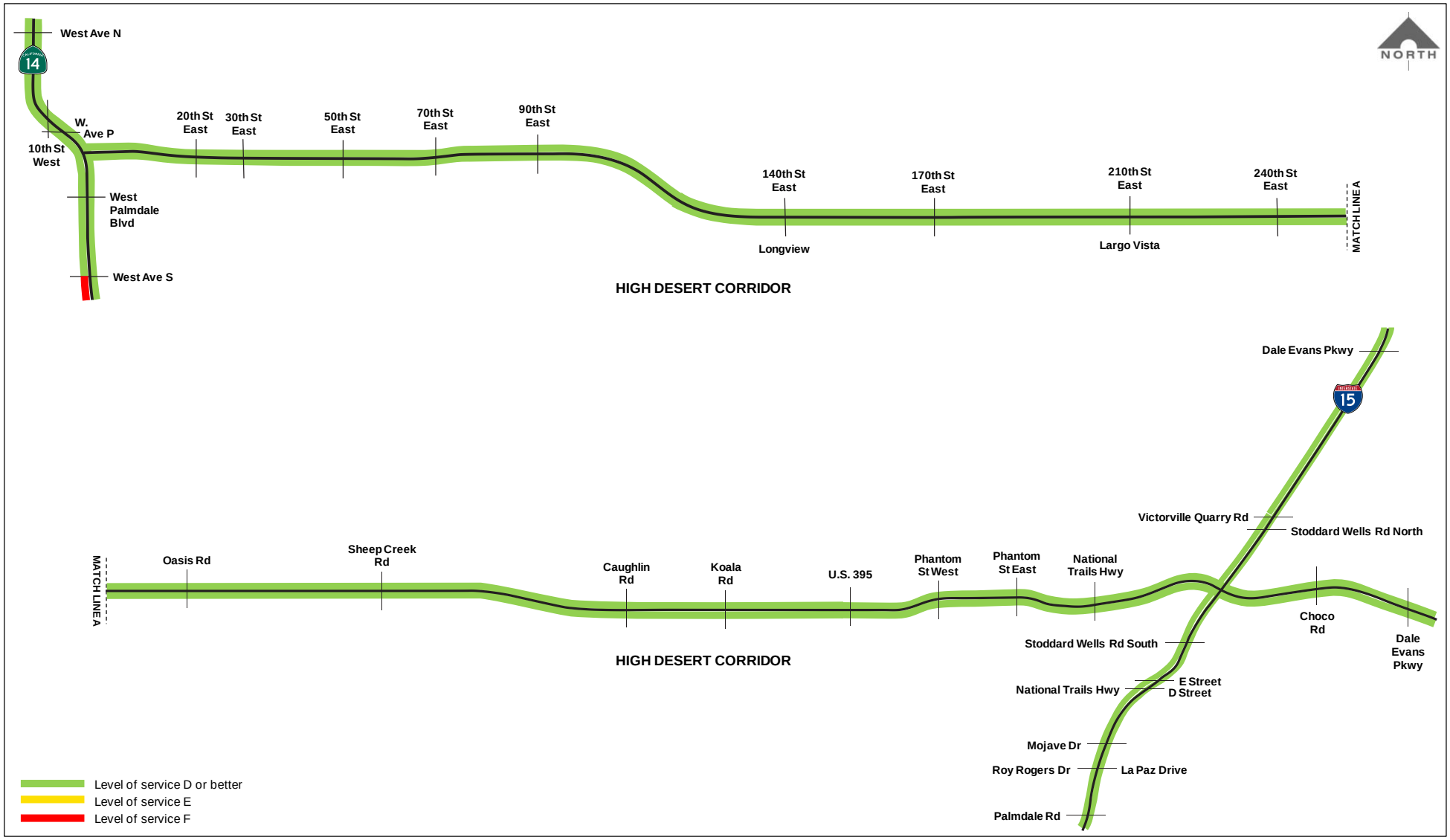
AM PEAK HOUR

Figure 32: Year 2040 Build Alternative with Revised Palmdale Access Freeway Mainline Level of Service *(1 of 2)*



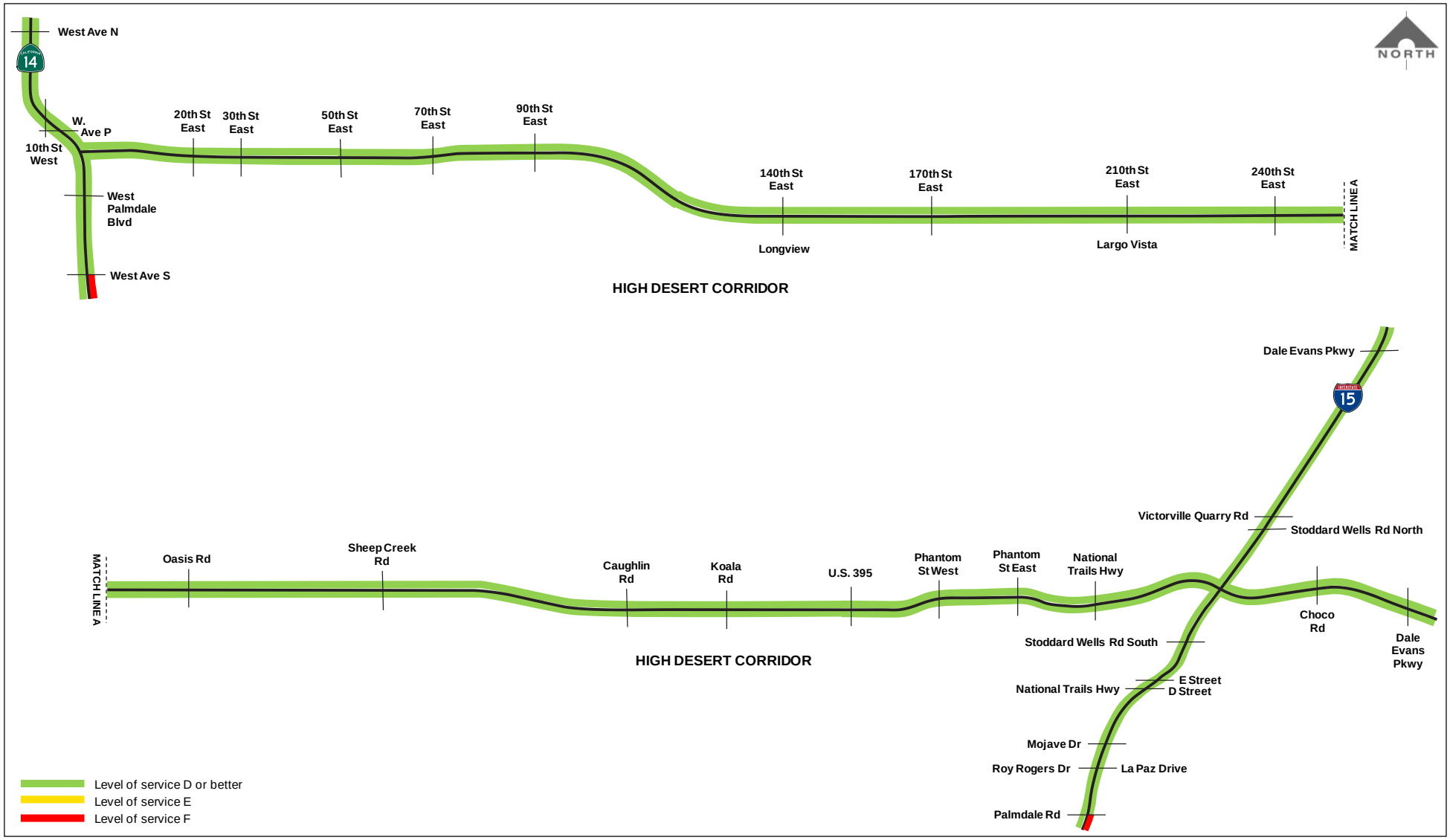
PM PEAK HOUR

Figure 32: Year 2040 Build Alternative with Revised Palmdale Access Freeway Mainline Level of Service *(2 of 2)*



AM PEAK PERIOD

Figure 33: Year 2040 Build Alternative with Tolls and Revised Palmdale Access Freeway Mainline Level of Service *(1 of 2)*



PM PEAK PERIOD

Figure 33: Year 2040 Build Alternative with Tolls and Revised Palmdale Access Freeway Mainline Level of Service *(2 of 2)*

Table 16. Year 2020 Initial Results[1] Intersection Level of Service Summary *(intersections operating at LOS E or worse) (1 of 2)*

ID NO.	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION				OPEN YEAR 2020 NO-BUILD CONDITION				OPEN YEAR 2020 BUILD ALTERNATIVE				OPEN YEAR 2020 BUILD PARTIAL FREEWAY				OPEN YEAR 2020 BUILD ALTERNATIVE WITH TOLLS			
			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
HIGH DESERT CORRIDOR																						
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	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	27.7	C	34.5	C	27.7	C	34.5	C	27.7	C	34.5
24	10th 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	33.5	C	29.4	C	22.1	C	30.8
30*	15th 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	**F**	>300	**F**	>300
35*	20th 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	C	25.7	D	39.4
45*	50th 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**	80.8	**F**	74.9	**F**	138.4	**F**	141.8
49*	70th Street East and East Palmdale Boulevard	Stop NB/SB	**F**	>300	C	20.9	**F**	>300	**F**	>300	B	12.0	C	22.9	**E**	37.0	D	27.6	B	13.3	C	16.1
56	140th 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	C*	17.2	**F***	90.8	B	14.1	**F**	>300
59	140th Street and East Avenue R	Stop EB/WB	Does not exist				B*	11.4	C*	17.5	A	2.7	A	4.2	**F***	>300	**F***	>300	B	11.4	**E**	39.2
60	170th Street East and East Palmdale Boulevard	Existing–4-way stop; future–stop EB/WB	A*	7.6	A*	8.1	A*	9.5	B*	13.6	A	2.7	A	3.6	C	18.0	**F***	78.9	A	6.3	A	9.9
64*	165th Street East and SR 138	Signal	C	20.6	C	21.7	**E**	57.2	D	38.9	C	31.4	C	24.9	**E**	71.6	D	49.8	D	44.9	C	31.7
69	210th Street and East Avenue S	Stop EB/WB	Does not exist				Does not exist				A	2.3	A	2.6	**F***	>300	**F***	>300	A	6.8	A	7.9
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	D	34.5	**F**	>300	C	24.6	**F**	>300
71	240th Street and East Palmdale Boulevard	Stop EB/WB	A*	8.7	A*	8.8	**F***	>300	**F***	>300	A	3.3	A	4.4	B*	13.7	C*	19.7	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	**F***	>300	F*	>300	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	30.2	C	33.6	C	34.5
86	Caughlin Road and Rancho Road	Stop EB/WB	Does not exist				C*	16.1	**E***	39.1	A	3.9	A	4.1	B*	10.5	B*	11.8	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	12.4	B	11.0	B	15.8	B	14.2
99*	U.S. 395 and SR 18	Signal	C	34.0	D	36.5	D	47.0	**E**	68.1	D	39.7	D	49.4	D	41.7	D	50.2	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	26.1	D	36.9	C	25.0	C	33.1

Table 16. Year 2020 Initial Results[1] Intersection Level of Service Summary *(intersections operating at LOS E or worse) (2 of 2)*

ID NO.	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION				OPEN YEAR 2020 NO-BUILD CONDITION				OPEN YEAR 2020 BUILD ALTERNATIVE				OPEN YEAR 2020 BUILD PARTIAL FREEWAY				OPEN YEAR 2020 BUILD ALTERNATIVE WITH TOLLS			
			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
HIGH DESERT CORRIDOR																						
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	F	>300	F	>300
		No-build–stop NB/SB; improvements–signal	N/A	N/A	N/A	N/A	B	14.3	B	12.2	A	9.1	A	8.2	B	10.2	A	9.0	A	9.6	A	8.6
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	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	6.0	A	6.4	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	F	>300	F	>300
		Improvements–signal	N/A	N/A	N/A	N/A	B	14.3	B	12.8	A	8.2	A	4.5	A	9.1	A	6.9	A	8.1	A	5.5
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	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	14.4	B	14.9	B	16.3	B	15.6
137	I-15 northbound off-/on-ramps and Stoddard Wells Rd (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	4.7	A	5.0	A	4.6	A	5.1

Source: Parsons

Notes:
1. Initial results do not reflect Palmdale access refinements
2. Two-way stop control level of service reported for worst approach
3. 4-way stop reported for overall level of service.
4. Intersection level of service calculations are based on HCM 2000, excepted where noted with *

*Intersection level of service was calculated using TRAFFIX software

Level of service E

Level of service F

Table 17. Year 2020 Revised Palmdale Access Intersection Level of Service Summary *(intersections operating at LOS E or worse) (1 of 2)*

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
HIGH DESERT CORRIDOR																		
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	10th 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*	15th 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*	20th 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*	30th 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*	50th 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*	70th 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	140th 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	140th 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*	165th 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	240th 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
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*	U.S. 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

Table 17. Year 2020 Revised Palmdale Access Intersection Level of Service Summary *(intersections operating at LOS E or worse) (2 of 2)*

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
HIGH DESERT CORRIDOR																		
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

Source: Parsons

Notes:
1. Proposed additional geometry improvements
2. Two-way stop control level of service reported for worst approach
3. 4-way stop reported for overall level of service.
4. Intersection level of service calculations are based on HCM 2000, excepted where noted with *

*Intersection level of service was calculated using TRAFFIX software

Level of service E

Level of service F

Table 18. Year 2040 Initial Results[1] Intersection Level of Service Summary *(intersections operating at LOS E or worse) (1 of 3)*

ID NO.	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION				DESIGN YEAR 2040 NO-BUILD CONDITION				DESIGN YEAR 2040 BUILD ALTERNATIVE				DESIGN YEAR 2040 BUILD ALTERNATIVE (MODIFIED ALIGNMENT)*				DESIGN YEAR 2040 BUILD ALTERNATIVE WITH TOLL			
			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
HIGH DESERT CORRIDOR																						
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	B	12.9	B	16.9	A	5.6	A	5.3
6	10th Street West and SR 14 southbound off-ramp	Signal	B	13.2	B	11.4	C	21.3	D	54.8	C	25.5	C	21.8	F	80.6	D	48.4	C	23.9	B	18.0
8	10th Street West and West Avenue P	Signal	C	31.3	C	30.3	C	32.7	E	74.8	C	27.5	C	27.8	E	62.1	E	76.0	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	18.9	B	19.6	C	22.2	C	34.1	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	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	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	D	35.3	F	83.7	C	33.2	E	63.0	C	27.9	C	31.1
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	34.7	D	41.2	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	17.4	B	13.9	B	17.7
22*	6th Street East and East Palmdale Boulevard	Signal	C	20.7	C	25.3	E	55.7	E	78.0	C	30.2	C	33.1	C	29.1	C	30.6	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	34.1	D	42.8	C	31.0	D	35.4	C	30.9	D	35.1
24	10th 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	24.0	C	26.5	C	21.1	C	22.2
28*	10th Street East and East Palmdale Boulevard	Signal	B	17.2	C	20.0	C	31.3	D	50.6	C	34.3	E	69.1	C	30.1	D	47.4	C	29.1	D	49.5
30*	15th 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	F	>300	F	>300
35*	20th Street East and East Palmdale Boulevard	Signal	B	19.9	C	22.9	C	34.1	E	63.8	C	28.4	D	53.9	C	28.0	D	45.4	C	26.4	D	42.7
36*	25th Street East and East Palmdale Boulevard	Signal	C	26.2	C	30.9	D	42.2	E	64.5	C	33.6	D	38.9	C	33.1	D	36.5	C	33.2	D	36.2
38*	30th Street East and East Avenue Q	4-way stop	B	11.6	B	11.6	E	46.0	F	145.3	C	23.2	F	84.0	C	20.4	F	65.4	C	18.2	F	51.8
40*	40th 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	19.1	C	24.2	C	19.3	C	22.7
41*	40th 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	27.8	C	33.2	C	28.4	D	35.4
45*	50th Street East and East Palmdale Avenue	Roundabout	B	14.0	A	8.9	F	>300	F	>300	F	270.2	F	134.6	F	93.6	F	77.4	F	119.5	F	56.7
49*	70th Street East and East Palmdale Boulevard	Stop NB/SB	F	>300	C	20.9	F	>300	F	>300	C	15.6	F	60.1	F	>300	F	>300	B	14.0	E	35.0

Table 18. Year 2040 Initial Results[1] Intersection Level of Service Summary *(intersections operating at LOS E or worse) (2 of 3)*

ID NO.	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION				DESIGN YEAR 2040 NO-BUILD CONDITION				DESIGN YEAR 2040 BUILD ALTERNATIVE				DESIGN YEAR 2040 BUILD ALTERNATIVE (MODIFIED ALIGNMENT)*				DESIGN YEAR 2040 BUILD ALTERNATIVE WITH TOLL			
			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
HIGH DESERT CORRIDOR																						
54*	90th 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	D	35.1	D	37.2	C	34.8	D	35.0
60	170th 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	B	11.1	C	18.8	A	4.5	**E**	36.2
64*	165th Street East and SR 138	Signal	C	20.6	C	21.7	**F**	109.7	**E**	56.8	D	36.6	C	29.5	C	33.3	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	C	24.4	**F**	>300	**E**	39.1	**F**	>300
71	240th Street and East Palmdale Boulevard	Stop EB/WB	A*	8.7	A*	8.8	**F***	>300	**F***	>300	A	4.4	A	6.9	C	15.9	D	29.5	**F**	>300	**E**	38.7
74	240th 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	10.6	B	10.7	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	B	11.1	C	21.6	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	12.8	B	13.7	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	**F**	201.1	C	34.9	**F**	162.8	D	54.4	**F**	291.0
86	Caughlin Road and Rancho Road	Stop EB/WB	Does not exist				**E***	35.8	**F***	58.8	A	6.3	B	14.0	C	21.1	**F**	50.3	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	28.7	C	28.4	C	27.2	C	30.0
94	U.S. 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	30.0	D	46.2	C	21.8	C	24.4
95	U.S. 395 and westbound High Desert Corridor	Signal	Does not exist				Does not exist				C	27.8	C	26.1	D	35.8	D	38.0	B	13.1	C	32.7
97	U.S. 395 and Rancho Road	Signal	C*	24.6	C*	26.4	D*	48.2	**F***	107.7	C	23.2	C	31.3	C	33.5	D	43.3	C	20.9	D	43.5
99*	U.S. 395 and SR 18	Signal	C	34.0	D	36.5	**E**	61.1	F	90.6	D	42.2	**E**	64.1	D	39.3	D	49.9	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	40.7	D	48.6	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	33.8	D	38.6	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	37.6	D	39.9	D	37.5	D	39.3
111	National Trails Highway and westbound High Desert Corridor	Signal	Does not exist				Does not exist				C	24.4	C	20.4	D	42.8	**E**	65.6	C	25.1	C	22.1
112	National Trails Highway and eastbound High Desert Corridor	Signal	Does not exist				Does not exist				C	21.3	C	25.6	C	29.2	**E**	68.3	C	21.0	C	24.7
117	I-15 northbound off-/on-ramps and Roy Rogers Drive	Signal	C	20.7	C	21.0	C	34.9	C	28.9	C	22.2	C	28.3	C	28.4	**E**	59.7	C	22.8	C	25.3
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	26.6	D	36.7	C	26.4	D	36.6
120	Park Avenue and SR 18	Signal	B	17.6	C	25.2	C	23.5	C	20.5	A	8.5	B	19.1	C	26.2	**E**	64.9	A	9.0	C	21.5

Table 18. Year 2040 Initial Results[1] Intersection Level of Service Summary *(intersections operating at LOS E or worse) (3 of 3)*

ID NO.	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION				DESIGN YEAR 2040 NO-BUILD CONDITION				DESIGN YEAR 2040 BUILD ALTERNATIVE				DESIGN YEAR 2040 BUILD ALTERNATIVE (MODIFIED ALIGNMENT)*				DESIGN YEAR 2040 BUILD ALTERNATIVE WITH TOLL			
			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
HIGH DESERT CORRIDOR																						
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	F	>300	F	>300
		Improvements–signal	N/A	N/A	N/A	N/A	B	12.2	B	11.2	B	10.9	B	10.1	B	17.4	B	15.6	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	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	D	30.6	D	32.4	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	F	>300	F	>300
		Improvements–signal	N/A	N/A	N/A	N/A	B	13.2	B	10.5	B	10.0	A	4.9	A	9.9	A	7.7	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	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	C	26.3	D	37.2	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	10.7	C	26.9	B	10.4	C	26.0
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	44.1	D	52.4	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	21.2	C	34.5	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	C	18.5	F	61.1	A	6.5	C	19.6
157	Joshua Road and Standing Rock Road	Stop EB/WB	Does not exist				C*	17.8	D*	28.8	A	7.0	C	16.3	C	20.3	F	70.1	A	9.0	C	16.8
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	C	17.3	F	90.8	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	B	11.3	D	33.5	A	2.5	A	3.9

Source: Parsons

Notes:
1. Initial results do not reflect Palmdale access refinements
2. Proposed additional geometry improvements.
3. Two-way stop control level of service reported for worst approach
4. 4-way stop reported for overall level of service.
5. Intersection level of service calculations are based on HCM 2000, excepted where noted with *

*Intersection level of service was calculated using TRAFFIX software

Level of service E

Level of service F

Table 19. Year 2040 Revised Palmdale Access Intersection Level of Service Summary *(intersections operating at LOS E or worse) (1 of 2)*

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
HIGH DESERT CORRIDOR																		
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	10th 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	33.0	**E**	66.3
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*	6th 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	10th 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*	10th 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*	15th 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*	20th 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
36*	25th 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*	30th 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*	40th 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*	40th 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*	50th 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*	70th 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*	90th 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	140th 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	170th 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*	165th 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	240th 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	240th 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
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

Table 19. Year 2040 Revised Palmdale Access Intersection Level of Service Summary *(intersections operating at LOS E or worse) (2 of 2)*

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
HIGH DESERT CORRIDOR																		
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	U.S. 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	U.S. 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*	U.S. 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
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

Source: Parsons

Notes:
1. Proposed additional geometry improvements.
2. Two-way stop control level of service reported for worst approach
3. 4-way stop reported for overall level of service.
4. Intersection level of service calculations are based on HCM 2000, excepted where noted with *

*Intersection level of service was calculated using TRAFFIX software

Level of service E

Level of service F

RAMP TERMINI AND STUDY AREA INTERSECTION ANALYSIS SUMMARY

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 level of service improves to LOS A or B with the installation of traffic signals at these locations (intersections 130-133). For the ramp termini intersections reported in year 2040, all ramp intersections for the build alternative perform at LOS D or better, assuming that traffic signals are installed at the I-15 and Stoddard Wells south interchange (intersections 130–133). The same finding is the case with respect to the build alternative with tolls, except that intersection 16, the southbound SR 14 off-ramp termini at West Avenue S, performs at LOS E during the AM peak hour.

For the remaining study area intersections, the no-build alternative performs poorly when compared to the build alternative. For the no-build 2020 opening year scenario, 115 intersections are analyzed. During the AM peak hour, nine intersections (eight 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.

The build alternative performs much better. Only two of 164 intersections studied perform at LOS E or LOS F during the AM peak hour, while five intersections perform poorly during the PM peak hour. These poorly performing intersections are listed below.

- #30—15th Street East and East Palmdale Boulevard (AM, PM)
- #45—50th Street East and East Palmdale Boulevard (AM, PM)
- #56—140th Street East and East Palmdale Boulevard (PM–Toll Alternative)
- #59—140th Street East and East Avenue R (PM–Toll Alternative)
- #70—SR 138 and SR 18 (PM)

The partial build alternative performs much better than the no-build alternative, but worse than the build alternative, insofar as the intersection level of service.

Insofar as overall performance for the no-build and build alternatives, the number of study intersections projected to operate at LOS E or LOS F is summarized below.

Summary of Study Intersection Year 2040 Level of Service Performance *(Initial Results)*

	NO-BUILD		BUILD		BUILD WITH TOLLS	
	AM	PM	AM	PM	AM	PM
Number of intersections studied	115		159		159	
Intersections performing at LOS E or F	23	45	2	11	5	7
Percent performing at LOS E or F	20%	39%	1%	7%	3%	4%

Summary of Study Intersection Year 2040 Level of Service Performance
(Revised Palmdale Access Results)

	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%

The operational performance for most intersections under the rail feeder service alternatives will be the same as reported for the build alternative and the build alternative with tolls. Key study intersections located near the Palmdale and Victorville train stations will be affected, however.

Transportation System Management Alternative

The transportation system management (TSM) alternative is a collection of lower cost roadway improvements through the project corridor that can be evaluated against the proposed project alternatives. The transportation system management alternative focuses on improvements that connect SR 14 with SR 138 and then extend east to connect with U.S. 395, I-15 and SR 18. The key elements under consideration for this alternative include:

- ***An eight-lane grade separated freeway from SR 14 to 30th Street East***
  For the purpose of the traffic study analysis, the eight-lane, grade-separated freeway portion of the alternative, from SR 14 to 30th Street East, along with improvements along SR 14 required to accommodate the freeway-to-freeway interchange, are assumed to be identical to that defined for the initial definition of the build alternative, which does not reflect the revised Palmdale access.

- ***A transition to a four-lane at-grade expressway from 30th Street East to Longview Road***
  The physical characteristics of this section are assumed to be identical to the four-lane expressway portion of SR 18 east of Dale Evans Parkway, as defined for the build alternative.

- ***A four-lane at-grade highway connecting to SR 138 and extending east to U.S. 395 along SR 18***
  The north−south portion of this segment is assumed to run along Longview Road. A roadway cross section similar to what currently exists along SR 138 (Pearblossom Highway) from Longview Road to 165th Street East is assumed. This cross section provides standard width shoulders, two 12-foot travel lanes per direction, and a median approximately 19 to 20 feet in width. A signalized T-intersection at SR 138 is assumed.

  Continuing east, SR 138 was widened to four lanes between Longview Road and 165th Street East in 2006/2007 as part of Caltrans' District 7 SR 138 Corridor Improvement Program. When complete, this program will widen SR 138 from Avenue T in the city of Palmdale to the junction of SR 18 in Llano. The transportation systems management alternative would continue the four-lane widening easterly along SR 18 to U.S. 395. A four-foot to 20-foot median is assumed to facilitate left turn movements to cross streets and driveways.

- ***A six-lane arterial highway along SR 18 (Palmdale Road) from U.S. 395 to I-15***
  City of Victorville roadway standards will be followed for the portion of Palmdale Road west of Caughlin Road to I-15. The City's General Plan circulation map designates this portion of Palmdale Road as a "super arterial" having a right-of-way of 124 feet.

- ***Minor roadway and signal improvements along SR 18 from I-15 to Bear Valley Road***

FREEWAY AND MULTI-LANE HIGHWAY SEGMENT LEVELS OF SERVICE

The freeway and multi-lane highway segment level of service evaluation for the transportation systems management alternative is based on the 2000 Highway Capacity Manual and Highway Capacity Software level of service methodologies for freeways and multi-lane highways.

INTERSECTION ANALYSIS AND LEVELS OF SERVICE

A subset of the study intersections identified previously was selected for analysis of the transportation systems management alternative performance. The transportation systems management alternative study intersections are listed in Table 20.

Intersection level of service was computed for the transportation systems management alternative using TRAFFIX, version 8.0 software, as most of the intersections for this alternative are isolated from one another.

Table 20. List of Transportation System Management Alternative Study Intersections

NO.	INTERSECTION
13	SR 14 southbound off-/on-ramps and West Palmdale Blvd
14	SR 14 northbound off-/on-ramps and East Palmdale Blvd
15	Division Street and East Palmdale Blvd
21	5th Street East and East Palmdale Blvd
22	6th Street East and East Palmdale Blvd
23	Sierra Highway and East Palmdale Blvd
25	10th Street East and westbound High Desert Corridor*
26	10th Street East and eastbound High Desert Corridor*
28	10th Street East and East Palmdale Blvd
32	20th Street East and westbound High Desert Corridor
33	20th Street East and eastbound High Desert Corridor
35	20th Street East and East Palmdale Blvd
36	25th Street East and East Palmdale Blvd
39	30th Street East and East Palmdale Blvd
41	40th Street East and East Palmdale Blvd
43	50th Street East and westbound High Desert Corridor
45	50th Street East and East Palmdale Avenue
47	70th Street and westbound High Desert Corridor
49	70th Street East and East Palmdale Blvd
51	90th Street East and westbound High Desert Corridor
54	90th Street East and East Palmdale Blvd
55	110th Street East and East Palmdale Blvd
64	165th Street East and SR 138
70	SR 138 and SR 18
82	Sheep Creek Rd and SR 18
91	Aster Rd and SR 18

*Initial definition of alternative.

NO.	INTERSECTION
92	Bellflower Street and SR 18
99	U.S. 395 and SR 18
104	Cobalt Rd and SR 18
105	Amethyst Rd and SR 18
110	El Evado Rd and SR 18
118	Amargosa Rd and SR 18
119	Kentwood Blvd and SR 18
120	Park Avenue and SR 18
121	I-15 southbound off-ramp and Palmdale Rd
122	I-15 northbound on-ramp and Palmdale Rd
123	I-15 northbound off-ramp and Mariposa Rd
124	I-15 southbound off-/on-ramps and National Trails Hwy/D Street
125	I-15 northbound off-/on-ramps and National Trails Hwy/D Street
134	Stoddard Wells Rd and SR 18
135	Apple Valley Rd and SR 18
147	Dale Evans Pkwy and SR 18
153	Central Rd and SR 18
158	Joshua Rd and Yucca Loma Rd
163	Bear Valley Rd and SR 18
164	30th Street East and High Desert Corridor
165	40th Street East and High Desert Corridor
166	100th Street East and High Desert Corridor
167	110th Street East and High Desert Corridor
168	High Desert Corridor and East Palmdale Blvd
169	Longview Rd (HDC) and East Avenue R
170	Longview Rd (HDC) and East Avenue S
171	Longview Rd (HDC) and East Avenue T
172	Longview Rd (HDC) and SR 138
173	Largo Vista Rd and SR 138
174	Beekley Rd and SR 138

TSM ALTERNATIVE PERFORMANCE

Ramp area performance is listed in Table 21 and mainline freeway segment performance is listed in Table 22. None of the analyzed freeway mainline segments or ramp elements were found to operate at an unacceptable level of service for the TSM Alternative. TSM intersections which are not expected to operate at LOS D or better in year 2040 are shown in Table 23.

Table 21. Year 2040 TSM Alternative Mainline and Ramp Junction Levels of Service

HIGH DESERT CORRIDOR SEGMENT	TYPE	TIME	2040 TSM	
			DENSITY (pc/h/ln)	LOS
EASTBOUND				
SR 14 to 10th Street East	Mainline	AM	15.9	B
10th Street East off-ramp	Diverge		21.0	C
10th Street E on-ramp	Merge		17.6	B
10th Street East to 20th Street East	Mainline		15.3	B
20th Street East off-ramp	Diverge		21.7	C
20th Street East on-ramp	Merge		14.2	B
SR 14 to 10th Street East	Mainline	PM	16.3	B
10th Street East off-ramp	Diverge		21.9	C
10th Street E on-ramp	Merge		18.7	B
10th Street East to 20th Street East	Mainline		15.8	B
20th Street East off-ramp	Diverge		25.4	C
20th Street East on-ramp	Merge		12.8	B
WESTBOUND				
SR 14 to 10th Street East	Mainline	AM	14.2	B
10th Street East off-ramp	Diverge		19.2	B
10th Street E on-ramp	Merge		17.4	B
10th Street East to 20th Street East	Mainline		14.1	B
20th Street East off-ramp	Diverge		14.5	B
20th Street East on-ramp	Merge		18.4	B
SR 14 to 10th Street East	Mainline	PM	19.7	C
10th Street East off-ramp	Diverge		23.6	C
10th Street E on-ramp	Merge		23.9	C
10th Street East to 20th Street East	Mainline		18.2	C
20th Street East off-ramp	Diverge		16.2	B
20th Street East on-ramp	Merge		24.4	C

Table 22. Year 2040 TSM Alternative Highway Segment Level of Service

HIGHWAY SEGMENT		NO BUILD (2040)						TSM ALTERNATIVE (2040)					
		AM PEAK			PM PEAK			AM PEAK			PM PEAK		
		LOS	SPEED	DENSITY	LOS	SPEED	DENSITY	LOS	SPEED	DENSITY	LOS	SPEED	DENSITY
SR 138													
Longview Rd to 165th Street East	EB	B	16.4	55	B	16.5	55	B	17.9	55	C	18.2	55
	WB	B	11.6	55	B	17.2	55	B	12.8	55	C	18.6	55
165th Street East to Largo Vista Rd	EB	C	23.8	55	C	21.5	55	D	27.0	55	C	24.4	55
	WB	B	12.4	55	D	26.4	55	B	13.6	55	D	30.3	54
SR 138/SR 18 junction to Sheep Creek Rd	EB	C	25.6	55	C	22.1	55	D	27.8	55	C	24.6	55
	WB	B	12.4	55	D	28.9	54	B	13.6	55	D	31.2	54
Sheep Creek Rd to Aster Rd	EB	A	7.0	55	A	7.4	55	B	15.2	55	B	15.5	55
	WB	A	5.2	55	A	8.3	55	A	9.2	55	B	17.4	55

PTSF = percent time spent following
ATS = average travel speed

Table 23. Year 2040 TSM Alternative Intersection Level of Service Summary *(intersections operating at LOS E or worse)*

ID NO.	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION				DESIGN YEAR 2040 NO-BUILD CONDITION				DESIGN YEAR 2040 TSM ALTERNATIVE†			
			AM PEAK		PM PEAK		AM PEAK		PM PEAK		AM PEAK		PM PEAK	
			LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY
14	SR 14 NB off-/on-ramps and E. Palmdale Blvd	Signal	A	7.4	B	10.1	A	7.6	B	17.3	B	11.3	**F**	96.1
15*	Division Street and E. Palmdale Boulevard	Signal	C	27.9	C	28.0	**E**	64.1	**E**	71.4	C	31.0	D	40.3
22*	6th Street East and E. Palmdale Boulevard	Signal	C	20.7	C	25.3	**E**	55.7	**E**	78.0	B	13.3	B	17.9
23*	Sierra Highway and E. Palmdale Boulevard	Signal	C	25.5	C	27.3	**F**	82.1	**F**	94.6	B	14.3	B	17.7
35*	20th Street East and E. Palmdale Boulevard	Signal	B	19.9	C	22.9	C	34.1	**E**	63.8	B	15.5	C	21.0
36*	25th Street East and E. Palmdale Boulevard	Signal	C	26.2	C	30.9	D	42.2	**E**	64.5	B	18.1	C	23.8
41*	40th Street East and E. Palmdale Boulevard	Signal	C	21.9	C	23.7	D	39.1	**E**	71.6	C	27.3	D	40.5
43	50th Street East and High Desert Corridor	Signal	Does not exist				Does not exist				D	42.7	E	55.9
45*	50th Street East and E. Palmdale Avenue	Roundabout	B	14.0	A	8.9	**F**	>300	**F**	>300	—	—	—	—
49*	70th Street East and E. Palmdale Boulevard	Exist–stop NB/SB; fut–signal	**F**	>300	C	20.9	**F**	>300	**F**	>300	B	18.3	C	22.8
54*	90th Street East and E. Palmdale Boulevard	Signal	C	23.9	C	24.1	D	46.3	**E**	76.2	B	19.3	C	23.1
64*	165th Street East and SR 138	Signal	C	20.6	C	21.7	**F**	109.7	**E**	56.8	D	51.8	**F**	199.2
70*	SR 138 and SR 18	Stop WB; Yield EB	B	10.0	B	11.7	**F**	>300	**F**	>300	C	26.4	**F**	85.4
82*	Sheep Creek Road and SR 18	Exist–stop NB/SB; fut–signal	B	12.8	C	19.7	**F**	>300	**F**	>300	C	34.7	**F**	139.9
92*	Bellflower Street and SR 18	Exist–stop NB/SB; fut–signal	C	20.8	D	27.4	**F**	89.2	**F**	>300	B	17.8	C	20.3
99*	U.S. 395 and SR 18	Signal	C	34.0	D	36.5	**E**	61.1	**F**	90.6	D	48.8	**E**	55.6
104*	Cobalt Road and SR 18	Signal	D	43.3	C	27.5	**F**	97.3	**F**	160.2	C	33.1	B	18.9
105*	Amethyst Rd and SR 18	Signal	C	28.8	C	30.4	D	48.9	**F**	108.3	C	34.0	D	53.0
110*	El Evado Rd and SR 18	Signal	C	28.0	C	28.1	D	40.9	**F**	80.9	C	30.8	D	39.0
118*	Amargosa Rd and SR 18	Signal	C	28.2	D	39.9	**F**	84.9	**F**	200.0	C	27.0	D	53.1
122	I-15 NB on-ramp and Palmdale Rd	Signal	B	16.9	B	17.1	C	20.8	C	22.6	C	22.0	**E**	57.2
134*	Stoddard Wells Rd and SR 18	Signal	B	12.7	C	23.2	**B**	17.7	**F**	87.2	B	12.5	D	41.0
135*	Apple Valley Rd and SR 18	Signal	C	33.1	D	40.2	**F**	81.3	**F**	150.3	D	50.0	**E**	72.2
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
158	Joshua Rd and Yucca Loma Rd	Exist–stop NB/SB; fut–4-way stop	B*	10.3	A*	9.5	**F***	61.2	**F***	276.1	A	3.7	C	17.4
164	30th Street East and High Desert Corridor	Exist–stop NB/SB; fut–signal	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C	31.7	**E**	59.3
173	Largo Vista Rd and SR 138	Exist–stop NB/SB; fut–signal	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	D	48.6	**E**	63.4

Source: Parsons

Notes: 1. Two-way stop control level of service reported for worst approach
2. 4-way stop reported for overall level of service.
3. Intersection level of service calculations are based on HCM 2000, excepted where noted with *

*Intersection level of service was calculated using TRAFFIX software

**Proposed additional geometry improvements

Level of service E

Level of service F

Local Roadway Access Modifications and Circulation Impacts

The High Desert Corridor Freeway/Expressway build project will construct freeway to freeway "system" interchanges at I-15 and SR 14, local "service" interchanges at north–south crossings of arterial streets, grade separations (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.

Within the Antelope Valley segment of the project, new local interchanges are currently proposed at 20th Street East, 30th Street East, 50th Street East, and 90th Street East. The resulting grade separations from the first viaduct include freeway undercrossings at Division Street (when paved), Third Street, Sierra Highway, Eighth Street and 10th Street. Additional grade separations are proposed at 15th Street, 25th Street, 40th Street, and 70th Street.

Within the High Desert segment, new local interchanges are currently proposed at 140th Street, 170th Street, 210th Street, and 240th Street in Los Angeles County; and a future Oasis Road, midway between Avenue P Road and Saint George Avenue, Sheep Creek Road and Caughlin Road in San Bernardino County. Additional freeway grade separations (overcrossing or undercrossing) are also proposed at 110th Street, Palmdale Boulevard, Longview Road and 165th Street. Grade separations may also be proposed at Avenue Q, 200th Street, 230th Street, Saint Anthony Avenue, Palmer Road, and Tanner Road at a later date when land development warrants additional north–south circulation capacity.

Within the Victor Valley segment, new local interchanges are currently proposed at Caughlin Road, as mentioned previously, Koala Road, U.S. 395, Phantom Road West, Phantom Road East, National Trails Highway, Choco Road and Dale Evans Parkway. Additional grade separations are proposed at Bellflower Road, Adelanto Road, New Stoddard Wells Road and Apple Valley Road. Grade separations at Richardson Road, Beaver Road, Raccoon Avenue, Aster Road, Verbena Road, Evado Road/Majeta Avenue (south alternative alignment), Village Drive (south alternative alignment), Rancho Road (south alternative alignment), and Quarry Road may be proposed at a later date when local circulation needs warrant their construction. For the access-controlled, expressway portion of the project east of Dale Evans Parkway, at-grade, traffic signal controlled intersections are proposed at Waalew Road, Central Road, Joshua Road, Standing Rock Road and Yucca Loma Road.

The locations of the local service interchanges, grade separations proposed for initial construction, and at-grade signalized intersections are illustrated on Figure 34.

Construction of the High Desert Corridor freeway/expressway will potentially sever a number of primarily north–south running local roads which 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 High Desert Corridor will provide access to north–south roads identified for interchanges or grade separations. As noted in the text above, additional grade separations may be proposed and constructed at a later date when land development warrants additional north–south circulation capacity.

Insofar as transit services, Antelope Valley Transit Authority Routes 3 and 10 cross the High Desert freeway at 10th Street East and Sierra Highway, respectively. Grade separated crossings are provided, as the freeway is on a viaduct structure; therefore, the route alignments will not be affected. The Lake Los Angeles Express route also crosses the High Desert freeway in the viaduct section and on Palmdale Boulevard in the vicinity of 120th Street East. This crossing of Palmdale Boulevard will be grade separated so the route alignment will not be affected.

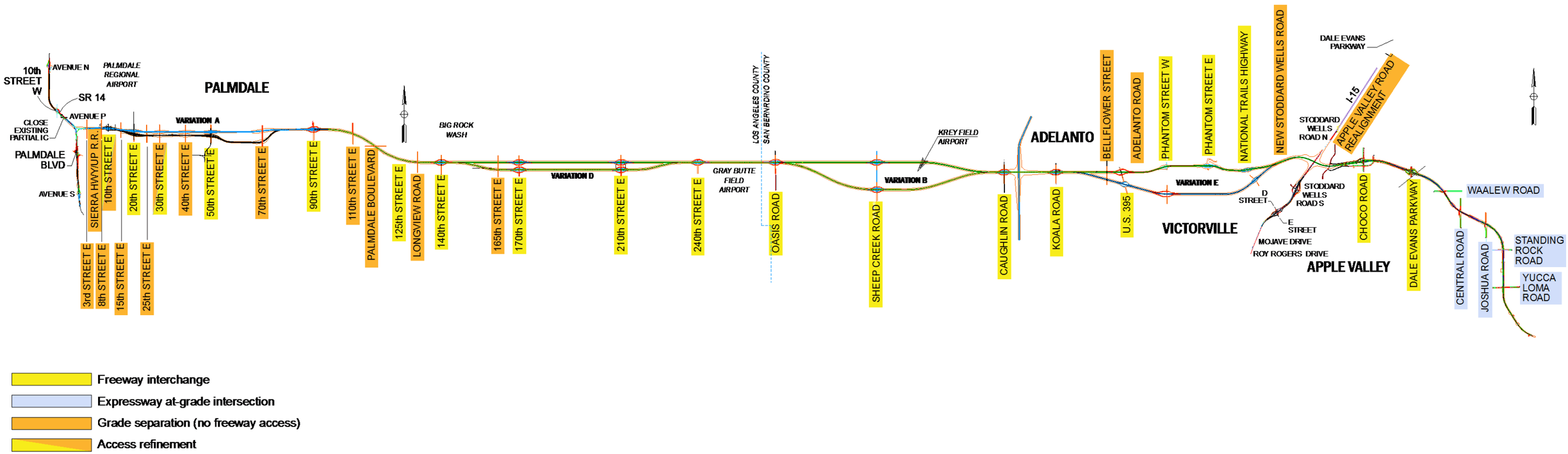


Figure 34: Proposed Locations of Interchanges, Grade Separations and At-grade Intersections along High Desert Corridor

Victor Valley Transit Authority (VVTA) routes 22, 32, 33 and the B–V Link also cross the proposed High Desert freeway alignment. Route 22, Helendale, runs along National Trails Highway, which will be grade separated. Route 33, Adelanto Circulator, crosses the freeway alignment along Bellflower Street, which will 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 will be impacted by the alignment of the High Desert freeway.

Route 32, Adelanto–Victorville North, will be impacted by the proposed alignment of the High Desert freeway. The portion of the route running along Air Expressway Boulevard west of the Victorville Federal Correctional Complex would need to be rerouted if the High Desert freeway follows the Air Expressway alignment passing between the Correctional Complex and the Southern California Logistics Airport. In the event that alignment variation E is selected for the freeway, running along the south side of the correctional complex, the High Desert freeway alignment will cross over Village Drive on a viaduct structure.

Cost and Benefit of the Build Alternative

Cost estimates were developed by Caltrans for the *Project Report*. The preliminary cost estimate for the build alternatives is estimated to be $3.46 billion excluding project engineering and administration. This cost does not include the rail feeder service component.

Table 24 provides a summary of the capital cost for the build alternatives.

Table 24. Capital Cost for Build and Build with Tolls Alternatives *($2014)*

ELEMENT	BUILD ALTERNATIVE	BUILD WITH TOLLS ALTERNATIVE
Roadway	$2,437,400,000	$2,437,425,000
Structures	642,815,000	642,815,000
Right-of-Way	380,200,000	380,200,000
Project Capital Cost *(rounded)*	$3,460,415,000	$3,460,440,000

Benefits Estimates

In the case of the build alternatives, traffic volumes are expected to shift from congested freeway facilities (such as Interstate 210) and rural arterial streets to the High Desert Corridor freeway, thereby relieving congestion on a system-wide basis. Because the upgrade of the highway network linking State Route 14 with Interstate 15 has system-wide impacts, its benefits were computed using STEAM (Surface Transportation Efficiency Analysis Model) 2.01, a system-wide analysis tool, developed by The Federal Highway Administration (FHWA).

Selected results categories produced through STEAM analysis include the following:

- Weekday vehicle-miles (millions)
- Average highway speed (mph)
- Annual fuel use (million gal)
- Annual user benefits
- Total agency revenues

- Emission benefits
- Other external benefits
- Total annual benefits
- Annualized capital costs
- Annual operating costs
- Total annualized costs
- Net annual worth
- Simple benefit-cost ratio

STEAM incorporates a sophisticated network speed and delay estimation technique based on off-line simulations which incorporate the dynamic effects of queuing and peak-spreading, day-to-day variations in traffic levels, as well as the impacts of incident delays, based on their expected occurrence. Accident costs are based on zone-to-zone vehicle-miles and link types, and divided into "perceived" costs, included in user benefit estimation, and "non-perceived" costs, which are included as external costs. Emissions are estimated using a trip-based approach that incorporates both en route and cold start components. Fuel consumption and greenhouse (carbon dioxide) emissions are estimated using zone-to-zone average speeds and fuel consumption rates for autos and trucks.

Benefits are estimated based on weekday travel estimates, annualized, and expanded through the lifetime of the investment. User benefits for new users attracted by time or cost savings to an alternative, relative to the base case, are evaluated at 50 percent the rate applied to former users, as suggested by consumer surplus theory. Negative benefits of patronage lost due to poorer travel conditions are estimated similarly.

The STEAM 2.0 speed models account for delays due to incidents, using data on the frequency, severity, and duration of incidents. Incidents account for a large share of total travel delays due to congestion, especially on freeways. The models also account for peak spreading that occurs when facilities become more congested.

Travel Time Savings

Vehicle hours of travel were computed for each link in the highway system. Highway link travel speeds and volumes were output directly from the SCAG 2008 Regional Travel Demand Model TransCAD software to STEAM 2.0 using a custom design interface. Consistent with U.S. Department of Transportation guidance for the valuation of travel time in economic analysis, Parsons assumed local personal travel to be valued at 50 percent of the local median wage rate. Business travel by truck and bus drivers was valued at 100 percent of the mean wage for these occupations, plus fringe benefits.

Crash Benefits

The frequency of accident occurrence is typically lower on freeways and expressways when compared to other types of regional roads and city streets. To compute benefits associated with the build alternative versus the no-build alternative, the number of vehicle miles traveled over the highway system was computed for each alternative, using the SCAG 2008 RTP Model and STEAM 2.0.

The values of loss associated with accidents were obtained from the National Safety Council (2009) and the California Life-Cycle Benefit/Cost Analysis Model (Cal-B/C). Periodically, the National Safety Council estimates the average cost of fatal and non-fatal injuries due to motor vehicle crashes. These estimates are made using a comprehensive or willingness to pay method.

After adjusting these estimates to year 2013 (third quarter) using the gross domestic product deflator, values of $4,900,000 per fatality, $68,700 per injury, and $10,400 per reported property damage only accident were derived.

Motor Vehicle Emissions and Other Costs

PARTICULATES

Rates of motor vehicle emissions were obtained from the Cal-B/C for carbon monoxide (CO), nitrogen oxides (NO_X), and fine particulates (PM_{10}) assuming a vehicle model year of 2031 for the design year (2040) analysis and 2011 for the opening year (2020) analysis. The source of these emission rates is the California Air Resources Board EMFAC 2011 model. STEAM 2.0's default values for hydrocarbon emissions were also used in the analysis.

GLOBAL WARMING

Global warming refers to the warming of Earth's atmosphere due to the greenhouse effect. Incoming solar energy, including certain wavelengths of infrared radiation, passes through Earth's atmosphere and reaches the surface of Earth, thus warming it. Estimates valuing the cost of carbon dioxide emissions vary widely. The Cal-B/C social cost of CO_2 was used for this analysis expressed in 2013 dollars using the GDP deflator.

VEHICLE OPERATING COSTS

Vehicle operating costs were calculated for the no-build alternative and the build transportation systems management/transit alternative using estimates of vehicle miles traveled produced by the SCAG 2008 Regional Transportation Model and STEAM 2.0. STEAM 2.0 calculates fuel consumption per gallon based on average link speeds and vehicle miles traveled per link.

Summary of Benefits

The build alternatives will produce net savings in travel time and crash related expenses and increased emissions and non-fuel operating costs. These findings are summarized in Table 25 which indicates that the 20-year life cycle benefits for the three build alternatives range from $8.90 billion for the new freeway with tolls option to $10.0 billion for the non-toll alternative.

Travel time benefits are significant, as motorists are able to shift routes to higher speed facilities and additionally benefit from increased network capacity. This category of user benefit constitutes the majority of total benefits computed for the build alternatives. Fuel costs decrease with the build alternatives as a result of automobiles traveling at higher speeds. Vehicle miles traveled increases for the build alternatives as motorists seek higher speed routes; hence, non-fuel operating costs increase. The build alternatives shift more vehicle miles traveled to the High Desert Corridor freeway, resulting in a decrease in crashes of all types.

Revenue transfers are the tax portion of fuel costs, which are collected or not collected as a result of increased or decreased fuel consumption. Fuel cost savings produce a net loss of revenue transfers. Increased fuel use produces additional tax revenue. Vehicle pollution costs are based on vehicle miles traveled and speed. Emission rates generally decline as speeds increase to 55 miles per hour, and then increase.

Table 25. Summary of High Desert Corridor Project Benefits

BENEFIT TYPE	HIGH DESERT CORRIDOR/SR 18 NEW FREEWAY/EXPRESSWAY BUILD ALTERNATIVE	HIGH DESERT CORRIDOR/SR 18 NEW FREEWAY WITH TOLLS ALTERNATIVE
User Benefits		
In-vehicle travel time	$542,285,500	$527,490,600
Fuel costs	11,256,800	3,923,800
Non-fuel operating costs	(20,440,000)	(23,912,500)
Internal accident costs	76,943,000	74,590,100
Revenue Transfers	$ 6,854,100	$ 9,831,200
Reduction in External Costs		
Emissions	$ (24,156,600)	$ (26,359,200)
Global warming	(3,652,900)	(5,254,400)
Noise	1,001,300	814,200
Accident	(481,200)	(768,900)
Other mileage based	—	—
Total Benefits $/year in 2040	**$589,609,900**	**$560,355,000**
Total Benefits $/year in 2020	**$378,237,100**	**$301,840,300**
Life Cycle Benefits 2020–2040 Total	**$9.97 B**	**$8.90 B**

Source: Parsons, based on STEAM 2.01.

Life Cycle Benefits and Costs

Benefits of the build alternatives will accrue over time as traffic volumes increase from the opening day (third quarter of 2020) to those forecast for 2040. A measurement of life-cycle benefits, assuming a straight line projection of traffic growth, is reported, with each table reporting life-cycle benefits and costs for an individual build alternative.

Revenues from tolls collected by the build with tolls alternative are included as a benefit for that alternative. Revenues are based on toll rates of $0.15/mile for autos and light trucks and $0.37/mile for heavy trucks. Opening year (12 month) revenue is estimated at $78.2 million. Life cycle (20-year) revenue is estimated at just under $2.0 billion, net of revenue collection expense.

Tables 26 and 27 reflect a 20.5-year analysis period covering both expenditures (costs) and benefits. Both benefits and costs are discounted to reflect the time value of resources (or money). This time value of money represents the opportunity cost that could be earned by using the dollars for some other investment.

Table 28 summarizes the results of the life-cycle benefits and costs. As noted above, this analysis covers a 26-year time period to encompass expenditures to acquire right-of-way and to construct the project, and benefits which accrue as a result of the project. The accumulation of benefits covers a 20.5-year time span.

The table indicates the following.

- The two build alternatives are cost effective.
- The present value benefit-to-cost ratio is high, with benefits outweighing costs by more than a two-to-one margin.
- The payback period is relatively short, ten years or less.

Table 26. Build Alternative Life Cycle Benefits and Costs *($1,000)*

YEAR	TOTAL BENEFITS	TOTAL COSTS	PRESENT VALUE DISCOUNT	PRESENT VALUE BENEFITS	PRESENT VALUE COSTS
2014			1.0000		
2015		$ 95,100	0.9709		$ 92,333
2016		190,100	0.9426		179,094
2017		608,370	0.9151		556,719
2018		1,026,740	0.8885		912,258
2019		1,026,735	0.8626		885,662
2020	$ 189,119*	513,370	0.8375	$ 158,387	429,947
2021	388,806		0.8131	316,138	
2022	399,374		0.7894	315,266	
2023	409,943		0.7664	313,196	
2024	420,512		0.7441	312,903	
2025	431,080		0.7224	311,412	
2026	441,649		0.7014	310,921	
2027	452,218		0.6810	307,960	
2028	462,786		0.6611	305,948	
2029	473,355		0.6419	303,847	
2030	483,924		0.6232	301,581	
2031	494,492		0.6050	299,168	
2032	505,061		0.5874	296,673	
2033	515,629		0.5703	294,063	
2034	526,198		0.5537	291,356	
2035	536,767		0.5375	288,512	
2036	547,335		0.5219	285,654	
2037	557,904		0.5067	282,690	
2038	568,473		0.4919	279,632	
2039	579,041		0.4776	276,550	
2040	589,610		0.4637	273,402	
Totals	**$9,973,276**	**$3,460,415**		**$6,125,259**	**$3,056,013**

*Reflects 6 months of 2020

Table 27. Build with Tolls Alternative Life Cycle Benefits and Costs *($1,000)*

YEAR	TOTAL BENEFITS*	TOTAL COSTS	PRESENT VALUE DISCOUNT	PRESENT VALUE BENEFITS	PRESENT VALUE COSTS
2014			1.0000		
2015		$ 95,100	0.9709		$ 92,333
2016		190,100	0.9426		179,094
2017		608,370	0.9151		556,719
2018		1,026,740	0.8885		912,258
2019		1,026,735	0.8626		885,662
2020	$ 190,020**	513,395	0.8375	159,142	429,968
2021	394,788		0.8131	321,002	
2022	409,536		0.7894	323,288	
2023	424,282		0.7664	325,170	
2024	439,030		0.7441	326,682	
2025	453,778		0.7224	327,809	
2026	468,526		0.7014	328,624	
2027	483,273		0.6810	329,109	
2028	498,020		0.6611	329,241	
2029	512,768		0.6419	329,146	
2030	527,516		0.6232	328,748	
2031	542,263		0.6050	328,069	
2032	557,011		0.5874	327,188	
2033	571,758		0.5703	326,074	
2034	586,506		0.5537	324,748	
2035	601,253		0.5375	323,173	
2036	616,001		0.5219	321,491	
2037	630,749		0.5067	319,601	
2038	645,496		0.4919	317,519	
2039	660,243		0.4776	315,332	
2040	674,991		0.4637	312,993	
Totals	**$10,887,808**	**$3,460,440**		**$6,644,149**	**$3,056,034**

*Total benefits include toll revenues
**Reflects 6 months of 2020

Table 28. Summary of Life-Cycle Benefits and Costs

METRIC	BUILD ALTERNATIVE	BUILD WITH TOLLS ALTERNATIVE
Cost	$3,460,415,000	$ 3,460,440,000
Present value of costs	$3,056,013,000	$ 3,056,034,000
Total benefits (Q3 2020–2040)	$9,973,276,000	$10,887,808,000
Present value of benefits	$6,125,259,000	$ 6,644,149,000
Present value benefit/cost ratio	2.0	2.2
Payback period	10 years	9 years

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Acronyms/Abbreviations

AADT	annual average daily traffic
ADA	Americans with Disabilities Act of 1990
B-V	Barstow to Victor Valley
BLM	Bureau of Land Management
BNSF	Burlington Northern Santa Fe Railway
Btu	British thermal units
Cal-B/C	California Life-Cycle Benefit/Cost Analysis Model
Caltrans	California Department of Transportation
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
EAVTAM3	Enhanced Antelope Valley Transportation Analysis Model
FHWA	Federal Highway Administration
H_2O	water vapor
HC	hydrocarbon
HCM	Highway Capacity Manual
HDC	High Desert Corridor
HOT	high occupancy toll
HOV	high occupancy vehicle
I-	Interstate
Kern COG	Kern Council of Governments
LOS	level of service
mph	miles per hour
MOE	measures of effectiveness
N_2O	nitrous oxide
NASA	National Aeronautics and Space Administration
NO_X	nitrogen oxide
NTC	National Training Center
pc/mi/ln	passenger cars per mile per lane
pc/h/ln	passenger cars per hour per lane
PM	postmile
PM_{10}	fine particulate matter
PTSF	percent time spent following
RTP	regional transportation plan
RTIP	regional transportation improvement program
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users
SANBAG	San Bernardino Associated Governments

Acronyms/Abbreviations *(continued)*

SCAG	Southern California Association of Governments
SCLA	Southern California Logistics Airport
sec/veh	seconds per vehicle
SR	State Route
STEAM	Surface Transportation Efficiency Analysis Model
TASAS-TSN	Traffic Accident Surveillance and Analysis System-Transportation System Network
TAZ	traffic analysis zone
VHT	vehicle hours traveled
VMT	vehicle miles traveled
VPD	vehicles per day
VVTA	Victor Valley Transit Authority

Chapter 1
INTRODUCTION

1.1 Report Overview and Purpose

The High Desert Corridor project is being undertaken by the California Department of Transportation (Caltrans) in coordination with the Los Angeles County Metropolitan Transportation Authority and other partner agencies. The High Desert Corridor project involves the construction of a new, approximately 63-mile long, east–west freeway/expressway, and possible toll or rail facility, between State Route (SR) 14 in Los Angeles County and SR 18 in San Bernardino County. The general location of the project is illustrated in Figure 1-1. The High Desert Corridor was identified as E-220 in SAFETEA-LU (the Safe Accountable Flexible Efficient Transportation Equity Act; A Legacy for Users) and is officially designated as a high priority corridor on the National Highway System. The project is proposed as a means of improving mobility and access for people and goods in the rapidly growing Antelope Valley, Victor Valley, and Apple Valley areas of Los Angeles and San Bernardino counties.

To comply with the requirements of the California Environmental Quality Act and the National Environmental Policy Act, an environmental impact report/environmental impact statement is being prepared. This traffic report is a technical study that supports the project approval/environmental document work effort. It provides traffic related information relative to existing and future conditions—with and without the proposed project. Information contained within this report will be used for the analysis of the project's design features and to determine traffic related impacts to local circulation and mitigation requirement, if any. Traffic performance data will also be used as input to air quality and noise environmental impact determinations.

1.2 Project Background

The High Desert Corridor has a long history and has been the subject of numerous, previous studies. It was originally conceived of in the 1970's as a metropolitan bypass to provide an alternate route for vehicles traveling from Interstate 5 (I-5) to communities to the east such as San Bernardino, Victorville, Barstow, and Las Vegas via I-15.

In April 2002, Caltrans Districts 7 and 8, in partnership with the Federal Highway Administration, the Southern California Association of Governments, the San Bernardino County Associated Governments, the Los Angeles County Metropolitan Transportation Authority, the County of Los Angeles, the County of San Bernardino, the City of Palmdale, the City of Lancaster, the City of Adelanto, the City of Hesperia, the City of Victorville, and the Town of Apple Valley, completed a 10-year effort that culminated in the publication of the *Regionally Significant Transportation Investment Study* for the High Desert Corridor. The Regionally Significant Transportation Investment Study steering committee adopted as the locally preferred alternative the proposed east–west corridor depicted in Figure 1-2 of this report.

Simultaneously, the *North County Combined Highway Corridor Study* was initiated to develop a multi-modal transportation plan for the northern portion of Los Angeles County, addressing both short-term (2010) and long-term (2025) requirements to accommodate a variety of trip purposes. This corridor serves large volumes of traffic for personal travel and goods movement. The *North County Combined Highway*

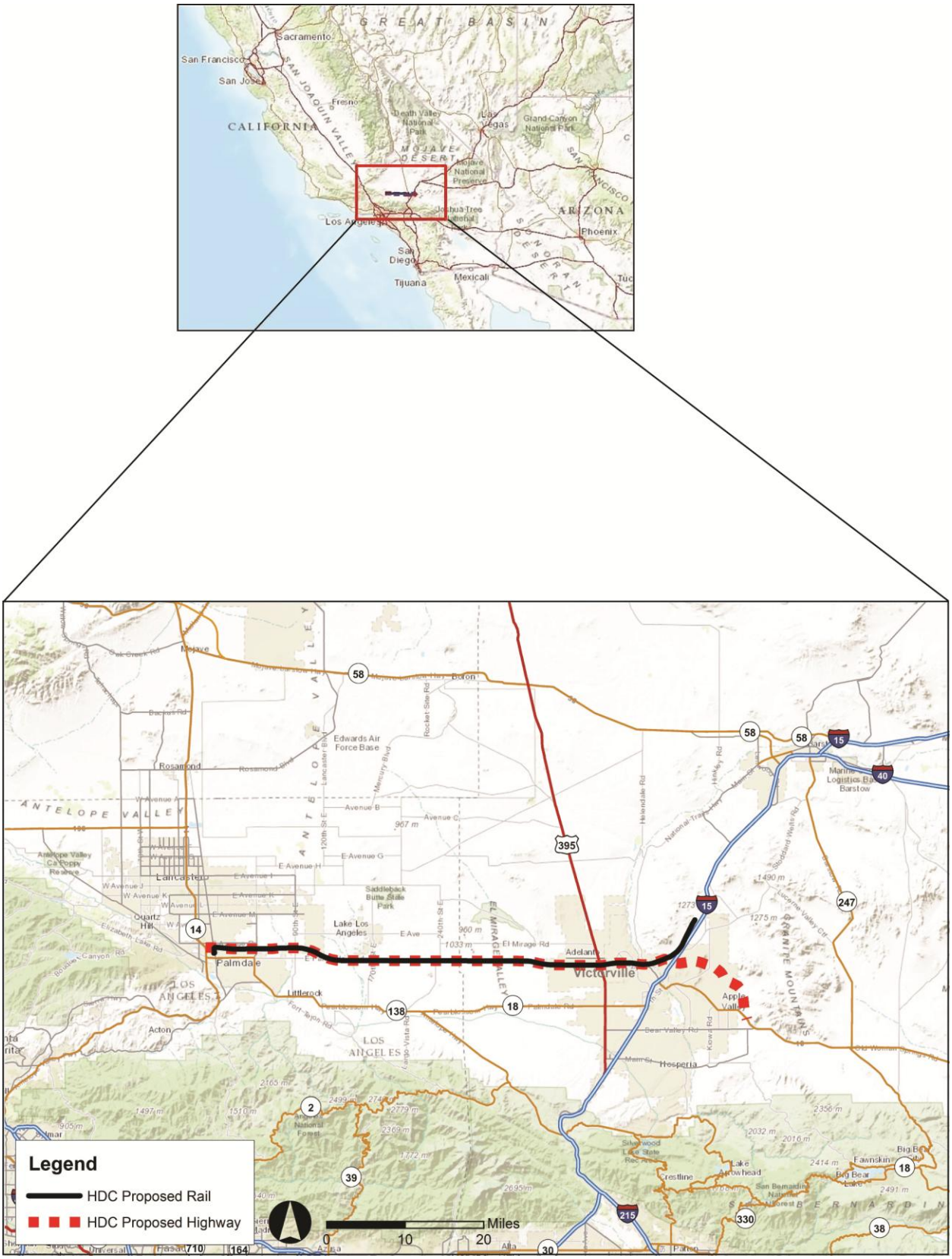


Figure 1-1: Project Location

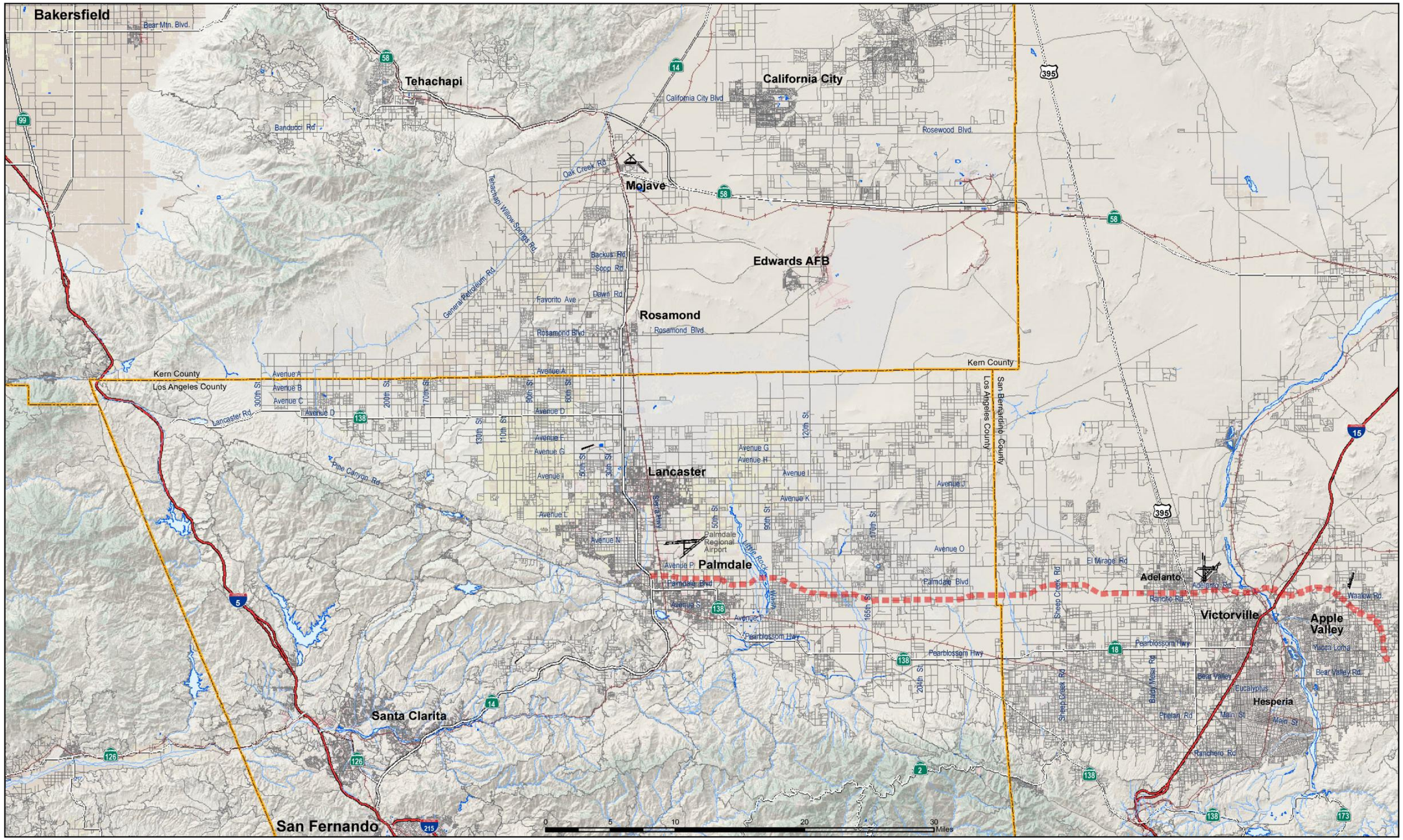


Figure 1-2: High Desert Corridor General Alignment

Corridors Study, approved in June 2004, was conducted by the Los Angeles County Metropolitan Transportation Authority in cooperation with the County of Los Angeles. The east–west corridor study focused on SR 138 circulation as a key feature to reduce traffic congestion.

In 2005, the High Desert Corridor, identified as E-220, was officially recognized in Section 1305 of SAFETEA-LU as a high priority corridor on the National Highway System between Los Angeles and Las Vegas via Palmdale and Victorville.

In 2006, the High Desert Corridor Joint Powers Authority was formed to oversee the financing and construction of a 63-mile stretch of freeway corridor from SR 14 in the Palmdale/Lancaster area through the High Desert cities of Adelanto, Victorville, and Apple Valley—the High Desert Corridor. Its members include the County of San Bernardino, the County of Los Angeles, the Town of Apple Valley and the Cities of Adelanto, Victorville, Lancaster and Palmdale.

In 2007 and 2009, environmental studies were begun on two small components of the High Desert Corridor. The City of Victorville, with oversight from Caltrans District 8, began work on the High Desert Corridor—Phase 1 project in 2007. This project extended between SR 395 and SR 18 on the eastern end of the corridor. On the western end, Caltrans District 7 began working in 2009 on the new SR 138 project between SR 14 and 100th Street East. During the course of conducting these studies and coordinating with regulatory and resource agencies for the proposed projects, it was determined that they should be combined into one large project—the High Desert Corridor—which incorporates the two "end pieces" and fills the gap in between them.

1.3 Need and Purpose

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

Improvements to this corridor are considered necessary to provide for the existing and projected traffic demand attributed to residential growth and increasing commercial developments in the Antelope Valley, Victor Valley, and Apple Valley areas of Los Angeles and San Bernardino counties. This growth is resulting in inadequate capacity and accessibility along the existing east–west roadways as well as an increasing demand for goods movement and access to regional transportation facilities.

The purpose of the proposed project is to improve east–west mobility within the High Desert region of Southern California by addressing present and future travel demand and mobility needs within the Antelope and Victor valleys. The proposed action is intended to achieve the following objectives:

- Increase capacity of east–west transportation facilities to accommodate existing and future transportation demand
- Improve travel safety and reliability within the High Desert region
- Improve the regional goods movement network
- Provide improved access and connectivity to regional transportation facilities including airports and the existing and future passenger rail systems including the California High Speed Rail system and the proposed XpressWest High Speed Rail system.
- Contribute to State greenhouse gas reduction goals through the use of green energy features.

The specific needs to be addressed by the proposed action include:

- Recent and future population growth within the High Desert region
- Limited and unreliable east–west connectivity within the High Desert region
- Regional demands for goods movement to support the growth of the regional economy
- Future demands for the use of green energy including sustainability and green energy provisions in State law and policy.

The goals for the High Desert Corridor project include:

- Addressing current and future regional growth
- Improving east–west mobility
- Enhancing safety
- Improving connections between regional transportation facilities and efficient movement of goods.

1.4 Project Description

The proposed project is located in the High Desert area of Los Angeles and San Bernardino counties, north of the San Gabriel/San Bernardino mountains and the heavily populated areas of those two counties. The proposed route would run primarily in an east–west direction between SR 14 and SR 18 and extend for approximately 63 miles.

For the purpose of this traffic study report, the overall project is divided into three segments, as illustrated on Figure 1-3.

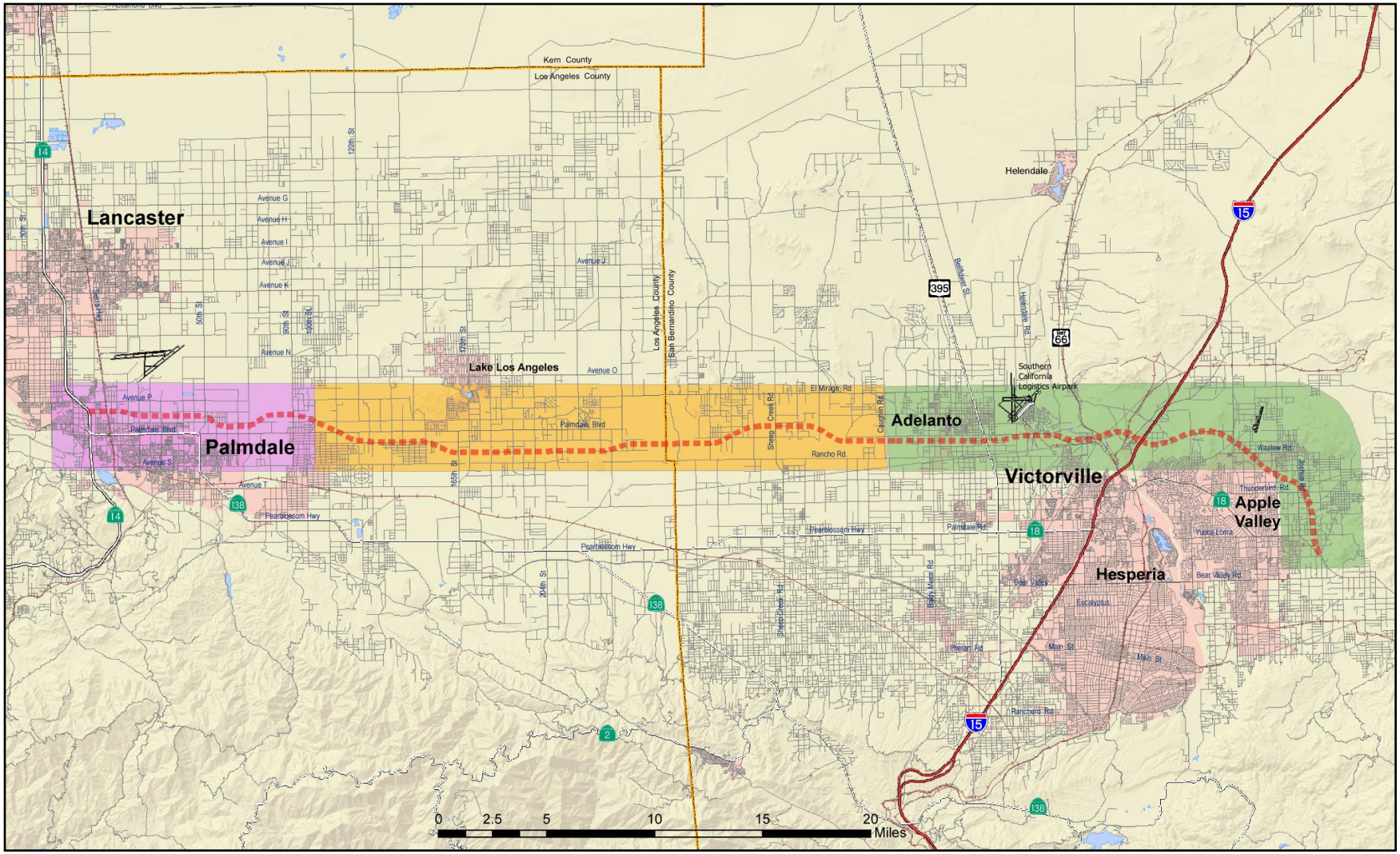
- ***Antelope Valley segment***
  From SR 14 to 100th Street East in Palmdale, a distance of approximately 10 miles.
- ***High Desert segment***
  From Palmdale city limits to Adelanto city limits in unincorporated Los Angeles and San Bernardino counties, a distance of approximately 26 miles.
- ***Victor 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.

Graphics and/or text in this report are generally characterized according to these three segments.[1]

1.4.1 Antelope Valley Segment

The project would construct a new freeway running in an east–west direction near Avenue P-8 between SR 14 and 100th Street East in Palmdale, California. This 10-mile long segment is part of the overall High Desert Corridor extending from SR 14 to I-15. The ultimate freeway would be able to expand to

[1] Other project approval/environmental documents may define different limits when describing High Desert Corridor segments.



ANTELOPE VALLEY	HIGH DESERT	VICTOR VALLEY
Los Angeles County	**Los Angeles County–San Bernardino County**	**San Bernardino County**
Lancaster, Palmdale	Lake Los Angeles, El Mirage	Adelanto, Victorville, Apple Valley, Hesperia

Figure 1-3: High Desert Corridor Segments

four lanes in each direction. A freeway-to-freeway interchange for SR 14/High Desert Corridor would be constructed with direct ramp connectors. New local interchanges are currently proposed at 20th Street East, 30th Street East, 50th Street East, and 90th Street East. (Note: This traffic study initially analyzed an interchange at 10th Street East in lieu of the interchange at 30th Street East. The results of both access configurations are reported in this traffic study report.) Viaduct structures would be constructed between Division Street and 10th Street East and over Little Rock Wash. The resulting grade separations from the first viaduct include freeway undercrossings at Division Street (when paved), Third Street, Sierra Highway, Union Pacific and Metrolink tracks, Eighth Street and 10th Street. Additional grade separations (overcrossings or undercrossings) are proposed at 15th Street, 25th Street, 40th Street, and 70th Street. The overcrossing structures at 15th, 20th, 25th, 30th, 40th, and 50th Streets would be constructed to accommodate four lanes of traffic (two lanes per direction). New frontage roads would be built to mitigate street closures, where required. The existing partial interchange at SR 14/Rancho Vista Boulevard would be closed and a full interchange would be constructed at 10th Street West to provide better weaving distance with the direct connector ramps of the SR 14/High Desert Corridor interchange.
Alternatives to the above project description include a slightly different centerline alignment between 15th Street East and Little Rock Wash. This version of the centerline alignment would follow the original easement that the Los Angeles World Airport has agreed to donate. This version of the alignment is illustrated on most of the graphics contained in this traffic report.

1.4.2 High Desert Segment

The project would construct a new freeway connecting Palmdale with Adelanto, running in an east–west direction parallel and approximately one-quarter mile south of Palmdale Boulevard. The freeway would be three lanes in each direction with right-of-way acquired to support an ultimate facility of four lanes plus a high-speed passenger rail line in each direction. The High Desert segment may be a toll facility, with the tolling limits extending from 100th Street East to U.S. 395. New local interchanges are currently proposed at Longview Road170th Street, 210th Street, and 240th Street in Los Angeles County; and Oasis Road, Sheep Creek Road and Caughlin Road in San Bernardino County. Additional freeway grade separations (overcrossings or undercrossings) are proposed at 110th Street, Palmdale Boulevard, 165th Street, and Big Rock Creek (a viaduct structure). Grade separations may also be proposed at Avenue Q, 200th Street, 230th Street, Saint Anthony Avenue, Palmer Road, and Tanner Road at a later date when land development warrants additional north–south circulation capacity.

Alternatives to the above project description include the following.

- A slightly different centerline alignment between 180th Street East and 230th Street East. This version of the centerline alignment would run parallel and approximately one-half mile south of Palmdale Boulevard.
- A different centerline alignment between Saint George Avenue and just west of Caughlin Road. This version of the centerline alignment would pass Krey Field Airport on its south side.

1.4.3 Victor Valley Segment

The project would construct a new freeway running in an east–west direction, generally following the alignment of Air Expressway Boulevard between Caughlin Road in Adelanto and Dale Evans Parkway east of I-15 in the town of Apple Valley and continuing southeasterly as an expressway, joining SR 18 just east of Joshua Road. Once constructed, the existing alignment of SR 18 west of Joshua Road would be relinquished and the new freeway/expressway designated as SR 18 east of I-15. The freeway portion of the facility between Caughlin Road and I-15 would be six lanes wide, continuing to Dale Evans Parkway as a four- or six-lane facility, initially. Right-of-way would be acquired to support an ultimate facility of

four lanes plus a high-speed passenger rail line in each direction. East of Dale Evans Parkway, an access-controlled, four-lane divided expressway would be constructed for the remaining extent of the project as it continues easterly toward the Apple Valley Airport before turning southeasterly to align with the existing SR 18, north of Bear Valley cutoff. This entire segment would be constructed within a minimum 300-foot right-of-way to provide for an ultimate 8-lane multi-modal facility.

A freeway-to-freeway interchange for I-15/High Desert Corridor/SR 18 would be constructed with direct ramp connectors. Viaduct/bridge structure(s) would be constructed over the Burlington Northern Santa Fe (BNSF) Railway and Mojave Northern Railroad tracks and the Mojave River. New local interchanges are currently proposed at Caughlin Road, as mentioned previously, Koala Road, U.S. 395, Phantom Road West, Phantom Road East, National Trails Highway, Choco Road and Dale Evans Parkway. Additional grade separations are proposed at Bellflower Road, Turner Wash, Ossam Wash, Bell Mountain Wash, Adelanto Road, New Stoddard Wells Road and Apple Valley Road. Grade separations at Richardson Road, Beaver Road, Raccoon Avenue, Aster Road, Verbena Road, Evado Road/Majeta Avenue (south alternative alignment), Village Drive (south alternative alignment), Rancho Road (south alternative alignment), and Quarry Road may be proposed at a later date when local circulation needs warrant their construction. For the access-controlled, expressway portion of the project east of Dale Evans Parkway, at-grade, traffic signal controlled intersections are proposed at Waalew Road, Central Road, Joshua Road, Standing Rock Road and Yucca Loma Road.

Alternatives to the above project description include a different centerline alignment between Aster Road and Quarry Road. This version of the centerline alignment would run parallel to Rancho Road, approximately one-half mile south of Air Expressway Boulevard, to pass by the Victorville Federal Correctional Complex on the south side of this facility. This southern alignment would omit the local service interchange at Phantom Road East.

1.5 Project Alternatives

Several alternatives have been proposed to satisfy the purpose and need for this project. This traffic study report will be used in part to evaluate the performance of these alternatives. The following alternatives will be studied.

- ***Freeway/expressway alternative***
  This alternative is described more fully in section 1.4, above. In summary, this alternative consists of a combination of a controlled-access freeway and an expressway. It generally follows Avenue P-8 in Los Angeles County and runs just south of El Mirage Road in San Bernardino County. This alternative then extends to Air Expressway Road near I-15 and curves south, terminating at Bear Valley Road. Four physical alignment variations are under consideration:

  - Variation A
    - Located in the city of Palmdale, the freeway/expressway would dip slightly south of the main alignment, approximately between 15th Street East and Little Rock Wash.
  - Variation B (south)
    - East of the county line, the freeway/expressway would dip slightly south of the main alignment between Oasis Road and Caughlin Road.
  - Variation D
    - Near the community of Lake Los Angeles, the freeway/expressway would dip slightly south of the main alignment just south of Avenue R, approximately between 180th Street East and 230th Street East.

- Variation E
  - Located near the cities of Adelanto and Victorville, the freeway/expressway would dip south of the federal prison.

The general alignment of this alternative along with variations and local service interchange locations are depicted on Figure 1-4.

For the purpose of this traffic study report, alignment variations A, B and C do not affect traffic forecast volumes or traffic operations. The project description without or with these alignment variations is therefore treated as one. Throughout this document, the freeway/expressway alternative is referenced as the **build alternative.**

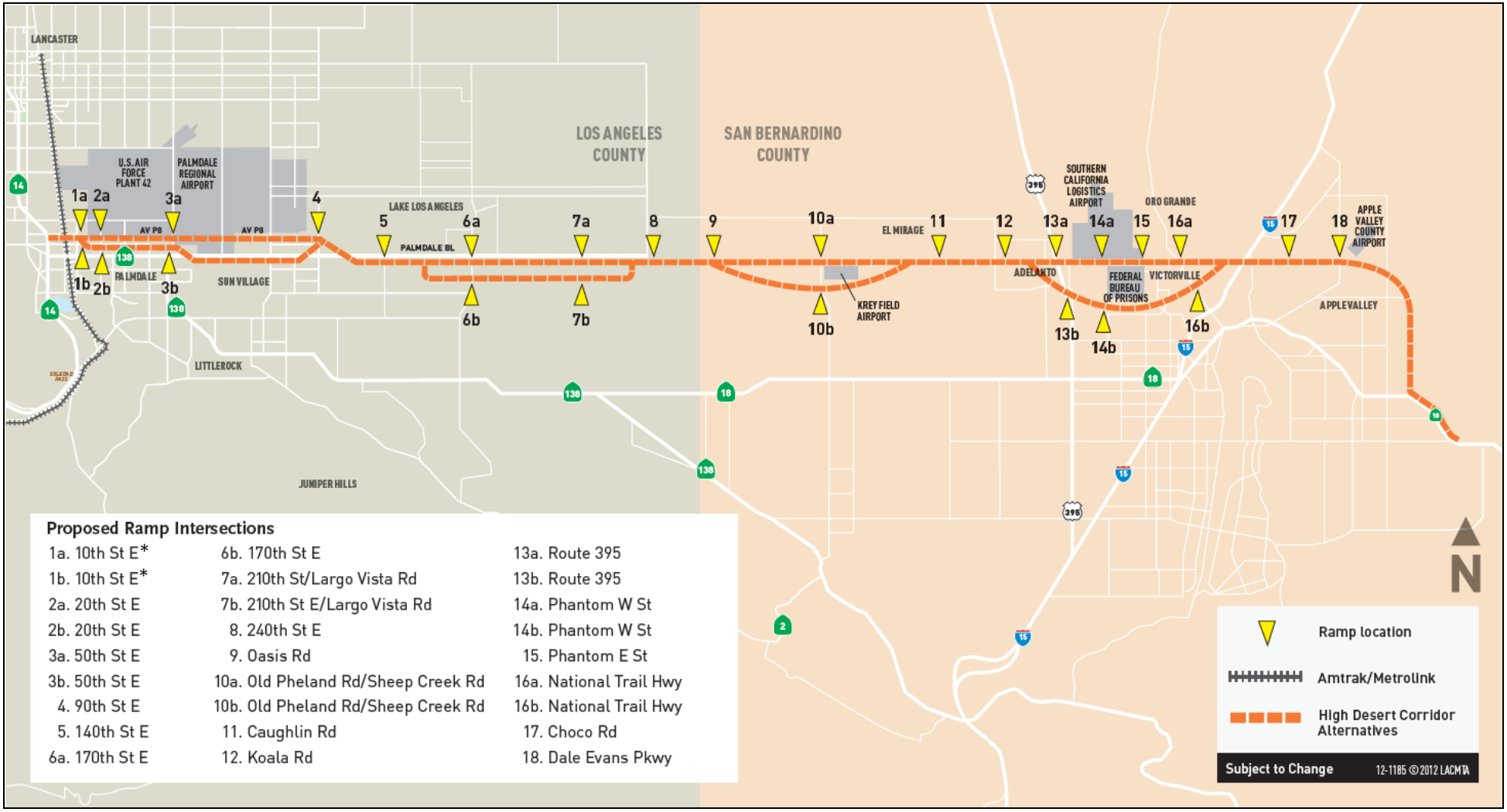
For the purpose of this traffic study report, alignment variation E was tested along with a slightly different array of local service interchanges. This alternative was labeled **build alternative with reduced interchanges.** The interchanges at Oasis Road and Phantom East Street were removed from this alternative; however, a local service interchange at 70th Street was added.

- ***Freeway/tollway alternative***
  This alternative follows the same route as the freeway/expressway alternative (including variations A, B, D and E), but would have sections operating as tollways. Details of this operating feature are being evaluated as part of the ongoing public–private partnership analysis. The incorporation of green technologies and a bike path will also be considered.

  For the purpose of this traffic study report, this alternative is labeled **build toll alternative.** The tolled portion of the project has been defined as extending from 90th Street East in Palmdale to U.S. 395 in Adelanto. Alignment variation E has not been tested by this traffic study.

- ***Freeway/expressway alternative with high-speed rail feeder service***
  This alternative is the same as the freeway/expressway alternative (including variations A, B, D and E) and includes a high-speed rail feeder service between Palmdale and Victorville. The location of the high-speed rail feeder service in relation to the High Desert Corridor is being evaluated considering design travel speeds, alignment of tracks, and connections to existing rail stations. The incorporation of green energy technologies and a bike path will also be considered.

- ***Freeway/tollway alternative with high-speed rail feeder service***
  This alternative is the same as the freeway/tollway alternative (including variations A, B, D and E) and includes a high-speed rail feeder service between Palmdale and Victorville. Details of this operating feature are being evaluated as part of the ongoing public–private partnership analysis. The location of the high-speed rail feeder service in relation to the High Desert Corridor is being evaluated considering design travel speeds, alignment of tracks and connections to existing rail stations. The incorporation of green energy technologies and a bike path will also be considered.



Source: metro.net, *http://www.metro.net/projects/high-desert-corridor/*
Replaced by 30th Street East

Figure 1-4: High Desert Corridor Alignments with Proposed Ramp Locations

- ***Transportation system/demand management alternative***
  The transportation system/demand management alternative is a collection of lower cost roadway improvements through the project corridor that can be evaluated against the proposed project alternatives. The transportation system/demand management alternative focuses on improvements that connect SR 14 with SR 138 and then extend east to connect with U.S. 395, I-15 and SR 18. The key elements under consideration for this alternative include:

  - An eight-lane grade-separated freeway from SR 14 to 30th Street East
  - A transition to a four-lane at-grade expressway from 30th Street East to Longview Road
  - A four-lane at-grade highway connecting to SR 138 and extending east to U.S. 395 along SR 18
  - A six-lane arterial highway along SR 18 (Palmdale Road) from U.S. 395 to I-15
  - Minor roadway and signal improvements along SR 18 from I-15 to Bear Valley Road

  Except for the freeway portion between SR 14 and 30th Street East, these transportation system/demand management roadway improvements would maintain at-grade intersections with local roads and driveway access.

  The alignment and limits of these roadway improvement limits are illustrated on Figure 1-5.

  For the purpose of this traffic study report, this alternative is labeled **transportation systems management alternative.** Efforts to manage transportation demand are ongoing by SCAG and are assumed as background (no-build) conditions for all alternatives.

- ***Hybrid alternative***
  This alternative would consist of a combination of the previously identified alternatives, whose elements (transportation system/demand management, freeway, expressway, tollway, high-speed rail feeder service, green energy technologies, bike path) would be pieced together to best fit the needs of each section of the corridor. The determination of which elements to use, and at which locations, would be based on the results of the traffic study, environmental studies and public input.

  For this purpose of this traffic report, the hybrid alternative is assumed to consist of elements defined for the freeway/expressway alternative extending from SR 14 to 90th Street East in Palmdale and from U.S. 395 to I-15 in Adelanto and Victorville, extending east to join with SR 18 east of the town of Apple Valley.

  This alternative will be tested for year 2020 conditions as an interim improvement, intended to serve as Phase 1 of the ultimate build alternative (with alignment variations A, B, C and E). For the purpose of this traffic study report, this alternative is labeled **no toll partial build alternative.**

- ***No-build alternative***
  The no-build alternative consists of those transportation projects that are already planned and have committed funds to be constructed by or before 2040. Consequently, the no-build alternative represents future travel conditions in the High Desert Corridor study area without the High Desert Corridor project and is the baseline against which other transportation alternatives proposed for the study area will be assessed.

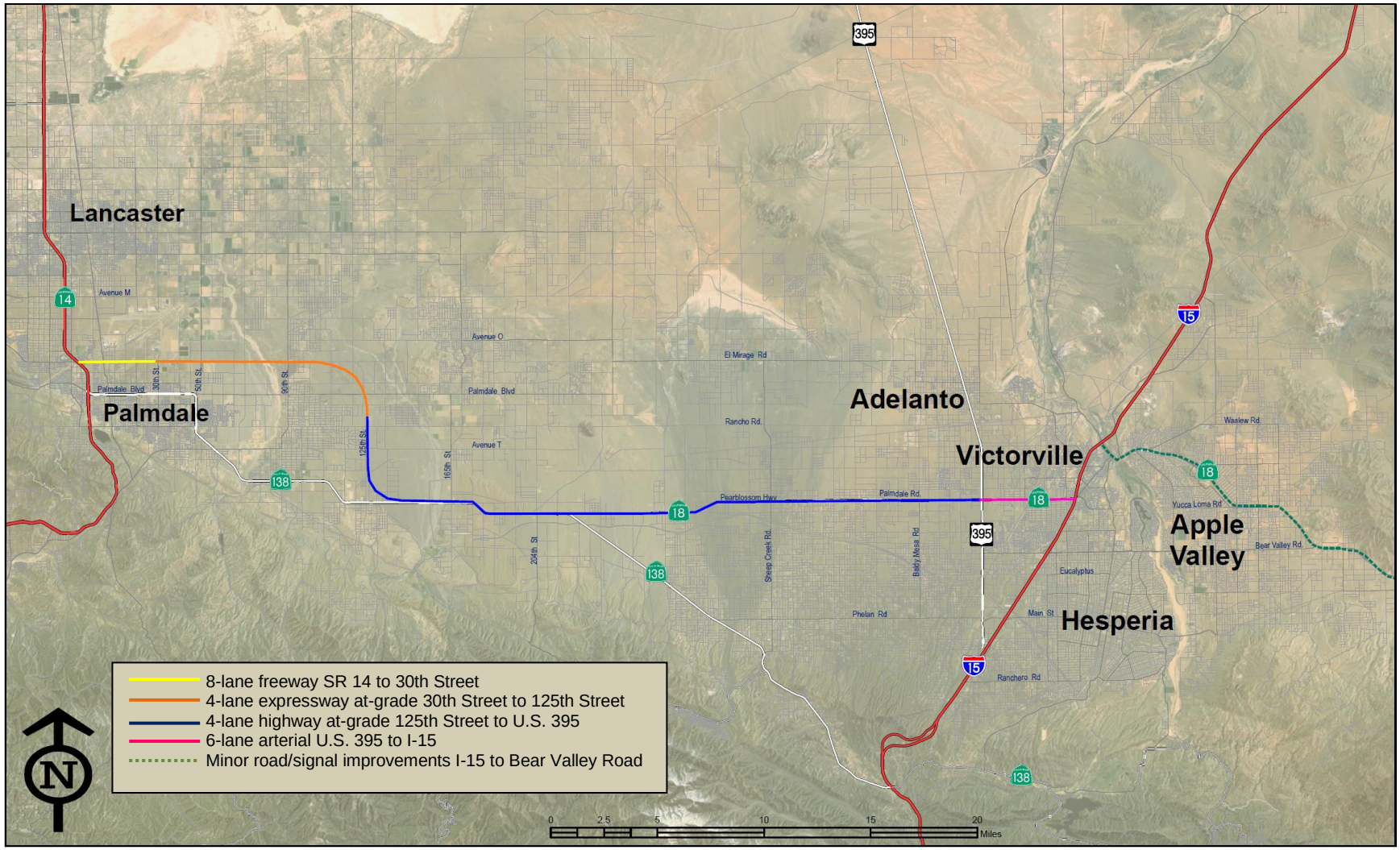


Figure 1-5: Transportation System Management Alternative

Chapter 2
EXISTING CONDITIONS

As previously detailed, the proposed project is located in the High Desert area of Los Angeles and San Bernardino counties, north of the San Gabriel/San Bernardino Mountains and the heavily populated areas of those two counties. The proposed route would run primarily in an east–west direction between SR 14 and SR 18 and extend for approximately 63 miles.

For the purpose of this traffic study report, the overall project is divided into three segments, as illustrated in the previous chapter on Figure 1-3.

- ***Antelope Valley segment***
  From SR 14 to 100th 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.

Graphics and/or text in this document are generally characterized according to these three segments. Existing conditions characteristics and data are also presented according to these project study segments.

2.1 Land Use and Demographic Conditions

Section 2.1 provides a general overview of the existing conditions which characterize the study area in terms of population and housing, employment, environmental justice, land uses surrounding the project, schools, public services, and shopping centers and recreational facilities. It should be noted that the subsequent section of this chapter "2.2 Roadway Facilities and Adjacent Land Uses" contains more specific detail with respect to the location and detailed description of these land uses.

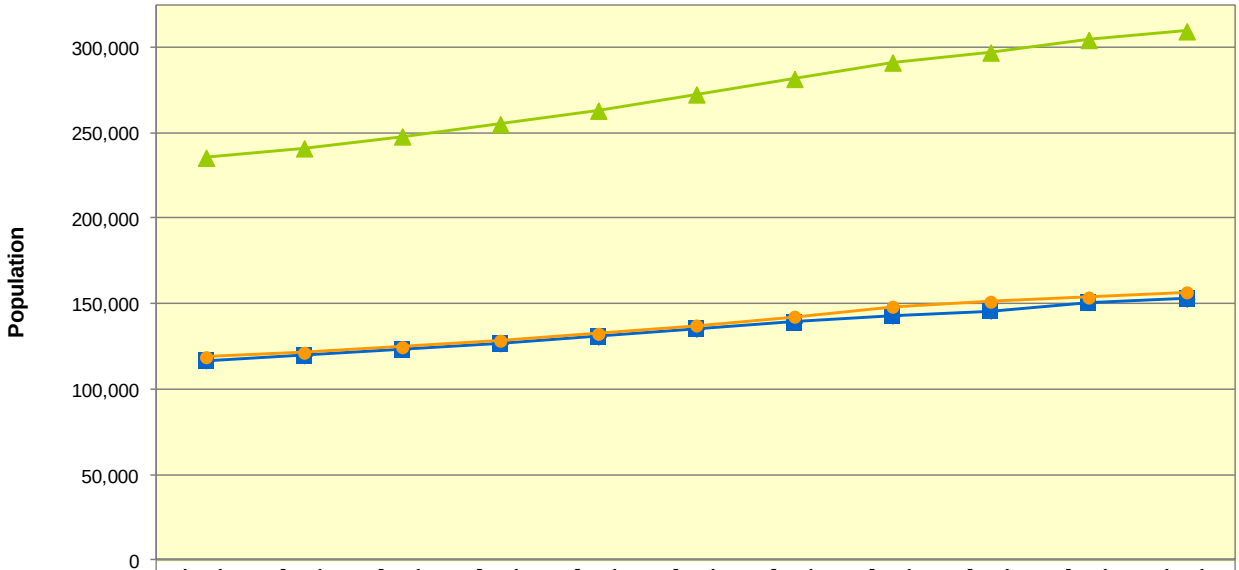
2.1.1 Population and Housing

ANTELOPE VALLEY

The Antelope Valley is located in northern Los Angeles County and the southeastern portion of Kern County, California and constitutes the western tip of the Mojave Desert. It is situated between the Tehachapi and the San Gabriel mountains. In recent decades, the valley has become a bedroom community to the greater Los Angeles area. Major housing tract development and population growth took off beginning in 1983 and the Antelope Valley is now home to more than 475,000 residents. The principal cities in the Antelope Valley are Palmdale and Lancaster.

Palmdale is separated from Los Angeles by the San Gabriel Mountain range. Over the last 25 years, this city has consistently been ranked in the top 25 fastest growing cities in the United States (based on percentage change). The population of Palmdale was 152,750 as of the 2010 U.S. Census, making it the sixth largest and fastest growing city in Los Angeles County. Figure 2-1 charts the recent population growth in Palmdale and Lancaster.

Lancaster is the fifth largest city in Los Angeles County and the ninth fastest growing city in the United States. It is separated from Bakersfield and the San Joaquin Valley by the Tehachapi Mountain Range to the north. The city of Lancaster has grown from 37,000 residents at the time of incorporation in 1977, to 156,633 residents as of the 2010 U.S. Census.



	Apr 1, 2000	Jan 1, 2001	Jan 1, 2002	Jan 1, 2003	Jan 1, 2004	Jan 1, 2005	Jan 1, 2006	Jan 1, 2007	Jan 1, 2008	Jan 1, 2009	Apr 1, 2010
Palmdale	116,670	119,599	123,308	126,645	130,547	135,179	139,105	142,873	145,777	150,682	152,750
Lancaster	118,718	121,313	124,574	128,362	132,388	137,268	142,417	148,231	151,181	153,613	156,633
Total	235,388	240,912	247,882	255,007	262,935	272,447	281,522	291,104	296,958	304,295	309,383
Housing											
Palmdale	37,096	37,641	38,341	38,991	39,906	41,262	42,780	43,959	44,825	46,161	46,544
Lancaster	41,745	42,105	42,719	43,512	44,376	45,784	48,004	49,975	50,609	51,168	51,835
Total	78,841	79,746	81,060	82,503	84,282	87,046	90,784	93,934	95,434	97,329	98,379

Source: E-8 Historical Population and Housing Estimates for Cities, Counties and the State, 2000–2010, November 2012

Figure 2-1: Population and Housing in Palmdale and Lancaster

HIGH DESERT

For the purpose of this traffic study report, the "High Desert" is defined as the unincorporated portions of Los Angeles and San Bernardino counties lying between the Palmdale/Lancaster and Adelanto/ Victorville/Hesperia/Apple Valley urbanized areas. The High Desert is highly rural in character. Lake Los Angeles (population 12,328), and Phelan (population 14,304), are the only communities characterized by the 2010 census as "places." The Bureau of Census does not individually report population or housing for the remaining unincorporated communities, which generally have fewer than 2,000 residents. The Southern California Association of Governments travel forecasting model estimates the 2003 population in the High Desert area at 33,646, indicating that the population outside these two designated places is extremely limited.

VICTOR VALLEY

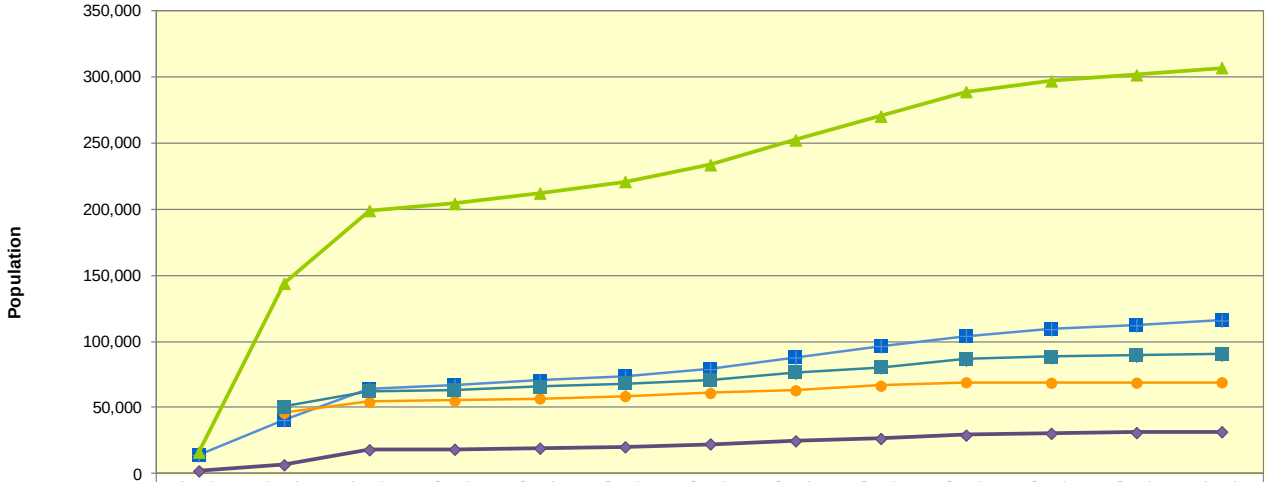
The Victor Valley is a subregion of Southern California located in the southwest area of the Mojave Desert in San Bernardino County. Victor Valley is north of the San Bernardino Mountains and Cucamonga Valley, and east of Antelope Valley. During the 1980's there started a large population boom that has grown the valley to a current population of about 350,000. In this region, there are four incorporated cities—Victorville, Hesperia, Apple Valley, and Adelanto.

Victorville, "Key City of the High Desert," is located northeast of Los Angeles and north of San Bernardino through the Cajon Pass. Victorville is the largest city in Victor Valley and the fifth largest city in San Bernardino County. From the time of its incorporation in 1962, Victorville's population has grown to 115,903 residents. Figure 2-2 charts the recent population growth in the Victor Valley.

Hesperia is just south of Victorville along I-15 and is the second largest city in Victor Valley. Hesperia was incorporated relatively recently in 1988. Over the last decade, Hesperia has grown more than 30 percent from 62,590 in 2000 to 90,173 in 2010.

The Town of Apple Valley is east of and adjoining the neighboring cities of Victorville and Hesperia. Apple Valley is one of twenty-two incorporated municipalities in California that prefers to use "town" in its name instead of "city," and was incorporated in 1988. Over the 2000 to 2010 period, Apple Valley grew almost 22 percent from 54,239 in 2000 to 69,135 in 2010. Spring Valley Lake is an unincorporated census designated place, surrounded by Apple Valley. In 2010, it had a population of 8,220.

Adelanto is located adjacent and northwest of Victorville. Incorporated in 1970, Adelanto is the smallest of the cities in Victor Valley. In November of 1992, Adelanto became a charter city. Adelanto has grown more than 40 percent from 18,130 in 2000 to 31,765 in 2010.



	Apr 1, 1980	Apr 1, 1990	Apr 1, 2000	Jan 1, 2001	Jan 1, 2002	Jan 1, 2003	Jan 1, 2004	Jan 1, 2005	Jan 1, 2006	Jan 1, 2007	Jan 1, 2008	Jan 1, 2009	Apr 1, 2010
Victorville	14,220	40,674	64,029	66,904	70,256	73,538	79,081	87,813	96,564	104,218	109,321	112,252	115,903
Apple Valley	*	46,079	54,239	55,269	56,890	58,665	61,005	63,117	66,490	69,127	68,776	68,828	69,135
Hesperia	*	50,418	62,590	63,572	65,704	68,350	70,956	76,548	80,648	86,332	88,356	89,364	90,173
Adelanto	2,164	6,791	18,130	18,512	19,327	20,326	22,528	24,855	26,617	29,181	30,526	31,087	31,765
Total	16,384	143,962	198,988	204,257	212,177	220,879	233,570	252,333	270,319	288,858	296,979	301,531	306,976
Housing Units													
Victorville		15,627	22,498	22,781	23,312	24,046	25,495	27,955	30,527	33,040	34,946	35,782	36,655
Apple Valley		16,672	20,163	20,513	20,909	21,448	22,193	22,985	24,425	25,631	25,792	25,962	26,117
Hesperia		17,359	21,352	21,503	21,816	22,390	22,953	24,628	26,030	27,973	28,650	28,949	29,004
Adelanto		2,754	5,547	5,575	5,711	5,912	6,411	7,047	7,722	8,560	8,840	8,952	9,086
Total		52,412	69,560	70,372	71,748	73,796	77,052	82,615	88,704	95,204	98,228	99,645	100,862

Source: E-8 Historical Population and Housing Estimates for Cities, Counties and the State, 2000–2010, State of California Department of Finance, November 2012

*Apple Valley and Hesperia were unincorporated in 1980—no population figures available.

Figure 2-2: Population and Housing in Victorville, Hesperia, Apple Valley and Adelanto

2.1.2 Employment

ANTELOPE VALLEY

The most important industry for Palmdale is the aerospace industry. However, in recent times, other manufacturing companies have relocated to Palmdale seeking more affordable land, close proximity to Palmdale Airport, and special tax breaks.

Special tax breaks are granted for companies that relocate to the Antelope Valley Enterprise Zone and the Palmdale Federal Foreign Trade Zone. These are special zoning areas within the city that allow for various state and federal tax breaks and municipal grant incentives. These zones were put in effect to help Palmdale and Lancaster draw more jobs to the area so they would be less dependent on the Los Angeles Basin area for employment, thus relieving pollution and traffic congestion and stabilizing the local economy on several industries.

Palmdale refers to itself as the "aerospace capital of the United States" and has been the site of research, development, final assembly, flight testing, servicing and modifications of the Space Shuttle, X-15, B-2 Spirit, F-117 Nighthawk, F-35 Lightning II, SR-71 Blackbird, Lockheed L-1011 Tristar, and many other aircraft which have been used in the United States Air Force, National Aeronautics and Space Administration (NASA) and air forces and airlines around the world. U.S. Air Force Plant 42, where the aforementioned aerospace projects occurred, is home to major operations of the following aerospace companies: Boeing, Lockheed Martin and its famed Skunk Works, and Northrop Grumman. The Los

Angeles World Airports owns the former Boeing hangar (formerly North American Rockwell) at Plant 42 near Los Angeles/Palmdale Regional Airport, which is one of the largest buildings in the world. NASA's Stratospheric Observatory for Infrared Astronomy program is planning to relocate its operation to this hangar at Site 9 from Edwards Air Force Base.

A number of world-class corporations and manufacturing firms have made Palmdale home, diversifying the local economy. Delta Scientific Corporation, a world leader in high strength vehicle barrier systems, supplying protection for many federal, state and local buildings, and a prime supplier to the military and U.S. State Department for embassies and other installations worldwide, and U.S. Pole Company, Inc., a major manufacturer of street lighting poles, are major anchor tenants in the Fairway Business Park. The Palmdale Trade and Commerce Center is home to many other major manufacturing, industrial, corporate offices and other employers, as well as home to the Palmdale Auto Mall. A number of medical and related support offices are coming on-line to meet the needs of the new Palmdale Regional Medical Center.

The Antelope Valley Mall is the preeminent retail shopping destination in the region, with a wide variety of dining choices in its Restaurant Row.

Table 2-1 lists the largest employers located within Antelope Valley, including Palmdale, while Table 2-2 indicates area-wide employment by industry type.

Table 2-1. Antelope Valley Major Employers *(Year 2011)*

2008 LARGEST EMPLOYERS COMPANY	NUMBER OF EMPLOYEES	2008 LARGEST EMPLOYERS COMPANY	NUMBER OF EMPLOYEES
Edwards Air Force Base	12,800	Southern Kern Unified School District	398
China Lake	5,608	Lowe's (3 stores)	372
Lockheed Martin Co.	3,700	High Desert Medical Group	350
County of Los Angeles	3,827	Keppel School District	350
Wal-Mart (6 stores)	2,346	Ridgecrest Regional Hospital	340
Antelope Valley Hospital	2,302	Deluxe Corporation	317
Antelope Valley Union High School District	2,174	Mojave Unified School District	304
Northrop-Grumman Corporation	2,100	City of Lancaster	300
Tehachapi Correctional Institute	2,040	Muroc Joint Unified School District	300
Antelope Valley Mall	1,800	Scaled Composites, LLC	300
Palmdale School District	1,798	Eastside Lancaster School District	293
Mira Loma-CA State Prison	1,754	Costco	282
Countrywide	1,685	Wyle Laboratories	280
Lancaster School District	1,500	City of Palmdale	278
Westside Union Elementary School District	1,287	Wilsona School District	276
Rio Tinto Minerals	875	Home Depot (2 Stores)	257
Boeing (2 divisions)	800	Michael's Distribution Center	230
Kaiser Permanente	768	U.S. Pole Corporation, Inc.	220
Rite Aid Distribution Center	699	Southern California Edison	220
Sierra Sands School District	620	Antelope Valley Press	220
Lancaster Community Hospital	600	Sam's Club	189
Albertson's Food & Drug (4 stores)	536	SYGMA	185
High Desert Health System	500	Delta Scientific Corporation	170
Tehachapi Unified School District	496	BAE Systems	167
Starwood Hotels & Resorts	450	Lance Campers	140
California City Corrections Facility	450	Best Buy	130
Antelope Valley College	446	Wells Fargo	120
		Total	**60,949**

Source: 2013 Economic Roundtable Report, Greater Antelope Valley Economic Alliance

Table 2-2. Antelope Valley Employment by Industry *(Year 2011)*

	LOS ANGELES COUNTY	KERN COUNTY	TOTAL
Federal government	367	4,968	5,335
State government	1,981	2,004	3,985
Local government	13,285	3,121	16,406
Agriculture and mining	368	907	1,275
Utilities	334	403	737
Construction	2,736	393	3,129
Manufacturing	7,877	2,188	10,065
Wholesale trade	1,166	174	1,340
Retail trade	11,286	2,203	13,489
Transportation and warehousing	2,158	399	2,557
Management of companies and enterprises and administrative and support and waste management and remediation services	2,048	1,082	3,130
Information	829	143	972
Finance and insurance	3,027	325	3,352
Real estate and rental and leasing	786	225	1,011
Professional, scientific, and technical services	1,601	2,983	4,584
Educational services	758	216	974
Health care and social assistance	8,358	1,388	9,746
Arts, entertainment and recreation	553	361	914
Accommodation and food services	7,379	1,931	9,310
Other services (except public administration)	4,564	639	5,203
Not classified	237	66	304
Total Employment	**71,698**	**26,119**	**97,818**

Source: 2013 Economic Roundtable Report, Greater Antelope Valley Economic Alliance

HIGH DESERT

The High Desert area is almost entirely composed of unincorporated lands of Los Angeles and San Bernardino. The region is highly rural in character, with a very low density population pattern and sparse employment opportunities. The Southern California Association of Governments travel forecasting model estimates only 5,022 jobs in the entire region as of 2003. Nearly all residents are self-employed or are employed in jobs located in the Antelope and Victor Valley areas. The majority of current employment opportunities are located in the San Bernardino County portion of the High Desert area and nearly all future growth is expected to take place there.

VICTOR VALLEY

The largest single employment concentration in Victor Valley is the Southern California Logistics Airport (SCLA) in Victorville. The Southern California Logistics Airport was originally George Air Force Base built in 1941 and closed in 1992. In July 2000, the Southern California Logistics Airport received the designation of "foreign trade zone" to entice companies that have foreign dealing to the vacant airport. There is also a 24-hour-a-day, seven-day-a-week, onsite U.S. Customs office. By having both the

designation of being a foreign trade zone and an onsite U.S. Customs office, many companies have been enticed to open an office or warehouse at Southern California Logistics Airport.

Educational institutions are the largest employers as an industry with each city not only having elementary, middle, and high schools, but also with multiple institutions of higher learning. With all of these schools and school districts combined, education employs more than three times the labor force of the Southern California Logistics Airport. There are a total of 77 private schools, 80 public schools, and 16 charter schools in Victor Valley. The breakup of these schools is as follows: in Victorville, there are 32 public schools, 34 private schools, and 8 charter schools; Hesperia has 25 public schools, 21 private schools, and seven charter schools; Apple Valley has 16 public schools, 18 private schools, and one charter school; and Adelanto has seven public schools, four private schools, and no charter schools. These schools serve preschool age students up to high school, totaling 173 schools. Also in Victor Valley, there is the Victor Valley College (a junior college).

Within Victor Valley, immediately south and adjacent to the Southern California Logistics Airport is a Federal Correctional Complex that employs more than 800 people to cover the three prisons located there. There is a medium I security complex for men, a medium II security complex for men with a satellite prison camp for low security female prisoners, and a United States penitentiary for high security male prisoners.

Three hospitals and medical centers employing more than 3,000 employees are located in the Victor Valley, including St. Mary's Medical Center, Desert Valley Hospital/Medical Group, and Victor Valley Community Hospital. Victor Valley Community Hospital, located in Victorville, has 115 beds, of which 16 beds are for the pediatric unit. Also located in Victorville is the Desert Valley Hospital, named as one of the 100 top hospitals in the nation, that houses 83 beds. The St. Mary's Medical Center in Apple Valley houses 186 beds.

Table 2-3 lists the largest employers located within Victor Valley, while Table 2-4 indicates area-wide employment by industry type.

2.1.3 Environmental Justice Consideration

ANTELOPE VALLEY

Figure 2-3 illustrates the distribution of population within the focused study year, based on year 2010 Census data reported at the block level. Virtually all of the population living within the focused study area and expected to be most impacted by this project reside to the south of the proposed High Desert Corridor freeway/expressway in the city of Palmdale. As of April 2010, Palmdale's population was 152,750. Figure 2-4 illustrates the racial composition of this population based on 2010 census data, reported at the block group level of detail.

HIGH DESERT

It is expected that transportation improvements resulting from the proposed project will benefit the limited number of residents in the High Desert portion of the study area on a nearly equal basis. Therefore, a similar assessment of environmental justice considerations was not conducted.

Table 2-3. Victor Valley Major Employers

VICTORVILLE	
Southern California Logistics Airport	2,073
Victor Valley College	1,150
Desert Valley Hospital	1,000
Verizon	940
Victor Valley Union High School District	877
Victor Elementary	848
Federal Correctional Complex	844
Walmart	830
Victor Valley Community Hospital	548

HESPERIA	
Hesperia Unified School District	2,000
County of San Bernardino	367
Stater Brothers	361
Super Target	250
City of Hesperia	210
Arizona Pipeline Co	195
Hesperia Recreation & Park District	166
Robar Enterprises	144
Double Eagle Transportation	124

APPLE VALLEY	
Apple Valley Unified School District	1,770
St. Mary's Medical Center	1,350
Wal-Mart Distribution Center	1,100
Target Stores, Inc.	402
Stater Brothers	292
Lowe's Home Improvement	286
Wal-Mart, Retail	276

ADELANTO	
Roadway Express	700
Adelanto School District	500
Commercial Wood Products	209
Northwest Pipe	180
Cabo Yachts	150
Molded Fiberglass West	110
National Arnold Magnetics	110

Table 2-4. Victor Valley Employment by Industry

INDUSTRY SECTOR	NUMBER OF ESTABLISHMENTS	NUMBER EMPLOYED
Agriculture, forestry, fishing	142	468
Natural resources and mining	5	20
Construction	744	3,855
Manufacturing	347	4,169
Wholesale	278	2,027
Retail	1,921	22,259
Transportation, communications, utilities	324	3,005
Finance, insurance, real estate	781	4,583
Business and professional services	207	9,873
Education and health care services	978	18,581
Total all private sector	7,770	69,301
Total Government and non-profit	413	5,517
Total All Industries	8,183	74,818

Source: Claritas 2009 Data, www.victorvalleyca.com

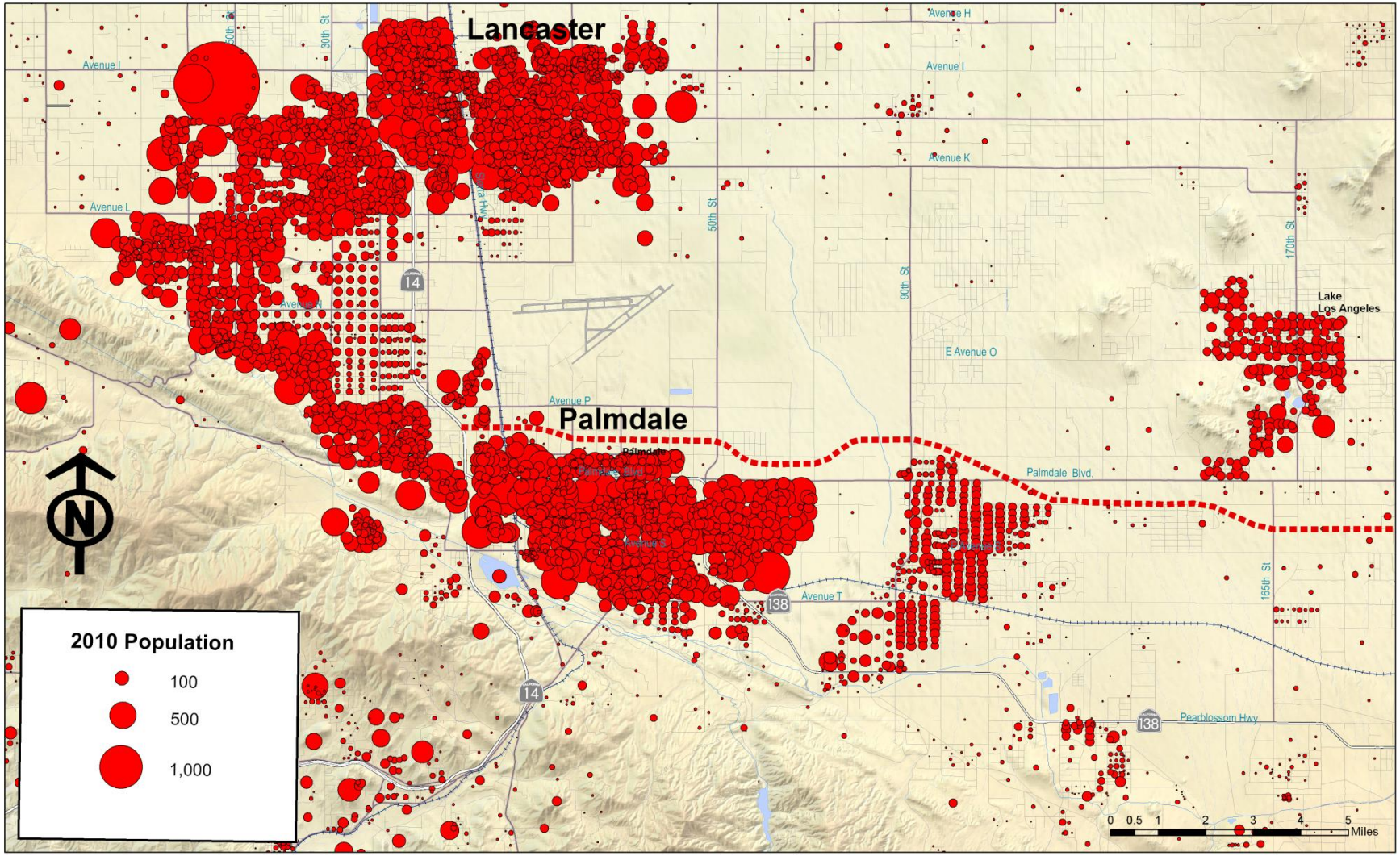


Figure 2-3: Population Distribution in the Antelope Valley

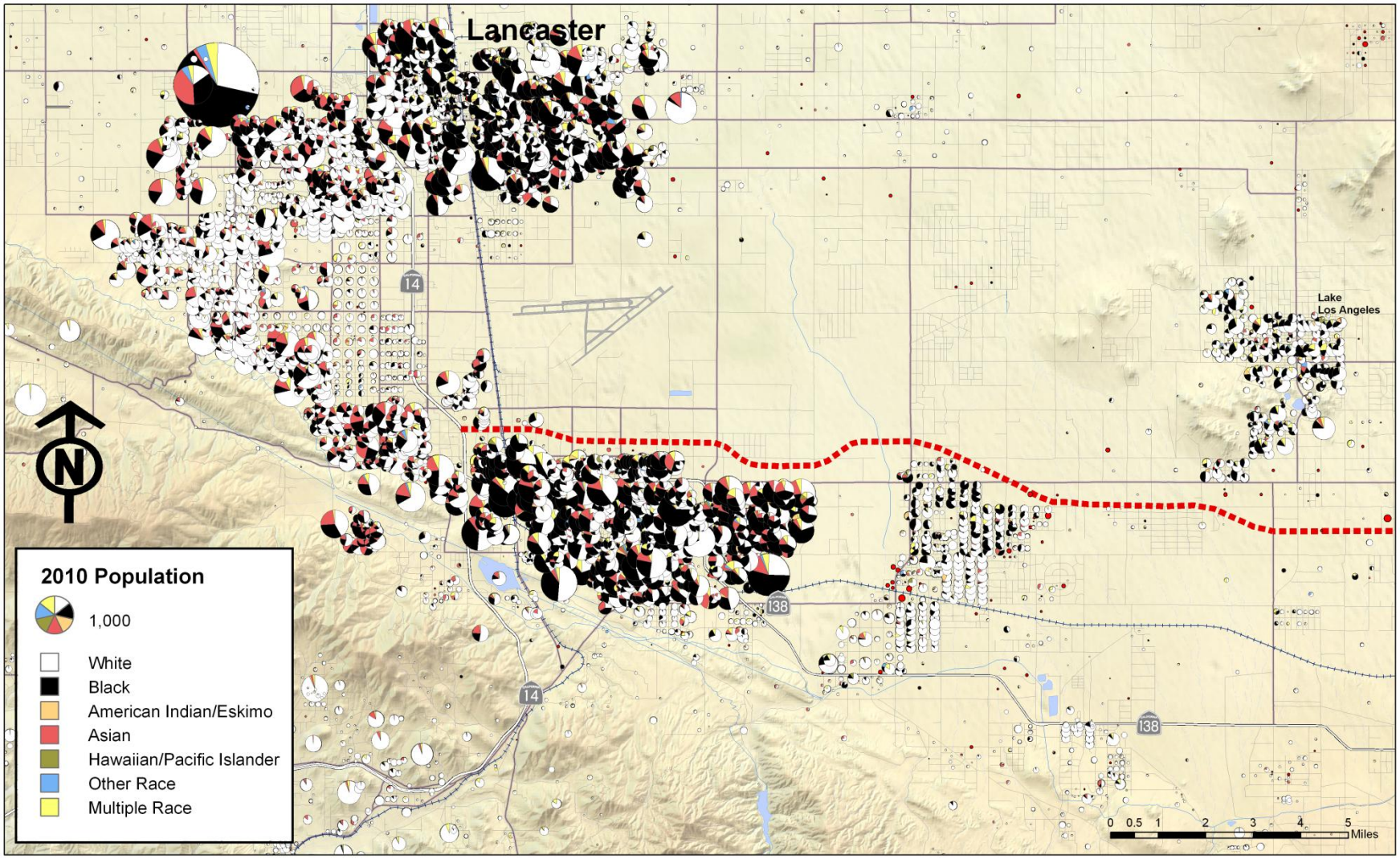


Figure 2-4: Distribution by Race in the Antelope Valley

VICTOR VALLEY

Figure 2-5 illustrates the distribution of population within the focused study year, based on year 2010 Census data reported at the block level. According to the 2010 census data, the population in the project study area has grown to about 306,980. Looking at the distribution of the population, virtually all of the population will be south of the area of the proposed High Desert Corridor alignment. Figure 2-6 illustrates the racial composition of this population based on 2010 census data, reported at the block group level of detail.

2.1.4 Land Use within Focused Study Area

ANTELOPE VALLEY

Figure 2-7 illustrates the location and type of land uses within the portion of the City of Palmdale being addressed by this traffic study. The existing and planned land use, adopted by General Plan ordinance, indicates concentrations of commercial land uses along arterial streets such as Palmdale Boulevard (SR 138) and 10th Street West; industrial land uses located adjacent to the Los Angeles/Palmdale Regional Airport, and residential lands occupying most of the three-mile wide corridor running between Avenue Q and Pearblossom Highway (Avenue T) located east of SR 14. The majority of retail space is situated along 10th Street West where shopping centers are clustered in the vicinity of the Antelope Valley Mall, at Rancho Vista Boulevard/Avenue P.

The land use designation surrounding the corridor of the proposed High Desert Corridor alignment is primarily industrial. A large portion of the freeway right-of-way belongs to the Los Angeles/Palmdale Regional Airport, but the land uses in the areas that will be affected by the High Desert Corridor include commercial, industrial and residential.

HIGH DESERT

The land use along the proposed highway is rural in character and its zoning designation is predominately low density residential. General plans prepared for the High Desert area indicate that residents desire to maintain the rural character of their communities, and prefer that growth be focused in the adjacent urbanized areas to the east and west of their communities. Preservation of the rural character of the region is the common vision which unites the communities of the High Desert area. Nevertheless, it is anticipated that both population and employment will approximately double during the 2003 to 2035 (2040) time period considered in this study. Figure 2-8 illustrates the location and type of land uses within the portion of the study area.

VICTOR VALLEY

Figure 2-9 illustrates the location and type of land uses within the Victor Valley portion of the study area. Both existing conditions and future plans indicate a continuation of this land use in the foreseeable future. The proposed project will run just south of the Southern California Logistics Airport and either north or south of the Victorville Federal Correctional Complex, both located between Adelanto and Victorville.

The land use surrounding the corridor of the proposed highway alignment is primarily industrial. At the eastern most extent of the proposed highway, the land use begins to change, with a mix of industrial zoning increasingly supplanted by low density residential as Apple Valley expands to the east. Figure 2-9 illustrates the location and type of land uses within the portion of the study area.

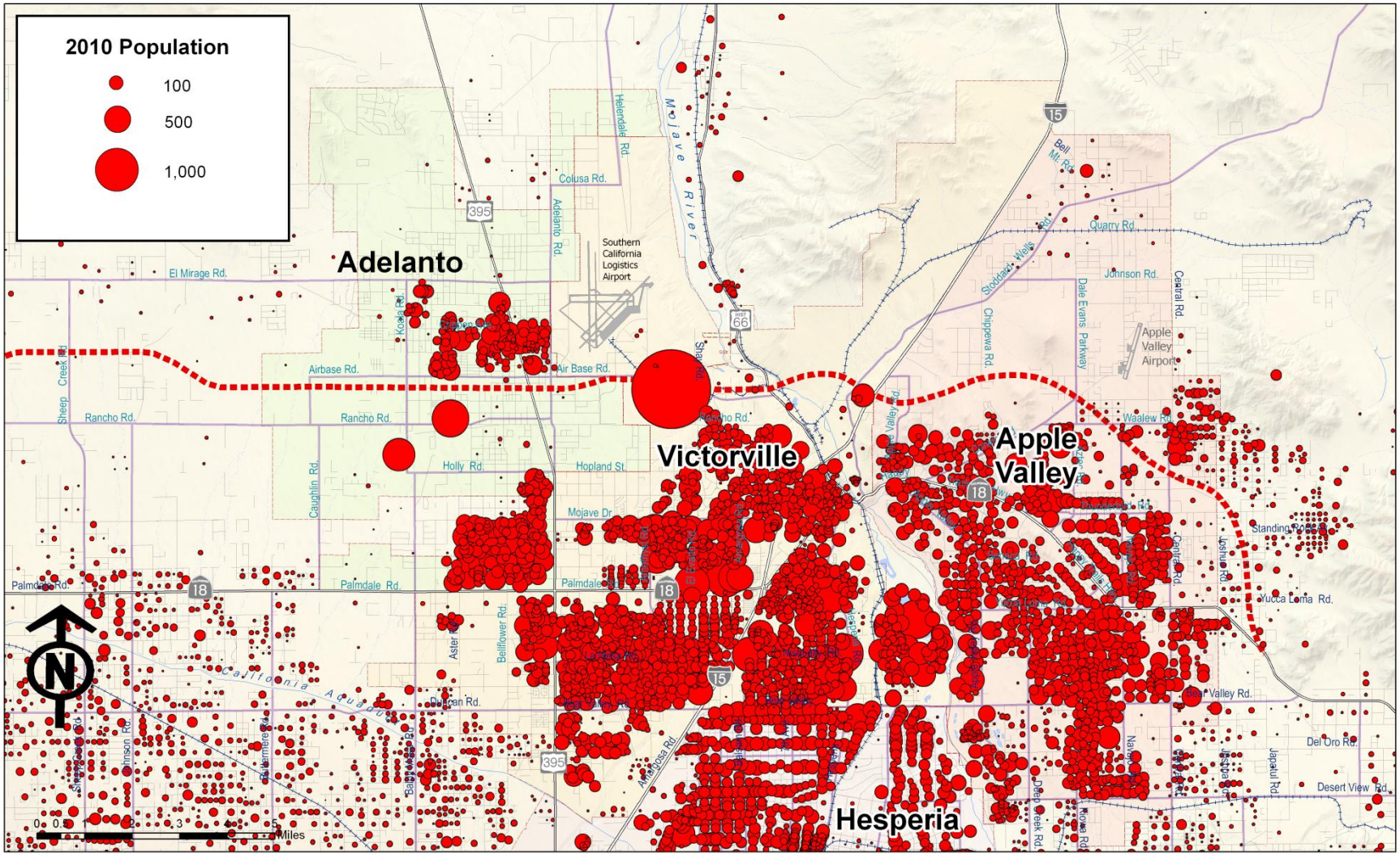


Figure 2-5: Population Distribution in Victor Valley

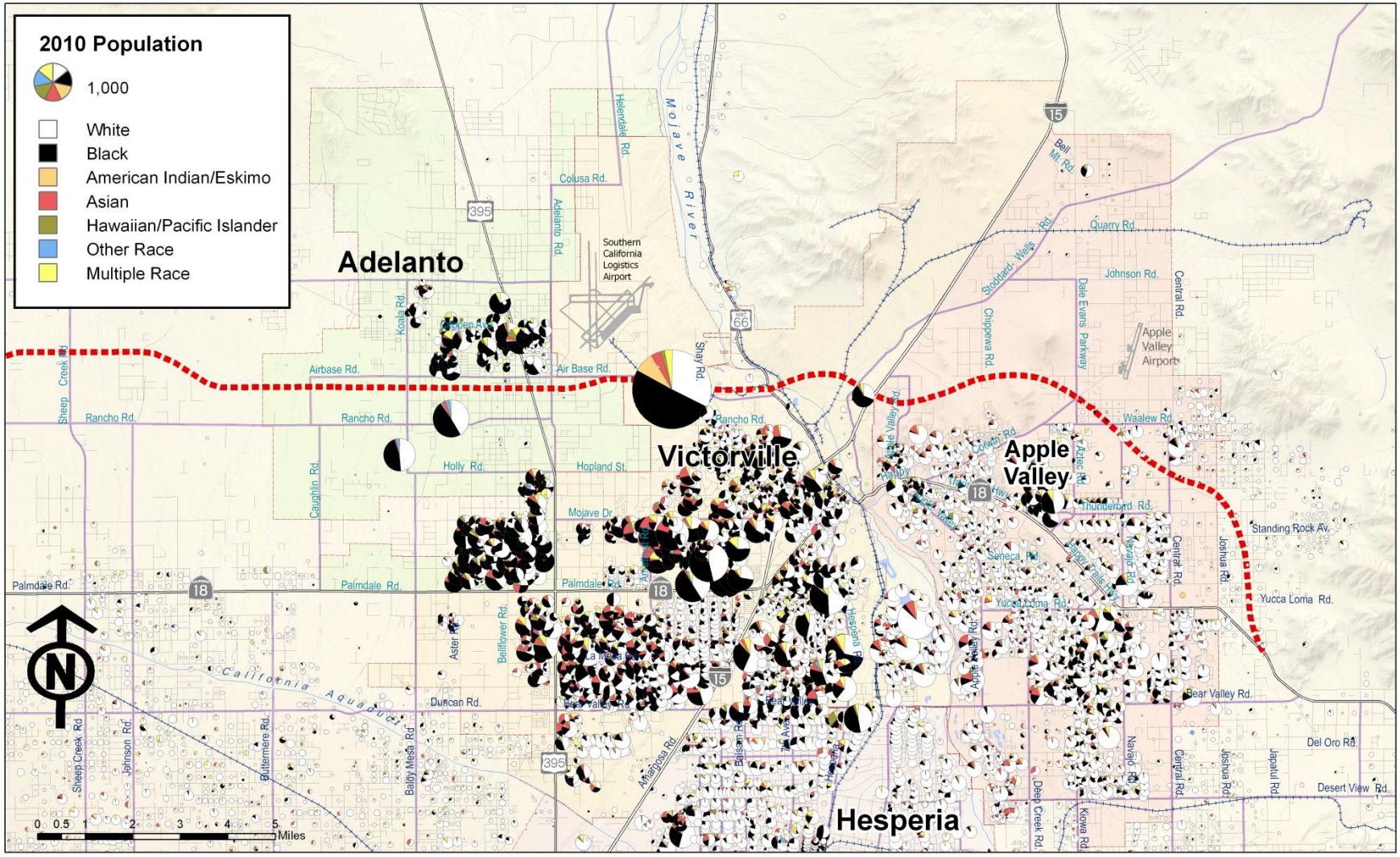
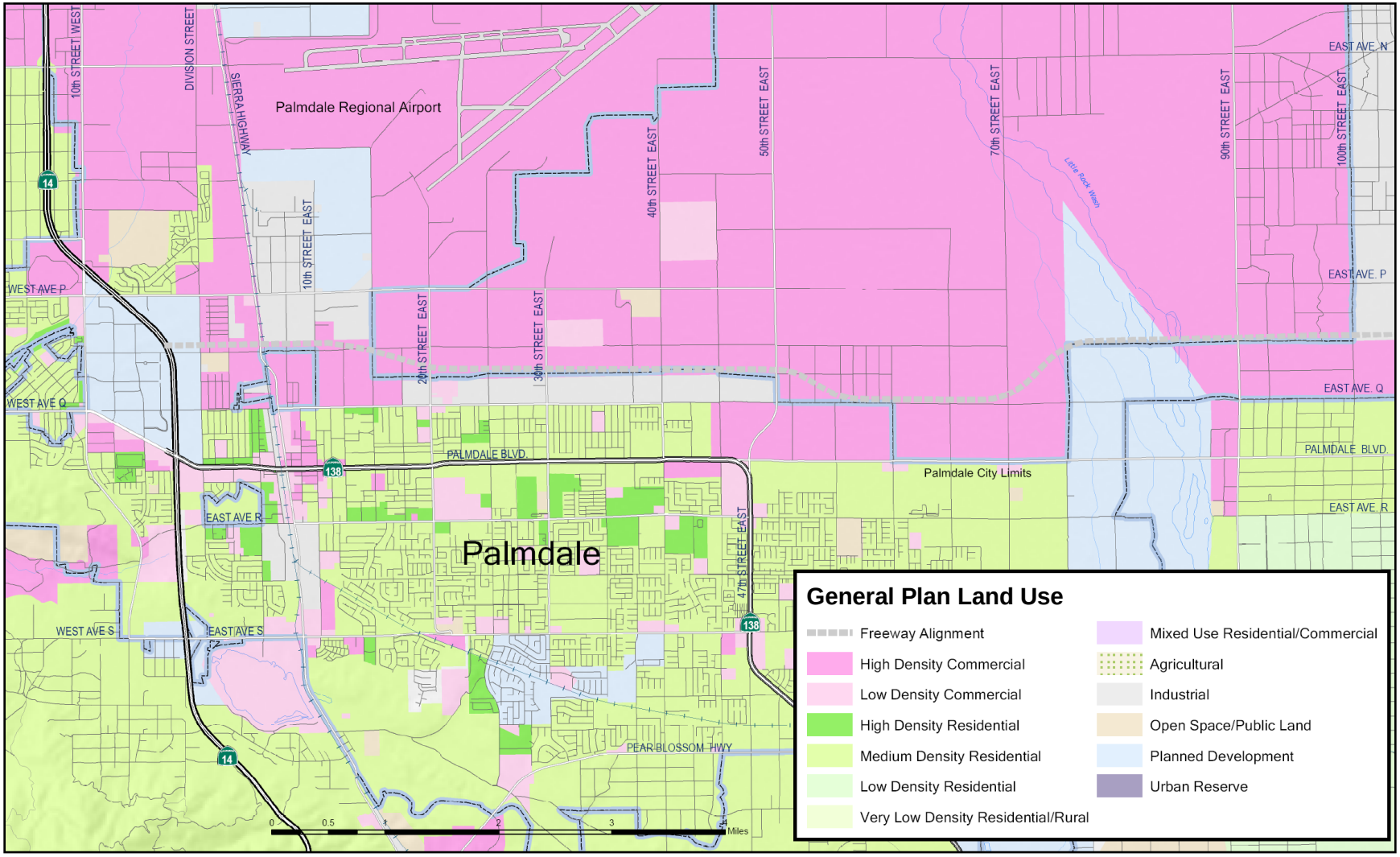


Figure 2-6: Distribution by Race in Victor Valley



Source: City of Palmdale

Figure 2-7: Land Use within the Antelope Valley

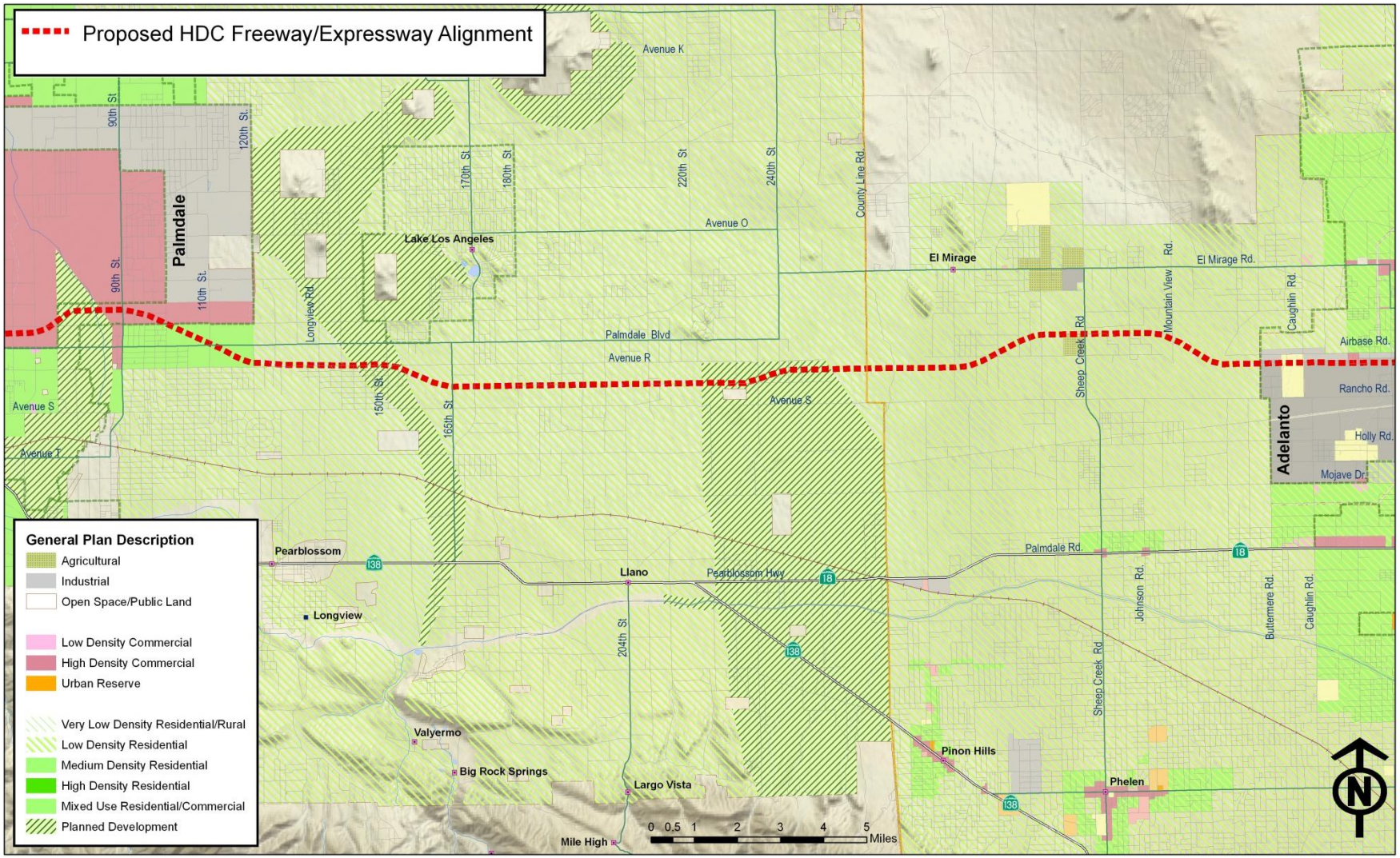


Figure 2-8: Land Use in the High Desert Region

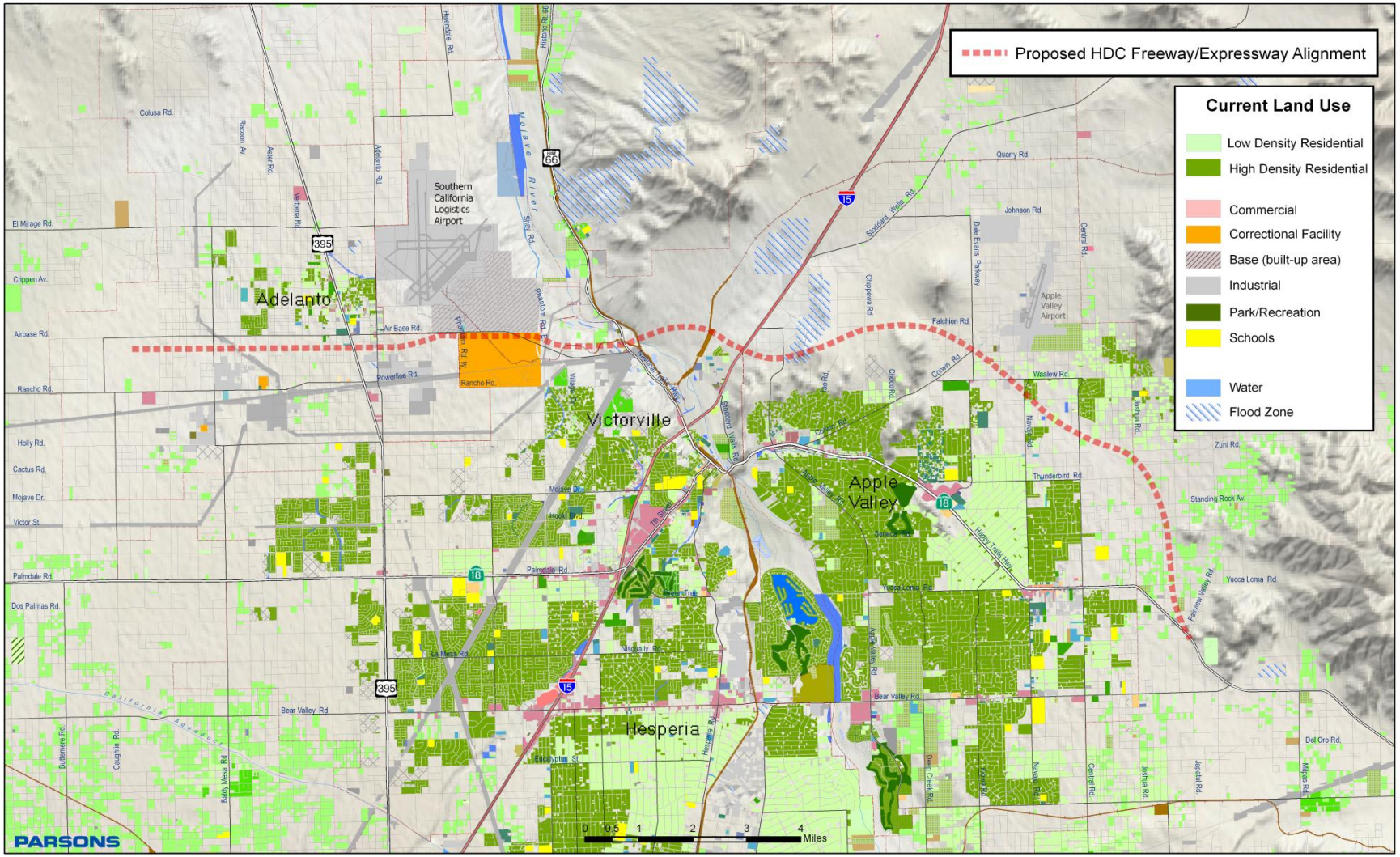


Figure 2-9: Land Use in Victor Valley

2.1.5 Schools

ANTELOPE VALLEY

Thirty six schools are located within the focused study area. Of these schools, four are preschools, 18 are elementary schools, five are middle schools, three are high schools, and four are continuation type schools. Most of these schools will not be affected by the High Desert Corridor or construction resulting from the proposed project, but do lie within the project study area. A more detailed discussion involving the location of specific schools near roadways adjacent to the proposed project is included in section 2.2, Roadway Facilities and Adjacent Land Uses. Figure 2-10 illustrates the locations of schools in the Antelope Valley area.

HIGH DESERT

There are a limited number of public and private educational facilities in the High Desert portion of the study area. None of the schools are expected to be impacted by the proposed project. None of the right-of-way acquisitions, roadway closures, or grade separations proposed by this project are expected to affect travel to and from these schools.

Some of the existing public schools include Little Rock High School on 110th Street just south of Palmdale Boulevard, Challenger Middle School on 170th Street East just north of Avenue N, Lake Los Angeles Elementary on East Avenue Q just west of 185th Street E, and Antelope Elementary on Avenue S just west of 100th Street. Figure 2-11 depicts the location of schools with the High Desert portion of the study area.

VICTOR VALLEY

There are a total of 173 schools in the Victor Valley. Of these 173 schools, 83 are preschools, 99 elementary schools, 67 middle schools, and 59 high schools. Many of these schools have multiple class levels contained at one school. Nearly all schools are located well south of the High Desert Corridor and SR 18 realignment. The schools are not expected be materially affected by this project, but do lie within the project study area. A more detailed discussion involving the location of specific schools near roadways adjacent to the proposed project is included in section 2.2, Roadway Facilities and Adjacent Land Uses. Figure 2-12 illustrates the locations of schools in the Victor Valley area.

2.1.6 Public Safety Services and Recreational Facilities

ANTELOPE VALLEY

The City of Palmdale's public safety services are provided by the Los Angeles County Fire Department and the Los Angeles County Sheriff's Office. Three fire stations and one sheriff's office are located within the project limits. Of these, Fire Station #24 is located north of the proposed High Desert Corridor freeway alignment near West Avenue P and 10th Street West. The remaining stations are all south of the freeway alignment. Figure 2-13 illustrates public safety service facilities in the Antelope Valley area.

Two libraries serve the city of Palmdale. The Palmdale Main Library is located near City Hall and the Palmdale Youth Library is located north of Palmdale Boulevard on Sierra Highway. Recreational opportunities in Palmdale include eight public parks encompassing approximately 150 acres of land, two golf courses and one water park. Figure 2-14 illustrates recreational facilities in the Antelope Valley area.

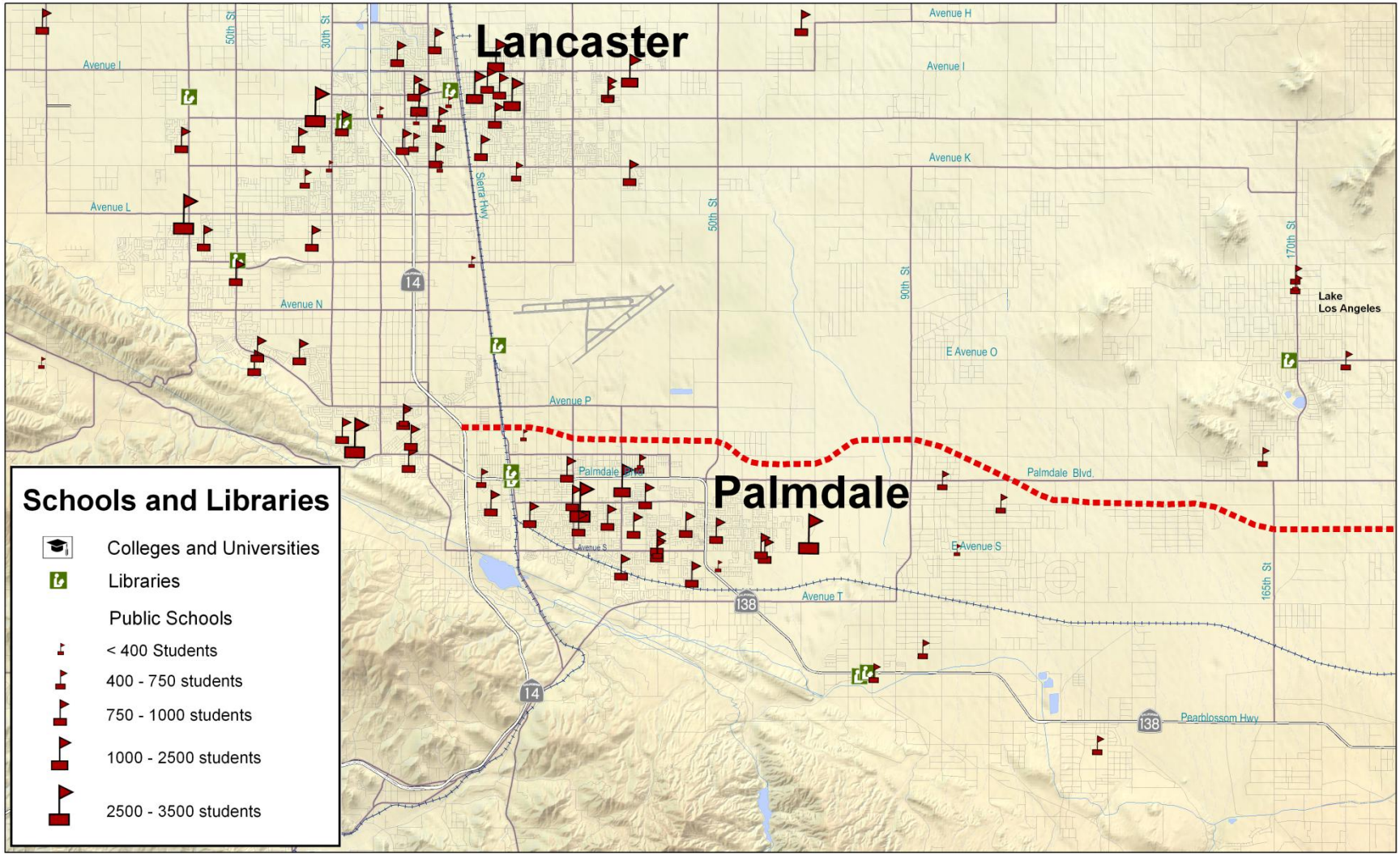


Figure 2-10: Schools in the Antelope Valley Region

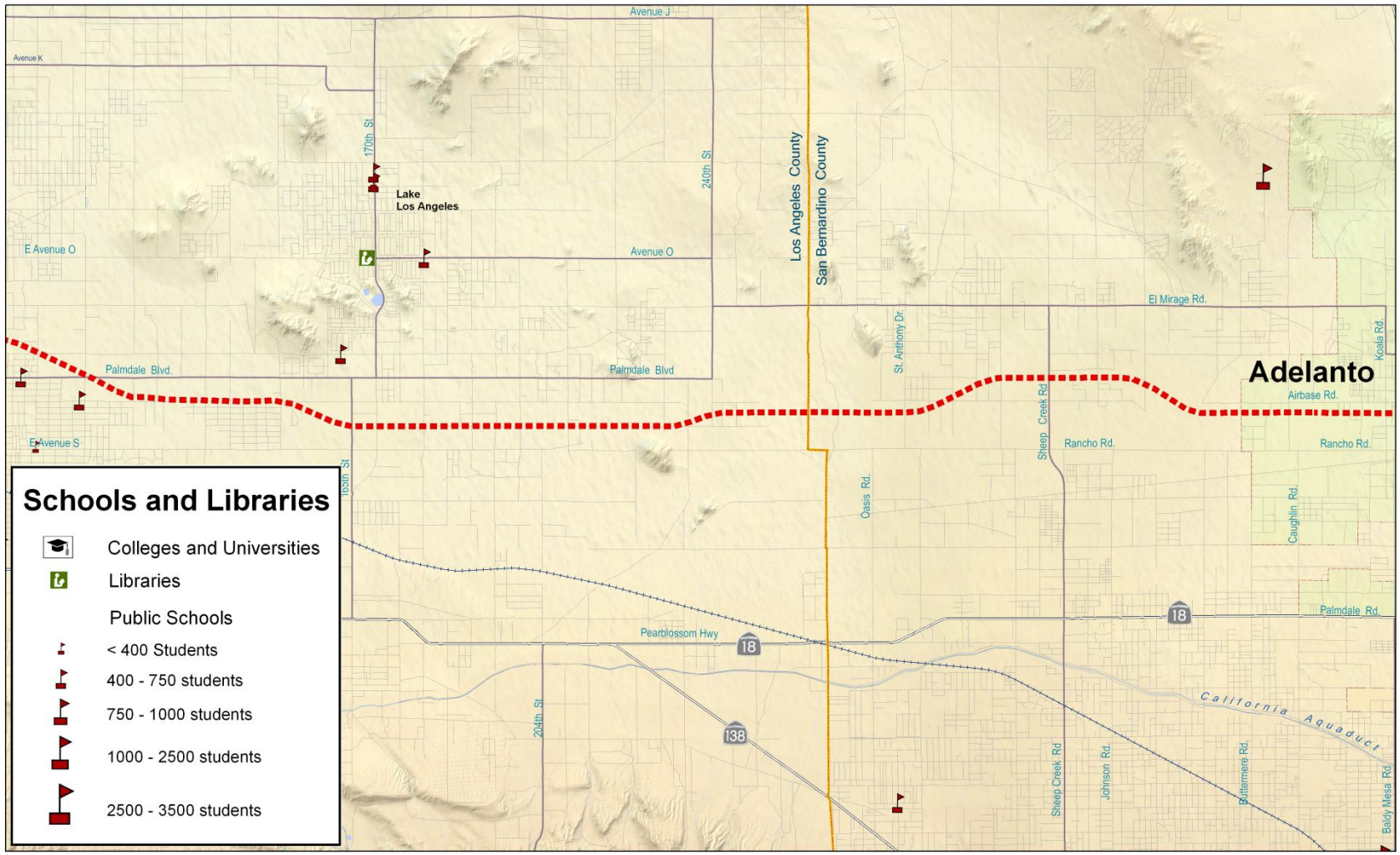


Figure 2-11: Schools in the High Desert Region

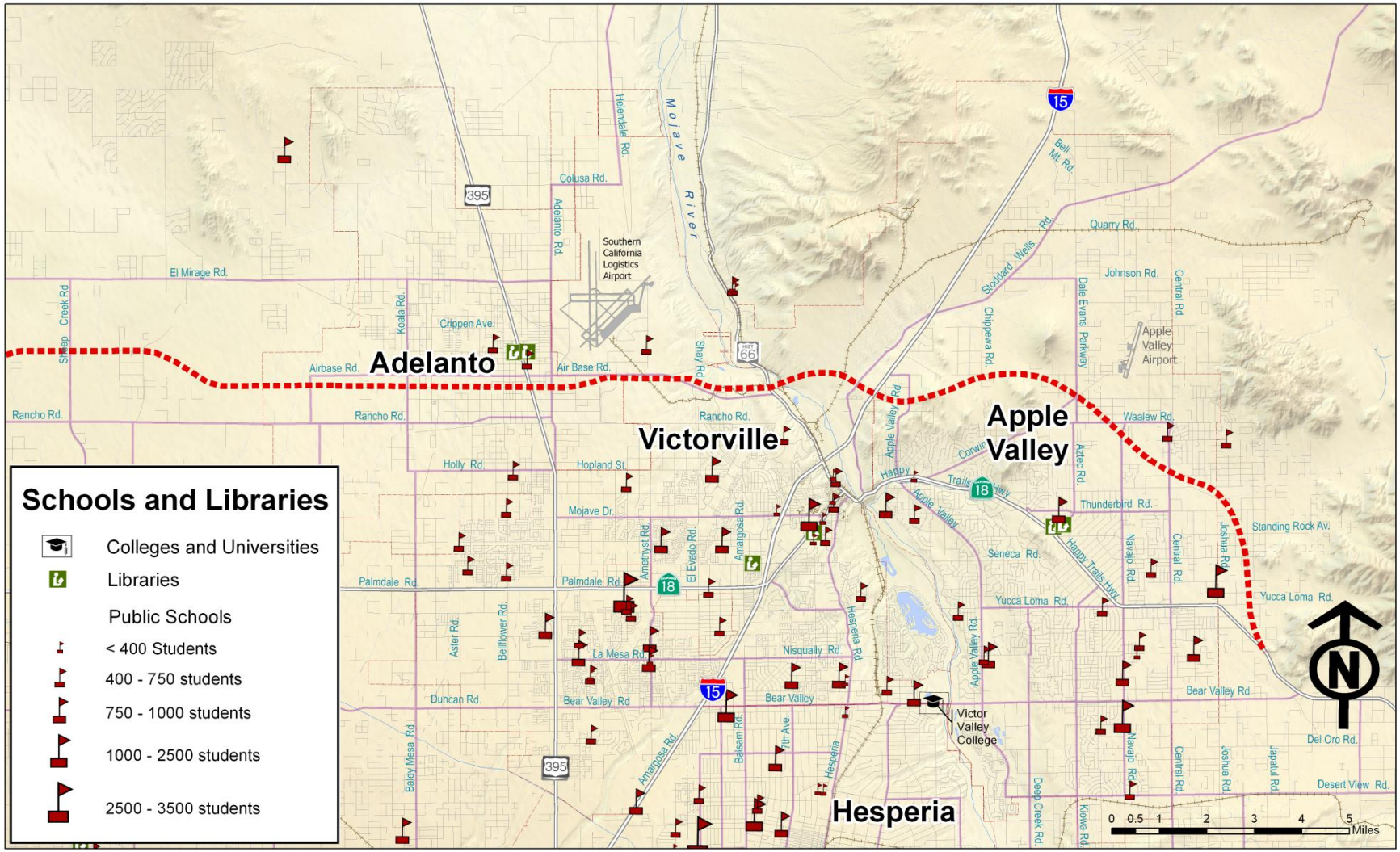


Figure 2-12: Schools in the Victor Valley Region

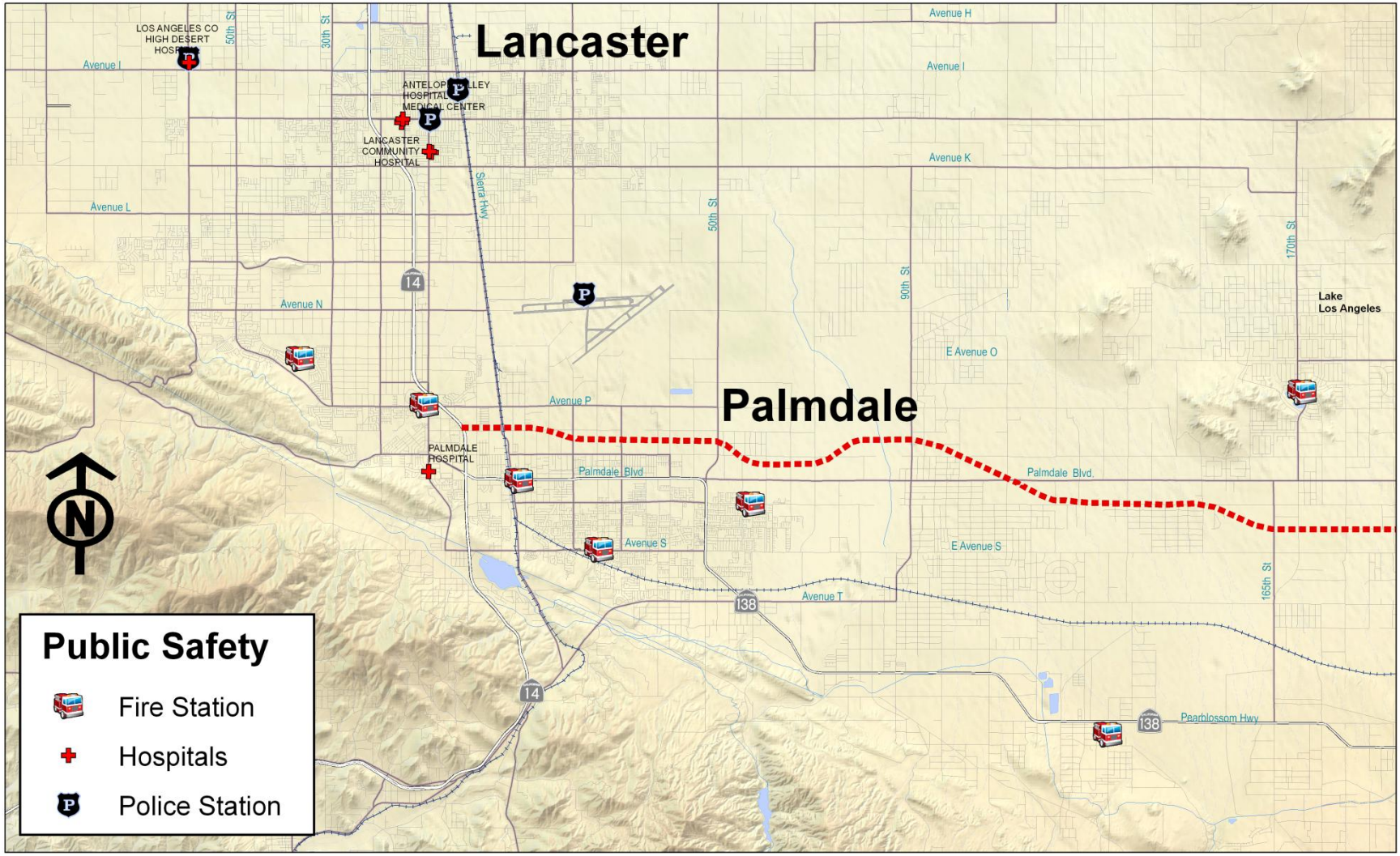


Figure 2-13: Public Safety Services in Antelope Valley

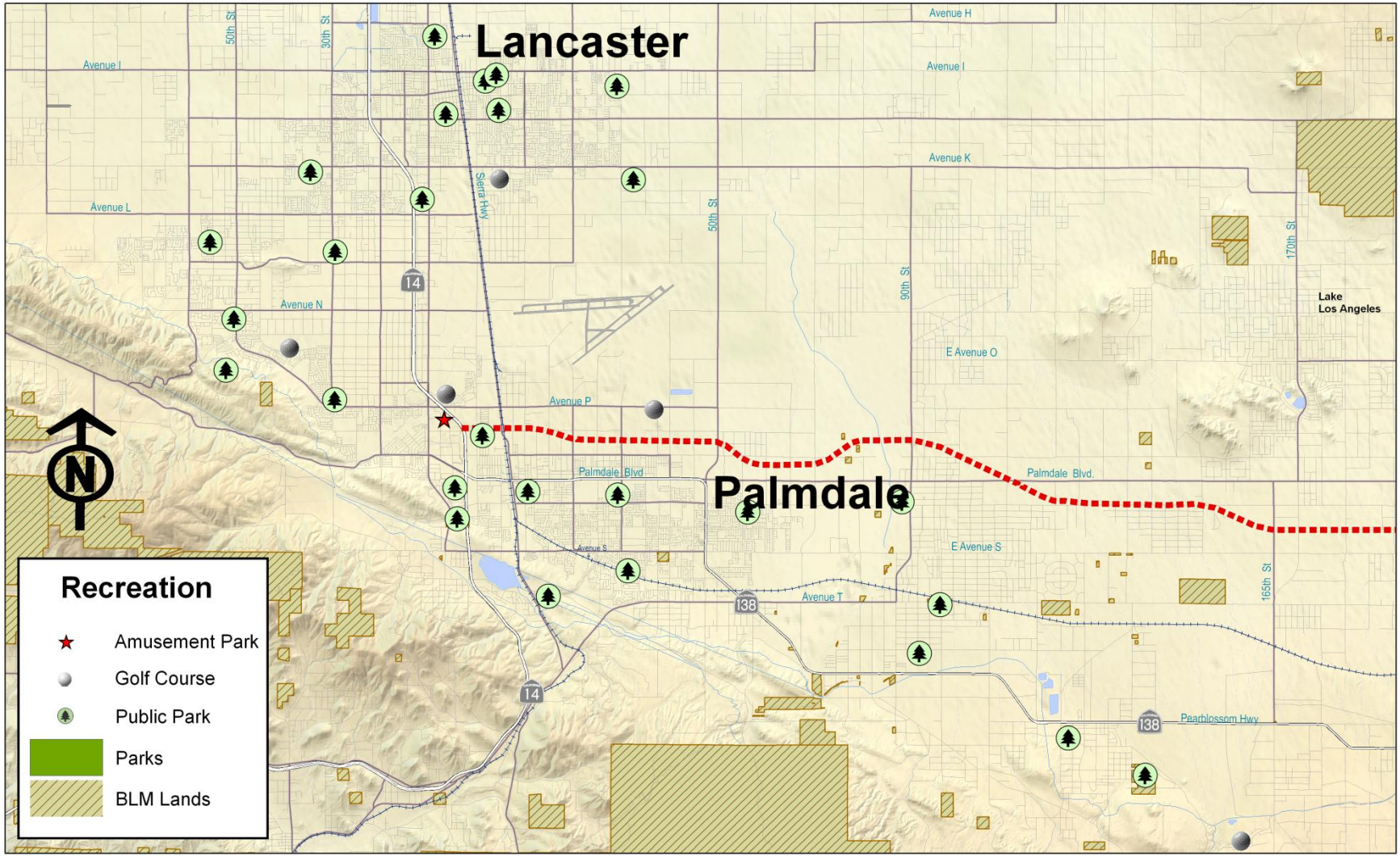


Figure 2-14: Recreational Facilities in Antelope Valley

HIGH DESERT

The High Desert portion of the Study Area is served by both the Los Angeles and San Bernardino County Fire Departments and the Los Angeles County Sheriff's Offices, depending on exact location. There is a fire station located in Lake Los Angeles. The location of this public service facility is depicted on Figure 2-15.

The area surrounding the proposed highway within the High Desert portion of the study area is rural in character and nearly devoid of publically provided recreational opportunities. There are some small Bureau of Land Management (BLM) parcels near the alignment, but nothing gin the way of parks or recreational attractions.

VICTOR VALLEY

The cities of Adelanto and Hesperia contract with the San Bernardino County Sheriff's Department for police service, and the San Bernardino County Fire Department for fire service. A police department substation is located in both cities. Adelanto has one fire department substation and Hesperia has three. Both Apple Valley and Victorville have their own police and fire departments. Figure 2-16 illustrates public service facilities in the Victor Valley area.

There are four libraries serving the Victor Valley, one in each of the cities. More than 30 parks are located in Victor Valley, in addition to six golf courses. Figure 2-17 illustrates recreational facilities in the Victor Valley area.

2.1.7 Regional Transportation Facilities

ANTELOPE VALLEY

Two transportation depots are located within the focused study area, these being the Los Angeles/ Palmdale Regional Airport and the Palmdale Transportation Center. Until December 2008, the Los Angeles/ Palmdale Regional Airport offered two commercial flights each weekday (one on weekend days) between Palmdale and San Francisco International Airport. This service was provided by United Airlines.

The Palmdale Transportation Center is a multi-modal facility which serves as a Metrolink train station and a hub for connections between the Antelope Valley Transit Authority and commuter bus service, Santa Clarita Transit bus service, Greyhound bus service and Amtrak Thruway bus service. Eighteen Metrolink trains serve the station each weekday, six on Saturdays and three on Sundays, linking Palmdale to the greater Los Angeles area. The Palmdale Transportation Center is also designated as a stop on the future California High Speed Rail line from San Francisco to San Diego.

Two park-and-ride lots, located on either side of SR 14 on Avenue S, provide a total of 1,522 spaces, with an additional 445 spaces at a third park-and-ride lot located on West Avenue R-8 at Pelona Vista Park. The parking lot at the Palmdale Transportation Center contains approximately 500 parking spaces, but is not designated as a park-and-ride lot.

HIGH DESERT

Other than pass-through local service and some limited express bus stops, the High Desert portion of the study area is not directly served by regional transportation facilities. Such facilities are, however, located both to the east and west in the Antelope and Victor Valley areas, respectively.

Figure 2-15: Public Safety Services in the High Desert Region

Figure 2-16: Public Safety Services in Victor Valley

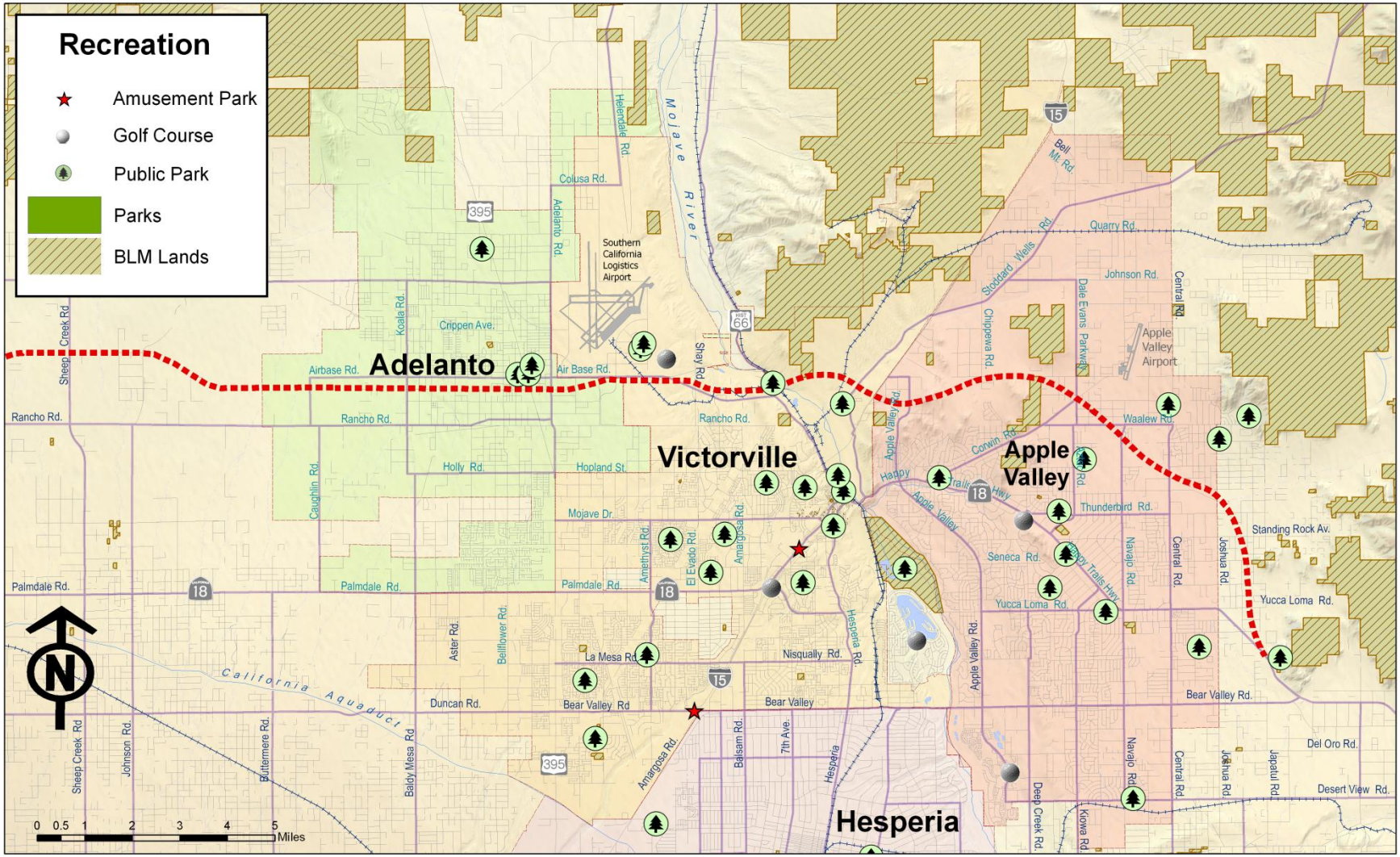


Figure 2-17: Recreational Facilities in Victor Valley

VICTOR VALLEY

While there is no commercial airline that flies into Victor Valley, the Southern California Logistics Airport does service many companies for air cargo and does have the ability to accept any current flying commercial and military aircraft. In fiscal year 2009, the Southern California Logistics Airport enplaned 227 metric tons of cargo compared with 1.95 million metric tons for the Los Angeles region. Southern California Logistics Airport does, however, service executive air travel. Also located within Victor Valley is an airport in Apple Valley and Hesperia. Both airports are open to the public, but neither has the ability to accept commercial aircraft.

Insofar as public transportation, Victor Valley Transit Authority (VVTA) is the local bus operator servicing Victor Valley. It operates 18 local bus routes, and one express bus route connecting Victor Valley with Barstow. Figure 2-18 illustrates the bus route network. A more detailed discussion of these services is contained in a subsequent section of this report—section 2.7, Public Transit Service.

2.1.8 Shopping Centers

ANTELOPE VALLEY

As mentioned previously, the main retail shopping corridors within the study area are located along 10th Street West and Palmdale Boulevard. Along 10th Street West, shopping centers line the street from West Avenue O-4 south to East Avenue P-8.

Along Palmdale Boulevard, there are commercial centers on both sides of the street from Division Street to just east of 30th Street East. Another major shopping center, the 47th Street Pavilion, is located on the southwest corner of the roundabout at Palmdale Boulevard and 50th Street East.

HIGH DESERT

There are no retail shopping centers within the High Desert portion of the study area.

VICTOR VALLEY

In Victor Valley, the majority of the shopping centers are in Victorville and Apple Valley. In these cities, the main location of the shopping centers is along Bear Valley Road from Apple Valley Road to the east, all the way to the west side of I-15. In this area along Bear Valley Road, shopping centers and retail lines both sides of the street. Also included in this area is The Mall of Victor Valley, which houses almost 120 retailers, including kiosks.

In Victorville, along Palmdale Road and Roy Rogers Drive, there are multiple shopping centers on the east and west sides of I-15. In Hesperia, there is retail lining Main Street; and in Adelanto, the only shopping center is Bartlett Square Shopping Center on Bellflower Street.

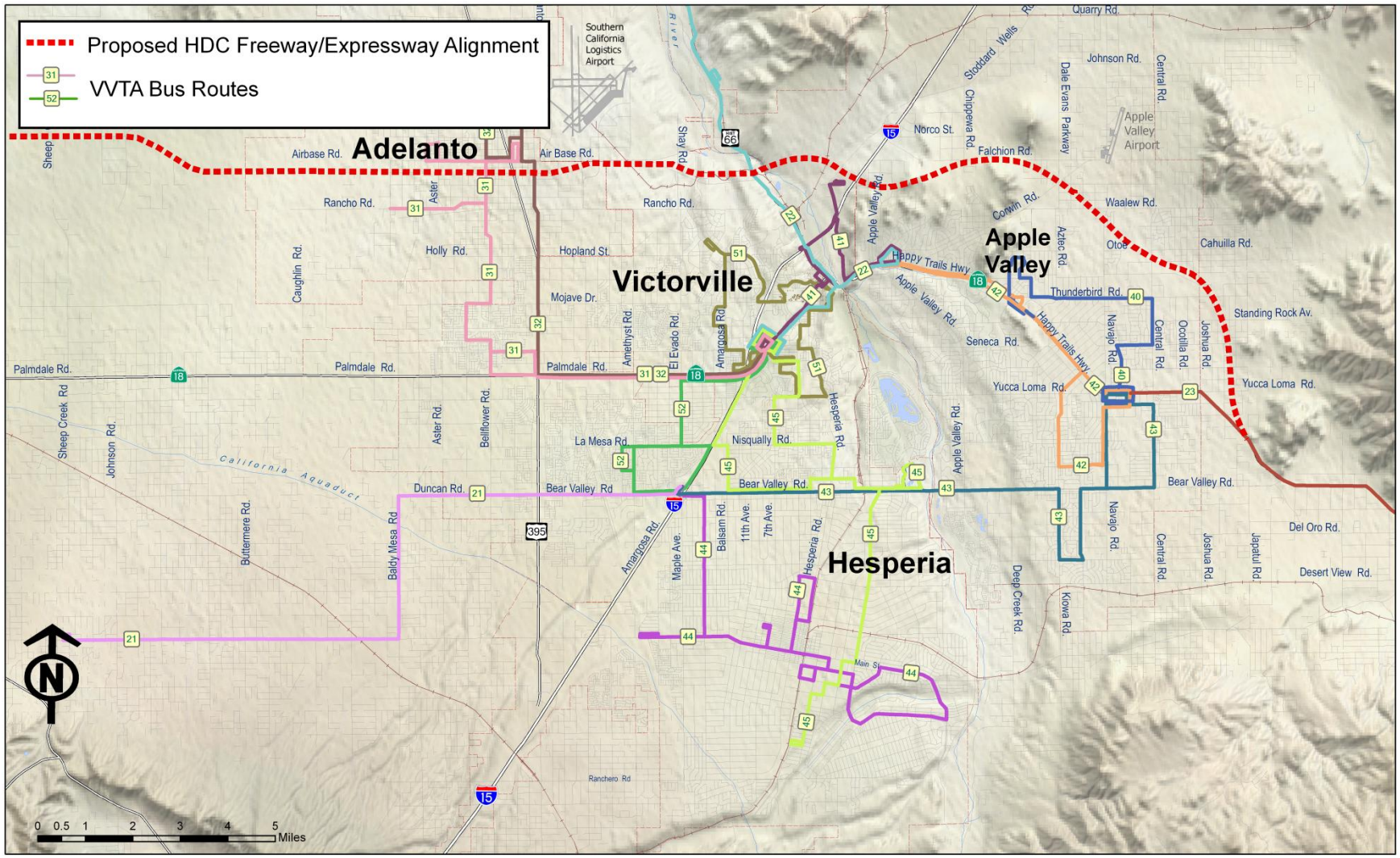


Figure 2-18: Victor Valley Transit Authority Bus Route Network

2.2 Roadway Facilities and Adjacent Land Uses

The proposed highway project will take place in the context of various different land use characteristics and will have affects on both the regional and local roadway network. Section 2.2 describes the regional and local roadway facilities, their functional classifications, and the areas they serve. In addition, detailed information regarding specific location of land uses such as schools, police stations, fire houses, and other public services can be found in this section for selected study roadways.

2.2.1 Antelope Valley

Figure 2-19 illustrates the regional road network serving the Antelope Valley and travelers flowing through this area. Major roads include SR 14, SR 138, I-5, I-15 and SR 58.

REGIONAL ROADWAY NETWORK

State Route 14

State Route 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 U.S. Route 395, near Inyokern.

The southern part of the route is a busy commuter freeway serving and connecting the communities of Palmdale and Lancaster with the Greater Los Angeles area. The northern portion is legislatively named Aerospace Highway, as the highway serves Edwards Air Force Base. With U.S. Route 395, this road connects Los Angeles with such places as Mammoth Mountain, Mono Lake, Yosemite National Park and Reno, Nevada. 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

State Route 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.

The western leg of State Route 138 traverses the Lancaster Freeway from I-5 to Gorman Post Road, Lancaster Road from Gorman Post Road to 245th Street West near Neenach School, and Avenue D from 245th Street West to SR 138's north junction with SR 14. After its co-routing with the Antelope Valley Freeway (State Route 14) through Lancaster and Palmdale, it passes through the east side of Palmdale as a four-lane Palmdale Boulevard, 47th Street East, and Fort Tejon Road to Avenue T. At Avenue T, it tapers to two lanes and continues straight ahead on Pearblossom Highway through Littlerock, Pearblossom and Llano to its west junction with State Route 18.

Interstate 5

Within California, I-5 is a major north–south route of the Interstate Highway System. Its southern terminus lies at the United States–Mexico border at the San Ysidro crossing and the route heads north across the length of California before it crosses into Oregon south of the Medford–Ashland metropolitan area.

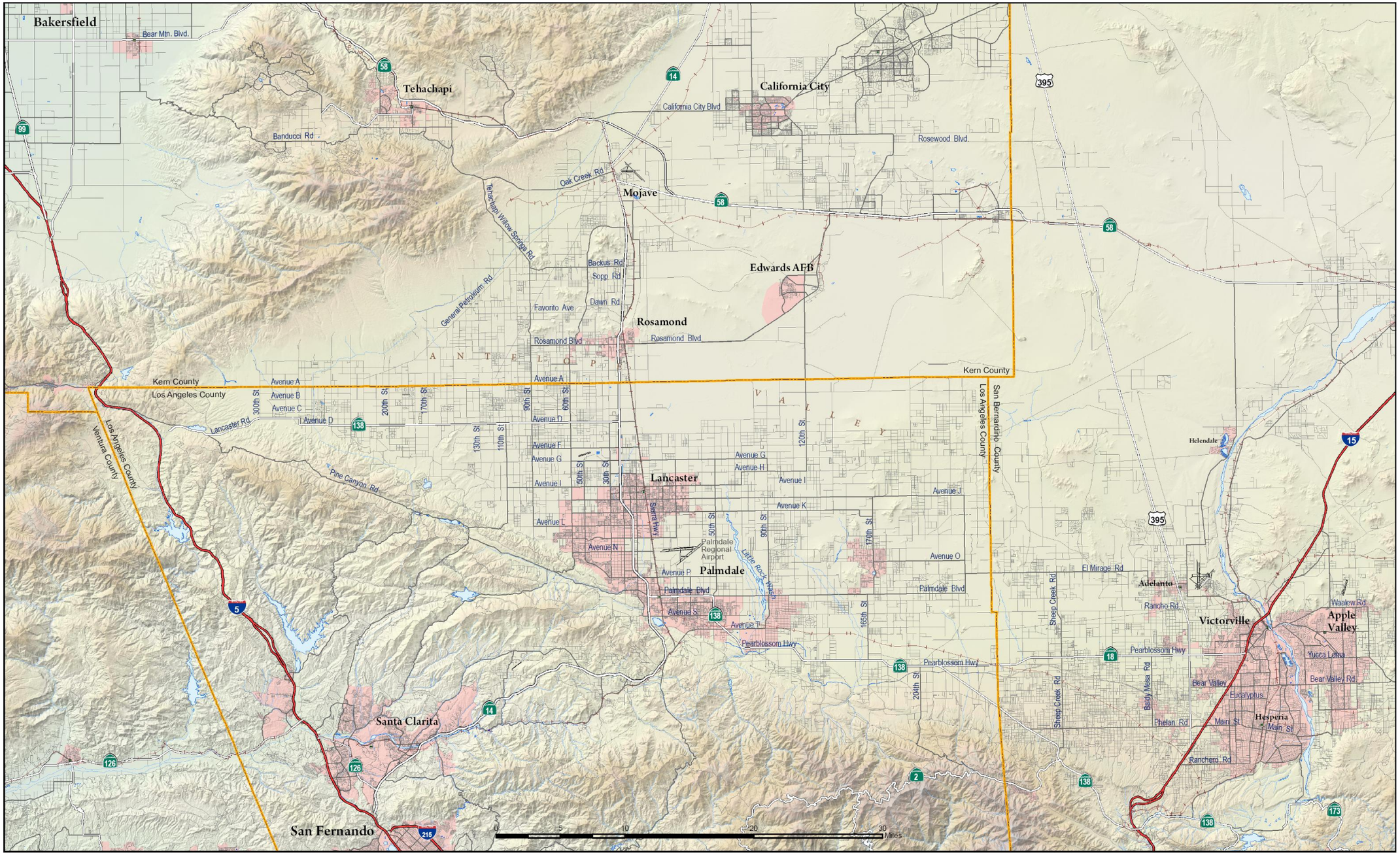


Figure 2-19: Regional Road Network

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.

Interstate 15

Within California, I-15 is a major north–south route through San Bernardino, Riverside, and San Diego Counties, and it has a length of 287 miles in the state. It is a major thoroughfare for traffic between Southern California, Las Vegas, Nevada, and points beyond. It is also the main route for traffic between San Diego and the Inland Empire.

North of the Cajon Pass, I-15 traverses the Mojave Desert towns of Hesperia and Victorville before reaching Barstow, California, the last town that I-15 passes through in California. I-15 leaves California near the casino town of Primm, Nevada, located approximately 42.9 miles southwest of Las Vegas.

State Route 58

State Route 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 U.S. Route 101 and its eastern terminus at Barstow (junction I-15). It has junctions with SR 14 in Mojave.

State Route 58 takes the southernmost route through the Sierra Nevada and allows motorists to travel between Northern California and points to the east, such as Las Vegas, without having to face the extreme traffic congestion of greater Los Angeles. SR 58 is the only freeway to cross the Sierra Nevada range south of I-80, the only other freeway to cross the Sierra.

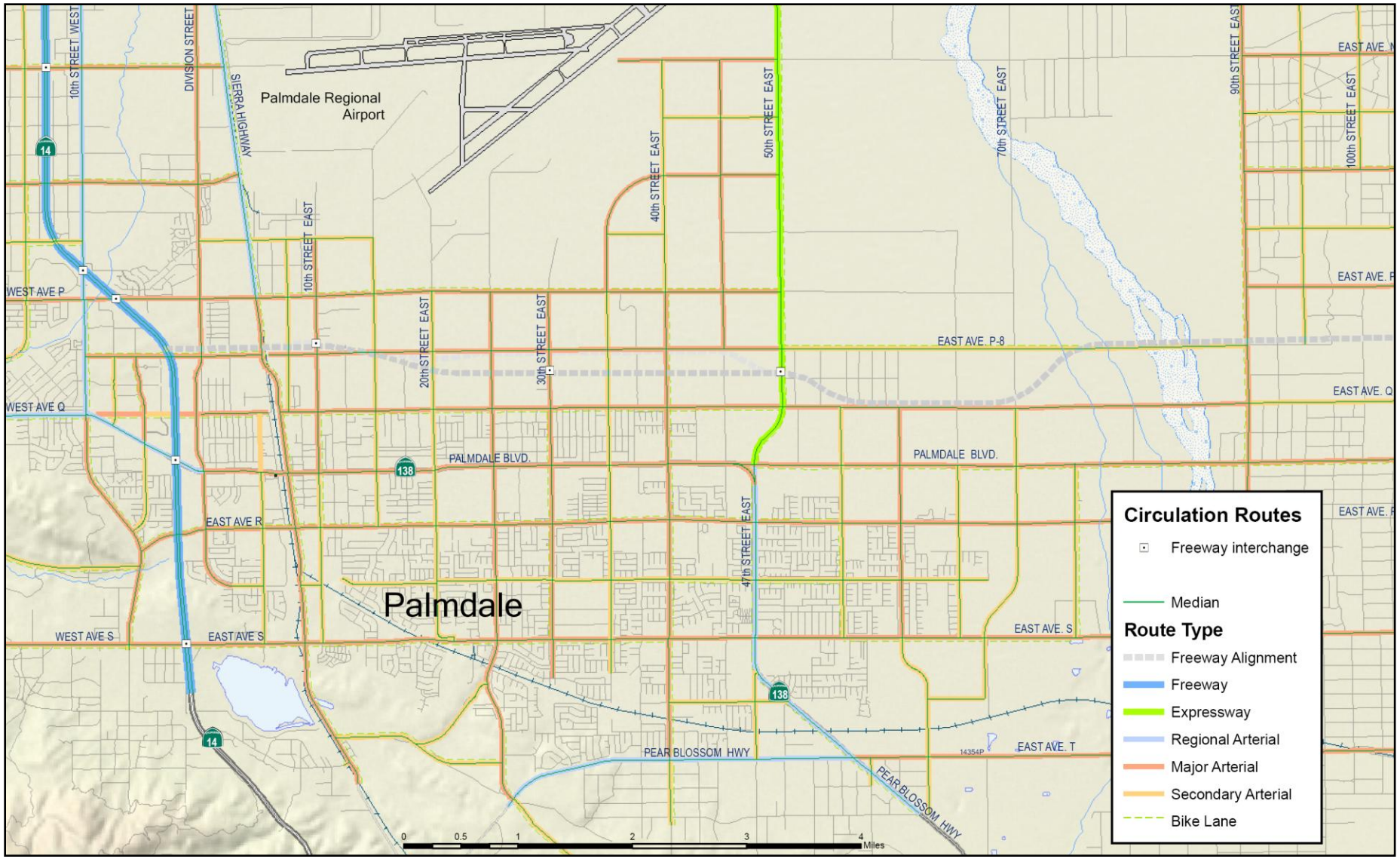
LOCAL ROADWAY NETWORK

Figure 2-20 illustrates the layout of the local road network serving Palmdale, a focused study segment for this traffic report. The street system is laid out in a grid. Each lettered east–westbound avenue is one mile from the next letter. By way of example, Avenue R is one mile north from Avenue S. In between each whole letter avenue, there are 15 sub-avenues labeled -1 through -15. Along with whole letter avenues, the -8 avenues are also major thoroughfares. Avenue R-8, for example, is a major road, just like Avenue R and Avenue S. Sometimes the -8 avenues are renamed to other names. Avenue Q-8 has been renamed Palmdale Boulevard and Avenue P-8 has been renamed Technology Drive or Bulldog Avenue depending on which stretch you are on. The road network is nearly a perfect grid.

Major streets which run north to south are numbered inside their direction, i.e., 10th Street West and 10th Street East. Each 0 and 5 street is a major thoroughfare with each 0 street being 1 mile from the previous 0 street. Fortieth Street East, for example, is one mile east of 30th Street East. The east–west dividing line is Division Street in downtown, which would be the equivalent of 0 Street East/West.

State Route 138 (Palmdale Boulevard)

Palmdale Boulevard, also known as SR 138 from 10th Street West to 50th 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 10th Street West to Fifth Street West, and 45 mph from Fifth 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. From SR 14, traveling east to 25th Street East, Palmdale Boulevard services a highly concentrated general commercial area. East of 25th Street East to just beyond 35th Street East, Palmdale Boulevard is lined by mixed commercial and single family residential land uses and the speed limit changes to 45 mph. From 35th Street East to 50th Street East, Palmdale Boulevard is surrounded by mainly open space, but the land use is zoned for light



Source: City of Palmdale

Figure 2-20: Antelope Valley Local Roadway Network

industry, single family, and general commercial. The speed limit of this portion of the roadway is 55 mph. At the intersection of Palmdale Boulevard and 50th Street East, SR 138 continues south on the 50th Street East alignment and this intersection features a 25 mph roundabout. A new shopping center also lies on the southwest corner of that intersection. East of 50th Street East to 90th Street East, Palmdale Boulevard is a two-lane major arterial with a speed limit of 55 mph.

Avenue Q

About 0.5 miles north of Palmdale Boulevard, Avenue Q runs parallel with Palmdale Boulevard. West Avenue Q is designated as a major and secondary arterial street which is discontinuous. It runs from just west of Trade Center Drive to just east of 40th Street East. West of SR 14, Avenue Q is a major arterial street from Trade Center Drive to Fifth Street West, servicing a light industrial area where the speed limit is 45 mph. Between Fifth Street West and SR 14, Avenue Q is a secondary arterial street servicing the Antelope Valley Auto Center where the speed limit is 50 mph. From SR 14 to Third Street East, Avenue Q is again a major arterial street with a speed limit of 45 mph servicing mainly single family residential land uses. Between Third Street East and a T-intersection at Clock Tower Plaza Drive, Avenue Q services residential land uses and also Rex Parris High School on Clock Tower Plaza Drive. The speed limit is 40 mph in this short segment.

To the east of the Union Pacific railroad tracks, Avenue Q begins again as a major arterial at Sierra Highway with a speed limit of 40 mph, servicing an unincorporated Los Angeles County pocket to the north, and a sheriff station and residential neighborhoods to the south which extend east until 10th Street East. From 10th Street East to 15th Street East, the speed limit on Avenue Q is raised to 45 mph, and the roadway services abutting residential development to the south and some light industrial to the north. East of 15th Street East until Avenue Q ends just east of 40th Street East, Avenue Q continues as a major arterial whose speed limit is 50 mph. Land uses adjoining the road include residential, light industrial, service commercial, and public facilities. Three schools are located between 17th Street East and 25th Street East. From west to east, they are the Tamarisk Elementary School, Leaps & Bounds Preschool, and Phoenix Community Day school.

Avenue P

One mile north of Avenue Q, Avenue P runs parallel with Avenue Q. This major arterial road runs from 50th Street West to 20th Street East as Rancho Vista Boulevard, and from 20th Street East to 50th Street East as Avenue P. West of 15th Street West, Rancho Vista Boulevard is a four-lane major arterial road servicing residential areas with a speed limit of 55 mph. Between 15th Street West and about 0.25 miles west of Division Street, at Fairway Drive, Rancho Vista Boulevard is a six-lane arterial servicing commercial and residential areas with a speed limit of 35 mph. East of Fairway Drive, Rancho Vista Boulevard continues as a four-lane arterial road servicing commercial and industrial areas including the City of Los Angeles Palmdale Regional Airport and Air Force facilities with a speed limit of 60 mph. On the northeast corner of the intersection of Rancho Vista Boulevard and 25th Street E, where Rancho Vista Boulevard continues as Avenue P, there is a child day-care center for military personnel named Just Plane Kids.

50th Street East

Approximately six miles to the east of SR 14, 50th Street East runs in a north–south direction, parallel with the SR 14 freeway. Fiftieth Street East is a two-lane expressway that services mainly unincorporated areas of Palmdale. It has a speed limit of 55 mph.

40th Street East

Fortieth Street East is one mile west of 50th Street East. Between Avenue N, two miles north of Avenue P, and Avenue P, 40th Street East is a two-lane secondary arterial road whose speed limit is 55 mph. From Avenue P to Avenue R-8, two and one-half miles to the south, 40th Street remains a major arterial with a speed limit of 55 mph. The Antelope Valley Hospital Prenatal Clinic lies on the southeast corner of the intersection of 40th Street East and Palmdale Boulevard. South of Avenue R-8 to Pearblossom Highway, 40th Street East continues as a major arterial which serves residential areas with a speed limit of 50 mph.

30th Street East

Running parallel to 40th Street East, one mile to the west, is 30th Street East. Thirtieth Street East is a two-lane major arterial road which runs from just north of Avenue P to just south of Avenue S. At Palmdale Boulevard, 30th Street East widens to four lanes. The speed limit on this road is 55 mph from Avenue P to Avenue Q, 50 mph from Avenue Q to Avenue S, and 40 mph from Avenue S until the road ends at Fairfield Avenue. There are three schools along 30th Street East: Desert Sands Charter High School at Palmdale Boulevard, Kindercare Children's World Learning Center at Avenue S, and Joshua Hills School on Fairfield Avenue.

25th Street East

One-half mile to the west of 30th Street East is 25th Street East, a major arterial which runs from Avenue P to south of Pearblossom Highway. Like 30th Street, 25th Street is a two-lane road north of Palmdale Boulevard. South of Palmdale Boulevard, it is a four-lane road until Pearblossom Highway, where it narrows to a two-lane road. The speed limits on 25th Street are 55 mph north of Avenue Q, 50 mph between Avenues Q and R, 55 mph from Avenue R to Joshua Hills Drive, and 60 mph south of Joshua Hills Drive. Twenty-fifth Street serves mainly residential neighborhoods with some light industrial and commercial land uses.

20th Street East

Twentieth Street East is a north–south running arterial located one-half mile west of 25th Street East. This road runs from Avenue P on the north to Avenue S on the south. Between Avenue P and Palmdale Boulevard, 20th Street East is two lanes wide and serves some commercial development, but mainly residential land uses. From Avenue P to Avenue Q, the speed limit on 20th Street East is 55 mph. From Avenue Q to Avenue R, the speed limit is 45 mph; and from Avenue R to Avenue S, the speed limit is 50 mph. At Palmdale Boulevard, 20th Street East widens to a four-lane secondary arterial road, servicing residential areas. There are six schools located along 20th Street E. From north to south they are Tamarisk Elementary School at Avenue Q, Leaps & Bounds Preschool at Avenue Q, La Petite Academy at Palmdale Boulevard, and Cactus Middle School, Palmdale High School, and Praiseland Preschool, all at Avenue R.

10th Street East

One mile west of 20th Street East, 10th Street East is a major two-lane arterial street running in a north–south direction. From the Lockheed Martin facility north of Avenue P to Avenue Q, the road services commercial and industrial areas. At Avenue Q, 10th Street East widens to a four-lane major arterial continuing to Palmdale Boulevard. From Palmdale Boulevard to Avenue S, 10th Street East is a two lane secondary arterial which services residential and commercial areas. Speed limits on 10th Street East range from 45 to 55 mph. The Head Start State Preschool and the Palmdale School District headquarters offices are located between Avenue P and Avenue Q on 10th Street East.

Sierra Highway

Just west of 10th Street, Sierra Highway is a four-lane regional arterial running in a northwest to southeast direction. From Colombia Way/Avenue M to Avenue P/Rancho Vista Boulevard, the road's speed limit is 65 mph. From Rancho Vista Boulevard to Pearblossom Highway, Sierra Highway is a four-lane major arterial with speed limits ranging from 50 to 60 mph. Sierra Highway services residential, commercial, and industrial areas.

10th Street West

Running parallel to SR 14, 10th Street West is an arterial road servicing many retail shopping centers with one-half of the ramps on 10th Street West serving SR 14 traffic to and from the north, and the second half of the interchange on Rancho Vista Boulevard serving SR 14 traffic to and from the south. Tenth Street West runs from Lancaster to the north to Palmdale Boulevard on the south where it turns into Tierra Subida Avenue. From the Lancaster border to Avenue N, 10th Street West is a four-lane regional arterial that currently serves commercial areas with planned industrial area in the future. The speed limit in this stretch is 55 mph. From Avenue N to Avenue O, land use zoning adjoining 10th Street West is the same as to the north, but the speed limit is raised to 60 mph. Between Avenue O and SR 14, 10th Street West services several shopping centers, where the speed limit is 50 mph. South of SR 14 to Technology Drive, 10th Street West continues as a regional arterial whose speed limit is 45 mph, servicing mainly commercial developments and some residential neighborhoods. South of Technology Drive, until it becomes Tierra Subida Avenue, at Palmdale Boulevard, 10th Street West is a major arterial road which services commercial and residential areas having a speed limit of 55 mph.

2.2.2 High Desert

The High Desert portion of the corridor is currently served by a sparse network of county and local roads which 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 240th Street East. El Mirage Road/East Avenue P, another east–west roadway, extends from 240th Street East to Koala Road (end of paved surface). Sheep Creek Road is one of the longest north–south roadways, extending from SR 138 in Phelan to just north of El Mirage Road. Another significant north–south roadway is 165th Street East/ 170th Street East, which extends from south of SR 138 in Llano past East Palmdale Boulevard to Lake Los Angeles, continuing north to East Avenue J.

All of the above mentioned county roads are two lane facilities. The only true regional roadway is SR 138, connecting to SR 18 (Palmdale Road) near 240th Street East. These roadways are two- to four-lane conventional highways within the limits of the High Desert portion of the study area.

The proposed project will 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. New interchanges are proposed at north-south connecting roads, including 140th Street, 179th Street, 210th Street, and 240th Street in Los Angeles County. In San Bernardino County, an interchange would serve a new "Oasis Road," (located between Avenue P and Saint George Avenue), Sheep Creek Road, and Caughlin Road.

2.2.3 Victor Valley

Figure 2-19, shown previously, illustrates the regional road network serving Victor Valley and travelers flowing through this area. Major roads include I-15, U.S. Route 395, Historical Route 66, and SR 18.

REGIONAL ROADWAY NETWORK

Interstate 15 (Mojave Freeway)

Interstate 15 is one of the longest north–south interstate highways in the United States, traveling through the states of California, Nevada, Arizona, Utah, Idaho, and Montana. Its southern terminus begins in San Diego and it continues north to the Canadian border. In California, I-15 runs for almost 290 miles through the San Bernardino, Riverside, and San Diego counties and is a major connection between Southern California and Las Vegas, Nevada.

Interstate 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 to the south to Dale Evans Parkway to 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 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).

The speed limit is 70 mph and it consists of three lanes in each direction separated by a concrete median and guardrail. There is a very wide paved inside shoulder for about seven miles south of Dale Evans Parkway. I-15 has eight interchanges along this study segment and services various landmarks along the way such as the Mall of Victor Valley at the Bear Valley Road interchange, the City Hall/ Sheriff/ Courthouse from the Palmdale Road interchange, the San Bernardino County Fairgrounds at the Roy Rogers Drive interchange and a landfill at the northern end. The interstate crosses over the Mojave River north of the interchange with Route 66. The land use is mostly vacant land, but includes some hotels or motels, camp grounds, gas stations and a few businesses. There exist some residential areas behind frontage land and at times residential areas with sounds walls when close to the freeway. There are utility lines on both sides along parts of the route.

U.S. Route 395

U.S. Route 395 generally runs in the north–south direction with its southern terminus the Mojave Desert at I-15 near Hesperia and its northern terminus at the border of Canada. It traverses California for more than 500 miles north to the Oregon state line. The route clips into Nevada, connecting Carson City and Reno, before returning to California. U.S. Route 395 forms the western border of this study area for approximately seven miles.

The speed limit is 55 mph and there are two lanes in each direction with no median, only separated by a dashed centerline. There are turn lanes and turn pockets along the road for access.

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 this.

U.S. Route 395, north of the Palmdale Road intersection, creates the western border of Victorville. At this intersection, there is a gas station and a shopping center on the northeast corner. Continuing north, the land for the remaining route within the study area is again mostly vacant with some overhead utilities on the west side. Continuing just north of Hopland Street, the road becomes Adelanto Road if going straight

while U.S. Route 395 forks to the northwest. The Sportsman Center and Maverick Stadium are located between these two routes, south of Rancho Road. At the northern end of the study limit, the Richardson Park is located on the northwest corner of U.S. Route 395 and Air Expressway.

Historic U.S. Route 66

Historic U.S. 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 Seventh Street and continues until just south of the Mojave River, where the route turns northwest and becomes known as the National Trails Highway.

The Seventh Street segment of Route 66 is still the primary street through Old Town Victorville. This street has two lanes in each direction, with turn pockets, no median and a double yellow centerline. The speed limit varies between 35 and 40 mph and it is pedestrian friendly with several safe crossing areas. The land use consists of some schools, small businesses, gas stations, auto shops, an RV park, a shopping center and a Veteran Memorial Park. There are also some old, boarded-up buildings along this street. Across from Desert Knoll along this street is a fire station and the San Bernardino County Fairgrounds. South of this intersection for the remainder of Seventh Street, there are newer businesses, motels, restaurants and shopping centers with sidewalks and landscaping. There is also a church and a technical college near La Paz Drive.

The National Trails Highway segment of Route 66 follows D Street northwest off of Seventh Street. The speed limit varies between 40 and 45 mph and it has one to two lanes in each direction with a double yellow centerline. This segment general runs parallel to the BNSF Railroad and has land use that is mostly industrial, utilities, vacant or used by the railroad. There are a few small businesses, a gas station and some mobile homes. The Victorville Transportation Center and park-and-ride is located off of the Fourth Street intersection.

California State Route 18

California SR 18 begins its northwest end at SR 138 near Adelanto, approximately 24 miles west of I-15, and continues in the shape of a question mark, around and then south to SR 210 in San Bernardino. On most of the signs of the highway, cardinal direction descriptions are not included on the route markers, since it changes directions several times and does not consistently go west/east or north/south. It also has two discontinuities along its alignment: one in Big Bear Lake, the other in Victorville.

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 U.S. Route 395 in Adelanto where the study area begins, four miles west of I-15. Through Apple Valley and within the study area of Victorville, SR 18 becomes an expressway (Happy Trails Highway). It joins with I-15 inside of Victorville at the Palmdale Road interchange, continuing north to the Route 66 interchange. This is considered a discontinuity, since the freeway refers to I-15 only and only has partial route markings. 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 where it extends farther east until the road terminates as an expressway at Central Road.

State Route 18 includes two lanes in each direction generally separated with a striped center lane or double yellow line and has outside turn pockets at intersections. Most of the route maintains a speed limit of 50 to 60 mph, except when reduced to 25 mph for the Silverado High School at Cobalt Road and between Amargosa Road and I-15 where it is between 35 and 40 mph. The land use on the west segment is mixed with shopping centers, businesses, gas stations, auto shops, dealerships, restaurants, schools, vacant land, a power plant, some residential, mobile parks and utilities. The east segment starts near the

BNSF Railroad and the Mojave River, coming off of D Street or Route 66. It passes the National Guard at Apple Valley Road followed by the St. Mary Regional Medical Center. There are schools, small businesses, restaurants, fast food places, gas stations, convenience stores, shopping centers and the route includes sidewalks with various landscaping and hardscape. On each side of the highway, there is a frontage road called Outer Highway 18 North and South that provides access for businesses and some apartments and homes. The highway provides access to the Apple Valley Country Club at Rancherias Road. Near Dale Evans Parkway, there is a recreational center and a fire station. Further east, near Kiowa Road, there are more existing and under-construction residential developments. A shopping center and the Village in Apple Valley are near the Navajo Road intersection, followed by some more small businesses. East of Central Road to the end of the study area, there is mostly vacant land, but also includes some utilities, mobile parks and sporadic businesses and offset residential areas.

LOCAL ROADWAY NETWORK

Figure 2-21 illustrates the layout of the local road network serving the Victor Valley, a focused study segment for this traffic report.

Adelanto Road

Adelanto Road is a north–south road with the southern end beginning at the northwest limit of Victorville coming north off of the SR 395 and Hopland Street intersection. Only the southern two miles of this road are within the study limit. The speed limit begins at 55 mph but then reduces to 45 mph. The road has gravel shoulders and the lanes in each direction vary between one and two lanes, which are generally separated by a double yellow or dashed centerline. There is no sidewalk or landscaping along this part of the road.

The southern end of Adelanto Road starts out with mostly vacant land although there are some industrial facilities such as storage unit and truck rental businesses. The Sportsman Center and Maverick Stadium are located on the west side of the road, just south of Rancho Road and there is a convenience center on the southwest corner with Air Expressway.

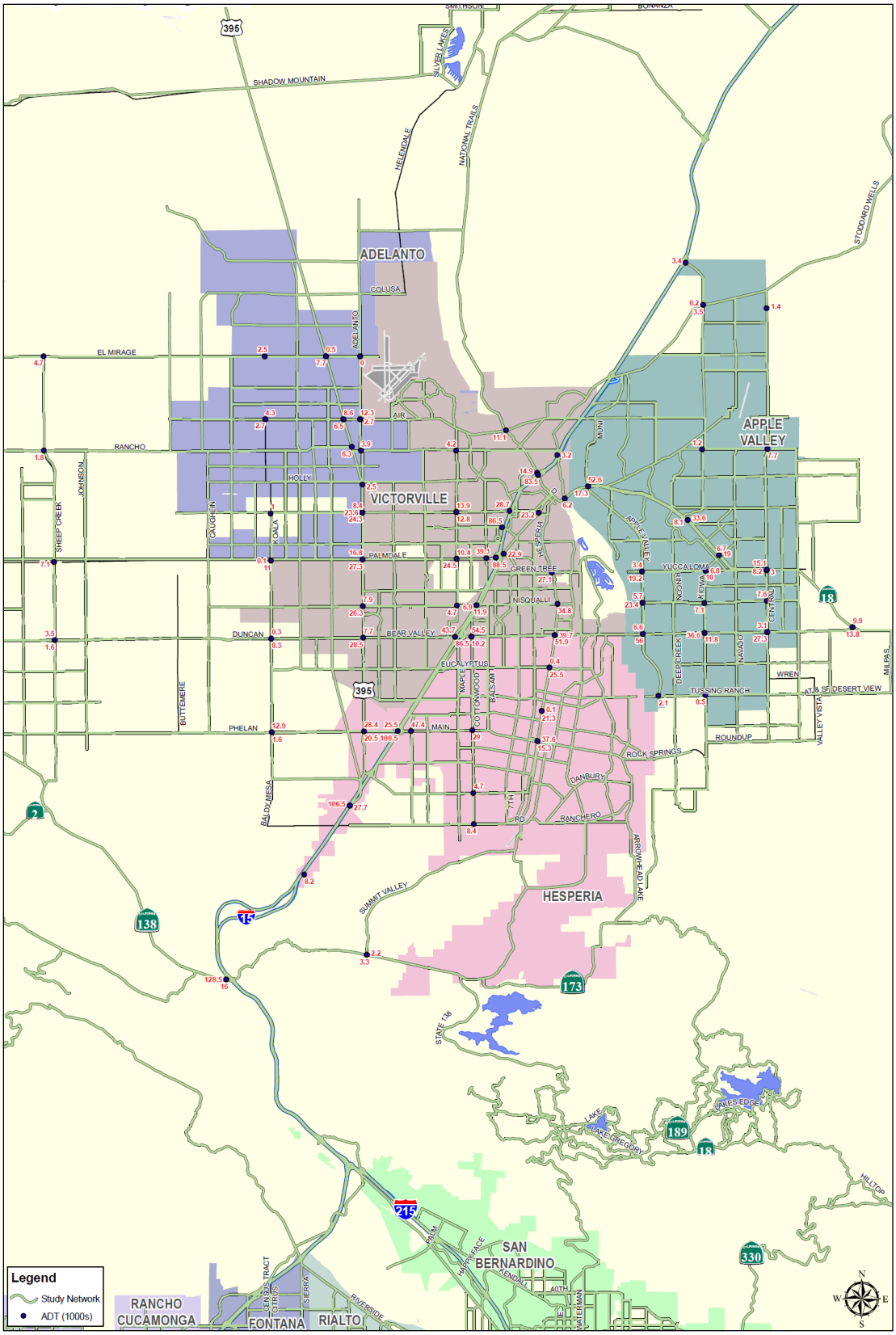
Air Expressway

Air Expressway is an east–west road with one end beginning just west of the intersection with SR 395 and continuing east for a little over five miles until coming to a T-intersection with National Trails Highway. The road is 60 mph with two lanes in each direction, left-turn pockets, a soft shoulder and a double striped centerline separation.

This road generally forms the southern boundary of the Southern California Logistics Airport and the Westwinds Golf Course and forms the northern boundary of the Federal Correctional Institution of Victorville. The eastern end has an auto wrecking yard and industrial plants, but other than these landmarks, the land along this road is mostly vacant.

Village Drive

Village Drive runs from Air Expressway at the north end south to Mojave Drive near I-15. It has two lanes in each direction with some left-hand turn pockets. There is no shoulder and the lanes are separated with a double yellow line or a striped center lane. The speed limits ranges between 45 and 50 mph. The majority of the north end is vacant land on the east while the west side includes residential houses, property walls, sidewalks and landscaping. South of Rancho Road, the land use includes more sporadic residential houses and apartments, some lower income single story properties and intermittent sidewalks. The southern end of the road is commercial with some small businesses, auto shops, a gas station and a television station.



Source: Victor Valley Area Transportation Plan, Kimley-Horn and Associates, Inc., March 2008

Figure 2-21: Victor Valley Local Roadway Network

Stoddard Wells Road

The northern end of Stoddard Wells Road for this study starts at its intersection with Dale Evans Parkway and then continues southwest, crossing first the Mojave Northern Mining Railroad and then I-15 with its interchange at exit 157, then running parallel to I-15 until its next interchange with I-15 again at exit 154. It then continues further south terminating at SR 18. For the most part, the road includes two lanes in each direction, a soft shoulder, no median, but separated with either a double yellow stripe or a striped center turn lane. The speed limits ranges from 45 to 55 mph. The land use consists mostly of vacant land, minor utilities, industrial use, sporadic residential properties, camp grounds and mobile home parks. The County Refuse Disposal Site and Victorville Sanitary Landfill is a large landmark off of Osborne Road. Near At the southern interchange with I-15, between Dante Street and Abbey Lane, there are several churches and the Grand Tramel Park.

Apple Valley Road

Apple Valley Road runs mostly north–south starting at a T-intersection with Bear Valley Road and terminating on its north end at Fashion Road. The road typically has two lanes in each direction, although it reduces to one lane in some locations. It also includes right and left hand turn pockets as well as bike lanes on both sides for parts of the segment. The southern end has a small raised median with some light landscaping, but further north, lanes are separated only by a double yellow stripe or a striped center turning lane. The speed limit ranges from 45 to 55 mph.

The land use mostly consists of various shopping centers, restaurants, gas stations, churches and temples, residential areas with property walls and some sidewalks with landscaping. The southern two miles also includes a multi-use trail offset by landscaping and then turns onto Yucca Loma Road. North of SR 18 is the Spirit River Shopping Center and the National Guard, followed by a residential family community and then vacant land until the road terminates at the north end.

Dale Evans Parkway

Dale Evans Parkway runs mostly north–south starting Waalew Road on the south end and continuing to the northern limit of this study area with its interchange at I-15. The road has one lane in each direction, no shoulder and a mix between a striped center turn lane, a double stripe and a single dashed line. The speed limit is 55 mph. The route is mostly vacant although there are some utilities, sporadic housing and a school with a bus route. There is one stop sign on this road at the intersection with Johnson Road, where the shoulder is very wide and there are two center lanes. There is also a Juvenile Detention Center at the northern end.

Corwin Road

Corwin Road runs in the northeast direction connecting SR 18 with the Apple Valley Airport. It has a speed limit of 55 mph, starts out with two lanes in each direction at SR 18, but then quickly reduces to just one lane heading north. It has soft shoulders with a center striped turning lane, or just a dashed center stripe. At the southern end, there are several churches, a shopping center, a medical center, Corwin Park and a child care center. The first two miles at the southern end is residential area with bike lanes, but no sidewalks. North of Sylvan Road, the residential land use becomes sporadic and most of the land is vacant until the airport.

Waalew Road

Waalew Road runs in the east–west direction, coming off of Corwin Road and heading east to the Sunset Hills Memorial Park from there. It is one lane in each direction with a double yellow center stripe and bike lanes to the south only. There was no posted speed limit sign. The land use is mostly vacant with sporadic residential areas, some utilities, a mobile home park and a few industrial businesses.

Yucca Loma Road

Yucca Loma Road runs in the east–west direction, from a T-intersection at Apple Valley Road on the west end to Navajo Road at the east end, where SR 18 continues east. There was no posted speed limit sign, median or striping and has one lane in each direction. The land use is mostly vacant with low density residential areas and utilities. There is a school and the Yucca Loma Park at the eastern end.

Bear Valley Road

Bear Valley Road generally forms the southern limit of the study area and runs in the east-west direction for about 14 miles, from U.S. Route 395 on the west end to Joshua Road to the east. The west end has a speed limit between 40 and 50 mph and has three lanes in each direction. The east end has a speed limit of 55 mph and reduces to two lanes, and then one lane in each direction. The land use is made up of a mix of shopping centers, small businesses, restaurants, gas stations, schools, churches, a fire station, storage facilities and residential areas. Specific landmarks include the Mall of Victor Valley, Desert Valley Hospital, Victor Valley Community College and the Mojave River crossing.

Navajo Road

Navajo Road runs in the north-south direction, from Bear Valley Road at the south end of the study area to the Apple Valley Airport at the north end. It has a speed limit of 50 mph and is one lane in each direction with a double yellow center stripe and includes turn pockets and bike lanes. The land use is mostly vacant with low to medium density residential areas and some schools. There is a shopping center and some pharmacies located at the intersection with SR 18.

Central Road

Central Road runs in the north–south direction, from Bear Valley Road at the south end to Apple Valley Airport at the north end. There was no posted speed limit sign. It has one lane in each direction with a center striped turning lane or double yellow stripe and includes bike lanes. The land use is mostly vacant with low to medium density residential areas, some with soundwalls and property walls and some schools. There is a gas station and a fire station at the intersection with SR 18.

Joshua Road

Joshua Road generally forms the eastern limit of the study area and runs in the north–south direction, from Bear Valley Road at the south end to Waalew Road at the north end. There was no posted speed limit sign. It has one lane in each direction with a dashed center stripe and dirt shoulders. The land use is mostly vacant with low density residential areas and utilities. There is a school and a Sycamore Rocks Park at the northern end.

2.3 Existing Traffic Volumes

This section summarizes traffic volume information collected along state routes and at representative intersections located throughout the study area. Traffic volumes along state routes are important, as the proposed High Desert Corridor freeway will funnel traffic to and from both SR 14 and I-15 at a focused location and will divert traffic away from local service interchanges along east–west roadways. Traffic volumes along local east–west and north–south local roads will also shift directional patterns, as traffic flows to the new High Desert Corridor freeway (and away from Palmdale Boulevard and Palmdale Road) to take advantage of its higher speeds and to avoid traffic signal delays.

2.3.1 State Route 14

Table 2-5 summarizes the 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 three 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).

Table 2-5. Caltrans SR 14 Traffic Counts *(Year 2011) (two directions) (number of vehicles)*

INTERCHANGE LOCATION	SOUTH OF INTERCHANGE			NORTH OF INTERCHANGE		
	PEAK HOUR	PEAK MONTH	AADT	PEAK HOUR	PEAK MONTH	AADT
Los Angeles County						
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, 10th 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-8/20th 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: Caltrans Traffic and Vehicle Data Systems Unit 2011

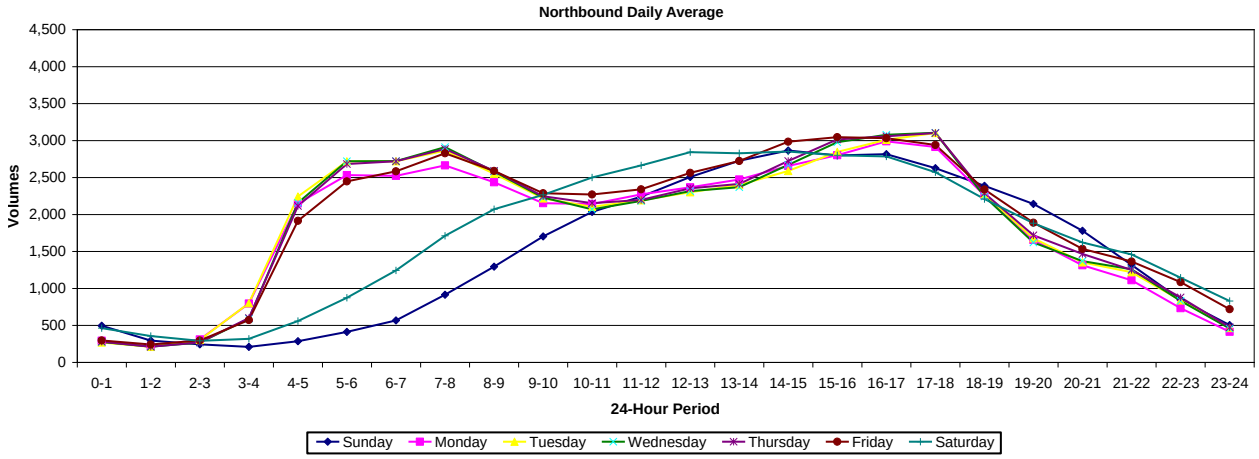
For the purpose of this traffic study, Caltrans also conducted vehicle counts during all hours of the day and all days of the month during February and March 2009. These counts were collected at postmile (PM) 59.803, located at the SR 138/Palmdale Boulevard interchange.

Parsons averaged the counts collected over the two-month period by day of the week and hour of the day. All Sunday counts were averaged and so forth. Figure 2-22 displays the results of this tabulation for the northbound and southbound directions of SR 14. Weekly averages (days 1 through 7), mid week averages (Tuesday through Thursday), and weekday averages (days 2 through 6) are also presented.

The graphics show that the morning peak hour is from 7:00 to 8:00 a.m. in both directions during the midweek, Tuesday through Thursday. The afternoon peak hour runs from 5:00 to 6:00 p.m., also during the midweek.

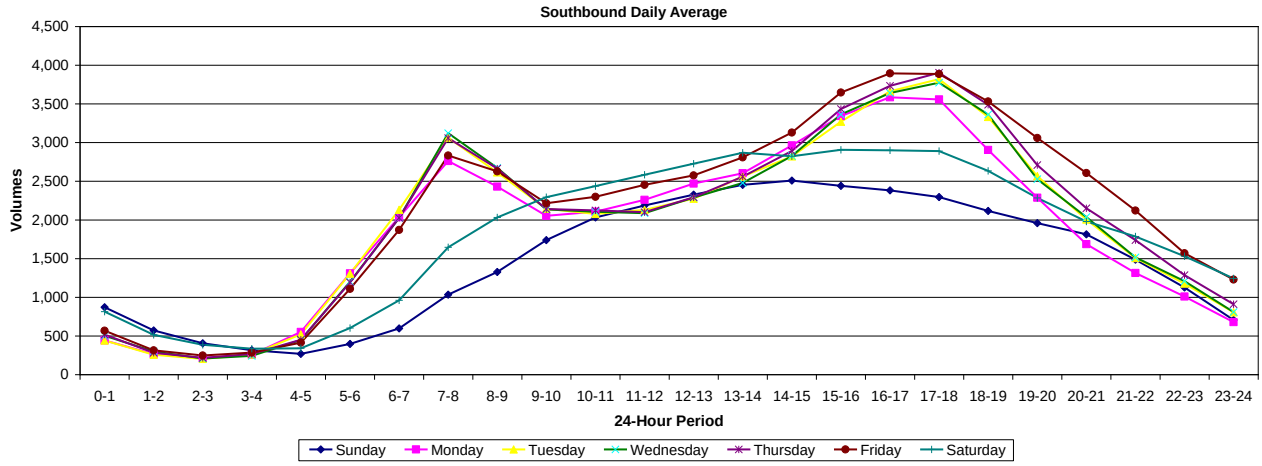
a. Northbound

DAY	24-HOUR PERIOD																								24-HOUR COUNT TOTAL
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
Sunday	496	295	244	209	287	413	567	915	1,294	1,703	2,036	2,242	2,507	2,727	2,864	2,799	2,815	2,626	2,387	2,143	1,779	1,318	848	505	35,816
Monday	294	215	310	795	2,149	2,533	2,523	2,664	2,435	2,153	2,141	2,272	2,368	2,473	2,658	2,802	2,989	2,913	2,258	1,655	1,314	1,110	733	415	44,034
Tuesday	268	210	304	801	2,243	2,718	2,720	2,863	2,551	2,218	2,103	2,192	2,302	2,398	2,588	2,847	3,009	3,102	2,273	1,678	1,353	1,220	838	466	44,938
Wednesday	276	213	268	591	2,159	2,721	2,721	2,911	2,581	2,230	2,069	2,183	2,317	2,370	2,670	2,978	3,079	3,105	2,244	1,621	1,369	1,258	830	457	45,220
Thursday	280	211	271	600	2,115	2,683	2,721	2,885	2,591	2,247	2,153	2,198	2,355	2,414	2,724	3,015	3,058	3,101	2,287	1,719	1,467	1,249	880	475	45,698
Friday	297	242	297	573	1,914	2,447	2,584	2,828	2,590	2,288	2,270	2,340	2,564	2,723	2,985	3,046	3,032	2,940	2,338	1,889	1,535	1,365	1,084	719	46,888
Saturday	464	355	291	319	560	874	1,243	1,712	2,070	2,265	2,501	2,664	2,843	2,827	2,852	2,799	2,785	2,573	2,210	1,882	1,622	1,460	1,145	830	41,145
1-7 Avg.	339	249	283	555	1,632	2,056	2,154	2,397	2,302	2,158	2,182	2,299	2,465	2,562	2,763	2,898	2,967	2,908	2,285	1,798	1,491	1,283	908	552	43,391
3-5 Avg.	275	211	281	664	2,172	2,707	2,721	2,886	2,574	2,232	2,108	2,191	2,325	2,394	2,661	2,946	3,048	3,102	2,268	1,673	1,396	1,243	849	466	45,285
2-6 Avg.	283	218	290	672	2,116	2,621	2,654	2,875	2,550	2,227	2,147	2,237	2,381	2,475	2,725	2,937	3,033	3,032	2,280	1,712	1,407	1,240	873	506	45,356



b. Southbound

DAY	24-HOUR PERIOD																								24-HOUR COUNT TOTAL
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
Sunday	870	571	406	316	269	398	597	1,034	1,326	1,740	2,032	2,187	2,327	2,453	2,509	2,440	2,381	2,296	2,117	1,959	1,813	1,487	1,126	707	35,136
Monday	443	265	214	257	552	1,310	2,036	2,761	2,431	2,053	2,107	2,260	2,470	2,604	2,963	3,342	3,586	3,557	2,905	2,288	1,687	1,315	1,009	679	44,894
Tuesday	441	257	204	260	521	1,305	2,131	3,063	2,615	2,144	2,077	2,129	2,275	2,561	2,821	3,270	3,663	3,819	3,331	2,566	2,006	1,508	1,177	805	46,595
Wednesday	504	300	208	242	447	1,202	2,025	3,121	2,673	2,136	2,105	2,087	2,290	2,477	2,827	3,364	3,641	3,774	3,362	2,527	2,037	1,515	1,208	808	46,880
Thursday	518	283	217	267	452	1,192	2,028	3,058	2,664	2,141	2,124	2,100	2,292	2,559	2,892	3,433	3,733	3,903	3,490	2,709	2,151	1,738	1,287	910	48,140
Friday	568	315	247	285	413	1,109	1,870	2,832	2,627	2,216	2,300	2,453	2,576	2,808	3,130	3,647	3,895	3,886	3,531	3,059	2,606	2,122	1,569	1,229	51,291
Saturday	815	515	386	336	340	602	961	1,647	2,032	2,294	2,437	2,584	2,728	2,868	2,823	2,906	2,900	2,890	2,635	2,285	1,980	1,786	1,530	1,243	43,521
1-7 Avg.	594	358	269	280	428	1,017	1,664	2,502	2,339	2,103	2,169	2,257	2,422	2,619	2,852	3,200	3,400	3,447	3,053	2,485	2,040	1,639	1,272	912	45,208
3-5 Avg.	487	280	210	256	473	1,233	2,061	3,081	2,651	2,140	2,102	2,105	2,285	2,533	2,846	3,356	3,679	3,832	3,394	2,601	2,065	1,587	1,224	841	47,205
2-6 Avg.	495	284	218	262	477	1,224	2,018	2,967	2,602	2,138	2,143	2,206	2,380	2,602	2,926	3,411	3,703	3,788	3,324	2,630	2,097	1,639	1,250	886	47,560



Source: Caltrans

Figure 2-22: Existing SR 14 Diurnal Distribution of Traffic Volumes at PM 59.803
(Palmdale Boulevard) (Year 2009)

In addition to the mainline traffic count data collected by Caltrans, midweek 24-hour, three day traffic counts were collected along SR 14 interchange ramps by National Data and Surveying Services, under subcontract to Parsons.

These ramp counts (three-day peak hour averages), collected in May 2009, were combined with the mainline counts to estimate link level traffic flows along SR 14 within the focused study area. The results of these "balanced" traffic volume estimates are presented on Figure 2-23.

2.3.2 Interstate 15

Table 2-6 summarizes traffic volumes on I-15 within San Bernardino County, compiled by Caltrans' Division of Traffic Operations for the year 2011. Annual average daily traffic is shown for selected locations along I-15, with seven 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).

For the purpose of this traffic study, Parsons also conducted vehicle counts during all hours of the day for seven days from May 12 to May 18, 2011. These counts were collected at three locations:

1. South of Palmdale Road
2. South of D Street
3. South of Dale Evans Boulevard

Figures 2-24 through 2-26 display the results of this data collection for northbound and southbound I-15. These mainline counts, along with individual interchange ramp counts, were assembled to develop a balanced set of mainline segment traffic volumes for midweek conditions. These balanced traffic volumes are reported on Figure 2-27 for the focused study area along I-15. The existing traffic lane configuration of I-15 is also illustrated on this graphic.

2.3.3 Local Roads

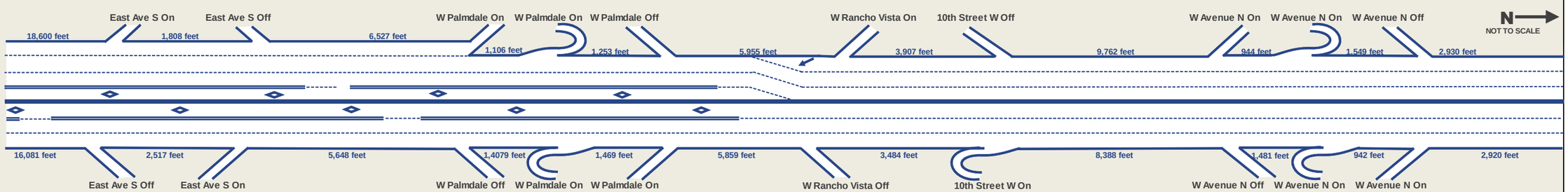
Figure 2-28 illustrates average daily traffic volumes on avenues and street segments located within the focused study portion of Antelope Valley. These traffic counts were assembled by the City of Palmdale traffic engineering staff from a variety of sources on different days of the week and months of the year. The traffic volumes are not "balanced" from one segment to the next, and may therefore include anomalies.

At a representative "screenline," just west of 15th Street, the graphic illustrates that 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. The north–south streets carry much less traffic, plus or minus 10,000 vehicles per day (VPD) along the screenline segments just south of Palmdale Boulevard.

The highest daily traffic traffic flows occur along 10th Street West, in the vicinity of the Antelope Mall, and along Sierra Highway to the north of East Avenue P.

Table 2-7 reports the average daily traffic volumes on street segments located within the Victor Valley portion of the focused study area. The volumes displayed on this table were reported in the Victor Valley Area Transportation Study, prepared by Kimley-Horn and Associates, Inc., in March 2008. See also Figure 2-21.

	MAINLINE	ON	MAINLINE	OFF	MAINLINE	ON	MAINLINE	ON	MAINLINE	OFF	MAINLINE	ON	MAINLINE	OFF	MAINLINE	ON	MAINLINE	ON	MAINLINE	OFF	MAINLINE
AM Peak Hour (7:00–8:00)																					
HOV*	644	44	600	45	645	31	613	14	599	63	662	0	0	0	0	0	0	0	0	0	0
Mixed-Flow	2,256	397	1,859	401	2,259	282	1,978	126	1,852	567	2,419	589	2,492	608	3,100	234	2,866	38	2,828	309	3,137
TOTAL	**2,900**	**441**	**2,459**	**445**	**2,904**	**313**	**2,591**	**140**	**2,451**	**630**	3,081	**589**	**2,492**	**608**	**3,100**	**234**	**2,866**	**38**	**2,828**	**309**	**3,137**
AM Peak Hour (8:00–9:00)																					
HOV*	539	32	507	45	552	26	526	14	512	58	570	0	0	0	0	0	0	0	0	0	0
Mixed-Flow	1,801	287	1,514	403	1,917	234	1,683	128	1,555	526	2,081	482	2,169	559	2,728	171	2,557	43	2,514	249	2,763
TOTAL	**2,340**	**319**	**2,021**	**448**	**2,469**	**260**	**2,209**	**142**	**2,067**	**584**	2,651	**482**	**2,169**	**559**	**2,728**	**171**	**2,557**	**43**	**2,514**	**249**	**2,763**
PM Peak Hour (4:00–5:00)																					
HOV*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mixed-Flow	2,596	175	2,421	800	3,221	209	3,012	123	2,889	790	3,679	588	3,091	1,028	4,119	126	3,993	75	3,918	413	4,331
TOTAL	**2,596**	**175**	**2,421**	**800**	**3,221**	**209**	**3,012**	**123**	**2,889**	**790**	3,679	**588**	**3,091**	**1,028**	**4,119**	**126**	**3,993**	**75**	**3,918**	**413**	**4,331**
PM Peak Hour (5:00–6:00)																					
HOV*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mixed-Flow	2,575	194	2,381	905	3,286	207	3,079	99	2,980	852	3,832	581	3,251	1,099	4,350	126	4,224	96	4,128	414	4,542
TOTAL	**2,575**	**194**	**2,381**	**905**	**3,286**	**207**	**3,079**	**99**	**2,980**	**852**	3,832	**581**	**3,251**	**1,099**	**4,350**	**126**	**4,224**	**96**	**4,128**	**414**	**4,542**



	MAINLINE	OFF	MAINLINE	ON	MAINLINE	OFF	MAINLINE	ON	MAINLINE	ON	MAINLINE	OFF	MAINLINE	ON	MAINLINE	OFF	MAINLINE	ON	MAINLINE	ON	MAINLINE
AM Peak Hour (7:00–8:00)																					
HOV*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mixed-Flow	1,631	118	1,513	884	2,397	318	2,079	226	2,305	581	2,886	504	2,382	475	2,857	206	2,651	293	2,944	100	3,044
TOTAL	**1,631**	**118**	**1,513**	**884**	**2,397**	**318**	**2,079**	**226**	**2,305**	**581**	2,886	**504**	**2,382**	**475**	**2,857**	**206**	**2,651**	**293**	**2,944**	**100**	**3,044**
AM Peak Hour (8:00–9:00)																					
HOV*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mixed-Flow	1,644	136	1,508	669	2,177	371	1,806	174	1,980	594	2,574	429	2,145	404	2,549	181	2,368	206	2,574	109	2,683
TOTAL	**1,644**	**136**	**1,508**	**669**	**2,177**	**371**	**1,806**	**174**	**1,980**	**594**	2,574	**429**	**2,145**	**404**	**2,549**	**181**	**2,368**	**206**	**2,574**	**109**	**2,683**
PM Peak Hour (4:00–5:00)																					
HOV*	413	51	363	71	434	57	376	17	393	64	457	0	0	0	0	0	0	0	0	0	0
Mixed-Flow	2,195	456	1,739	641	2,379	516	1,864	149	2,012	579	2,591	848	2,200	733	2,933	265	2,668	167	2,835	291	3,126
TOTAL	**2,608**	**507**	**2,101**	**712**	**2,813**	**573**	**2,240**	**165**	**2,405**	**643**	3,048	**848**	**2,200**	**733**	**2,933**	**265**	**2,668**	**167**	**2,835**	**291**	**3,126**
PM Peak Hour (5:00–6:00)																					
HOV*	431	56	375	73	449	61	387	17	404	62	465	0	0	0	0	0	0	0	0	0	0
Mixed-Flow	2,329	502	1,827	659	2,486	552	1,934	149	2,082	554	2,637	919	2,183	772	2,955	267	2,688	170	2,858	251	3,109
TOTAL	**2,760**	**558**	**2,202**	**732**	**2,934**	**613**	**2,321**	**165**	**2,486**	**616**	3,102	**919**	**2,183**	**772**	**2,955**	**267**	**2,688**	**170**	**2,858**	**251**	**3,109**

Notes:

Control locations

*HOV lane hours of operation are 5:00 to 9:00 a.m., southbound only, and 3:00 to 7:00 p.m., northbound only, Monday through Friday.

Figure 2-23: Existing Peak Hour Traffic Volumes on SR 14 *(Year 2009)*

Table 2-6. Caltrans I-15 Traffic Counts *(Year 2011) (two directions) (number of vehicles)*

INTERCHANGE LOCATION	SOUTH OF INTERCHANGE			NORTH OF INTERCHANGE		
	PEAK HOUR	PEAK MONTH	AADT	PEAK HOUR	PEAK MONTH	AADT
San Bernardino County						
Junction SR 138	11,200	160,000	152,000	9,000	137,000	132,000
Oak Hill Rd	9,000	137,000	132,000	8,400	129,000	124,000
Junction U.S. Route 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	60,000
Stoddard Wells Rd	5,600	66,000	60,000	6,000	64,000	56,000
N. Junction Stoddard Wells Rd	6,000	64,000	56,000	5,900	63,000	55,000
Boulder Road (Dale Evans Pkwy)	5,900	63,000	55,000	5,900	63,000	55,000

Source: Caltrans Traffic and Vehicle Data Systems Unit 2008

To address the issue of potential impacts to local circulation, peak 2-hour traffic counts of vehicle turning movements at intersections were also collected. The locations of the representative study area intersections are illustrated on Figure 2-29, and the intersection traffic lane configurations are displayed on Figure 2-30. Peak hour traffic volumes are reported on Table 2-8. For the purpose of consistency with the travel forecast model results (discussed in Chapter 3), a common 60-minute time slice of traffic volumes was selected for all of the study area intersections. The table therefore reports AM peak hour volumes occurring from 7:00 to 8:00 a.m. and PM peak hour volumes occurring from 4:00 to 5:00 p.m. or 5:00 to 6:00 p.m., consistent with the SR 14 and I-15 peak hour traffic results. Individual intersection peak 60-minute volumes may occur before or after these time slices. Where the actual peak 60-minute volume is 15 percent greater than the normalized (7:00 to 8:00 a.m. and 4:00 to 5:00 p.m. or 5:00 to 6:00 p.m.) count, the higher 60-minute time slice volumes are reported.

2.4 Existing Traffic Operational Analysis

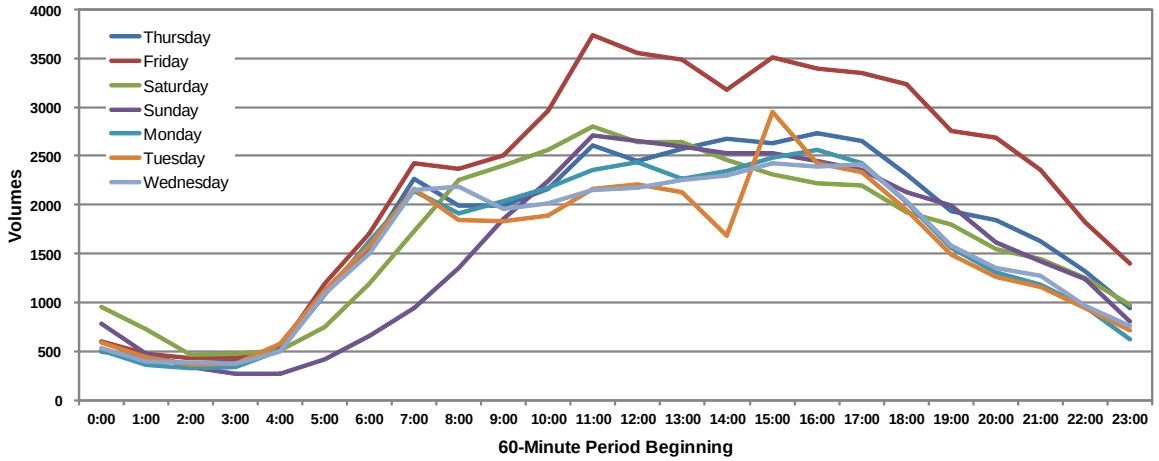
The traffic analysis for the study area includes the SR 14 and I-15 freeway mainline and freeway ramps and the weaving, merging and diverging areas on the mainline between ramps. The traffic analysis also includes the signalized intersections at freeway ramp connections to the local streets and representative isolated intersections throughout much of the study area. This section discusses the traffic operational performance of these roadway segments and intersections.

2.4.1 Freeway Mainline and Ramps

Figure 2-23, depicted earlier, illustrates the layout of SR 14 in terms of lanes, access points and peak hour traffic volumes as of 2009; while Figure 2-27 illustrates the layout of I-15 and peak period traffic volumes as of 2011.

I-15 south of Palmdale Road northbound

	60-Minute Period																								24 Hour
	AM												PM												
5/12–18/2011	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
Thursday	499	426	376	393	528	1085	1543	2265	1992	1994	2161	2604	2452	2579	2673	2636	2731	2654	2312	1932	1839	1624	1318	937	41,553
Friday	604	477	427	424	528	1192	1710	2428	2372	2508	2959	3733	3553	3490	3173	3509	3393	3353	3231	2755	2689	2362	1823	1396	54,089
Saturday	953	726	465	476	511	744	1189	1727	2254	2407	2566	2797	2646	2638	2461	2312	2216	2192	1929	1799	1544	1440	1247	982	40,221
Sunday	777	476	337	266	273	412	653	948	1355	1859	2246	2708	2649	2594	2531	2526	2446	2355	2133	1989	1618	1423	1241	802	36,617
Monday	514	361	329	339	508	1075	1623	2137	1915	2032	2171	2354	2440	2262	2343	2486	2559	2424	2029	1560	1312	1182	956	628	37,539
Tuesday	588	438	355	376	576	1128	1578	2165	1843	1830	1889	2159	2205	2131	1684	2952	2425	2338	1949	1491	1263	1160	943	713	36,179
Wednesday	528	397	378	371	503	1085	1504	2156	2181	1962	2012	2153	2170	2249	2301	2425	2391	2415	2032	1585	1354	1274	960	763	37,149
7-Day Avg	638	472	381	378	490	960	1400	1975	1987	2085	2286	2644	2588	2563	2452	2692	2594	2533	2231	1873	1660	1495	1213	889	40,478
Mon–Fri Avg	547	420	373	381	529	1113	1592	2230	2061	2065	2238	2601	2564	2542	2435	2802	2700	2637	2311	1865	1691	1520	1200	887	41,302
Tues–Thurs Avg	538	420	370	380	536	1099	1542	2195	2005	1929	2021	2305	2276	2320	2219	2671	2516	2469	2098	1669	1485	1353	1074	804	38,294
Sat–Sun Avg	865	601	401	371	392	578	921	1338	1805	2133	2406	2753	2648	2616	2496	2419	2331	2274	2031	1894	1581	1432	1244	892	38,419
Highest Count	953	726	465	476	576	1192	1710	2428	2372	2508	2959	3733	3553	3490	3173	3509	3393	3353	3231	2755	2689	2362	1823	1396	54,089



I-15 south of Palmdale Road southbound

	60-Minute Period																								24 Hour
	AM												PM												
5/12–18/2011	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
Thursday	434	379	372	532	921	1223	1756	1898	1939	2024	1901	2256	2519	2648	2870	3073	3005	2903	2236	1728	1469	1246	945	731	41,008
Friday	510	439	463	519	885	1143	1546	1744	1938	2093	2270	2594	2909	3013	3312	3422	3234	3067	2548	2150	1832	1609	999	951	45,190
Saturday	664	437	370	364	395	587	939	1283	1714	1956	2159	2536	2715	2860	2825	2704	2507	2396	2039	1781	1549	1511	1291	948	38,530
Sunday	629	433	345	276	292	403	600	907	1339	1875	2330	2847	3392	3731	4117	4098	3955	3752	3590	3563	3003	2192	1624	1259	50,552
Monday	745	670	515	702	1065	1426	1862	1986	2008	2029	2150	2538	2885	3105	3283	3294	3223	3007	2205	1674	1402	1105	840	563	44,282
Tuesday	462	373	364	475	903	1130	1715	1896	1720	1796	1917	2169	2227	2367	2566	2694	2718	2670	1994	1487	1250	936	810	523	37,162
Wednesday	408	350	365	459	826	1122	1621	1912	1802	1806	1909	2001	2268	2353	2506	2768	2828	3102	2066	1550	1358	1177	840	612	38,009
7-Day Avg	550	440	399	475	755	1005	1434	1661	1780	1940	2091	2420	2702	2868	3068	3150	3067	2985	2383	1990	1695	1397	1050	798	42,105
Mon–Fri Avg	512	442	416	537	920	1209	1700	1887	1881	1950	2029	2312	2562	2697	2907	3050	3002	2950	2210	1718	1462	1215	887	676	41,130
Tues–Thurs Avg	435	367	367	489	883	1158	1697	1902	1820	1875	1909	2142	2338	2456	2647	2845	2850	2892	2099	1588	1359	1120	865	622	38,726
Sat–Sun Avg	647	435	358	320	344	495	770	1095	1527	1916	2245	2692	3054	3296	3471	3401	3231	3074	2815	2672	2276	1852	1458	1104	44,541
Highest Count	745	670	515	702	1065	1426	1862	1986	2008	2093	2330	2847	3392	3731	4117	4098	3955	3752	3590	3563	3003	2192	1624	1259	50,552

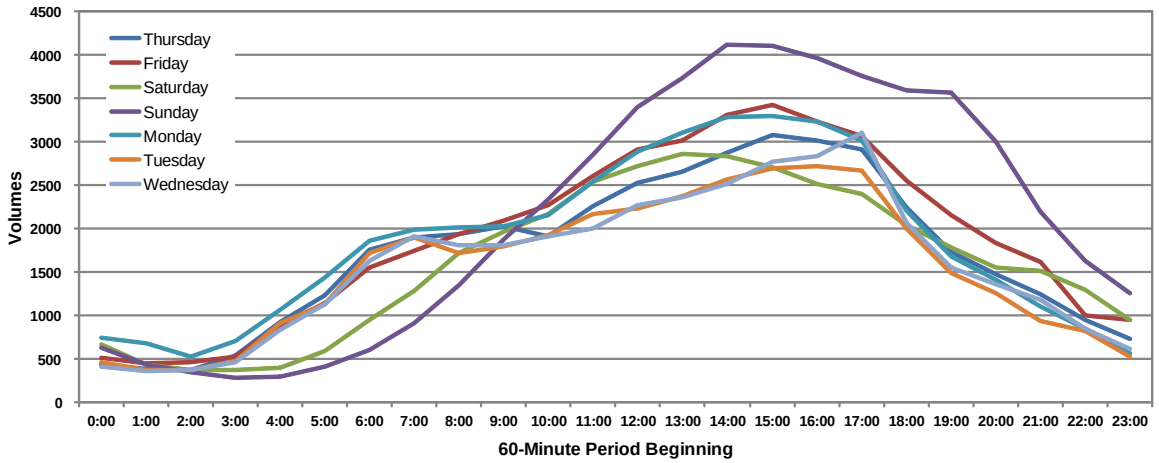
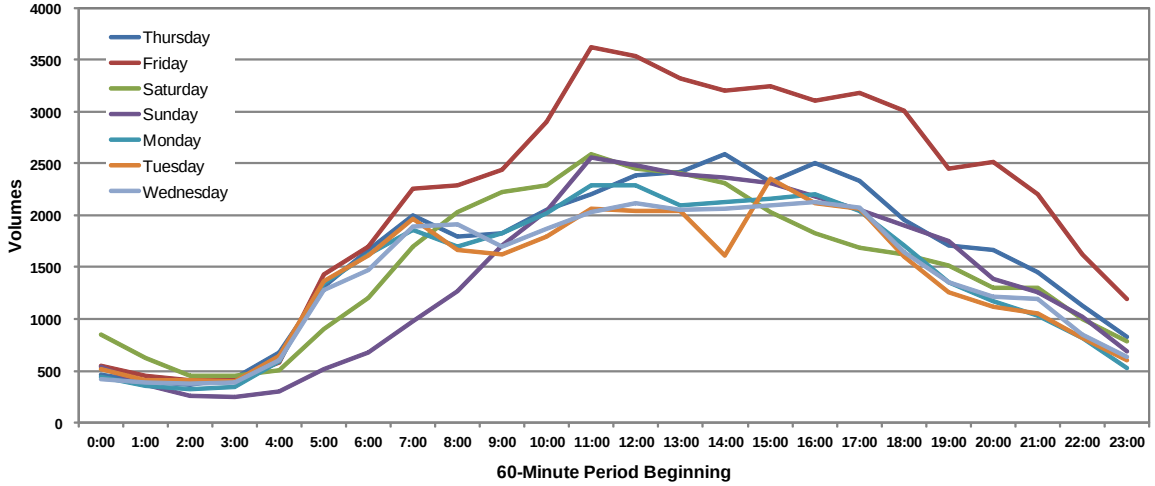


Figure 2-24: Existing Traffic Volumes on I-15 South of Palmdale Road *(Year 2011)*

I-15 south of D Street northbound

	60-Minute Period																								24 Hour
	AM												PM												
5/12–18/2011	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
Thursday	462	397	365	429	679	1308	1664	2002	1796	1829	2057	2204	2386	2423	2592	2317	2509	2333	1957	1710	1663	1456	1126	830	38,494
Friday	552	453	410	419	584	1434	1701	2255	2294	2440	2904	3617	3533	3323	3198	3242	3107	3179	3005	2451	2513	2202	1628	1193	51,637
Saturday	846	623	456	449	505	903	1205	1699	2029	2223	2287	2593	2449	2403	2309	2036	1832	1687	1621	1517	1306	1299	996	781	36,054
Sunday	537	364	259	244	300	512	681	982	1273	1711	2045	2555	2486	2393	2363	2310	2180	2056	1900	1754	1383	1260	1026	693	33,267
Monday	443	353	323	348	592	1343	1628	1865	1696	1829	2019	2294	2294	2100	2126	2164	2203	2046	1709	1351	1175	1038	822	527	34,288
Tuesday	519	415	407	402	648	1370	1608	1966	1663	1621	1795	2061	2042	2038	1611	2356	2122	2068	1602	1255	1118	1053	817	606	33,163
Wednesday	422	387	378	387	608	1281	1478	1888	1914	1696	1874	2034	2121	2053	2064	2091	2125	2077	1644	1352	1218	1199	851	636	33,778
7-Day Avg	540	427	371	383	559	1164	1424	1808	1809	1907	2140	2480	2473	2390	2323	2359	2297	2207	1920	1627	1482	1358	1038	752	37,240
Mon–Fri Avg	480	401	377	397	622	1347	1616	1995	1873	1883	2130	2442	2475	2387	2318	2434	2413	2341	1983	1624	1537	1390	1049	758	38,272
Tues–Thurs Avg	468	400	383	406	645	1320	1583	1952	1791	1715	1909	2100	2183	2171	2089	2255	2252	2159	1734	1439	1333	1236	931	691	35,145
Sat–Sun Avg	692	494	358	347	403	708	943	1341	1651	1967	2166	2574	2468	2398	2336	2173	2006	1872	1761	1636	1345	1280	1011	737	34,661
Highest Count	846	623	456	449	679	1434	1701	2255	2294	2440	2904	3617	3533	3323	3198	3242	3107	3179	3005	2451	2513	2202	1628	1193	51,637



I-15 south of D Street southbound

	60-Minute Period																								24 Hour
	AM												PM												
5/12–18/2011	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
Thursday	413	350	336	508	613	758	1236	1621	1683	1735	1658	1984	2110	2356	2555	2807	2832	2744	2082	1557	1295	1073	821	667	35,794
Friday	490	420	418	465	639	758	1089	1555	1792	1880	2029	2378	2603	2675	2983	3167	2988	2832	2253	1925	1533	1307	966	808	39,953
Saturday	597	410	350	360	302	476	755	1071	1455	1683	1858	2200	2297	2433	2401	2388	2150	2088	1723	1431	1206	1002	973	736	32,345
Sunday	524	399	321	259	267	311	509	764	1249	1695	2214	2699	3152	3566	3969	3843	3938	3658	3474	3382	2780	1914	1510	1203	47,600
Monday	735	656	471	598	754	917	1321	1731	1848	1809	1880	2247	2469	2827	3008	3142	3071	2775	2040	1512	1248	934	703	549	39,245
Tuesday	448	342	332	378	584	728	1177	1649	1704	1497	1619	1862	1977	2082	2274	2572	2631	2477	1807	1339	1097	816	656	481	32,529
Wednesday	385	329	311	418	547	688	1136	1635	1661	1510	1616	1721	2041	2068	2234	2464	2698	2954	1974	1437	1091	954	708	524	33,104
7-Day Avg	513	415	363	427	529	662	1032	1432	1627	1687	1839	2156	2378	2572	2775	2912	2901	2790	2193	1798	1464	1143	905	710	37,224
Mon–Fri Avg	494	419	374	473	627	770	1192	1638	1738	1686	1760	2038	2240	2402	2611	2830	2844	2756	2031	1554	1253	1017	771	606	36,125
Tues–Thurs Avg	415	340	326	435	581	725	1183	1635	1683	1581	1631	1856	2043	2169	2354	2614	2720	2725	1954	1444	1161	948	728	557	33,809
Sat–Sun Avg	561	405	336	310	285	394	632	918	1352	1689	2036	2450	2725	3000	3185	3116	3044	2873	2599	2407	1993	1458	1242	970	39,973
Highest Count	735	656	471	598	754	917	1321	1731	1848	1880	2214	2699	3152	3566	3969	3843	3938	3658	3474	3382	2780	1914	1510	1203	47,600

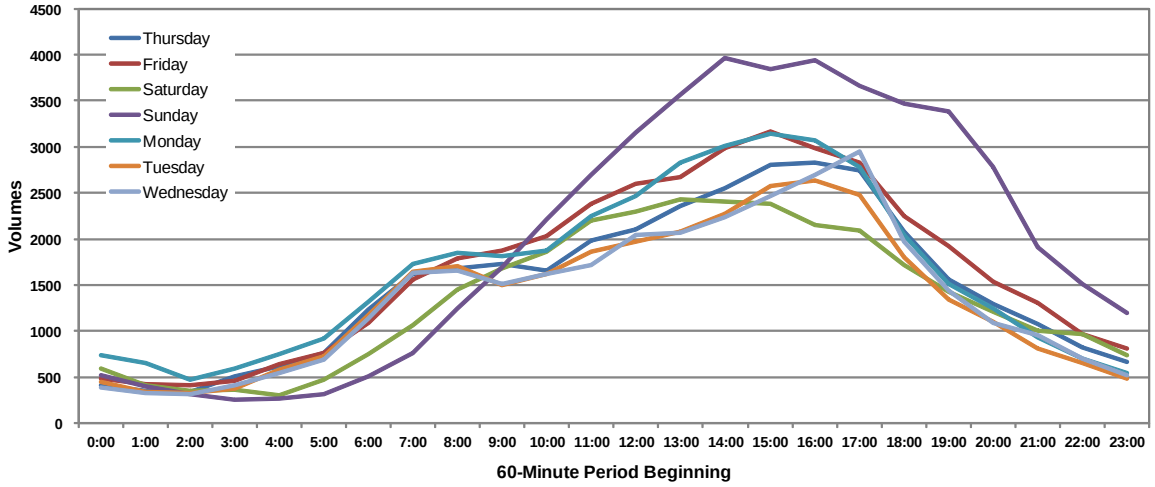
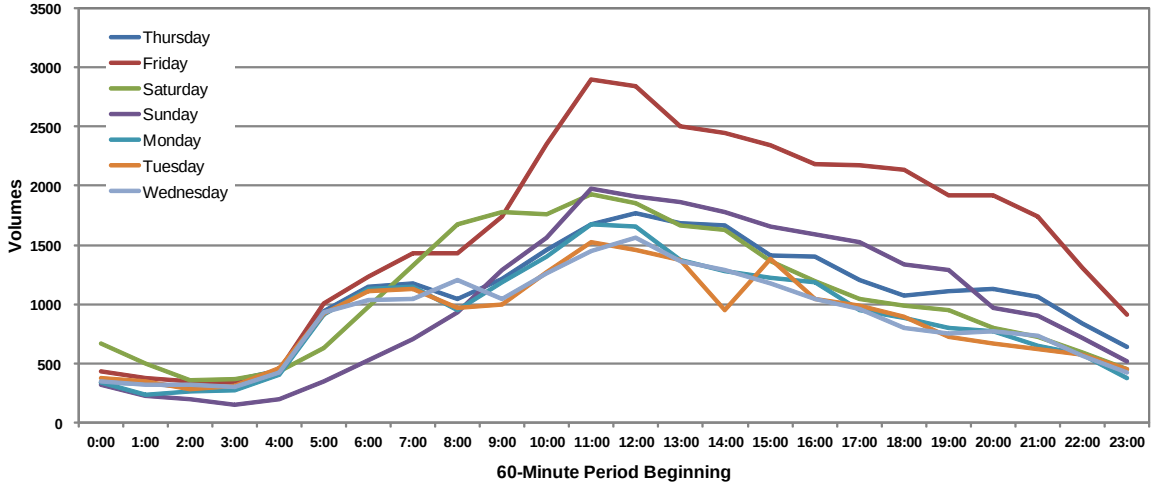


Figure 2-25: Existing Traffic Volumes on I-15 South of D Street *(Year 2011)*

I-15 south of Dale Evans Parkway northbound

	60-Minute Period																								24 Hour
	AM												PM												
5/12–18/2011	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
Thursday	343	332	303	362	447	937	1149	1177	1040	1216	1460	1670	1766	1680	1667	1414	1400	1203	1073	1115	1128	1064	840	643	25,429
Friday	433	375	347	342	445	1011	1228	1429	1433	1739	2347	2900	2836	2503	2448	2344	2184	2168	2138	1914	1921	1737	1311	909	38,442
Saturday	667	495	358	365	432	631	980	1330	1673	1774	1762	1930	1851	1667	1625	1363	1197	1048	986	953	796	728	592	452	25,655
Sunday	318	228	195	150	195	350	524	706	936	1290	1560	1974	1909	1861	1776	1657	1592	1523	1338	1290	970	902	717	514	24,475
Monday	341	237	269	270	403	911	1128	1151	954	1189	1397	1678	1658	1374	1282	1226	1185	953	886	804	775	652	578	380	21,681
Tuesday	380	349	287	308	460	920	1114	1129	967	1001	1271	1522	1461	1377	948	1381	1045	987	891	722	670	626	578	457	20,851
Wednesday	349	325	320	300	422	930	1037	1045	1202	1046	1259	1445	1564	1367	1287	1172	1046	959	801	756	769	736	566	427	21,130
7-Day Avg	404	334	297	300	401	813	1023	1138	1172	1322	1579	1874	1864	1690	1576	1508	1378	1263	1159	1079	1004	921	740	540	25,380
Mon–Fri Avg	369	324	305	316	435	942	1131	1186	1119	1238	1547	1843	1857	1660	1526	1507	1372	1254	1158	1062	1053	963	775	563	25,507
Tues–Thurs Avg	357	335	303	323	443	929	1100	1117	1070	1088	1330	1546	1597	1475	1301	1322	1164	1050	922	864	856	809	661	509	22,470
Sat–Sun Avg	493	362	277	258	314	491	752	1018	1305	1532	1661	1952	1880	1764	1701	1510	1395	1286	1162	1122	883	815	655	483	25,065
Highest Count	667	495	358	365	460	1011	1228	1429	1673	1774	2347	2900	2836	2503	2448	2344	2184	2168	2138	1914	1921	1737	1311	909	38,442



I-15 south of Dale Evans Parkway southbound

	60-Minute Period																								24 Hour
	AM												PM												
5/12–18/2011	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00	Total
Thursday	348	276	261	248	281	300	458	601	730	956	958	1186	1344	1584	1745	1817	1772	1707	1429	1078	898	689	583	520	21,769
Friday	370	357	309	276	303	370	417	640	881	1093	1250	1536	1802	1692	2051	2073	1942	1909	1555	1381	1062	946	717	653	25,585
Saturday	465	345	239	209	221	292	448	606	873	1027	1159	1382	1449	1588	1619	1575	1402	1315	1086	947	797	689	649	550	20,932
Sunday	397	302	235	192	194	198	329	515	828	1165	1515	2111	2461	2980	3369	3248	3297	3114	3005	2922	2408	1640	1330	1100	38,855
Monday	647	559	405	454	403	440	573	747	848	1080	1195	1488	1745	2025	2218	2128	2089	1814	1407	1095	893	690	524	415	25,882
Tuesday	365	275	251	239	287	263	434	619	723	777	922	1128	1266	1466	1497	1616	1622	1584	1136	857	714	541	469	379	19,430
Wednesday	310	273	252	227	236	271	432	622	722	826	934	935	1277	1285	1365	1324	1482	1899	1241	963	689	599	529	399	19,092
7-Day Avg	415	341	279	264	275	305	442	621	801	989	1133	1395	1621	1803	1981	1969	1944	1906	1551	1320	1066	828	686	574	24,506
Mon–Fri Avg	408	348	296	289	302	329	463	646	781	946	1052	1255	1487	1610	1775	1792	1781	1783	1354	1075	851	693	564	473	22,352
Tues–Thurs Avg	341	275	255	238	268	278	441	614	725	853	938	1083	1296	1445	1536	1586	1625	1730	1269	966	767	610	527	433	20,097
Sat–Sun Avg	431	324	237	201	208	245	389	561	851	1096	1337	1747	1955	2284	2494	2412	2350	2215	2046	1935	1603	1165	990	825	29,894
Highest Count	647	559	405	454	403	440	573	747	881	1165	1515	2111	2461	2980	3369	3248	3297	3114	3005	2922	2408	1640	1330	1100	38,855

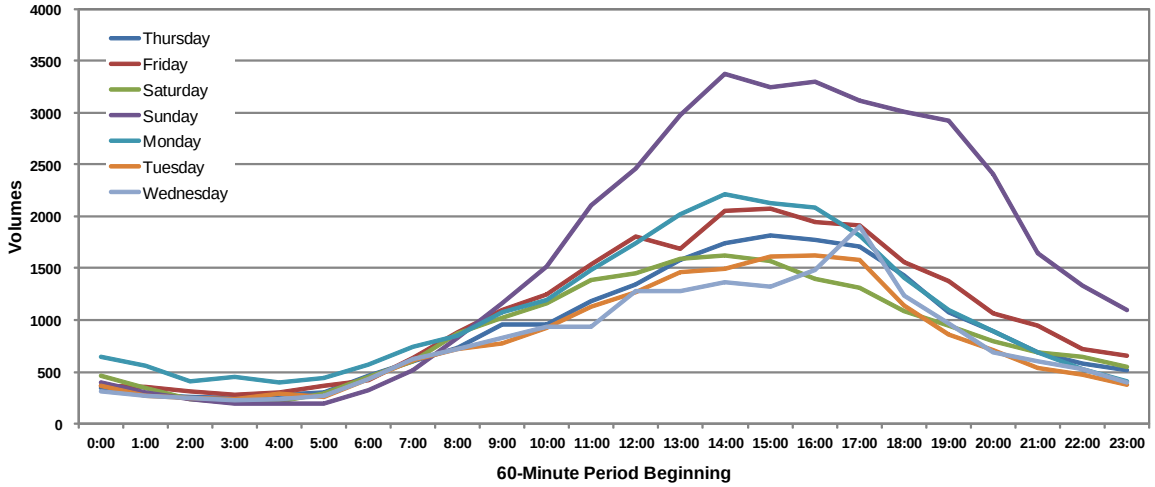
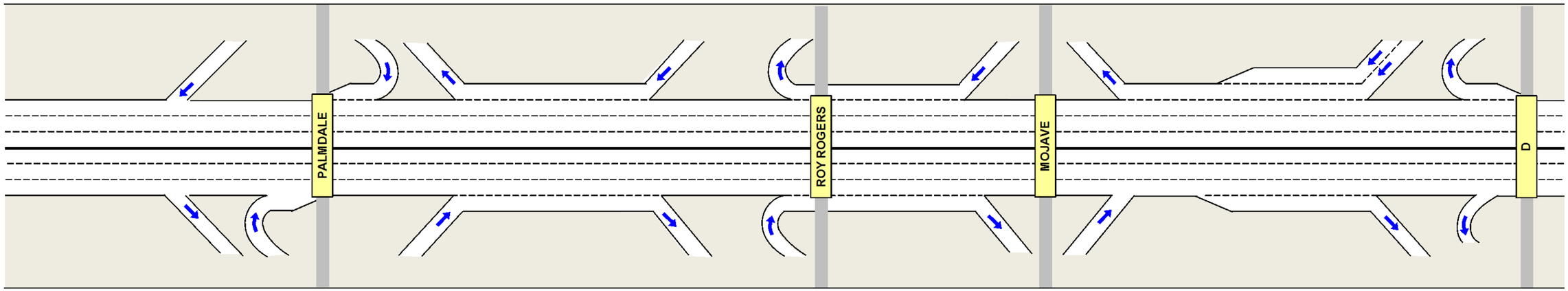


Figure 2-26: Existing Traffic Volumes on I-15 South of Dale Evans Parkway *(Year 2011)*

N

Southbound

AM Peak	MAINLINE		PALMDALE ROAD DIA ON	MAINLINE	LOOP ON	MAINLINE	OFF	MAINLINE	ROY ROGERS DRIVE ON	MAINLINE	OFF	MAINLINE	MOJAVE STREET ON	MAINLINE	OFF	MAINLINE		D STREET ON	MAINLINE	OFF	MAINLINE
5:00 to 6:00	1,158	1221	109	1112	64	1048	90	1138	204	934	52	986	254	732	43	775	725	391	384	48	432
6:00 to 7:00	1,697	1863	156	1707	115	1592	232	1824	310	1514	119	1633	432	1201	91	1292	1,183	577	715	62	777
7:00 to 8:00	1,902	1918	183	1735	122	1613	392	2005	330	1675	318	1993	445	1548	157	1705	1,635	758	947	66	1013
8:00 to 9:00	1,820	1863	192	1671	108	1563	379	1942	293	1649	293	1942	362	1580	143	1723	1,683	726	997	69	1066
9:00 to 10:00	1,875	1944	219	1725	121	1604	317	1921	327	1594	239	1833	307	1526	124	1650	1,581	647	1003	67	1070
PM Peak																					
2:00 to 3:00	2,582	2721	243	2478	142	2336	445	2781	387	2394	259	2653	430	2223	189	2412	2,354	756	1656	113	1769
3:00 to 4:00	2,699	2857	227	2630	151	2479	524	3003	431	2572	300	2872	466	2406	236	2642	2,614	887	1755	102	1857
4:00 to 5:00	2,759	2905	241	2664	170	2494	538	3032	437	2595	328	2923	449	2474	307	2781	2,720	926	1855	119	1974
5:00 to 6:00	2,809	2843	263	2580	167	2413	489	2902	480	2422	319	2741	385	2356	330	2686	2,725	870	1816	120	1936
6:00 to 7:00	2,124	2010	156	1854	116	1738	365	2103	338	1765	223	1988	294	1694	197	1891	1,954	575	1316	64	1380
ADT	38,831	39303	3403	35900	2213	33687	6169	39856	6299	33557	3993	37550	6145	31405	2959	34364	33,809	11795	22569	1413	23982



Northbound

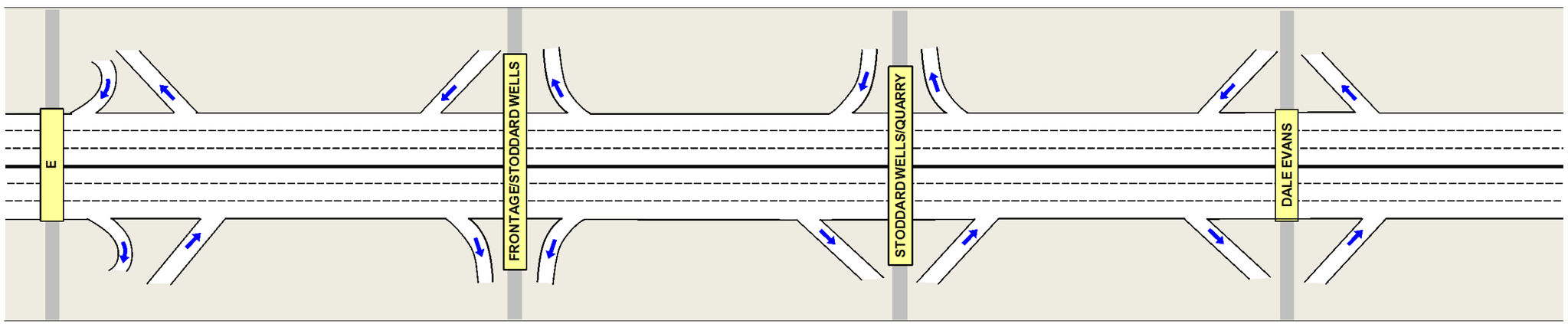
AM Peak	MAINLINE		PALMDALE ROAD OFF	MAINLINE	LOOP ON	MAINLINE	DIA ON	MAINLINE	ROY ROGERS DRIVE OFF	MAINLINE	ON	MAINLINE	MOJAVE DRIVE OFF	MAINLINE	ON	MAINLINE		D STREET OFF	MAINLINE	ON	MAINLINE
5:00 to 6:00	1,099		68	1031	163	1194	92	1286	130	1156	135	1291	124	1167	176	1343	1,320	373	970	101	1071
6:00 to 7:00	1,542		173	1369	214	1583	155	1738	207	1531	156	1687	317	1370	181	1551	1,583	569	982	88	1070
7:00 to 8:00	2,195		411	1784	254	2038	200	2238	376	1862	192	2054	333	1721	257	1978	1,952	780	1198	89	1287
8:00 to 9:00	2,005		390	1615	243	1858	172	2030	391	1639	181	1820	262	1558	201	1759	1,791	711	1048	76	1124
9:00 to 10:00	1,929		351	1578	201	1779	154	1933	331	1602	182	1784	222	1562	149	1711	1,715	573	1138	68	1206
PM Peak																					
2:00 to 3:00	2,219		382	1837	255	2092	227	2319	410	1909	297	2206	333	1873	197	2070	2,089	712	1358	91	1449
3:00 to 4:00	2,671		488	2183	273	2456	253	2709	510	2199	278	2477	426	2051	193	2244	2,255	759	1485	85	1570
4:00 to 5:00	2,516		453	2063	277	2340	237	2577	464	2113	329	2442	389	2053	183	2236	2,252	792	1444	110	1554
5:00 to 6:00	2,469		414	2055	257	2312	231	2543	495	2048	384	2432	400	2032	157	2189	2,159	815	1374	77	1451
6:00 to 7:00	2,098		337	1761	199	1960	192	2152	423	1729	217	1946	349	1597	142	1739	1,734	634	1105	48	1153
ADT	38,294		5804	32490	3986	36476	3221	39697	6305	33392	4014	37406	5357	32049	2819	34868	35,145	11174	23694	1458	25152

Mainline count volumes

Figure 2-27: Existing Traffic Lane Configuration and Balanced Traffic Volumes on I-15 *(Year 2011) (1 of 2)*

N

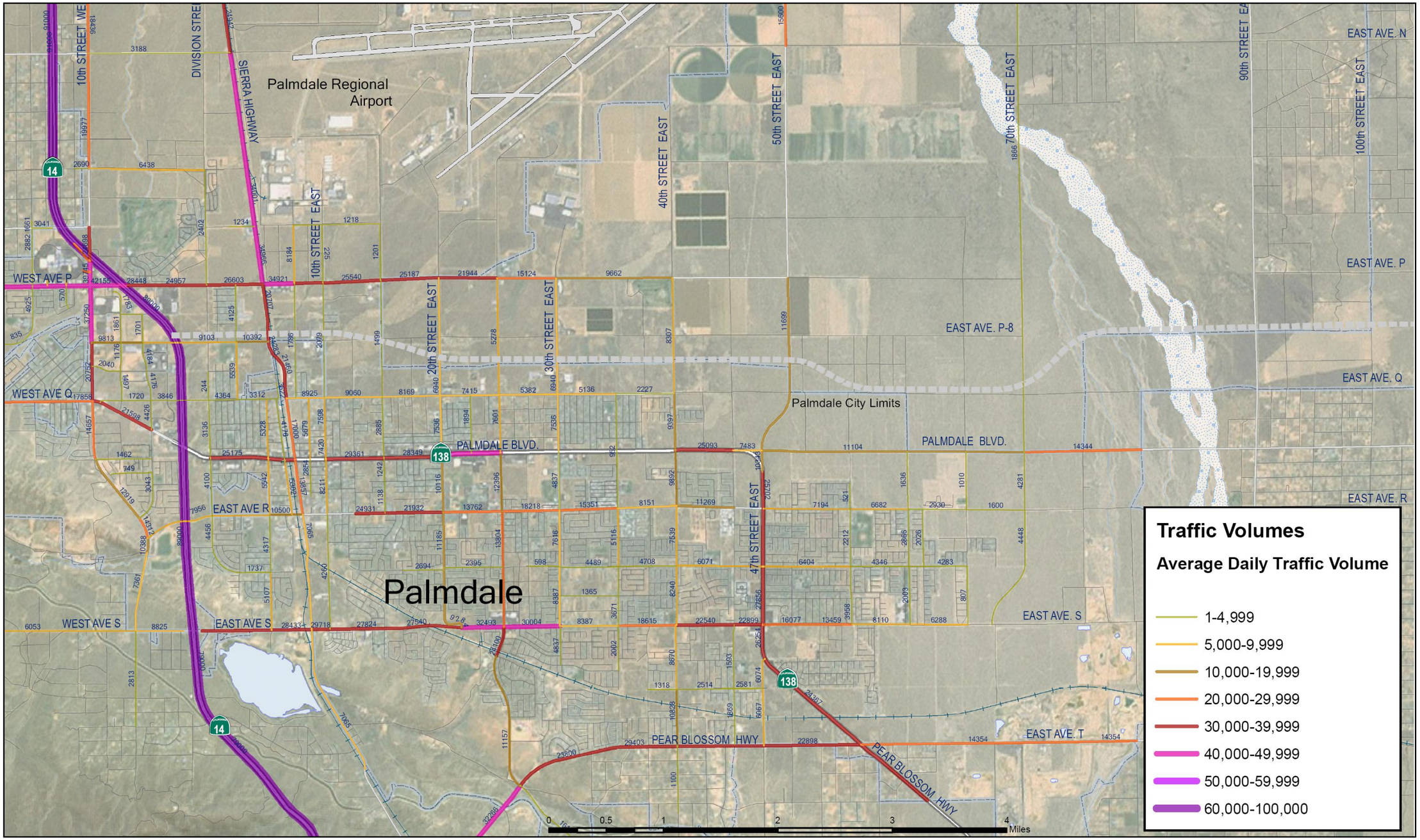
E STREET ON	E STREET MAINLINE	E STREET OFF	MAINLINE	STODDARD WELLS ROAD ON	STODDARD WELLS ROAD MAINLINE	STODDARD WELLS ROAD OFF	MAINLINE	VICTORVILLE QUARRY ROAD ON	VICTORVILLE QUARRY ROAD MAINLINE	VICTORVILLE QUARRY ROAD OFF	MAINLINE	DALE EVANS PARKWAY ON	DALE EVANS PARKWAY MAINLINE	DALE EVANS PARKWAY OFF	MAINLINE	
																AM Peak
25	407	4	411	130	281	10	291	14	277	1	278	11	267	21	288	5:00 to 6:00
22	755	11	766	340	426	28	454	23	431	10	441	21	420	31	451	6:00 to 7:00
28	985	6	991	381	610	43	653	44	609	5	614	22	592	44	636	7:00 to 8:00
29	1037	10	1047	338	709	46	755	37	718	7	725	20	705	44	749	8:00 to 9:00
30	1040	18	1058	237	821	56	877	34	843	10	853	24	829	62	891	9:00 to 10:00
																PM Peak
42	1727	19	1746	253	1493	75	1568	54	1514	22	1,536	45	1491	73	1564	2:00 to 3:00
43	1814	17	1831	278	1553	85	1638	80	1558	28	1,586	38	1548	125	1673	3:00 to 4:00
29	1945	11	1956	323	1633	85	1718	127	1591	34	1,625	34	1591	163	1754	4:00 to 5:00
24	1912	11	1923	294	1629	100	1729	36	1693	37	1,730	28	1702	167	1869	5:00 to 6:00
16	1364	11	1375	175	1200	74	1274	22	1252	17	1,269	27	1242	91	1333	6:00 to 7:00
564	23418	238	23656	4092	19564	993	20557	741	19816	281	20,097	597	19500	1322	20822	ADT



E STREET OFF	E STREET MAINLINE	E STREET ON	MAINLINE	I-15 FRONTAGE ROAD OFF	I-15 FRONTAGE ROAD MAINLINE	I-15 FRONTAGE ROAD ON	MAINLINE	STODDARD WELLS ROAD OFF	STODDARD WELLS ROAD MAINLINE	STODDARD WELLS ROAD ON	MAINLINE		DALE EVANS PARKWAY OFF	DALE EVANS PARKWAY MAINLINE	DALE EVANS PARKWAY ON	MAINLINE	
																	AM Peak
26	1045	4	1049	53	996	93	1089	150	939	12	951	929	34	917	142	1059	5:00 to 6:00
46	1024	8	1032	81	951	94	1045	68	977	23	1000	1,100	30	970	149	1119	6:00 to 7:00
37	1250	10	1260	215	1045	63	1108	50	1058	20	1078	1,117	36	1042	129	1171	7:00 to 8:00
36	1088	11	1099	150	949	55	1004	39	965	19	984	1,070	23	961	80	1041	8:00 to 9:00
42	1164	10	1174	116	1058	57	1115	51	1064	16	1080	1,088	33	1047	60	1107	9:00 to 10:00
																	PM Peak
22	1427	12	1439	164	1275	55	1330	44	1286	15	1301	1,301	29	1272	61	1333	2:00 to 3:00
15	1555	22	1577	199	1378	63	1441	89	1352	14	1366	1,322	33	1333	48	1381	3:00 to 4:00
27	1527	8	1535	260	1275	53	1328	119	1209	9	1218	1,164	27	1191	44	1235	4:00 to 5:00
22	1429	5	1434	273	1161	46	1207	51	1156	11	1167	1,050	31	1136	49	1185	5:00 to 6:00
34	1119	5	1124	168	956	36	992	44	948	8	956	922	25	931	33	964	6:00 to 7:00
618	24534	191	24725	2886	21839	1030	22869	1012	21857	244	22101	22,470	598	21503	1222	22725	ADT

Mainline count volumes

Figure 2-27: Existing Traffic Lane Configuration and Balanced Traffic Volumes on I-15 *(Year 2011) (2 of 2)*



Source: City of Palmdale

Figure 2-28: Existing Average Daily Traffic Volumes on Local Roads *(Year 2012)*

Table 2-7. Average Daily Traffic Volumes in Victor Valley *(Year 2008)*

ROADWAY SEGMENT	EXISTING TRAFFIC VOLUMES
El Mirage Road between	
West of Sheep Creek	4,655
Sheep Creek and Baldy Mesa	2,475
Baldy Mesa and U.S. 395[1]	462
U.S. 395 and Adelanto[1]	28
Air Expressway Boulevard between	
Baldy Mesa/Koala and U.S. 395	4,255
U.S. 395 and Adelanto	6,528
Adelanto and Village Drive	12,289
Rancho Road between	
Baldy Mesa/Koala and U.S. 395	6,301
Mojave Drive between	
Baldy Mesa and U.S. 395	8,400
U.S. 395 and El Evado	12,755
El Evado and I-15	28,694
I-15 and 7th Street	23,222
Green Tree Boulevard between	
I-15 and Hesperia	22,900
Palmdale Road (SR 18) between	
West of Sheep Creek	7,100
Sheep Creek and Baldy Mesa/Koala	11,008
Baldy Mesa and U.S. 395	16,800
U.S. 395 and El Evado	24,547
El Evado and I-15	30,774
East of I-15	39,299
La Mesa Road between	
U.S. 395 and El Evado	7,858
El Evado and I-15	6,889
Bear Valley Road/Duncan Road between	
West of Sheep Creek[1]	1,608
Sheep Creek and Baldy Mesa[1]	256
Baldy Mesa and U.S. 395	7,698
U.S. 395 and I-15	43,659
I-15 and Cottonwood	54,500
Cottonwood and Hesperia	51,850
Hesperia and Apple Valley	55,957
Apple Valley and Kiowa	36,556
Kiowa and Central	27,287
Central and SR 18	9,892

ROADWAY SEGMENT	EXISTING TRAFFIC VOLUMES
Goss Road/Eucalyptus between	
Cottonwood and Hesperia[1]	431
Lemon/Tussing Ranch/Desert View between	
West of Apple Valley	2,100
Kiowa and Central[1]	478
Mojave Street and Goss/Eucalyptus	24,306
Duncan/Bear Valley and La Mesa	28,452
La Mesa and Palmdale	26,300
Palmdale and Mojave Drive	27,307
Mojave Drive and Rancho	23,626
Air Expressway and El Mirage[1]	8,581
El Mirage and Colusa[1]	7,687
Adelanto Road between	
U.S. 395 and Rancho	2,466
Rancho and Air Expressway	3,917
Air Expressway and El Mirage	2,705
El Evado Road between	
South of La Mesa	4,669
La Mesa and Palmdale	10,413
Palmdale and Mojave Drive	13,880
Mojave Drive and Rancho	4,239
Cottonwood Avenue between	
Mesquite and Main[1]	4,735
Eucalyptus and Bear Valley	10,152
Bear Valley and Mariposa	8,239
National Trails Highway between	
I-15 and Rancho	14,907
North of Air Expressway	11,099
Hesperia Road between	
Main and Mojave Street[1]	15,327
Mojave Street and Eucalyptus[1]	21,252
Eucalyptus and Bear Valley	25,458
Bear Valley and Nisqualli	39,657
Nisqualli and Green Tree	34,762
Green Tree and D Street	27,148
Apple Valley Road between	
Lemon and Bear Valley	6,601
Bear Valley and Sitting Bull	23,369
Sitting Bull and Yucca Loma	19,200
Yucca Loma and Happy Trails Highway	17,259

ROADWAY SEGMENT	EXISTING TRAFFIC VOLUMES
Kiowa Road between	
Tussing Ranch and Bear Valley	11,793
Bear Valley and Sitting Bull	7,100
Sitting Bull and Yucca Loma	6,800
Yucca Loma and Happy Trails Highway	6,700
Dale Evans Parkway between	
Happy Trails Highway and Corwin	8,143
Corwin and Stoddard Wells[1]	3,465
Stoddard Wells and I-15[1]	3,366
Central Road between	
Tussing Ranch and Bear Valley	3,128
Bear Valley and Nisqulli	7,563
Nisqualli and Happy Trails (SR 18)	8,233
Mojave Street between	
Cottonwood and Hesperia[1]	133
Phelan Road/Main Street between	
Sheep Creek and Baldy Mesa[1]	12,908
Baldy Mesa and U.S. 395	20,500
U.S. 395 and I-15	25,500
I-15 and Escondido	47,400
Escondido and Cottonwood	28,974
East of Hesperia[1]	37,553
Ranchero Road between	
Escondido and Cottonwood[1]	8,373
Summit Valley Road between	
SR 138 and Ranchero[1]	3,258
SR 138 between	
Sheep Creek and I-15	16,000
I-15 and Summit Valley	2,200
Stoddard Wells Road between	
Happy Trails (SR 18) and I-15[1]	6,188
I-15 South and I-15 North	3,176
Dale Evans and Central[1]	201
Waalew Road between	
Dale Evans and Central[1]	1,178
Happy Trails Highway (SR 18) between	
Stoddard Wells and Apple Valley	52,603
Corwin and Dale Evans	33,600
Dale Evans and Kiowa	19,000
Kiowa and Central	15,100

ROADWAY SEGMENT	EXISTING TRAFFIC VOLUMES
Yates Road/Yucca Loma between	
West of Apple Valley	3,400
Apple Valley and Kiowa	10,000
Kiowa and Navajo	3,000
Nisqualli Road/Sitting Bull Road between	
I-15 and Hesperia	11,927
Apple Valley and Kiowa	5,700
SR 18 between	
Bear Valley cutoff and High[1]	13,786
Sheep Creek Road between	
Phelan and Duncan/Bear Valley[1]	3,519
Rancho and El Mirage[1]	1,790
Baldy Mesa Road/Koala Road between	
Phelan and Goss/Eucalyptus[1]	1,606
Bear Valley and La Mesa[1]	251
Palmdale and Mojave Drive[1]	75
Mojave Drive and Rancho	1,008
Air Expressway and El Mirage	2,666
U.S. 395 between	
I-15 and Phelan	27,700
Phelan and Mojave	28,400
Happy Trails (SR 18) and Waalew	7,655
Waalew and Stoddard Wells[1]	1,371
I-15 between	
SR 138 and U.S. 395	128,500
U.S. 395 and Main Street	106,500
Main Street and Bear Valley Road	100,500
Bear Valley Road and Palmdale Road	86,500
Palmdale Road and Roy Rogers/La Paz	86,500
Roy Rogers/La Paz and Mojave Drive	86,500
Mojave Drive and National Trails Hwy/D St	83,500

[1]New count data

Note: All other daily volumes are from traffic impact studies or other county data provided by each agency.

Source: Capacities were determined based on the procedure outlined in the Florida tables from Florida Department of Transportation. Assumptions for peak hour percentage, peak hour factor and effective green ratio were adjusted to represent 24-hour count data collected in Victor Valley area.

Source: Victor *Valley Area Transportation Plan,* Kimley-Horn and Associates, Inc., March 2008

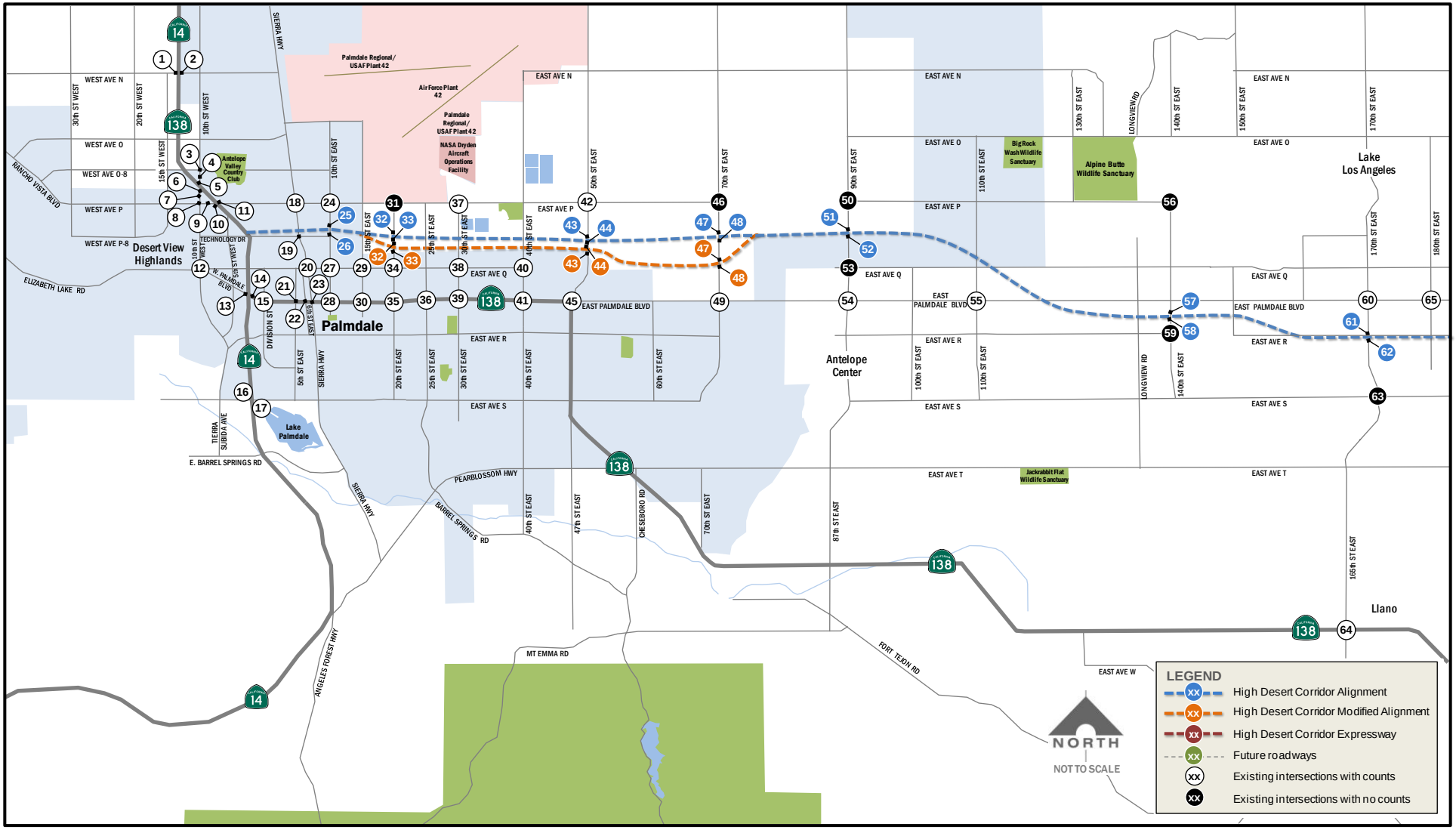


Figure 2-29: Locations of Study Intersections *(1 of 3)*

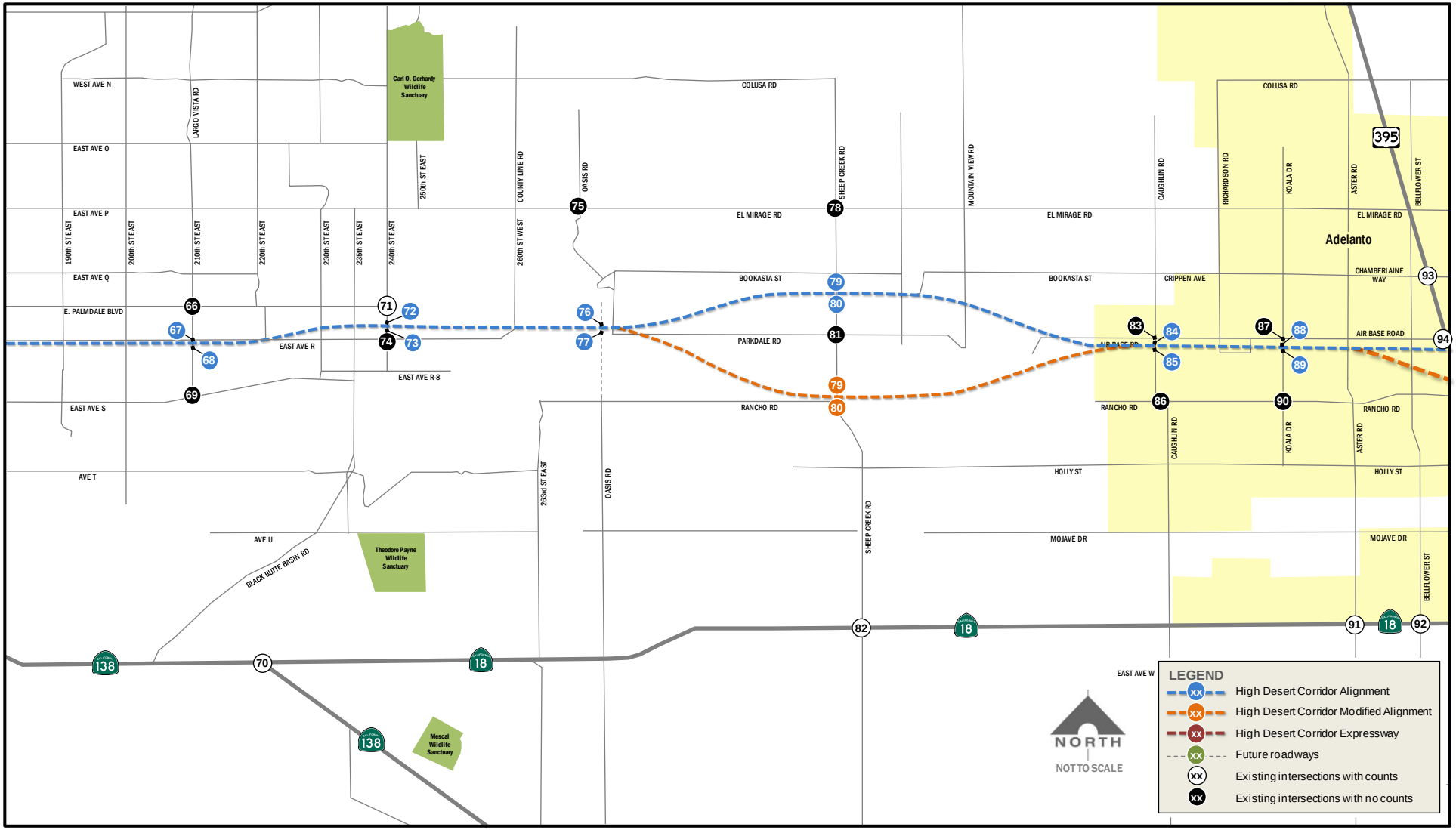


Figure 2-29: Locations of Study Intersections *(2 of 3)*

Figure 2-29: Locations of Study Intersections *(3 of 3)*

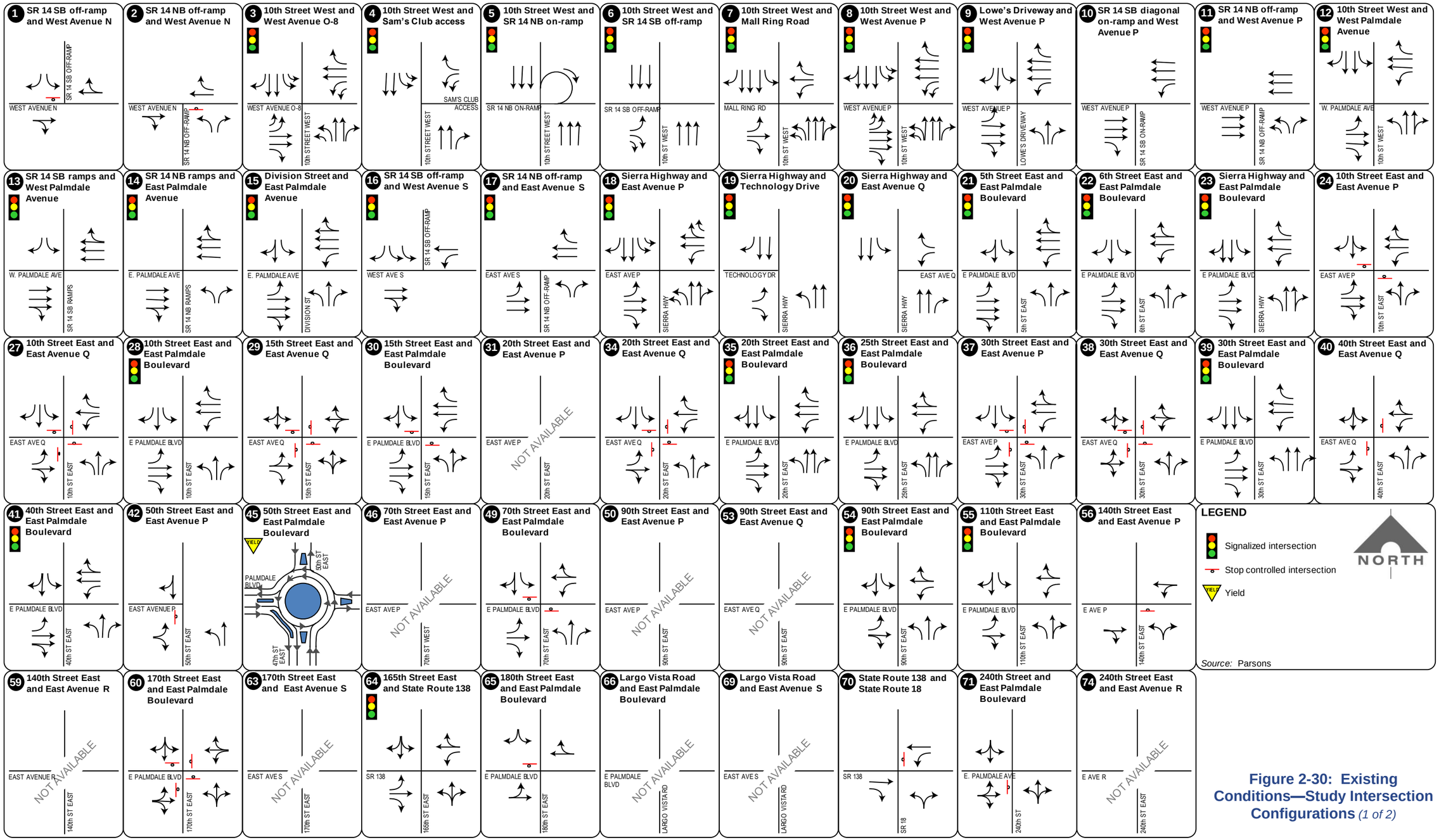


Figure 2-30: Existing Conditions—Study Intersection Configurations *(1 of 2)*

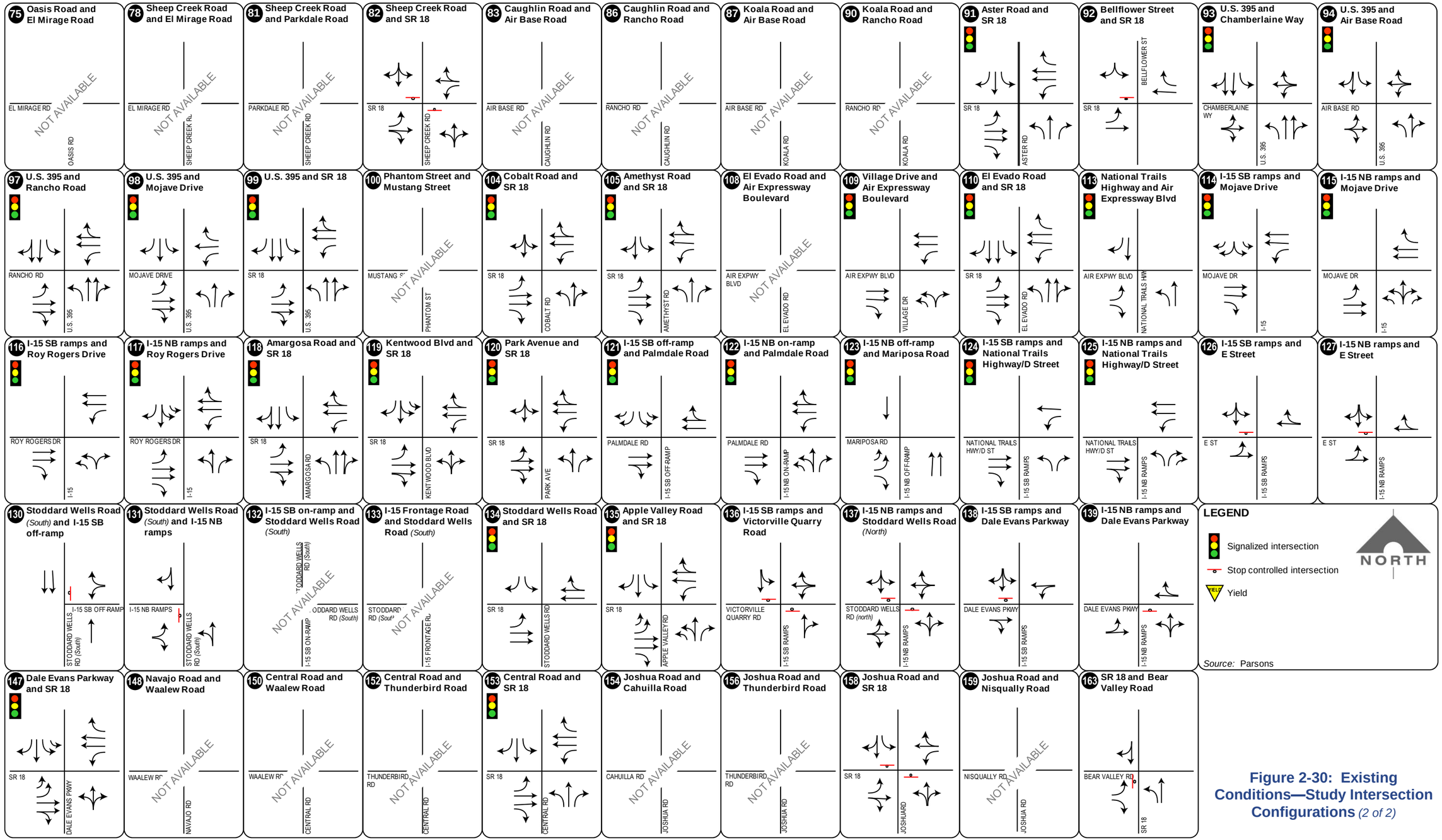


Figure 2-30: Existing Conditions—Study Intersection Configurations *(2 of 2)*

Table 2-8. Existing Intersection Volumes *(Year 2009/2011) (1 of 8)*

INT NO.	INTERSECTION	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL
AM PEAK														
1	SR 14 southbound off-ramp and West Avenue N	155	0	154	38	220	0	0	0	0	234	701	0	1,502
2	SR 14 northbound off-ramp and West Avenue N	0	0	0	100	156	0	104	0	102	293	562	0	1,317
3	10th Street West and West Avenue O-8	19	182	15	8	16	78	51	320	63	53	34	16	855
4	10th Street West and Sam's Club access	0	293	20	45	0	84	138	389	0	0	0	0	969
5	10th Street West and SR 14 northbound on-ramp	0	377	0	0	0	0	475	527	0	0	0	0	1,379
6	10th Street West and SR 14 southbound off-ramp	0	377	0	0	0	0	0	948	0	554	0	54	1,933
7	10th Street West and Mall Ring Rd	68	854	9	16	7	2	15	893	36	33	1	39	1,973
8	10th Street West and West Avenue P	96	510	283	271	473	57	54	477	225	318	1,078	196	4,038
9	Lowe's Driveway and West Avenue P	2	1	16	20	763	73	108	7	36	112	1,289	14	2,441
10	SR 14 southbound on-ramp and West Avenue P	0	0	0	0	856	64	0	0	0	525	888	0	2,333
11	SR 14 northbound off-ramp and West Avenue P	0	0	0	0	607	0	191	0	313	0	888	0	1,999
12	10th Street West and West Palmdale Blvd	173	174	150	85	221	50	56	221	111	149	439	204	2,033
13	SR 14 southbound off-/on-ramps and West Palmdale Blvd	169	0	461	140	339	0	0	0	0	313	474	0	1,896
14	SR 14 northbound off-/on-ramps and East Palmdale Blvd	0	0	0	581	339	0	178	0	140	226	709	0	2,173
15	Division Street and East Palmdale Blvd	84	30	12	21	698	39	51	53	290	170	826	22	2,296
16	SR 14 southbound off-ramp and West Avenue S	58	0	387	0	213	294	0	0	0	147	341	0	1,440
17	SR 14 northbound off-ramp and East Avenue S	0	0	0	708	477	0	88	0	30	0	558	176	2,037
18	Sierra Hwy and East Avenue P	39	327	471	521	337	12	27	421	67	84	690	87	3,083
19	Sierra Hwy and Technology Drive	89	311	0	0	0	0	0	329	99	106	0	53	987
20	Sierra Hwy and East Avenue Q	0	298	113	175	0	57	56	259	0	0	0	0	958
21	5th Street East and East Palmdale Blvd	20	37	44	24	645	35	38	72	143	47	737	19	1,861
22	6th Street East and East Palmdale Blvd	9	62	84	84	713	27	18	67	24	52	784	24	1,948
23	Sierra Hwy and East Palmdale Blvd	52	159	81	70	608	19	27	238	65	137	641	91	2,188
24	10th Street East and East Avenue P	1	1	0	3	827	6	7	2	23	61	691	0	1,622
25	10th Street East or 30th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
26	10th Street East or 30th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
27	10th Street East and East Avenue Q	5	54	35	54	194	42	49	73	54	31	138	30	759
28	10th Street East and East Palmdale Blvd	40	49	50	41	617	26	25	72	74	52	579	47	1,672
29	15th Street East and East Avenue Q	12	36	19	10	261	15	15	18	56	28	199	4	673
30	15th Street East and East Palmdale Blvd	43	3	14	14	707	27	33	14	12	15	545	46	1,473
31	20th Street East and East Avenue P	—	—	—	—	—	—	—	—	—	—	—	—	0
32	20th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
33	20th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
34	20th Street East and East Avenue Q	4	88	58	59	167	17	23	121	62	80	106	9	794
35	20th Street East and East Palmdale Blvd	33	158	55	48	613	69	145	214	146	100	375	46	2,002
36	25th Street East and East Palmdale Blvd	18	139	65	52	706	49	44	230	230	95	470	17	2,115
37	30th Street East and East Avenue P	3	0	1	7	347	20	16	4	218	110	219	33	978
38	30th Street East and East Avenue Q	13	121	20	44	122	4	4	240	57	18	60	2	705
39	30th Street East and East Palmdale Blvd	57	124	47	51	622	38	48	230	118	77	366	48	1,826
40	40th Street East and East Avenue Q	15	172	1	3	0	12	0	294	86	55	2	8	648
41	40th Street East and East Palmdale Blvd	16	161	106	143	491	27	33	259	127	90	254	14	1,721

Table 2-8. Existing Intersection Volumes *(Year 2009/2011) (2 of 8)*

INT NO.	INTERSECTION	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL
AM PEAK														
42	50th Street East and East Avenue P	24	193	0	0	0	0	0	411	85	63	0	23	799
43	50th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
44	50th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
45	50th Street East and East Palmdale Avenue	20	105	76	151	267	22	103	330	347	190	226	27	1,864
46	70th Street East and East Avenue P	—	—	—	—	—	—	—	—	—	—	—	—	0
47	70th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
48	70th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
49	70th Street East and East Palmdale Blvd	6	49	7	53	360	106	54	49	68	276	208	22	1,258
50	90th Street East and East Avenue P	—	—	—	—	—	—	—	—	—	—	—	—	0
51	90th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
52	90th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
53	90th Street East and East Avenue Q	—	—	—	—	—	—	—	—	—	—	—	—	0
54	90th Street East and East Palmdale Blvd	60	76	28	53	261	36	17	181	209	66	193	20	1,200
55	110th Street East and East Palmdale Blvd	19	23	6	16	145	17	14	20	26	38	106	8	438
56	140th Street East and East Palmdale Blvd	0	0	0	0	173	15	14	0	4	0	125	0	331
57	140th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
58	140th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
59	140th Street East and East Avenue R	—	—	—	—	—	—	—	—	—	—	—	—	0
60	170th Street East an East Palmdale Blvd	57	68	3	0	20	9	8	42	3	7	24	40	281
61	170th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
62	170th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
63	170th Street East and East Avenue S	—	—	—	—	—	—	—	—	—	—	—	—	0
64	165th Street East and SR 138	15	8	46	50	270	4	6	3	28	21	266	8	725
65	180th Street East and East Palmdale Blvd	11	0	3	4	16	0	0	0	0	0	27	8	69
66	210th Street East and East Palmdale Blvd	—	—	—	—	—	—	—	—	—	—	—	—	0
67	210th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
68	210th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
69	210th Street East and East Avenue S	—	—	—	—	—	—	—	—	—	—	—	—	0
70	SR 138 and SR 18	0	0	0	240	0	3	0	109	0	191	0	134	677
71	240th Street East and East Palmdale Blvd	7	22	0	0	0	0	0	24	8	11	0	11	83
72	240th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
73	240th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
74	240th Street East and East Avenue R	—	—	—	—	—	—	—	—	—	—	—	—	0
75	Oasis Rd and El Mirage Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
76	Oasis Rd and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
77	Oasis Rd and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
78	Sheep Creek Rd and El Mirage Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
79	Sheep Creek Rd and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
80	Sheep Creek Rd and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
81	Sheep Creek Rd and Holly Street	—	—	—	—	—	—	—	—	—	—	—	—	0
82	Sheep Creek Rd and SR 18	3	30	23	31	119	44	62	32	12	12	140	4	512

Table 2-8. Existing Intersection Volumes *(Year 2009/2011) (3 of 8)*

INT NO.	INTERSECTION	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL
AM PEAK														
83	Caughlin Rd and Air Base Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
84	Caughlin Rd and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
85	Caughlin Rd and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
86	Caughlin Rd and Rancho Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
87	Koala Road and Air Base Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
88	Koala Rd and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
89	Koala Rd and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
90	Koala Rd and Rancho Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
91	Aster Rd and SR 18	12	57	55	26	186	47	71	22	8	29	258	7	778
92	Bellflower Street and SR 18	18	0	108	64	308	0	0	0	0	0	551	5	1,054
93	U.S. 395 and Chamberlaine Way	7	162	4	2	13	11	6	178	25	64	18	4	494
94	U.S. 395 and Air Base Rd	9	198	79	79	60	50	38	240	21	34	92	2	902
95	U.S. 395 and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
96	U.S. 395 and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
97	U.S. 395 and Rancho Rd	15	246	11	4	30	30	11	297	147	64	28	5	888
98	U.S. 395 and Mojave Drive	9	318	93	111	111	50	92	429	46	85	330	29	1,703
99	U.S. 395 and SR 18	29	411	212	130	269	67	148	463	196	229	509	55	2,718
100	Phantom West and Mustang Street	—	—	—	—	—	—	—	—	—	—	—	—	0
101	Phantom West and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
102	Phantom West and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
103	Phantom West and Rancho Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
104	Topaz Rd and SR 18	6	127	19	11	320	195	299	59	131	202	626	9	2,004
105	Amethyst Rd and SR 18	104	180	40	21	382	73	166	202	29	29	769	139	2,134
106	Phantom East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
107	Phantom East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
108	El Evado Rd and Air Expressway Blvd	—	—	—	—	—	—	—	—	—	—	—	—	0
109	Village Drive and Air Expressway Blvd	0	0	0	0	273	50	59	0	185	118	225	0	910
110	El Evado Rd and SR 18	63	192	184	111	363	66	134	203	50	30	834	101	2,331
111	National Trails Hwy and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
112	National Trails Hwy and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
113	National Trails Hwy and Air Expressway Blvd	98	302	0	0	0	0	0	241	258	212	0	101	1,212
114	I-15 southbound off-/on-ramps and Mojave Drive	127	0	31	0	574	105	0	0	0	318	894	0	2,049
115	I-15 northbound off-/on-ramps and Mojave Drive	0	0	0	28	483	0	133	5	196	0	709	216	1,770
116	I-15 southbound off-/on-ramps and Roy Rogers Drive	0	0	0	0	693	80	71	0	243	235	690	0	2,012
117	I-15 northbound off-/on-ramps and Roy Rogers Drive	124	26	115	105	413	50	116	97	235	144	485	123	2,033
118	Amargosa Rd and SR 18	51	174	165	103	539	95	93	179	67	87	966	129	2,648
119	Kentwood Blvd and SR 18	10	7	131	342	752	29	31	19	10	4	1,111	51	2,497
120	Park Avenue and SR 18	7	5	7	18	1,076	302	277	2	39	58	1,172	0	2,963
121	I-15 southbound off-ramp and Palmdale Rd	259	0	134	107	1,184	0	0	0	0	177	1,298	0	3,159
122	I-15 northbound on-ramp and Palmdale Rd	0	0	0	71	677	77	265	139	623	406	751	0	3,009
123	I-15 northbound off-ramp and Mariposa Rd	0	489	0	0	0	0	0	575	0	12	0	433	1,509

Table 2-8. Existing Intersection Volumes *(Year 2009/2011) (4 of 8)*

INT NO.	INTERSECTION	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL
AM PEAK														
124	I-15 southbound off-/on-ramps and National Trails Hwy/D Street	0	0	0	0	578	505	27	0	34	233	365	0	1,742
125	I-15 northbound off-/on-ramps and National Trails Hwy/D Street	0	0	0	0	882	29	625	0	201	53	340	0	2,130
126	I-15 southbound off-/on-ramps and E Street	0	0	2	18	18	0	0	0	0	0	3	11	52
127	I-15 northbound off-/on-ramps and E Street	16	0	16	1	20	0	0	0	0	0	4	2	59
128	Gateway and North Frontage Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
129	Gateway and South Frontage Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
130	I-15 southbound off-ramp and Stoddard Wells Rd South	4	0	35	0	91	0	0	0	0	0	69	0	199
131	I-15 northbound off-/on-ramps and I-15 Frontage Rd South	2	13	0	0	0	0	0	2	48	202	0	22	289
132	I-15 southbound on-ramp and Stoddard Wells Rd South	—	—	—	—	—	—	—	—	—	—	—	—	0
133	Outer Hwy and Stoddard Wells Rd South	—	—	—	—	—	—	—	—	—	—	—	—	0
134	Stoddard Wells Rd and SR 18	32	0	152	346	1,490	0	0	0	0	0	1,314	26	3,360
135	Apple Valley Rd and SR 18	226	127	31	46	1,034	71	70	116	575	383	805	279	3,763
136	I-15 southbound off-/on-ramps and Stoddard Wells Rd North	0	0	0	0	0	7	31	0	0	0	0	0	38
137	I-15 northbound off-/on-ramps and Stoddard Wells Rd North	5	0	30	0	38	3	3	19	3	5	3	0	109
138	I-15 southbound off-/on-ramps and Dale Evans Pkwy	0	5	40	0	0	12	0	0	0	0	1	0	58
139	I-15 northbound off-/on-ramps and Dale Evans Pkwy	0	0	0	92	13	0	17	8	1	0	44	0	175
140	Choco Rd and Frontage Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
141	Choco Rd and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
142	Choco Rd and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
143	Choco Rd and Falchion Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
144	Dale Evans Pkwy and Air Expressway Blvd	—	—	—	—	—	—	—	—	—	—	—	—	0
145	Dale Evans Pkwy and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
146	Dale Evans Pkwy and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
147	Dale Evans Pkwy and SR 18	73	1	37	47	714	4	0	4	14	6	339	70	1,309
148	Navajo Rd and Waalew Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
149	High Desert Corridor and Waalew Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
150	Central Rd and Waalew Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
151	High Desert Corridor and Central Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
152	Central Rd and Thunderbird Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
153	Central Rd and SR 18	63	123	16	16	198	33	21	64	66	48	76	31	755
154	Joshua Rd and Cahuilla Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
155	Joshua Rd and High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
156	Joshua Rd and Thunderbird Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
157	Joshua Rd and Standing Rock Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
158	Joshua Rd and Yucca Loma Rd	110	1	8	6	177	0	1	1	0	0	103	51	458
159	Joshua Rd and Nisqually Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
160	High Desert Corridor and Standing Rock Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
161	High Desert Corridor and Yucca Loma Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
162	High Desert Corridor and Nisqually Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
163	Bear Valley Rd and SR 18	3	79	0	0	0	0	0	159	173	116	0	1	531
175	West Frontage Road and I-15 southbound on-ramp	—	—	—	—	—	—	—	—	—	—	—	—	0

Table 2-8. Existing Intersection Volumes *(Year 2009/2011) (5 of 8)*

INT NO.	INTERSECTION	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL
PM PEAK														
1	SR 14 southbound off-ramp and West Avenue N	295	0	119	96	619	0	0	0	0	126	367	0	1,622
2	SR 14 northbound off-ramp and West Avenue N	0	0	0	251	510	0	62	0	205	170	316	0	1,514
3	10th Street West and West Avenue O-8	138	479	81	37	113	214	140	706	111	64	75	134	2,292
4	10th Street West and Sam's Club access	0	704	53	141	0	225	315	816	0	0	0	0	2,254
5	10th Street West and SR 14 northbound on-ramp	0	929	0	0	0	0	772	1131	0	0	0	0	2,832
6	10th Street West and SR 14 southbound off-ramp	0	929	0	0	0	0	0	1771	0	967	0	132	3,799
7	10th Street West and Mall Ring Rd	430	1381	85	69	33	9	16	1427	234	186	35	275	4,180
8	10th Street West and West Avenue P	173	869	534	612	1133	141	115	908	529	390	624	157	6,185
9	Lowe's driveway and West Avenue P	18	24	66	65	1699	173	144	29	169	146	1094	42	3,669
10	SR 14 southbound on-ramp and West Avenue P	0	0	0	0	1937	183	0	0	0	398	906	0	3,424
11	SR 14 northbound off-ramp and West Avenue P	0	0	0	0	1330	0	129	0	790	0	906	0	3,155
12	10th Street West and West Palmdale Blvd	48	305	240	163	264	196	164	411	193	143	386	92	2,605
13	SR 14 southbound off-/on-ramps and West Palmdale Blvd	247	0	605	99	746	0	0	0	0	207	574	0	2,478
14	SR 14 northbound off-/on-ramps and East Palmdale Blvd	0	0	0	616	505	0	259	0	354	165	1014	0	2,913
15	Division Street and East Palmdale Blvd	51	58	21	16	941	25	40	62	297	234	1,053	71	2,869
16	SR 14 southbound off-ramp and West Avenue S	134	0	771	0	442	131	0	0	0	63	396	0	1,937
17	SR 14 northbound off-ramp and East Avenue S	0	0	0	586	355	0	340	0	218	0	1021	146	2,666
18	Sierra Hwy and East Avenue P	127	557	553	566	706	26	15	518	124	108	531	94	3,925
19	Sierra Hwy and Technology Drive	122	568	0	0	0	0	0	501	191	248	0	112	1,742
20	Sierra Hwy and East Avenue Q	0	563	270	290	0	74	40	419	0	0	0	0	1,656
21	5th Street East and East Palmdale Blvd	30	86	51	45	854	129	73	89	130	82	957	46	2,572
22	6th Street East and East Palmdale Blvd	16	127	203	90	1,079	20	39	78	34	47	1,002	34	2,769
23	Sierra Hwy and East Palmdale Blvd	104	302	105	103	808	24	42	225	73	111	912	111	2,920
24	10th Street East and East Avenue P	3	0	0	2	999	4	10	17	37	69	1086	1	2,228
25	10th Street East or 30th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
26	10th Street East or 30th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
27	10th Street East and East Avenue Q	16	68	39	22	246	32	30	29	67	55	227	6	837
28	10th Street East and East Palmdale Blvd	35	100	55	53	778	55	51	117	127	65	916	36	2,388
29	15th Street East and East Avenue Q	6	46	11	11	227	18	16	28	51	40	279	2	735
30	15th Street East and East Palmdale Blvd	52	7	13	20	850	29	31	5	8	20	952	53	2,040
31	20th Street East and East Avenue P	—	—	—	—	—	—	—	—	—	—	—	—	0
32	20th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
33	20th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
34	20th Street East and East Avenue Q	23	227	64	62	162	21	30	130	53	66	205	13	1,056
35	20th Street East and East Palmdale Blvd	55	285	187	40	719	60	85	160	134	84	797	45	2,651
36	25th Street East and East Palmdale Blvd	30	287	123	37	696	57	68	204	261	183	914	34	2,894
37	30th Street East and East Avenue P	16	3	5	3	259	18	17	2	173	237	407	2	1,142
38	30th Street East and East Avenue Q	9	209	55	45	74	6	18	168	51	45	153	5	838
39	30th Street East and East Palmdale Blvd	51	209	64	43	579	62	44	188	151	200	876	105	2,572
40	40th Street East and East Avenue Q	19	272	1	0	1	1	0	195	54	95	2	15	655
41	40th Street East and East Palmdale Blvd	13	246	160	109	428	13	8	144	129	163	666	29	2,108
42	50th Street East and East Avenue P	36	332	0	0	0	0	0	232	70	105	0	29	804
43	50th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
44	50th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0

Table 2-8. Existing Intersection Volumes *(Year 2009/2011) (6 of 8)*

INT NO.	INTERSECTION	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL
PM PEAK														
45	50th Street East and East Palmdale Avenue	21	279	102	118	136	35	42	216	410	559	302	12	2,232
46	70th Street East and East Avenue P	—	—	—	—	—	—	—	—	—	—	—	—	0
47	70th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
48	70th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
49	70th Street East and East Palmdale Blvd	12	41	12	21	245	70	202	19	17	26	356	3	1,024
50	90th Street East and East Avenue P	—	—	—	—	—	—	—	—	—	—	—	—	0
51	90th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
52	90th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
53	90th Street East and East Avenue Q	—	—	—	—	—	—	—	—	—	—	—	—	0
54	90th Street East and East Palmdale Blvd	37	135	43	24	176	17	39	89	112	164	359	53	1,248
55	110th Street East and East Palmdale Blvd	13	19	21	10	119	11	13	11	28	52	195	34	526
56	140th Street East and East Palmdale Blvd	0	0	0	0	138	11	20	0	1	4	219	0	393
57	140th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
58	140th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
59	140th Street East and East Avenue R	—	—	—	—	—	—	—	—	—	—	—	—	0
60	170th Street East an East Palmdale Blvd	42	112	5	3	35	9	9	82	3	6	21	69	396
61	170th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
62	170th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
63	170th Street East and East Avenue S	—	—	—	—	—	—	—	—	—	—	—	—	0
64	165th Street East and SR 138	16	11	136	67	352	4	9	8	20	67	352	4	1,046
65	180th Street East and East Palmdale Blvd	8	0	2	2	39	0	0	0	0	0	25	10	86
66	210th Street East and East Palmdale Blvd	—	—	—	—	—	—	—	—	—	—	—	—	0
67	210th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
68	210th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
69	210th Street East and East Avenue S	—	—	—	—	—	—	—	—	—	—	—	—	0
70	SR 138 and SR 18	0	0	0	248	0	4	0	189	0	377	0	218	1,036
71	240th Street East and East Palmdale Blvd	23	3	0	0	0	0	0	23	12	2	0	17	80
72	240th Street East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
73	240th Street East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
74	240th Street East and East Avenue R	—	—	—	—	—	—	—	—	—	—	—	—	0
75	Oasis Road and El Mirage Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
76	Oasis Road and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
77	Oasis Road and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
78	Sheep Creek Rd and El Mirage Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
79	Sheep Creek Rd and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
80	Sheep Creek Rd and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
81	Sheep Creek Rd and Holly Street	—	—	—	—	—	—	—	—	—	—	—	—	0
82	Sheep Creek Rd and SR 18	7	64	72	21	193	74	45	35	3	11	207	1	733
83	Caughlin Rd and Air Base Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
84	Caughlin Rd and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0

Table 2-8. Existing Intersection Volumes *(Year 2009/2011) (7 of 8)*

INT NO.	INTERSECTION	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL
PM PEAK														
85	Caughlin Rd and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
86	Caughlin Rd and Rancho Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
87	Koala Rd and Air Base Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
88	Koala Rd and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
89	Koala Rd and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
90	Koala Rd and Rancho Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
91	Aster Rd and SR 18	14	23	35	58	305	60	27	48	33	31	318	13	965
92	Bellflower Street and SR 18	16	0	100	136	562	0	0	0	0	0	447	15	1,276
93	U.S. 395 and Chamberlaine Way	15	325	1	1	34	21	21	200	80	69	39	11	817
94	U.S. 395 and Air Base Rd	10	364	97	106	136	89	45	257	64	36	123	1	1,328
95	U.S. 395 and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
96	U.S. 395 and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
97	U.S. 395 and Rancho Rd	15	441	9	10	18	56	6	327	84	171	91	23	1,251
98	U.S. 395 and Mojave Drive	22	597	197	147	312	95	103	375	96	117	257	24	2,342
99	U.S. 395 and SR 18	43	609	215	188	563	140	88	526	271	220	449	40	3,352
100	Phantom West and Mustang Street	—	—	—	—	—	—	—	—	—	—	—	—	0
101	Phantom West and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
102	Phantom West and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
103	Phantom West and Rancho Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
104	Topaz Rd and SR 18	14	30	18	6	754	205	147	30	89	102	593	17	2,005
105	Amethyst Rd and SR 18	99	263	34	43	793	176	121	159	43	37	671	72	2,511
106	Phantom East and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
107	Phantom East and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
108	El Evado Rd and Air Expressway Blvd	—	—	—	—	—	—	—	—	—	—	—	—	0
109	Village Drive and Air Expressway Blvd	0	0	0	0	200	67	52	0	148	231	339	0	1,037
110	El Evado Rd and SR 18	81	273	153	161	875	155	118	236	66	40	668	111	2,937
111	National Trails Hwy and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
112	National Trails Hwy and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
113	National Trails Hwy and Air Expressway Blvd	79	292	0	0	0	0	0	264	194	358	0	62	1,249
114	I-15 southbound off-/on-ramps and Mojave Drive	319	1	36	0	957	145	0	0	0	300	719	0	2,477
115	I-15 northbound off-/on-ramps and Mojave Drive	0	0	0	36	826	0	103	0	284	0	623	146	2,018
116	I-15 southbound off-/on-ramps and Roy Rogers Drive	0	0	0	0	1,240	195	151	0	168	285	1,077	0	3,116
117	I-15 northbound off-/on-ramps and Roy Rogers Drive	288	27	202	158	873	110	141	67	280	272	805	160	3,383
118	Amargosa Rd and SR 18	131	323	218	137	1,008	249	151	301	154	92	859	104	3,727
119	Kentwood Blvd and SR 18	84	27	306	136	1,375	56	55	21	47	12	1,117	26	3,262
120	Park Avenue and SR 18	5	8	5	8	1,480	357	516	2	89	43	1,408	1	3,922
121	I-15 southbound off-ramp and Palmdale Rd	329	0	176	186	1,473	0	0	0	0	276	1,643	0	4,083
122	I-15 northbound on-ramp and Palmdale Rd	0	0	0	51	1,049	244	402	191	592	566	962	0	4,057
123	I-15 northbound off-ramp and Mariposa Rd	0	824	0	0	0	0	0	784	0	56	0	401	2,065
124	I-15 southbound off-/on-ramps and National Trails Hwy/D Street	0	0	0	0	568	605	67	0	51	290	467	0	2,048

Table 2-8. Existing Intersection Volumes *(Year 2009/2011) (8 of 8)*

INT NO.	INTERSECTION	SBR	SBT	SBL	WBR	WBT	WBL	NBR	NBT	NBL	EBR	EBT	EBL	TOTAL
PM PEAK														
125	I-15 northbound off-/on-ramps and National Trails Hwy/D Street	0	0	0	0	965	26	628	0	196	56	466	0	2,337
126	I-15 southbound off-/on-ramps and E Street	3	0	11	14	8	0	0	0	0	0	9	8	53
127	I-15 northbound off-/on-ramps and E Street	8	0	13	7	14	0	0	0	0	0	15	4	61
128	Gateway and North Frontage Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
129	Gateway and South Frontage Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
130	I-15 southbound off-ramp and Stoddard Wells Rd South	15	0	74	0	87	0	0	0	0	0	143	0	319
131	I-15 northbound off-/on-ramps and I-15 Frontage Rd South	1	30	0	0	0	0	0	9	44	359	0	63	506
132	I-15 southbound on-ramp and Stoddard Wells Rd South	—	—	—	—	—	—	—	—	—	—	—	—	0
133	Outer Highway and Stoddard Wells Rd South	—	—	—	—	—	—	—	—	—	—	—	—	0
134	Stoddard Wells Rd and SR 18	54	0	361	245	1,488	0	0	0	0	0	1,832	36	4,016
135	Apple Valley Rd and SR 18	361	218	108	74	1,016	103	75	133	369	697	1,269	245	4,668
136	I-15 southbound off-/on-ramps and Stoddard Wells Rd North	0	0	1	1	0	45	58	2	0	0	0	0	107
137	I-15 northbound off-/on-ramps and Stoddard Wells Rd North	3	0	39	0	50	6	7	8	4	34	6	0	157
138	I-15 southbound off-/on-ramps and Dale Evans Pkwy	1	2	184	0	4	17	0	0	0	2	3	0	213
139	I-15 northbound off-/on-ramps and Dale Evans Pkwy	0	0	0	33	18	0	17	3	2	0	184	2	259
140	Choco Rd and Frontage Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
141	Choco Rd and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
142	Choco Rd and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
143	Choco Rd and Falchion Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
144	Dale Evans Pkwy and Air Expressway Blvd	—	—	—	—	—	—	—	—	—	—	—	—	0
145	Dale Evans Pkwy and westbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
146	Dale Evans Pkwy and eastbound High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
147	Dale Evans Pkwy and SR 18	136	21	224	92	655	6	10	8	39	52	870	135	2,248
148	Navajo Rd and Waalew Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
149	High Desert Corridor and Waalew Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
150	Central Rd and Waalew Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
151	High Desert Corridor and Central Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
152	Central Rd and Thunderbird Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
153	Central Rd and SR 18	126	164	31	18	154	36	55	148	60	110	212	94	1,208
154	Joshua Rd and Cahuilla Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
155	Joshua Rd and High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—	—	0
156	Joshua Rd and Thunderbird Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
157	Joshua Rd and Standing Rock Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
158	Joshua Rd and Yucca Loma Rd	57	1	4	13	121	0	0	0	0	0	182	122	500
159	Joshua Rd and Nisqually Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
160	High Desert Corridor and Standing Rock Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
161	High Desert Corridor and Yucca Loma Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
162	High Desert Corridor and Nisqually Rd	—	—	—	—	—	—	—	—	—	—	—	—	0
163	Bear Valley Rd and SR 18	8	182	0	0	0	0	0	126	179	233	0	3	731
175	West Frontage Road and I-15 southbound on-ramp	—	—	—	—	—	—	—	—	—	—	—	—	0

Within approximately one mile to the north and four miles to the south of the service interchange at SR 138 (Palmdale Boulevard), northbound SR 14 consists of two mixed traffic lanes and one lane reserved for high occupancy vehicle (HOV) use. Southbound, three mixed flow lanes exist north of Ranch Vista Boulevard/Avenue P. South of Avenue P, the outside mainline merges with the adjacent inboard lane, and an HOV lane is added on the inside median of the freeway. South of Palmdale Boulevard, a third mixed flow lane is added as an extension of the southbound diamond on-ramp.

The HOV lanes hours of operation are 5:00 to 9:00 a.m., southbound only, and 3:00 to 7:00 p.m., northbound only, Monday through Friday. The vehicle occupancy requirement is two or more persons per vehicle.

Traffic volumes entering or exiting the Antelope Valley portion of the study area from the north and south are primarily comprised of commuters from Antelope Valley headed to/from the Los Angeles Basin, and to defense related employment located within Kern County to the north. The freeway is also traversed by through travelers and trucks having neither origin nor destination in Palmdale or Lancaster.

Along I-15, the freeway provides three mainline mixed flow lanes in each direction within the area covered by this traffic study, from south of Palmdale Road to north of Dale Evans Parkway (Boulder Road), a distance of approximately 11.3 miles.

Traffic volumes entering or exiting the Victor Valley portion of the study area from the south or north are primarily comprised of commuters from Victor Valley destined to/from the Riverside–San Bernardino–Ontario metropolitan area, commonly known as the "Inland Empire," and the Los Angeles metropolitan area. The freeway is also traversed by through travelers and trucks having neither an origin nor destination in Victor Valley. Many of these motorists are traveling to or from Las Vegas, approximately 184 miles north of Victorville.

In addition to collecting traffic volume counts, travel time data were collected to identify congestion points and segments along the corridor and to provide data for calibrating a traffic simulation model. The analysis began with observations of traffic conditions during morning (7:00 to 9:00 a.m.) and afternoon (4:00 to 6:00 p.m.) peak periods. This was accomplished by driving the study corridors several times during mid-week peak periods. These travel time studies were conducted during May and October 2009 along SR 14 and during May 2011 along I-15.

The two corridors were analyzed for existing conditions using the CORSIM traffic simulation model. CORSIM (corridor simulation) is the traffic modeling and simulation software package funded by the Federal Highway Administration (FHWA) and is widely used for analyzing existing conditions and evaluating plans for new construction. To apply the simulation model, the physical features of the highway network must first be coded. This as-built condition was ascertained using an aerial photography base map and ground level reconnaissance. Traffic volumes and volume-weighted origin-destination matrices were then entered and the simulation model was calibrated for SR 14 to replicate existing conditions as measured by observed versus modeled traffic volumes, speeds, and traffic queues.

The calibration goal was to replicate local drivers' behavior and traffic characteristics to within ±10 percent of the existing count and travel time data collected. As CORSIM is a stochastic model, traffic response is simulated on random seeds. Thus, each scenario of network conditions (AM and PM) is simulated 10 times with different random seeds. The final result is based on the average of the 10 runs. Once the model is calibrated, it can be used to analyze both existing conditions and future scenarios.

To gauge traffic operational performance, level of service (LOS) is a qualitative measure used to describe the driver's experience within a traffic stream, generally in terms of service measures such as speed and

travel time, freedom to maneuver, traffic interruptions and delay, and comfort and convenience. Six levels of service are defined by the Highway Capacity Manual (HCM) 2000. Letters designate each level—from LOS A (indicating traffic flows with little or no delay) to LOS F (indicating over-saturated conditions where traffic flow exceeds freeway capacity, generally resulting in long queues and delays). The level of service criteria for density on freeways are presented in Table 2-9.

Table 2-9. Mainline and Ramp Level of Service Definitions

LOS	DESCRIPTION	DENSITY (pc/mi/ln)	
		MAINLINE	RAMPS
A	Describes free-flow operations. Free-flow speeds prevail.	<11	<10
B	Represents reasonably free-flow operations and free-flow speeds are maintained.	>11 and <18	>10 and <20
C	Provides for flow with speeds at or near the free-flow speed of the freeway.	>18 and <26	>20 and <28
D	Describes the level at which speeds begin to decline slightly with increasing flows and density begins to increase somewhat more quickly.	>26 and <35	>28 and <35
E	At this level's highest density value, it describes operation that is at capacity of the freeway.	>35 and <45	>35
F	Describes breakdown in vehicular flow and queues forming behind the breakdown points.	>45	Demand exceeds capacity

Source: Highway Capacity Manual 2000

To determine freeway LOS, the density of each mainline segment was extracted from the CORSIM output and compared to the criteria listed on Table 2-9. Table 2-10 summarizes the results of the CORSIM analysis for the SR 14 mainline, while Table 2-11 summarizes the results for the I-15 mainline.

It must be noted that CORSIM does not output HCM level of service. Simulation model measures of effectiveness are usually not directly translatable into HCM LOS measures, because the HCM bases hourly level of service on the performance of the facility during the peak 15-consecutive-minute period within the analysis hour. Also, most all simulation tools such as CORSIM report the density of vehicles; while the density used in HCM LOS for uninterrupted flow facilities (no signals or stop signs) is the passenger car equivalent in passenger car units of the actual density of vehicles on the facility.

Since each microscopic and macroscopic analysis tool (including the HCM method) has notably different definitions of what constitutes stopped and queued vehicles, and because the tools also vary significantly in the determination of which vehicles to include in the computations (vehicles that both entered and exited during the analysis period, vehicles that did neither, or vehicles that either entered or exited, but not both, during the analysis period), it is not feasible for an analyst to take the macroscopic output from one tool, apply a conversion factor (or procedure) and compare the results to that of another tool.

This conclusion means that looking up HCM levels of service using measures of effectiveness (MOEs) produced by a different analytical method is not completely accurate.

The CORSIM derived LOS determinations are therefore considered approximations, to be viewed along with density and speed MOEs.

Table 2-10. Existing SR 14 Mainline CORSIM Analysis

FREEWAY SEGMENT	AM PEAK—OVERALL									AM PEAK—MIXED-FLOW LANES									AM PEAK—HOV LANE								
	DEMAND (vph)	SERVED (vph)	% SERVED	TRAVEL TIME (sec/veh)	DELAY TIME (sec/veh)	SPEED (mph)	DENSITY (veh/ln/mi)	LOS (HCM 2000)	CUMULATIVE TIME (vph)	DEMAND (vph)	SERVED (vph)	% SERVED	TRAVEL TIME (sec/veh)	DELAY TIME (sec/veh)	SPEED (mph)	DENSITY (veh/ln/mi)	LOS (HCM 2000)	CUMULATIVE TIME (vph)	DEMAND (vph)	SERVED (vph)	% SERVED	TRAVEL TIME (sec/veh)	DELAY TIME (sec/veh)	SPEED (mph)	DENSITY (veh/ln/mi)	LOS (HCM 2000)	CUMULATIVE TIME (vph)
AM PEAK HOUR																											
SR 14 NB Mainline																											
Pearblossom Hwy diagonal on-ramp to East Ave S off-ramp	1,631	1,629	100%	165.1	11.1	61	9.0	A	165	1,631	1,629	100%	165.1	11.1	61	9.0	A	165	—	—	—	—	—	—	—	—	—
East Ave S off-ramp to East Ave S on-ramp	1,513	1,513	100%	27.2	1.4	62	8.4	A	192	1,513	1,513	100%	27.2	1.4	62	8.4	A	192	—	—	—	—	—	—	—	—	—
East Ave S on-ramp to West Palmdale Blvd off-ramp	2,397	2,397	100%	58.1	3.6	61	13.0	B	250	2,397	2,397	100%	58.1	3.6	61	13.0	B	250	—	—	—	—	—	—	—	—	—
West Palmdale Blvd off-ramp to West Palmdale Blvd loop on-ramp	2,079	2,057	99%	21.5	0.8	62	11.0	A	272	2,079	2,057	99%	21.5	0.8	62	11.0	A	272	—	—	—	—	—	—	—	—	—
West Palmdale Boulevard loop on-ramp to West Palmdale Blvd direct on-ramp	2,305	2,276	99%	16.9	1.1	61	11.7	B	289	2,305	2,276	99%	16.9	1.1	61	11.7	B	289	—	—	—	—	—	—	—	—	—
West Palmdale Boulevard direct on-ramp to West Ave P off-ramp	2,886	2,852	99%	56.0	4.1	60	15.5	B	345	2,886	2,852	99%	56.0	4.1	60	15.5	B	345	—	—	—	—	—	—	—	—	—
West Ave P off-ramp to 10th St West on-ramp	2,382	2,364	99%	49.4	1.8	62	12.6	B	394	2,382	2,364	99%	49.4	1.8	62	12.6	B	394	—	—	—	—	—	—	—	—	—
10th St West on-ramp to West Ave N off-ramp	2,857	2,844	100%	82.3	4.1	61	15.2	B	476	2,857	2,844	100%	82.3	4.1	61	15.2	B	476	—	—	—	—	—	—	—	—	—
West Ave N off-ramp to West Ave N loop on-ramp	2,651	2,619	99%	17.8	0.8	62	14.1	B	494	2,651	2,619	99%	17.8	0.8	62	14.1	B	494	—	—	—	—	—	—	—	—	—
West Ave N loop on-ramp to West Ave N direct on-ramp	2,944	2,901	99%	9.7	0.7	60	14.4	B	504	2,944	2,901	99%	9.7	0.7	60	14.4	B	504	—	—	—	—	—	—	—	—	—
West Ave N direct on-ramp to West Ave M off-ramp	3,044	3,001	99%	31.0	1.5	62	15.8	B	535	3,044	3,001	99%	31.0	1.5	62	15.8	B	535	—	—	—	—	—	—	—	—	—
SR 14 SB Mainline																											
SR 14 SB north end of the network to West Ave N off-ramp	3,137	3,135	100%	36.1	1.4	62	16.8	B	36	3,137	3,135	100%	36.1	1.4	62	16.8	B	36	—	—	—	—	—	—	—	—	—
West Ave N off-ramp to West Ave N loop on-ramp	2,828	2,827	100%	18.1	0.7	62	15.1	B	54	2,828	2,827	100%	18.1	0.7	62	15.1	B	54	—	—	—	—	—	—	—	—	—
West Ave N loop on-ramp to West Ave N direct on-ramp	2,866	2,864	100%	10.9	0.5	62	14.0	B	65	2,866	2,864	100%	10.9	0.5	62	14.0	B	65	—	—	—	—	—	—	—	—	—
West Ave N direct on-ramp to 10th St West off-ramp	3,100	3,097	100%	93.2	12.4	56	18.5	C	158	3,100	3,097	100%	93.2	12.4	56	18.5	C	158	—	—	—	—	—	—	—	—	—
10th St West off-ramp to West Rancho Vista Blvd on-ramp	2,492	2,487	100%	57.2	7.6	56	14.7	B	215	2,492	2,487	100%	57.2	7.6	56	14.7	B	215	—	—	—	—	—	—	—	—	—
West Rancho Vista Blvd on-ramp to West Palmdale Blvd off-ramp	3,081	3,081	100%	67.2	15.1	53	18.2	C	283	2,419	2,593	107%	67.8	15.7	52	20.0	C	283	662	644	97%	39.6	3.5	60	11.1	B	40
West Palmdale Blvd off-ramp to West Palmdale Blvd loop on-ramp	2,451	2,451	100%	17.3	1.3	60	13.7	B	300	1,852	1,860	100%	17.2	1.2	60	15.4	B	300	599	595	99%	17.7	1.6	59	10.3	A	57
West Palmdale Blvd loop on-ramp to West Palmdale Blvd direct on-ramp	2,591	2,591	100%	13.8	1.0	60	13.4	B	314	1,978	2,010	102%	13.8	1.1	60	15.0	B	314	613	606	99%	13.5	0.8	61	9.9	A	71
West Palmdale Blvd direct on-ramp to East Ave S off-ramp	2,904	2,904	100%	67.5	4.9	60	12.2	B	381	2,259	2,328	103%	67.7	5.1	60	13.1	B	382	645	597	93%	66.7	4.1	61	9.4	A	137
East Ave S off-ramp to East Ave S on-ramp	2,459	2,459	100%	21.7	1.2	61	10.1	A	403	1,859	1,905	102%	21.6	1.1	62	10.3	A	404	600	561	93%	22.1	1.5	60	9.3	A	160
East Ave S on-ramp to SR 14 SB south end of the network	2,256	2,256	100%	222.7	35.2	56	13.4	B	626	1,612	1,610	100%	224.9	37.5	56	14.9	B	628	644	645	100%	214.7	26.6	58	9.1	A	374
PM PEAK HOUR																											
SR 14 NB Mainline																											
Pearblossom Hwy direct on-ramp to East Ave S off-ramp	2,760	2,758	100%	177.9	23.4	56	16.4	B	178	2,329	2,329	100%	179.7	25.2	56	21.6	C	180	431	369	86%	162.5	8.1	61	6.1	A	162
East Ave S off-ramp to East Ave S on-ramp	2,202	2,202	100%	27.6	1.7	61	12.1	B	205	1,827	1,827	100%	27.6	1.8	61	15.1	B	207	375	371	99%	27.4	1.6	61	6.1	A	190
East Ave S on-ramp to West Palmdale Blvd off-ramp	2,934	2,925	100%	60.4	5.7	59	16.4	B	266	2,485	2,485	100%	60.8	6.1	58	21.5	C	268	449	368	82%	57.3	2.8	62	6.0	A	247
West Palmdale Blvd off-ramp to HDC off-ramp	2,321	2,310	100%	21.7	1.0	62	12.5	B	288	1,934	1,934	100%	21.7	1.0	62	15.7	B	290	387	365	94%	21.8	1.1	61	5.9	A	269
HDC off-ramp to West Palmdale Blvd loop on-ramp	2,486	2,463	99%	16.9	1.1	60	12.7	B	304	2,082	2,082	100%	17.0	1.2	60	15.8	B	307	404	367	91%	16.7	0.9	61	6.0	A	286
West Palmdale Blvd loop on-ramp to West Palmdale Blvd direct on-ramp	3,102	3,074	99%	57.4	5.3	58	17.2	B	362	2,947	2,947	100%	57.6	5.5	58	18.8	C	364	155	122	79%	16.8	0.9	61	2.0	A	302
West Palmdale Blvd direct on-ramp to 10th St West off-ramp	2,183	2,156	99%	49.0	1.4	63	11.4	B	411	2,183	2,156	99%	49.0	1.4	63	11.4	B	413	—	—	—	—	—	—	—	—	—
10th St West off-ramp to HDC on-ramp	2,955	2,939	99%	82.6	4.3	61	15.8	B	493	2,955	2,939	99%	82.6	4.3	61	15.8	B	496	—	—	—	—	—	—	—	—	—
HDC on-ramp to 10th St West on-ramp	2,688	2,667	99%	17.8	0.7	62	14.3	B	511	2,688	2,667	99%	17.8	0.7	62	14.3	B	514	—	—	—	—	—	—	—	—	—
10th Street West loop on-ramp to 10th St West direct on-ramp	2,858	2,838	99%	9.5	0.6	61	13.9	B	521	2,858	2,838	99%	9.5	0.6	61	13.9	B	523	—	—	—	—	—	—	—	—	—
10th Street West direct on-ramp to West Ave N off-ramp	3,109	3,075	99%	31.2	1.7	61	16.3	B	552	3,109	3,075	99%	31.2	1.7	61	16.3	B	554	—	—	—	—	—	—	—	—	—
SR 14 SB Mainline																											
West Ave M on-ramp to West Ave N off-ramp	4,542	4,540	100%	37.3	2.5	60	25.1	C	37	4,542	4,540	100%	37.3	2.5	60	25.1	C	37	—	—	—	—	—	—	—	—	—
West Ave N off-ramp to West Ave N loop on-ramp	4,128	4,127	100%	18.6	1.2	61	22.7	C	56	4,128	4,127	100%	18.6	1.2	61	22.7	C	56	—	—	—	—	—	—	—	—	—
West Ave N loop on-ramp to West Ave N direct on-ramp	4,224	4,220	100%	11.3	0.8	60	21.3	C	67	4,224	4,220	100%	11.3	0.8	60	21.3	C	67	—	—	—	—	—	—	—	—	—
West Ave N direct on-ramp to 10th St West off-ramp	4,350	4,343	100%	88.9	7.8	59	24.3	C	156	4,350	4,343	100%	88.9	7.8	59	24.3	C	156	—	—	—	—	—	—	—	—	—
10th St West off-ramp to HDC off-ramp	3,251	3,243	100%	53.3	3.7	60	17.9	B	209	3,251	3,243	100%	53.3	3.7	60	17.9	B	209	—	—	—	—	—	—	—	—	—
HDC off-ramp to 10th St West on-ramp	3,832	3,813	100%	58.1	6.4	58	20.1	C	267	3,832	3,813	100%	58.1	6.4	58	20.1	C	267	—	—	—	—	—	—	—	—	—
10th Street West on-ramp to Palmdale Blvd off-ramp	2,980	2,980	100%	16.9	0.9	61	16.3	B	284	2,980	2,980	100%	16.9	0.9	61	16.3	B	284	—	—	—	—	—	—	—	—	—
West Palmdale Blvd off-ramp to HDC on-ramp	3,079	3,079	100%	13.6	0.8	61	15.7	B	298	3,079	3,079	100%	13.6	0.8	61	15.7	B	298	—	—	—	—	—	—	—	—	—
HDC on-ramp to West Palmdale Blvd loop on-ramp	3,286	3,286	100%	66.6	3.9	61	13.5	B	365	3,286	3,286	100%	66.6	3.9	61	13.5	B	365	—	—	—	—	—	—	—	—	—
West Palmdale Blvd loop on-ramp to West Palmdale Blvd direct on-ramp	2,381	2,381	100%	21.6	1.1	62	10.9	A	386	2,381	2,381	100%	21.6	1.1	62	10.9	A	386	—	—	—	—	—	—	—	—	—
West Palmdale Blvd direct on-ramp to East Ave S off-ramp	2,575	2,575	100%	209.2	21.4	59	12.6	B	595	2,575	2,575	100%	209.2	21.4	59	12.6	B	595	—	—	—	—	—	—	—	—	—

Source: Parsons
Level of service based on 2000 HCM

Table 2-11. Existing I-15 Mainline CORSIM Analysis

FREEWAY SEGMENT	AM PEAK—OVERALL									PM PEAK—OVERALL								
	DEMAND (vph)	SERVED (vph)	% SERVED	TRAVEL TIME (sec/veh)	DELAY TIME (sec/veh)	SPEED (mph)	DENSITY (veh/ln/mi)	LOS (HCM 2000)	CUMULATIVE TIME (vph)	DEMAND (vph)	SERVED (vph)	% SERVED	TRAVEL TIME (sec/veh)	DELAY TIME (sec/veh)	SPEED (mph)	DENSITY (veh/ln/mi)	LOS (HCM 2000)	CUMULATIVE TIME (vph)
I-15 NB Mainline																		
I-15 NB south end of the network to Palmdale Rd off-ramp	2,196	2,200	100%	146.3	4.9	63	11.6	B	146	2,490	2,495	100%	147.4	5.9	63	13.3	B	147
Palmdale Rd off-ramp to Palmdale Rd loop on-ramp	1,764	1,749	102%	21.8	0.8	63	9.3	A	168	2,049	2,046	100%	22.0	0.9	62	10.9	A	169
Palmdale Rd loop on-ramp to Palmdale Rd direct on-ramp	2,037	1,996	101%	11.1	0.6	62	10.8	A	179	2,326	2,298	99%	11.1	0.7	61	12.5	B	181
Palmdale Rd direct on-ramp to Roy Rogers Dr off-ramp	2,244	2,206	99%	21.6	0.9	62	8.9	A	201	2,561	2,546	99%	21.8	1.1	61	10.4	A	202
Roy Rogers Dr off-ramp to Roy Rogers Dr on-ramp	1,824	1,791	97%	23.6	0.8	63	9.5	A	224	2,077	2,070	100%	23.8	1.0	62	11.1	B	226
Roy Rogers Dr on-ramp to Mojave Dr off-ramp	2,037	2,004	97%	16.4	0.6	62	8.1	A	241	2,463	2,472	100%	16.6	0.8	61	10.1	A	243
Mojave Dr off-ramp to Mojave Dr on-ramp	1,709	1,678	96%	20.3	0.6	63	8.8	A	261	2,066	2,064	100%	20.5	0.7	63	11.0	A	263
Mojave Dr on-ramp to D St off-ramp	1,966	1,937	97%	49.2	2.0	62	9.1	A	310	2,229	2,241	101%	49.5	2.2	62	10.5	A	313
D St off-ramp to D St on-ramp	1,145	1,158	98%	22.6	0.4	64	6.1	A	333	1,389	1,425	103%	22.7	0.6	63	7.5	A	336
D St On Ramp to E St off-ramp	1,232	1,241	97%	10.8	0.3	63	6.5	A	344	1,480	1,503	102%	10.9	0.3	63	8.0	A	346
E St Off Ramp to E St on-ramp	1,197	1,207	98%	9.6	0.2	64	6.3	A	353	1,454	1,472	101%	9.6	0.3	63	7.8	A	356
E St on-ramp to Stoddard Wells Rd off-ramp	1,207	1,218	101%	35.1	0.9	63	6.4	A	388	1,460	1,480	101%	35.4	1.2	63	7.9	A	391
Stoddard Wells Rd off-ramp to Stoddard Wells Rd on-ramp	988	1,004	102%	10.7	0.2	64	5.3	A	399	1,181	1,196	101%	10.8	0.3	63	6.3	A	402
Stoddard Wells Rd on-ramp to Stoddard Wells Rd off-ramp (Quarry Rd)	1,046	1,060	101%	160.6	3.6	63	5.6	A	560	1,232	1,239	101%	161.3	4.2	63	6.5	A	563
Stoddard Wells Rd off-ramp (Quarry Rd) to Stoddard Wells Rd on-ramp (Quarry Rd)	1,005	1,001	100%	22.1	0.5	63	5.3	A	582	1,184	1,181	100%	22.2	0.6	63	6.2	A	586
Stoddard Wells Rd on-ramp (Quarry Rd) to Dale Evans Pkwy off-ramp	1,023	995	97%	211.3	5.5	63	5.2	A	793	1,194	1,162	97%	212.1	6.4	63	6.1	A	798
Dale Evans Pkwy off-ramp to Dale Evans Pkwy on-ramp	996	933	94%	31.2	0.8	63	4.9	A	824	1,167	1,091	93%	31.3	1.0	63	5.8	A	829
Dale Evans Pkwy on-ramp to I-15 NB north end of the network	1,110	1,033	93%	62.3	1.5	63	5.4	A	887	1,208	1,111	92%	62.6	1.7	63	5.9	A	892
I-15 SB Mainline																		
I-15 SB north end of the network to Dale Evans Pkwy off-ramp	704	702	100%	55.2	0.6	65	3.6	A	55	1,975	1,974	100%	56.6	1.4	63	10.4	A	57
Dale Evans Pkwy off-ramp to Dale Evans Pkwy on-ramp	659	660	100%	34.5	0.6	65	3.4	A	90	1,789	1,797	100%	35.4	1.1	63	9.5	A	92
Dale Evans Pkwy on-ramp to Quarry Rd off-ramp	682	682	100%	202.7	5.3	64	3.5	A	292	1,821	1,814	100%	207.9	8.3	63	9.7	A	300
Quarry Rd off-ramp to Quarry Rd on-ramp	674	675	100%	23.6	0.8	64	3.5	A	316	1,782	1,769	99%	24.1	1.1	62	9.5	A	324
Quarry Rd on-ramp to Stoddard Wells Rd off-ramp	715	710	99%	162.2	5.8	63	3.7	A	478	1,843	1,827	99%	165.8	7.8	62	9.8	A	490
Stoddard Wells Road off-ramp to Stoddard Wells Road direct on-ramp	668	659	99%	26.9	1.0	63	3.5	A	505	1,740	1,713	98%	27.5	1.3	62	9.2	A	517
Stoddard Wells Rd direct on-ramp to E St off-ramp	1,048	1,027	98%	22.0	1.2	62	5.5	A	527	2,074	1,970	95%	22.3	1.4	61	10.7	A	540
E St off-ramp to E St on-ramp	1,040	1,030	99%	8.4	0.3	63	5.4	A	536	2,062	1,954	95%	8.6	0.5	62	10.6	A	548
E St on-ramp to D St off-ramp	1,074	1,055	98%	10.8	0.4	63	5.6	A	546	2,091	1,971	94%	11.1	0.6	62	10.7	A	559
D St off-ramp to D St on-ramp	1,006	989	98%	20.9	0.7	63	5.2	A	567	1,960	1,843	94%	21.3	1.0	62	9.9	A	581
D St on-ramp to Mojave Dr off-ramp	1,765	1,753	99%	50.4	2.1	62	6.9	A	618	2,922	2,714	93%	51.2	2.8	61	10.8	A	632
Mojave Dr off-ramp to Mojave Dr on-ramp	1,596	1,572	98%	19.7	0.7	63	8.4	A	637	2,580	2,371	92%	20.0	1.0	62	12.8	B	652
Mojave Dr on-ramp to Roy Rogers Dr off-ramp	2,009	1,994	99%	14.4	0.7	61	8.1	A	652	3,011	2,801	93%	14.6	0.8	61	11.5	B	666
Roy Rogers Dr off-ramp to Roy Rogers Dr on-ramp	1,698	1,683	99%	25.9	0.7	63	8.9	A	678	2,667	2,472	93%	26.4	1.3	62	13.3	B	693
Roy Rogers Dr on-ramp to Palmdale Rd off-ramp	1,995	1,986	100%	22.5	0.8	62	8.0	A	700	3,180	2,910	92%	29.4	7.5	51	15.2	B	722
Palmdale Rd off-ramp to Palmdale Rd loop on-ramp	1,586	1,576	99%	12.2	0.3	63	8.3	A	712	2,652	2,437	92%	12.5	0.5	62	13.1	B	735
Palmdale Rd loop on-ramp to Palmdale Rd direct on-ramp	1,693	1,670	99%	8.1	0.3	63	8.9	A	721	2,838	2,592	91%	8.3	0.4	61	14.1	B	743
Palmdale Rd direct on-ramp to I-15 SB south end of the network	1,870	1,846	99%	161.2	5.3	63	9.8	A	882	3,114	2,846	91%	164.4	8.5	61	15.4	B	907

Source: Parsons
Level of service based on 2000 HCM

Along SR 14, the results show that the mixed flow lanes operate at the equivalent of LOS A or LOS B during the AM peak period, with only two segments operating at LOS C in the southbound direction. All HOV lane segments operate at the equivalent of LOS A—free flow conditions.

During the PM peak period, the mixed flow lanes are slightly more congested, but virtually all segments operate at LOS B or LOS C. Speeds remain high, ranging from 56 to 63 mph. By virtue of the unconstrained speeds and good level of service in the mixed flow lanes, the HOV lanes are not well utilized, and operate at LOS A.

Along I-15, the results show that the freeway operates at the equivalent of LOS A or LOS B during both AM and PM peak periods. This performance relates to weekday peak periods. Midday on Fridays, the northbound level of service is worse, based on observation and the traffic counts reported on Figures 2-24 through 2-26. The same observation applies to Sunday afternoons for southbound level of service.

Freeway weave segments, as well as on-ramp merge and off-ramp diverge influence areas were also analyzed using the CORSIM simulation model. The analysis results of the weaving, merging, and diverging areas along the corridor are reported in Table 2-12 for both SR 14 and I-15.

2.4.2 Study Intersections

In addition to evaluating the performance of the freeway segments in the study corridor, interchange ramp termini intersections were evaluated as part of this study. The CORSIM software was again used for the intersection analysis, as both the SR 14 and I-15 freeways and the ramp intersections were modeled as an integrated system. CORSIM is capable of analyzing both unsignalized and signalized intersections and was used to compute control delay per vehicle. HCM 2000-defined levels of service criteria for intersections are presented in Table 2-13.

Table 2-14 lists the level of service performance indices for the study intersections analyzed under existing conditions. Ramp terminal intersections were analyzed using CORSIM microsimulation software. Intersections numbered 3 through 11, in the vicinity of the Antelope Valley Mall, were analyzed using CORSIM. The remaining isolated intersections were analyzed using TRAFFIX version 8.0 software.

The results presented in Table 2-14 indicate that all signalized study intersections operate at LOS D or better. Three stop sign controlled intersections operate at LOS E or F as follows:

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

In addition to the analysis of intersection operations using CORSIM and TRAFFIX computer software, traffic conditions were observed in the field. Field observation indicates that the intersection of 10th Street West and West Avenue P/Rancho Vista Boulevard (adjacent to the Antelope Valley Mall) is also congested during afternoon peak hours. This congestion creates traffic queues which spill back to the north along 10th Street West.

Table 2-12. Existing SR 14 and I-15 Merging, Weaving and Diverging

LOCATION	ANALYSIS TYPE	AM PEAK SPEED (mph)	AM PEAK DENSITY (veh/ln/mi)	AM PEAK LOS (HCM 2000)	PM PEAK SPEED (mph)	PM PEAK DENSITY (veh/ln/mi)	PM PEAK LOS (HCM 2000)
SUMMARY OF SR 14							
Northbound							
East Ave S	Merging	58	16.7	B	56	23.0	C
West Palmdale Blvd loop	Merging	61	15.1	B	60	17.4	B
West Palmdale Blvd direct	Merging	59	20.6	C	56	24.1	C
10th St West	Merging	59	18	B	58	19	B
West Ave N loop	Merging	59	17.2	B	60	16.3	B
West Ave N direct	Merging	61	17.2	B	60	17.8	B
East Ave S	Diverging	64	9.0	A	59	20.2	C
West Palmdale Blvd	Diverging	62	16.0	B	59	21.7	C
West Rancho Vista Blvd	Diverging	59	18.9	B	58	22.1	C
West Ave N	Diverging	61	16.6	B	60	17.4	B
Southbound							
West Ave N loop	Merging	62	15.7	B	60	23.5	C
West Ave N direct	Merging	60	17.8	B	59	24.6	C
West Rancho Vista Blvd	Merging	45	31.6	D	55	20.8	C
West Palmdale Blvd loop	Merging	60	16.8	B	61	16.2	B
West Palmdale Blvd direct	Merging	61	19.1	B	62	17.7	B
East Ave S	Merging	59	13.0	B	61	9.6	A
West Ave N	Diverging	62	18.3	B	59	26.6	C
10th St West	Diverging	41	27.9	C	55	29.6	D
West Palmdale Blvd	Diverging	59	21.2	C	60	23.2	C
East Ave S	Diverging	56	14.2	B	58	13.4	B
SUMMARY OF I-15							
Northbound							
Palmdale Rd loop	Merging	61	12	B	61	14	B
Mojave Dr	Merging	62	12	B	61	13	B
D St	Merging	63	7	A	62	9	A
E St	Merging	63	7	A	63	8	A
Stoddard Wells Rd south	Merging	63	6	A	63	7	A
Stoddard Wells Rd (Quarry Rd)	Merging	63	5	A	63	6	A
Dale Evans Pkwy	Merging	63	6	A	63	6	A
Palmdale Rd	Diverging	61	14	B	60	16	B
D St	Diverging	61	9	A	61	10	A
E St	Diverging	63	7	A	62	9	A
Stoddard Wells Rd south	Diverging	62	7	A	62	9	A
Stoddard Wells Rd north	Diverging	63	6	A	63	7	A
Dale Evans Pkwy	Diverging	63	5	A	63	6	A
Palmdale Rd direct to Roy Rogers Dr	Weaving	62	10	A	61	11	B
Roy Rodgers Dr to Mojave Dr	Weaving	62	9	A	61	11	B
Southbound							
Dale Evans Pkwy	Merging	65	4	A	63	10	B
Quarry Rd	Merging	63	4	A	62	10	B
Stoddard Wells Rd direct	Merging	61	7	A	60	12	B
E St	Merging	63	7	A	61	11	B
Palmdale Rd loop	Merging	62	10	B	61	15	B
Plamdale Rd direct	Merging	62	11	B	60	17	B
Dale Evans Pkwy	Diverging	65	4	A	63	12	B
Quarry Rd	Diverging	64	4	A	62	10	B
Stoddard Wells Rd south	Diverging	63	4	A	62	10	B
E St	Diverging	62	7	A	61	12	B
D St	Diverging	63	7	A	61	11	B
D St to Mojave Dr	Weaving	62	8	A	61	11	B
Mojave Dr to Roy Rogers Dr	Weaving	61	9	A	60	12	B
Roy Rogers Dr to Palmdale Rd	Weaving	62	9	A	49	16	B

Source: Parsons
Level of service based on 2000 HCM
Merge/diverge calculations are based on mainline two right-most lanes within 1,500 feet of influence area

Table 2-13. Level of Service Definitions for Intersections

LOS	DESCRIPTION	CONTROL DELAY PER VEHICLE (sec/veh)	
		UNSIGNALIZED	SIGNALIZED
A	Traffic flows with very little delay and optimal speeds. Most vehicles do not stop at all.	0–10	<10
B	Traffic flows with very little delay and speeds may be slightly reduced. Very infrequent and short waits at traffic signals. More vehicles stop at intersections than for LOS A.	>10–15	>10–20
C	Traffic speeds continue to slow. Some vehicles may stop at this level, although many vehicles still pass through the intersection without stopping.	>15–25	>20–35
D	Congestion becomes more noticeable. Many vehicles stop and the proportion of vehicles not stopping declines.	>25–35	>35–55
E	Low speeds and traffic backups at intersections. Often considered to be the limit of acceptable delay.	>35–50	>55–80
F	Very slow speeds and congestion. Long traffic backups. Very likely to wait for multiple greens to get through an intersection. This is considered to be unacceptable to most drivers.	>50	>80

Source: Highway Capacity Manual 2000

Table 2-14. Existing Level of Service for Study Intersections

ID	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION			
			AM PEAK		PM PEAK	
			LOS	DELAY	LOS	DELAY
1	SR 14 SB off-ramp and West Ave N	Existing—Stop NB/SB Future—Signal	A	7.2	B	12.6
2	SR 14 NB off-ramp and West Ave N	Existing—Stop NB/SB Future—Signal	A	7.9	C	18.1
3	10th St West and West Ave O-8	Signal	C	23.5	C	24.9
4	10th St West and Sam's Club access	Signal	B	16.5	B	14.1
5	10th St West and SR 14 NB on-ramp	Signal	Does not exist			
6	10th St West and SR 14 SB off-ramp	Signal	B	13.2	B	11.4
7	10th St West and Mall Ring Road	Signal	B	10.9	C	22.6
8	10th St West and West Ave P/Rancho Vista Blvd	Signal	C	31.3	C	30.3
9	Lowe's driveway and West Avenue P	Signal	B	10.2	C	29.1
10	SR 14 SB on-ramp and West Ave P	Existing—Stop NB/SB Future—Signal	A	1.4	A	1.0
11	SR 14 NB off-ramp and West Ave P	Signal	B	14.3	C	20.6
12*	10th St West and West Palmdale Blvd	Signal	C	29.9	C	34.6
13	SR 14 SB off-/on-ramps and West Palmdale Blvd	Signal	B	11.3	B	11.1
14	SR 14 NB off-/on-ramps and East Palmdale Blvd	Signal	A	7.4	B	10.1
15*	Division St and East Palmdale Blvd	Signal	C	27.9	C	28.0
16	SR 14 SB off-ramp and West Ave S	Signal	C	28.7	C	30.3
17	SR 14 NB off-ramp and East Ave S	Signal	B	16.9	B	18.9
18*	Sierra Hwy and East Ave P	Signal	C	33.4	C	34.6
19*	Sierra Hwy and Technology Dr	Signal	B	14.3	B	16.8
20*	Sierra Hwy and East Ave Q	Signal	B	16.0	B	15.4
21*	5th St East and East Palmdale Blvd	Signal	C	22.1	C	23.8

Table 2-14. Existing Level of Service for Study Intersections

ID	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION			
			AM PEAK		PM PEAK	
			LOS	DELAY	LOS	DELAY
22*	6th St East and East Palmdale Blvd	Signal	C	20.7	C	25.3
23*	Sierra Hwy and East Palmdale Blvd	Signal	C	25.5	C	27.3
24	10th Street East and East Ave P	Existing—Stop NB/SB Future—Signal	E*	39.0	F*	>300
25	10th or 30th St East and WB High Desert Corridor	Signal	Does not exist			
26	10th or 30th St East and EB High Desert Corridor	Signal	Does not exist			
27	10th St East and East Ave Q	Existing—4-way stop Future—Signal	B*	10.3	B*	12.6
28*	10th St East and East Palmdale Blvd	Signal	B	17.2	C	20.0
29*	15th St East and East Ave Q	4-way stop	B	10.5	B	10.8
30*	15th St East and East Palmdale Blvd	Stop NB/SB	D	25.2	E	36.1
31	20th St East and East Avenue P	Signal	Does not exist			
32	20th St East and WB High Desert Corridor	Signal	Does not exist			
33	20th St East and EB High Desert Corridor	Signal	Does not exist			
34	20th St East and East Avenue Q	Existing—4-way stop Future—Signal	B*	11.2	B*	14.5
35*	20th St East and East Palmdale Blvd	Signal	B	19.9	C	22.9
36*	25th St East and East Palmdale Blvd	Signal	C	26.2	C	30.9
37*	30th St East and East Ave P	4-way stop	B	12.6	C	15.1
38*	30th St East and East Ave Q	4-way stop	B	11.6	B	11.6
39*	30th St East and East Palmdale Blvd	Signal	B	18.4	C	20.4
40*	40th St East and East Ave Q	Stop EB/WB	C	16.2	C	16.0
41*	40th St East and East Palmdale Blvd	Signal	C	21.9	C	23.7
42	50th St East and East Ave P	Existing—Stop EB/WB Future—Signal	B*	11.9	B*	12.9
43	50th St East and WB High Desert Corridor	Signal	Does not exist			
44	50th St East and EB High Desert Corridor	Signal	Does not exist			
45*	50th St East and East Palmdale Avenue	Roundabout	B	14.0	A	8.9
46	70th St East and East Avenue P	Signal	Does not exist			
47*	70th St and westbound High Desert Corridor	Signal	Does not exist			
48*	70th St and eastbound High Desert Corridor	Signal	Does not exist			
49*	70th St East and East Palmdale Boulevard	Stop NB/SB	F	>300	C	20.9
50	90th St East and East Ave P	Signal	—	—	—	—
51	90th St East and WB High Desert Corridor	Signal	Does not exist			
52	90th St East and EB High Desert Corridor	Signal	Does not exist			
53	90th St East and East Ave Q	Signal	C	22.9	C	23.1
54*	90th St East and East Palmdale Blvd	Signal	C	23.9	C	24.1
55*	110th St East and East Palmdale Blvd	Signal	C	22.8	B	19.8
56	140th St and East Palmdale Blvd	Stop EB/WB	A*	9.3	A*	9.6
57	140th St and WB High Desert Corridor	Signal	Does not exist			
58	140th St and EB High Desert Corridor	Signal	Does not exist			
59	140th St and East Ave R	Stop EB/WB	Does not exist			
60	170th St East and East Palmdale Blvd	Existing—4-way stop Future—Stop EB/WB	A*	7.6	A*	8.1
61	170th St East and WB High Desert Corridor	Signal	Does not exist			

Table 2-14. Existing Level of Service for Study Intersections

ID	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION			
			AM PEAK		PM PEAK	
			LOS	DELAY	LOS	DELAY
62	170th St East and EB High Desert Corridor	Signal	Does not exist			
63	170th St East and East Ave S	Stop EB/WB	Does not exist			
64*	165th St East and SR 138	Signal	C	20.6	C	21.7
65*	180th St East and East Palmdale Blvd	Stop EB/WB	A	8.6	A	8.7
66	210th St and East Palmdale Blvd	Stop EB/WB	Does not exist			
67	210th St and WB High Desert Corridor	Signal	Does not exist			
68	210th St and EB High Desert Corridor	Signal	Does not exist			
69	210th St and East Ave S	Stop EB/WB	Does not exist			
70*	SR 138 and SR 18	Stop WB Yield EB	B	10.0	B	11.7
71	240th St and East Palmdale Blvd	Stop EB/WB	A*	8.7	A*	8.8
72	240th St East and WB High Desert Corridor	Signal	Does not exist			
73	240th St East and EB High Desert Corridor	Signal	Does not exist			
74	240th St East and East Ave R	Stop EB/WB	Does not exist			
75	Oasis Rd and El Mirage Rd	Stop EB/WB	Does not exist			
76	Oasis Rd and WB High Desert Corridor	Signal	Does not exist			
77	Oasis Rd and EB High Desert Corridor	Signal	Does not exist			
78	Sheep Creek Rd and El Mirage Rd	Stop NB/SB	Does not exist			
79	Sheep Creek Rd and WB High Desert Corridor	Signal	Does not exist			
80	Sheep Creek Rd and EB High Desert Corridor	Signal	Does not exist			
81	Sheep Creek Rd and Holly St	Stop EB/WB	Does not exist			
82*	Sheep Creek Rd and SR 18	Existing—Stop NB/SB Future—Signal	B	12.8	C	19.7
83	Caughlin Rd and Air Base Rd	Stop EB/WB	Does not exist			
84	Caughlin Rd and WB High Desert Corridor	Signal	Does not exist			
85	Caughlin Rd and EB High Desert Corridor	Signal	Does not exist			
86	Caughlin Rd and Rancho Rd	Stop EB/WB	Does not exist			
87	Koala Rd and Air Base Rd	Signal	Does not exist			
88	Koala Rd and WB High Desert Corridor	Signal	Does not exist			
89	Koala Rd and EB High Desert Corridor	Signal	Does not exist			
90	Koala Rd and Rancho Rd	Signal	Does not exist			
91*	Aster Rd and SR 18	Signal	C	25.6	C	21.2
92*	Bellflower St and SR 18	Existing—Stop NB/SB Future—Signal	C	20.8	D	27.4
93*	U.S. 395 and Chamberlaine Way	Signal	C	26.1	C	26.7
94	U.S. 395 and Air Base Rd	Signal	C*	30.3	C*	34.9
95	U.S. 395 and WB High Desert Corridor	Signal	Does not exist			
96	U.S. 395 and EB High Desert Corridor	Signal	Does not exist			
97	U.S. 395 and Rancho Rd	Signal	C*	24.6	C*	26.4
98*	U.S. 395 and Mojave Dr	Signal	C	26.7	C	31.1
99*	U.S. 395 and SR 18	Signal	C	34.0	D	36.5
100	Phantom St and Mustang St	Signal	Does not exist			
101	Phantom West and WB High Desert Corridor	Signal	Does not exist			
102	Phantom West and EB High Desert Corridor	Signal	Does not exist			

Table 2-14. Existing Level of Service for Study Intersections

ID	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION			
			AM PEAK		PM PEAK	
			LOS	DELAY	LOS	DELAY
103	Phantom St and Rancho Rd	Signal	Does not exist			
104*	Topaz Rd and SR 18	Signal	D	43.3	C	27.5
105*	Amethyst Rd and SR 18	Signal	C	28.8	C	30.4
106	Phantom East and WB High Desert Corridor	Signal	Does not exist			
107	Phantom East and EB High Desert Corridor	Signal	Does not exist			
108	El Evado Rd and Air Expressway Blvd	Signal	Does not exist			
109*	Village Dr and Air Expressway Blvd	Signal	B	17.5	B	15.0
110*	El Evado Rd and SR 18	Signal	C	28.0	C	28.1
111	National Trails Hwy and WB High Desert Corridor	Signal	Does not exist			
112	National Trails Hwy and WB High Desert Corridor	Signal	Does not exist			
113*	National Trails Hwy and Air Expressway Blvd	Signal	B	18.5	B	18.7
114	I-15 SB off-/on-ramps and Mojave Dr	Signal	A	8.3	B	11.4
115	I-15 NB off-/on-ramps and Mojave Dr	Signal	B	19.5	B	13.5
116	I-15 SB off-/on-ramps and Roy Rogers Dr	Signal	B	13.3	B	10.5
117	I-15 NB off-/on-ramps and Roy Rogers Dr	Signal	C	20.7	C	21.0
118*	Amargosa Rd and SR 18	Signal	C	28.2	D	39.9
119*	Kentwood Blvd and SR 18	Signal	B	18.8	C	27.1
120	Park Ave and SR 18	Signal	B	17.6	C	25.2
121	I-15 SB off-ramp and Palmdale Rd	Signal	A	8.8	C	25.1
122	I-15 NB on-ramp and Palmdale Rd	Signal	B	16.9	B	17.1
123	I-15 NB off-ramp and Mariposa Rd	Signal	B	14.1	B	13.5
124	I-15 SB off-/on-ramps and National Trails Hwy/D St	Signal	B	11.2	A	9.7
125	I-15 NB off-/on-ramps and National Trails Hwy/D St	Signal	B	14.4	B	11.4
126	I-15 SB off-/on-ramps and E St	Stop NB/SB	A	4.0	A	2.2
127	I-15 NB off-/on-ramps and E St	Stop NB/SB	A	4.1	A	2.1
128	Gateway and North Frontage Rd	Does not exist	Does not exist			
129	Gateway and South Frontage Rd	Does not exist	Does not exist			
130	I-15 SB off-ramp and Stoddard Wells Rd	Existing—Stop NB/SB	A	2.6	A	2.7
		Improvements—Signal	N/A	N/A	N/A	N/A
131	I-15 NB on-ramp and Stoddard Wells Rd/Frontage Rd	Existing—Stop EB/WB	A	3.7	A	3.7
		Improvements—Stop EB/WB**	N/A	N/A	N/A	N/A
132	I-15 SB on-ramp and Stoddard Wells Rd	Existing—Stop EB/WB	A	3.0	A	2.1
		Improvements—Signal	N/A	N/A	N/A	N/A
133	Stoddard Wells Rd and I-15 Frontage Rd	Existing—Stop EB/WB	A	5.6	A	1.2
		Improvements—Signal	N/A	N/A	N/A	N/A
134*	Stoddard Wells Rd and SR 18	Signal	B	12.7	C	23.2
135*	Apple Valley Rd and SR 18	Signal	C	33.1	D	40.2
136	I-15 SB off-/on-ramps and Victorville Quarry Rd	Existing—Stop EB/WB Future—4-way stop	A	4.1	A	2.1
137	I-15 NB off-/on-ramps and Stoddard Wells Rd (north)	Existing—Stop NB/SB Future—4-way stop	A	4.3	A	2.3
138	I-15 SB off-/on-ramps and Dale Evans Pkwy	Existing—Stop NB/SB Future—Signal	A	4.7	A	3.1
139	I-15 NB off-/on-ramps and Dale Evans Pkwy	Existing—Stop NB/SB	A	4.3	A	3.1

Table 2-14. Existing Level of Service for Study Intersections

ID	INTERSECTION	TYPE OF CONTROL	EXISTING CONDITION			
			AM PEAK		PM PEAK	
			LOS	DELAY	LOS	DELAY
		Future—Signal				
140	Choco Rd and Frontage Rd	Signal	Does not exist			
141	Choco Rd and WB High Desert Corridor	Signal	Does not exist			
142	Choco Rd and EB High Desert Corridor	Signal	Does not exist			
143	Choco Rd and Air Expressway Blvd	Signal	Does not exist			
144	Dale Evans Pkwy and Falchion Rd	Signal	Does not exist			
145	Dale Evans Pkwy and WB High Desert Corridor	Signal	Does not exist			
146	Dale Evans Pkwy and EB High Desert Corridor	Signal	Does not exist			
147*	Dale Evans Pkwy and SR 18	Signal	B	17.8	C	21.0
148	Navajo Rd and Waalew Rd	4-way stop	Does not exist			
149	High Desert Corridor and Waalew Rd	Signal	Does not exist			
150	Central Rd and Waalew Rd	4-way stop	Does not exist			
151	High Desert Corridor and Central Rd	Signal	Does not exist			
152	Central Rd and Thunderbird Rd	Stop EB/WB	Does not exist			
153*	Central Rd and SR 18	Signal	C	25.5	C	25.5
154	Joshua Rd and Cahuilla Rd	4-way stop	Does not exist			
155	Joshua Rd and High Desert Corridor	Signal	Does not exist			
156	Joshua Rd and Thunderbird Rd	Stop EB/WB	Does not exist			
157	Joshua Rd and Standing Rock Rd	Stop EB/WB	Does not exist			
158	Joshua Rd and Yucca Loma Rd	Existing—Stop NB/SB Future—4-way stop	B*	10.3	A*	9.5
159	Joshua Rd and Nisqually Rd	4-way stop	Does not exist			
160	High Desert Corridor and Standing Rock Rd	Signal	Does not exist			
161	High Desert Corridor and Yucca Loma Rd	Signal	Does not exist			
162	High Desert Corridor and Nisqually Rd	Signal	Does not exist			
163	Bear Valley Rd and SR 18	Signal	A*	5.7	A*	9.0
175	175 West Frontage Rd and I-15 SB on-ramp	Stop NB	Does not exist			

Notes:
1. Intersection level of service calculations are based on 2000 HCM.
2. Two-way stop control level of service reported for worst approach.
3. 4-way stop reported for overall level of service

*Intersection level of service was calculated using TRAFFIX software
**Proposed additional geometry improvements

2.5 Truck Traffic

This section of the *High Desert Corridor—New State Route 138 Traffic Study* explains the importance of truck traffic as part of the overall freight movement system in Southern California and examines existing truck traffic conditions in the Los Angeles/Inland Empire region. The Inland Empire is essentially defined as San Bernardino County and Riverside County.

Southern California is a major gateway and hub in terms of international trade on a global scale. Freight movement within the Los Angeles/Inland Empire region is highly impacted by international trade moving through its seaports and airports, and by significant volumes of domestic trade on its transportation network.

2.5.1 Overview of Goods Movement in the Los Angeles/Inland Empire Region and through Southern California

The movement of goods in the Los Angeles/Inland Empire region and through Southern California is a vital aspect of continued economic development. The region's extensive goods movement network is composed of ports, airports, rail yards and distributions centers, all connected by a highly developed system of highways and railways. Fifty to sixty percent of all shipments arriving at ports in southern California must be transported by truck over an already overloaded transportation network to reach their ultimate destination. In southern California, heavy-duty trucks carry more goods than any other mode.

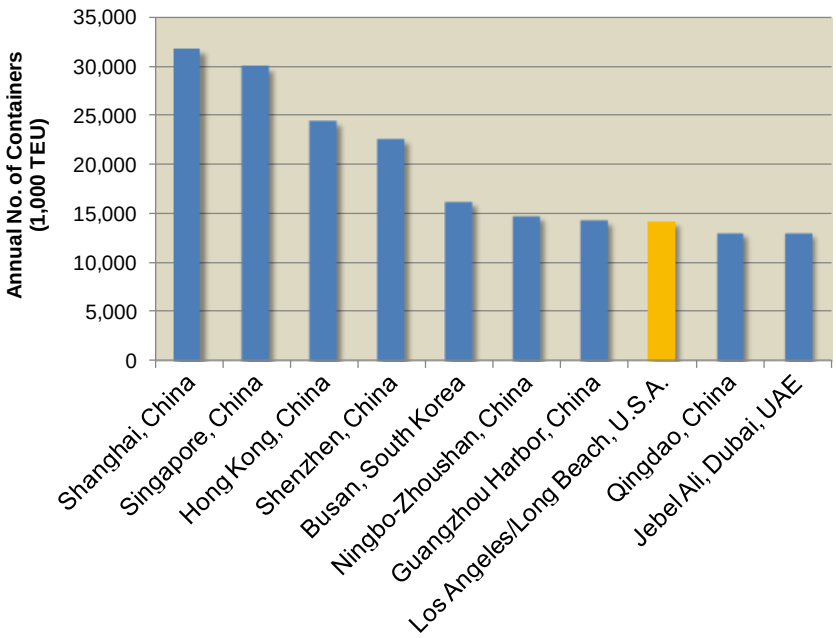
SEAPORTS AND RAIL

The vast majority of goods and material that flow between Asia and North America go through California. Currently, the ports of Long Beach and Los Angeles (San Pedro Bay ports) accommodate more than 40 percent of all international containerized cargo into and out of the United States and in 2011 were ranked eighth in the world (see Figure 2-31). Container volumes through the San Pedro Bay ports are estimated at 14.0 million 20-foot equivalent units in 2011.

Approximately 77 percent of the container-based goods handled by the San Pedro Bay ports are consumed outside the Southern California region. Only 23 percent are consumed within the region. Freight flowing through the ports of Los Angeles and Long Beach reaches every state in the continental United States, as shown in Figure 2-32. The Port of Hueneme, a small beach city in Ventura County, also serves the region.

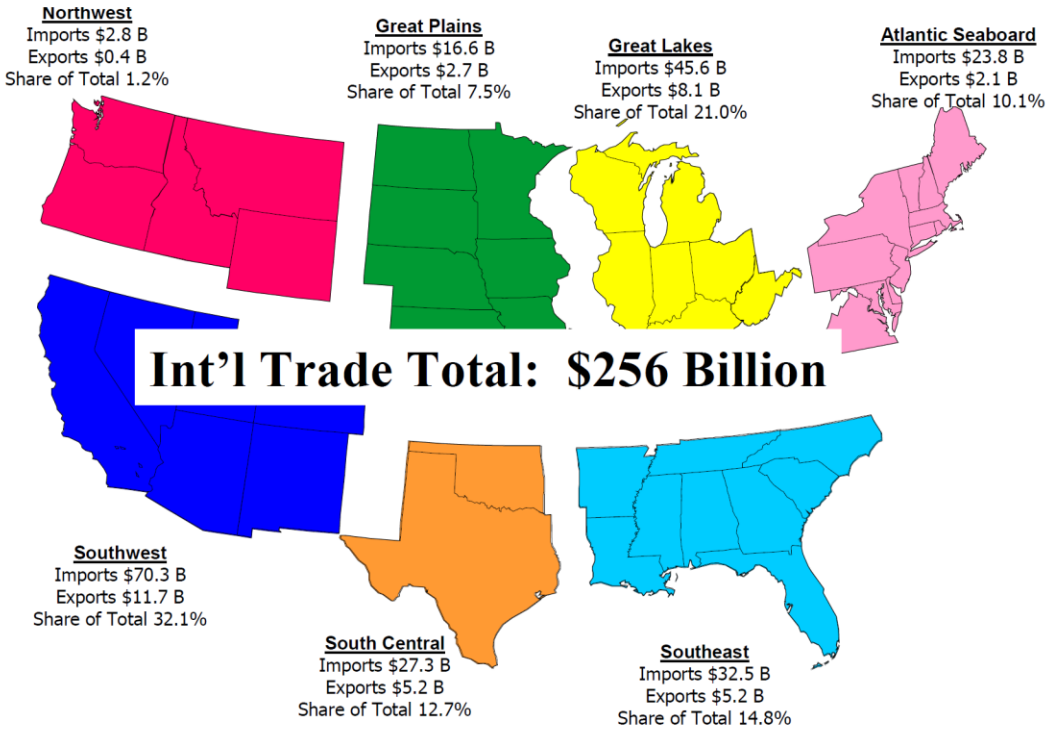
The ports and the region are served by two Class I railroads, Burlington Northern Santa Fe and Union Pacific. Both railroads are experiencing congestion along their systems, as Amtrak intercity passenger rail, Metrolink commuter passenger rail, and rail freight train volumes continue to climb. The Burlington Northern yards are particularly impacted, as both of their main intermodal yards in East Los Angeles and San Bernardino are currently operating at or above their original design capacity.

The 20-mile-long Alameda Corridor links the ports of Los Angeles and Long Beach to the transcontinental rail yards in downtown Los Angeles. The corridor has improved rail access to both ports, which was developed by the Alameda Corridor Transportation Authority in partnership with the ports and the Burlington Northern Santa Fe and the Union Pacific railroads. This improved rail access cut the transit time in half between the ports and rail yards, eliminated rail/highway conflicts at 200 at-grade rail crossings, and slashed emissions from idling cars, trucks, and locomotives. Almost exclusively, the corridor handles international cargos bound for, or originating from, markets outside of California.



Source: World Shipping Council

Figure 2-31: World's Largest Container Port Gateways *(Year 2011)*



Source: BST Associates
Note: Alaska and Hawaii not shown

Figure 2-32: Total Value of Containerized Freight Moving through the Ports of Los Angeles and Long Beach *(Year 2005)*

AIR CARGO

The region is served by the first and fourth largest (by volume) air cargo airports in the state, Los Angeles International Airport and LA/Ontario Ontario International Airport. Due to the rising passenger volumes and restricted ground access in the vicinity of the Los Angeles International Airport, efforts are underway to expand air cargo operations at LA/Ontario International Airport, and possibly to develop air cargo operations at one or more of the deactivated U.S. Air Force bases in the Inland Empire. These include the Southern California Logistics Airport (formerly George Air Force Base), San Bernardino International Airport (formerly Norton Air Force Base), and/or March Air Force Reserve Field (formerly March Air Force Base).

TRUCKS AND OVERLAND TRANSPORT

Understanding the patterns of truck traffic in the Los Angeles region is the first step to understanding truck traffic in the High Desert Corridor. The ports of Los Angeles and Long Beach depend on the local highway network, as these two ports combined generate more than 40,000 truck trips per day and could reach 92,000 truck trips per weekday by the year 2020. The most heavily impacted route of this network is I-710, a north–south auxiliary interstate freeway running for 23 miles through Los Angeles County, California. A recent report claimed that 15 percent of all containers arriving in the United States travel on I-710. Trucks that travel on I-710, directly or indirectly related to activity at the ports, have destinations throughout southern California, but generally tend to flow northeast toward the Inland Empire on I-10, SR 60, SR 91 and I-210.

The Inland Empire's network of freeways accommodates 42 percent of regional truck miles traveled, compared to 33 percent in Los Angeles County. Key highway system routes in the Inland Empire region include I-5, I-10, I-15, I-110, I-605, I-710, SR 57, SR 60, and SR 91, as shown in Figure 2-33 and in more detail in Figure 2-34. In total, 224 route miles of the region's highway system carry five-axle truck volumes of 10,000 or greater per day. These routes continue north and south of the Los Angeles basin and east through the Inland Empire region. From San Bernardino County, traffic moves north and east on I-15 to Nevada and on I-10 and I-40 to Arizona.

Figure 2-35 illustrates commodity flows by truck between Southern California and its local, regional and national markets. The map shows freight movement that has an origin or destination in the Southern California region. The map demonstrates the importance of goods movement throughout the length of the California, from the San Francisco Bay to San Diego, to the rest of the nation. East–west flow on this map travels predominantly along I-10, I-15 and I-40.

Figure 2-36 illustrates commodity flows by truck between the state of California and its local, regional and national markets. The map shows freight movement that has either an origin or destination in California and the rest of the United States. The map shows the emphasis on SR 99 and I-5 for San Joaquin Valley freight movements. It also shows the small number of potential routes from California to the rest of the nation as a result of the natural barrier created by the Sierra Nevada Mountains.

Trucks traversing the California/Mexico border crossing area utilize three primary ports of entry—Otay Mesa, Tecate, and Calexico East. Mexico is California's number one export market and the fastest expanding component of the San Diego regional economy. The Otay Mesa–Mesa de Otay port of entry is the busiest commercial border crossing between California and Mexico, handling nearly 1.5 million trucks in both directions in 2011. This trade represents the second highest dollar value of trade among all land border crossings between the United States and Mexico. In addition, 104,000 trucks crossed at the Tecate–Tecate port of entry. For Imperial County, the Calexico East/Calexico II port of entry processed 625,000 trucks in 2011. Nearly 80 percent of these truck trips stay within the state.

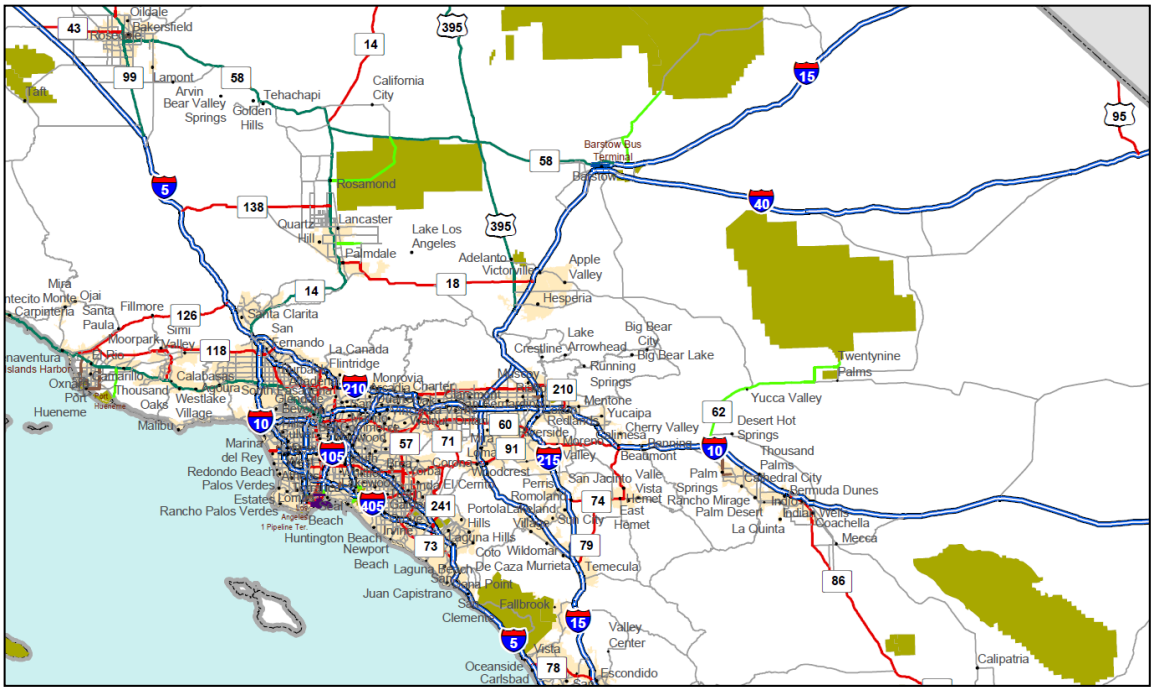


Figure 2-33: Southern California National Highway Network

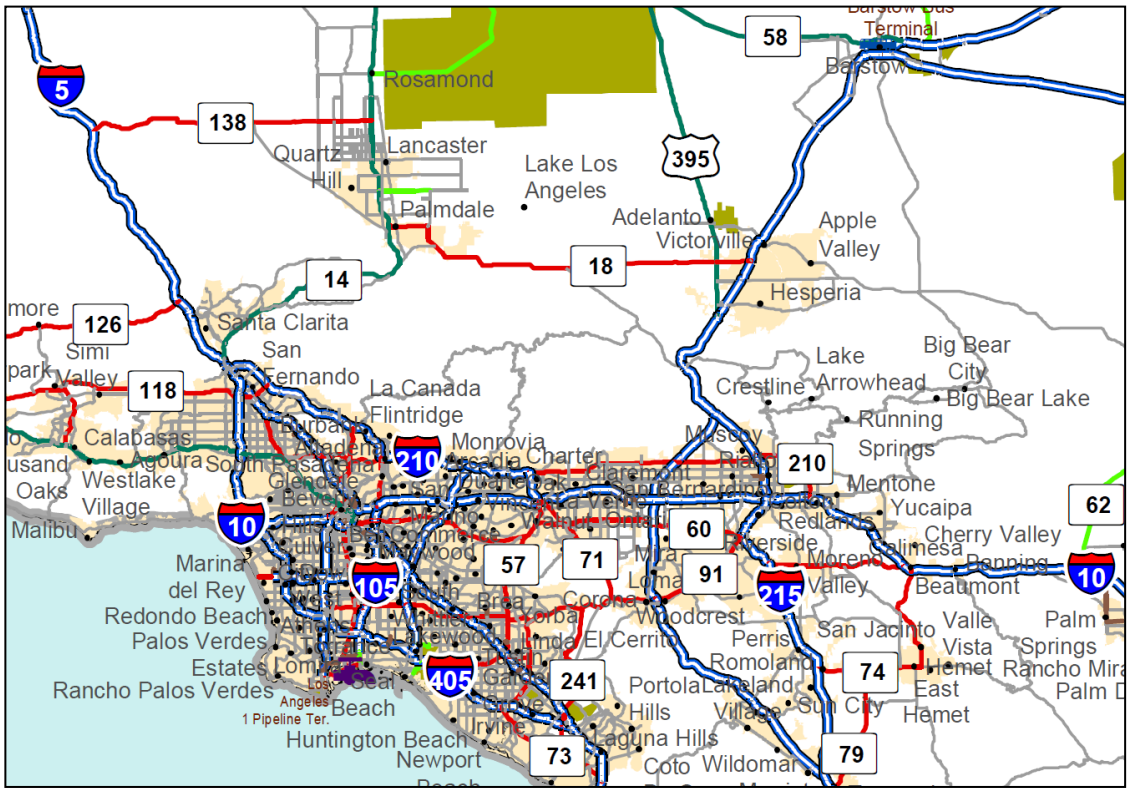
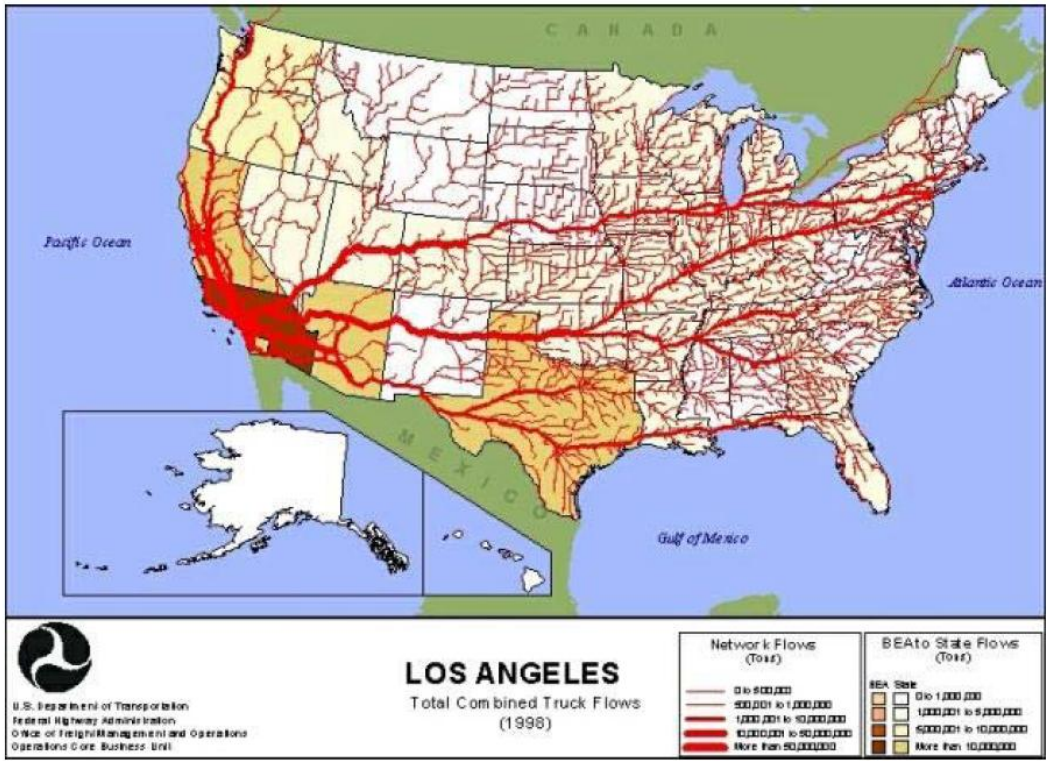
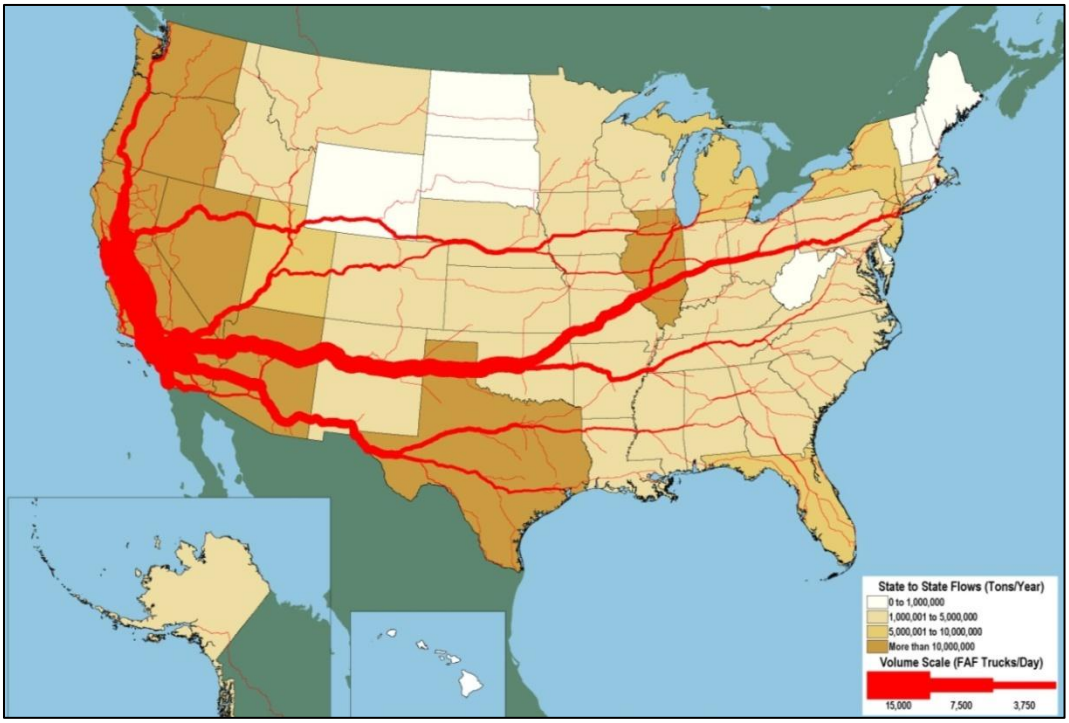


Figure 2-34: Southern California and High Desert Corridor Major Highways



Source: U.S. Department of Transportation

Figure 2-35: Los Angeles Total Combined Truck Flows *(Year 1998)*



Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 3.1.2, 2011

Figure 2-36: California Total Combined Truck Flows *(Year 2007)*

2.5.2 Freight Movement Data, Studies, and Reports

Due to the importance of goods movement to the Southern California region, a significant amount of study has been undertaken to identify both existing conditions and future needs. A representative sampling of reports, data and studies are summarized below to provide background information for the analysis of High Desert region truck traffic and volumes. Some of the data/statistics cited in these studies is more dated (older) than the information presented in Section 2.5.1 above.

2012-2035 REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY

Southern California Association of Governments (SCAG), adopted April 2012

The Regional Goods Movement System

The goods movement system in the SCAG region is a complex series of interconnected infrastructure components designed to serve regional and national consumer demand. Numerous demand factors (e.g., types of products, destinations, urgency, costs, etc.) create unique markets that must be accommodated through different types of goods movement activities. Markets in the SCAG region range from those that move goods directly from manufacturing centers to local consumers to those traveling from the San Pedro Bay ports to far-away destinations across the United States. These markets depend heavily upon an extensive regional infrastructure network that provides the mobility necessary to ensure economic growth. These mobility needs, coupled with the accompanying air quality, environmental, and community challenges posed by regional goods movement activities, serve as the driving force to develop a comprehensive plan to enhance the regional freight system.

Components of the Regional Goods Movement System

Both international and domestic trade thrives in Southern California in large part due to the extensive existing transportation and goods movement infrastructure in the SCAG region. This system is comprised of the following major elements:

- **Seaports:** In 2010, the ports in the SCAG region (Los Angeles, Long Beach, and Hueneme) handled 76 million tons, or $269 billion of imports, and 44 million tons, or $67 billion of exports.[2] The Ports of Los Angeles and Long Beach represent the largest container port complex in the United States and the sixth largest in the world. In 2010 the San Pedro Bay ports handled 14.1 million 20-foot equivalent units of containerized cargo. The Port of Hueneme, in Ventura County, specializes in the import and export of automobiles, fresh fruit and produce and serves as the primary support facility for the offshore oil industry.
- **Land Ports:** The international border crossings in Imperial County (Calexico West-Mexicali I, Calexico East-Mexicali II and Andrade-Los Algodones) are busy commercial land ports responsible for over $10.4 billion in trade in 2010 despite the recent economic downturn.[3] Driven by the maquiladora trade and movement of agricultural products, the volume of goods passing through these international ports-of-entry is expected to increase over the time horizon of the Regional Transportation Plan (RTP).
- **Air Cargo Facilities:** The SCAG region is home to numerous air cargo facilities including Los Angeles International Airport and Ontario International Airport, which combined handled more than 96 percent of the region's air cargo in 2010.

[2] U.S. Census Bureau, Exhibit 1: U.S. Exports –Domestic and Foreign Merchandise by Customs District and Method of Transportation and Exhibit 6a – U.S. General Imports by Customs District and Method of Transportation, Vessel data only, for calendar year 2010.

[3] Source: U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data

- **Interstate, Highways and Local Roads:** The region has about 53,400 road miles, 1,630 miles of which are interstate and freeway type.[4] Sections of I-710, I-605, SR 60, and SR 91 carry the highest volumes of truck traffic in the region, averaging over 25,000 trucks per day in 2008.[5] Other major components of the regional highway network also serve significant numbers of trucks including I-5, I-10, I-15, and I-210 with some sections carrying over 20,000 trucks per day.[6] These roads carry a mix of local, domestic trade, and international cargoes. The arterial roadway system also plays a critical role providing "last mile" connections to the ports, manufacturing facilities, intermodal terminals, warehouses and distribution centers.
- **Railroads:** Two Class I railroads, the Burlington Northern Santa Fe Railway (BNSF) and Union Pacific, carry international and domestic cargo to and from distant parts of the country. The BNSF operates on the Transcontinental Line (Cajon and San Bernardino Subdivisions) as well as the Orange and Olive Subdivisions. The Union Pacific operates on the Coast, Santa Clarita, Alhambra, Los Angeles, Mojave, and Yuma subdivisions. Both railroads operate on the Alameda Corridor that connects directly to the San Pedro Bay ports. The railroads are served by six major intermodal terminals in the region as well as multiple on-dock rail yards at the Ports of Los Angeles and Long Beach. The SCAG Region also has Class III railroads (Pacific Harbor Line, Los Angeles Junction Railway, and the Ventura County Railway).
- **Warehousing and Distribution Centers:** As of 2008, the region had about 837 million square feet of warehousing space. Another 185 million square feet[7] could be developed on vacant land that is zoned for warehousing. In 2008, an estimated 15 percent of the occupied warehouse space[8] served port-related uses while the remaining 85 percent supports a mix of domestic and international cargo.[9] Many of these warehouses are clustered along key goods movement corridors (Figure 2-37). Port-related warehousing tends to be concentrated in the Gateway Cities subregion while national and regional distribution facilities tend to be located in the Inland Empire.

Key Functions and Markets

The goods movement system has developed in the SCAG region to serve a wide range of user markets. Each of these markets has unique performance needs that dictate the components of the system that they will use. A brief summary of these markets, both for international and local trade, follows.

International Trade

The SCAG region is the largest international trade gateway in the United States. International trade moving through the San Pedro Bay ports, international border crossings with Mexico, and regional airports is supported by an extensive transportation system. This system involves a highly-developed network of roadways and railroads, air cargo facilities, intermodal facilities, and an abundance of regional distribution and warehousing clusters. While the SCAG region has made great strides in building infrastructure and planning for the future, significant investment is needed to support the expected growth in the nation's largest and most important integrated freight system.

[4] http://www.dot.ca.gov/hq/tsip/hpms/hpmslibrary/hpmspdf/2009PRD.pdf (last accessed on December 10, 2010)
[5] 2008 Annual Average Daily Truck Traffic on the California State Highway System, Traffic and Vehicle Data Systems, California Department of Transportation, September 2009.
[6] 2008 Annual Average Daily Truck Traffic on the California State Highway System, Traffic and Vehicle Data Systems, California Department of Transportation, September 2009.
[7] Potentially developable warehouse space estimates are based upon suitable land that is zoned for warehouse development.
[8] SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy.
[9] Some domestic warehouse space may include international goods as well.

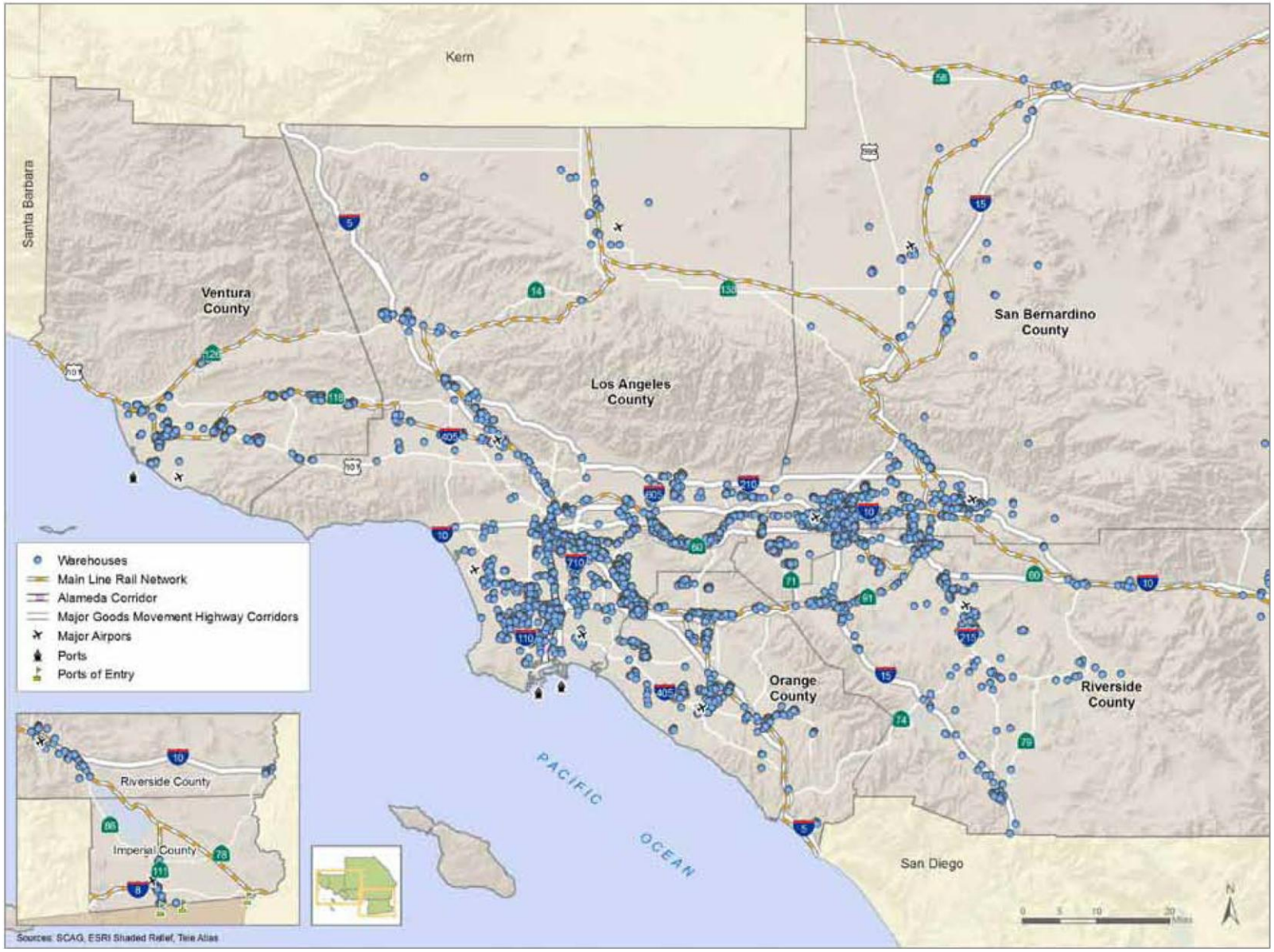


Figure 2-37: Warehouse Locations in the SCAG Region

San Pedro Bay Ports

Containerized trade between the United States and Asia comprises the majority of international cargo entering the SCAG region, with over 33 percent of all containers in the United States moving through the San Pedro Bay ports.[10] While there has been modest shift recently in container volumes to other United States, Canadian, and Mexican ports, the number of containers entering the San Pedro Bay ports is still expected to reach more than 42 million by 2035, more than three times current volumes (Figure 2-38). This forecast increase in freight moving through the region will place even greater strain on an already-congested transportation system directly affecting residents and businesses alike.

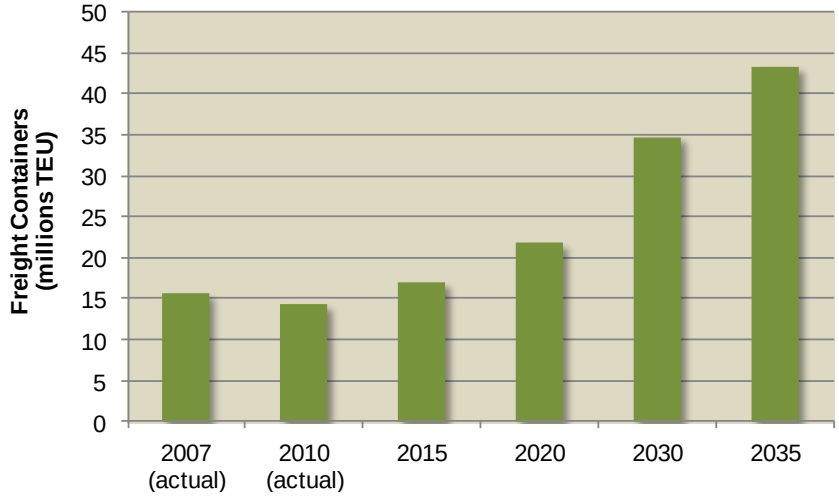


Figure 2-38: San Pedro Bay Ports Containerized Cargo Forecasts

Container flows through the San Pedro ports may be categorized as local or discretionary. Local containerized traffic is that which is ultimately consumed (imports) or originally produced (exports) in a geographical area local to the San Pedro Bay ports (Southern California, Southern Nevada, Arizona and New Mexico, and southern portions of Utah and Colorado). Discretionary containerized traffic is that which terminates or originates outside this region. Recent analysis indicates that local traffic accounts for approximately 23 percent of San Pedro Bay ports' total traffic. The other 77 percent is assumed to be discretionary traffic, routed through the San Pedro Bay ports for economic reasons.[11]

Imports, which constitute most of the containers that move through the San Pedro Bay ports, can be categorized as:

1. **Local:** Imports consumed within the greater region for which San Pedro Bay serves as the closest container port with the lowest landside transportation costs (i.e., imports consumed within Southern California, Southern Nevada, Arizona, New Mexico and southern portions of Utah and Colorado);
2. **Direct-shipping:** Imports moving to destinations outside the SCAG region that simply pass through Southern California while remaining intact in the original marine container;[12]
3. **Transloaded:**[13] Imports consumed in destinations outside the SCAG region that are unloaded from the original marine container in Southern California and moved to local warehouses where

[10] Source: American Association of Port Authorities, North American Container Traffic (1990–2010), http://aapa.files.cms-plus.com/PDFs/CONTAINER%20TRAFFIC%20NORTH%20AMERICA%201990%20%202010%20for%20the%20web.pdf
[11] SCAG Port and Modal Elasticity Study, Phase II
[12] This type of import movement is also known as inland point intermodal movement.

the contents are reloaded into larger domestic containers or trailers for reshipment to other regions. A portion of transloaded imports are reloaded immediately using a cross-dock facility, but most are warehoused in Southern California for some time before reshipment.

Highway Strategies

Existing and Projected Highway Conditions

Due to continued growth in freight and market demands, regional truck related activities are expected to increase over the RTP time horizon. Trucks must be able to efficiently carry freight between businesses and consumers throughout the SCAG region to ensure that Southern California continues to capture the economic benefits of goods movement. As part of the SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy, considerable enhancements were made to SCAG's existing heavy duty truck model to support the region's goods movement policy decisions. The heavy duty truck model is the primary analysis tool to evaluate the impacts of truck traffic and highway goods movement strategies on the regional transportation network. Major sources of truck traffic can be grouped into the following categories:

- **Internal Truck Trips:** These are truck trips that have both an origin and a destination within the SCAG region and are generated by local industries, construction sites, domestic warehouses and truck terminals, and residences.
- **External Truck Trips:** These are inter-regional truck trips that reflect trade between the SCAG region and the rest of the United States.
- **Port Truck Trips:** These are truck trips with an origin or destination at the San Pedro Bay ports.
- **Secondary Port Truck Trips:** These are truck trips with an initial origin or destination at the San Pedro Bay ports that are moved a second time after the first trip to or from the San Pedro Bay ports. Transloading trips are in this category.
- **Intermodal Truck Trips:** These are domestic intermodal truck trips that have origins or destinations at regional intermodal rail terminals. These truck trips do not include those that have either an origin or destination at the San Pedro Bay ports.

Table 2-15 shows the number of regional truck trips in 2008 by category and county. The overwhelming majority of truck trips in the region are local truck trips. While the San Pedro Bay ports account for a substantial amount of cargo moved to and from the SCAG region, much of this cargo is moved by intermodal rail to its final destination.

Table 2-15. Daily Regional Truck Trips by Category by County *(Year 2008)*

	IMPERIAL	LOS ANGELES	ORANGE	RIVERSIDE	SAN BERNARDINO	VENTURA	TOTAL	PERCENT
Internal	10,271	562,841	186,547	94,469	111,621	46,244	1,011,993	87.3%
External	4,816	38,794	6,815	11,183	18,140	1,271	81,019	7.0%
Port	25	37,060	2,499	855	2,752	165	43,356	3.7%
Intermodal	17	3,376	306	271	3,143	57	7,170	0.6%
Secondary	7	11,944	1,102	714	2,224	268	16,289	1.4%
Total	15,166	654,015	197,269	107,492	137,880	48,005	1,159,827	
Percent	1.3%	56.4%	17.0%	9.3%	11.9%	4.1%		

[13] In the 2012 RTP, transloading is broadly defined as activities that involve the deconsolidation of the contents of marine containers, which are usually 40-foot equivalent units, and reloading of their contents into 53-foot domestic trailers that can be transported by trucks. Transloading allows for the movement of increased amounts of goods while utilizing less equipment, resulting in significant cost savings through economies of scale and other transportation-related savings.

In 2008, the San Pedro Bay ports were responsible for approximately 50,000 direct daily regional truck trips,[14] which constitute only 3.7 percent of regional truck trips. That number is expected to grow to approximately 120,000 daily regional truck trips, an increase of nearly 150 percent, by 2035. Recent data indicates that the vast majority of trips leaving the San Pedro Bay ports are destined for locations in the southern gateway cities, off-dock rail yards near downtown Los Angeles, and other locations along the I-710 corridor (Figure 2-39). Although most truck trips originating at the San Pedro Bay ports remain in the port vicinity, some still move to destinations throughout the SCAG region, contributing to local challenges on area transportation networks.

However, this pattern is expected to shift in the future with an increase in the number of daily trucks traveling to warehouses in the San Gabriel Valley and the Inland Empire. For example, in 2008, 0.5 percent and 2.3 percent of all truck trips from the San Pedro Bay ports moved to eastern San Bernardino Valley and western San Bernardino Valley, respectively. By 2035, it is anticipated that 8.8 percent and 7.0 percent of those truck trips will move to eastern San Bernardino Valley and western San Bernardino Valley, respectively. Although some areas may show a decline in the percentage of daily truck trips from the San Pedro Bay ports, all areas will experience higher truck volumes in absolute terms.

All key regional highway corridors used to move goods are expected to see an increase in overall truck volumes by 2035. At the corridor level, the highest growth in truck traffic is expected on I-710 as a result of significant growth in port-related traffic. While considerable growth in truck traffic is anticipated on I-10 and I-210, overall growth on SR 60 is forecast to be highest of all of the east–west corridors. High annual growth rates in truck volumes will result in an increased share of trucks as a portion of total traffic on many regional corridors by 2035. Without an accompanying increase in capacity along these routes, truck delay, truck emissions, and total vehicle hours of delay will rise.

I-5/SR-99 ORIGIN AND DESTINATION TRUCK STUDY

Kern Council of Governments (Kern COG) and Caltrans, October 2009

The purpose of the study was to gain statistical information on the origin and destination of trucks traveling along I-5/SR 99 within Kern County. The study contributes to a better understanding of the directional truck distribution and types of cargo being transported in the region for use in future planning efforts. There were three major data collection tasks involved in the project: vehicle classification counts, truck intercept surveys, and commercial fleet operator surveys during the fall and spring seasons. The project findings helped to define truck distribution patterns along I-5/SR 99 from a seasonal standpoint through the surveys and truck volume data collected. The following provides a brief description of the key findings.

- The study surveyed the different types of trucks along the I-5/SR 99 corridors. The majority of trucks (83.8 percent) are the five-axle, double-unit type.
- The study surveyed the geographic location where the trucks are based. The results showed that 70 percent were based within California, with the remaining 30 percent based in other states. Of those trucks based in California, 47 percent were based in the San Joaquin Valley region and 34 percent were based in the Southern California region.

[14] This figure includes inter-terminal truck trips that do not move on the regional highway system; while the figure provided in the table includes only trips on the regional highway system.

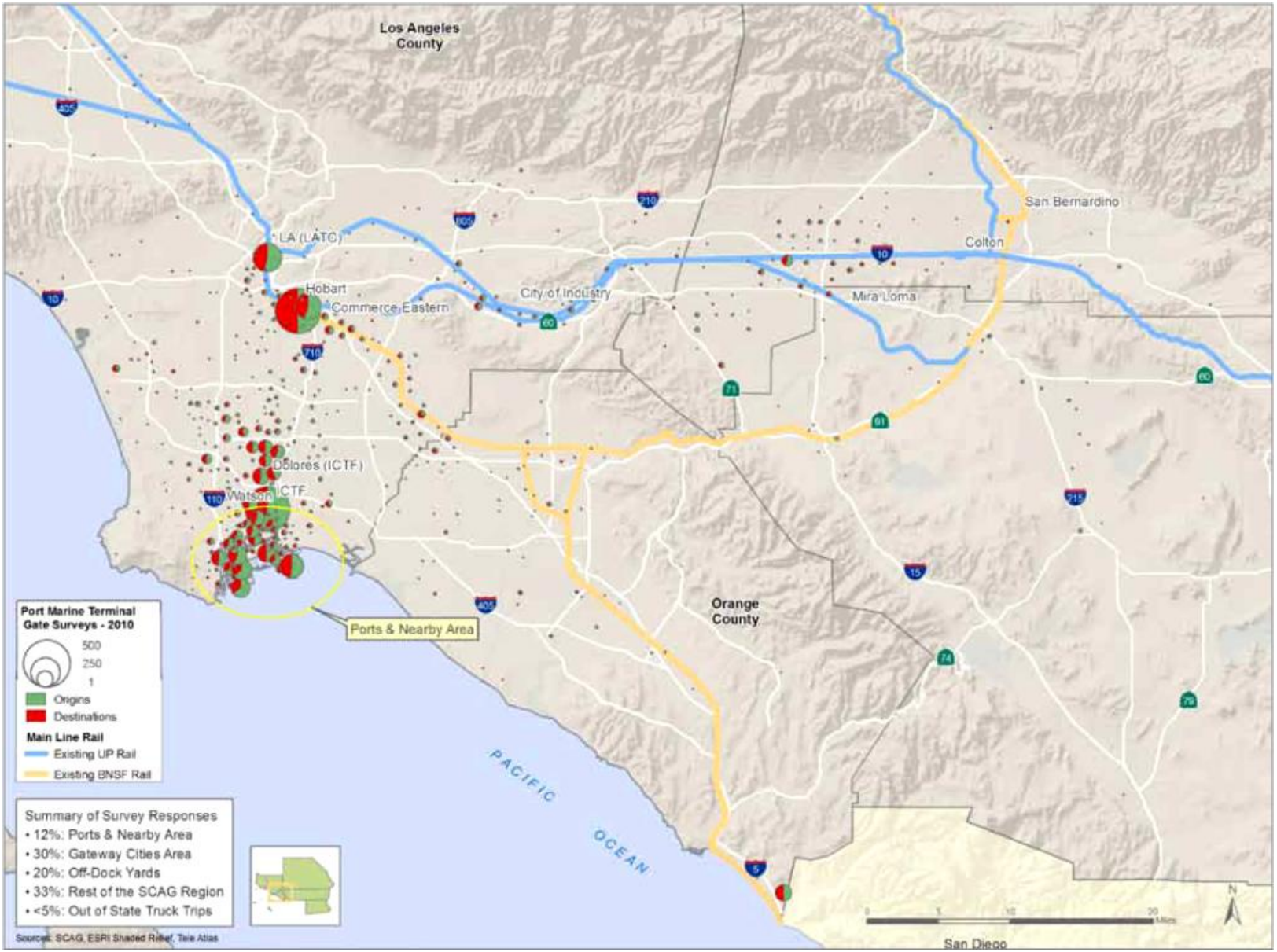


Figure 2-39: San Pedro Ports Truck Distribution

- The survey results indicated that 83.4 percent of trucks traveling on northbound I-5/SR 99 started their trip within California and 16.6 percent started their trip from other states. Of the total trips, 49.7 percent started their trip within the Southern California region, followed by the San Joaquin Valley region at 29.8 percent.
- The survey results indicated that 15.3 percent of trucks traveling on southbound I-5/SR 99 started their trip outside of California and 84.7 percent within California. Of the total trips that originated within California, 59.2 percent started from the San Joaquin Valley region, 12.7 percent started from the Bay Area and 8.3 percent started from Greater Sacramento region.
- The results indicated that in the northbound direction (Lebec rest stop), 24.8 percent of truck drivers accessed via I-5 north, 35.5 percent via I-210 west and 6.9 percent via I-405 north. The results indicated that in the northbound direction, the predominant route used to reach the final destination was SR 99 north followed by I-5 north. Figure 2-40 (a) summarizes the northbound route choice pattern at the Lebec rest stop.
- The results indicated that in the southbound direction (Lebec rest stop), 15.7 percent of truck drivers accessed via I-5 south and 51.4 percent via SR 99 south. The results also indicated that in the southbound direction, I-5 south was the predominate route of choice by truck drivers; and from I-5, the majority route choice was split between I-210 east and I-405 south. Figure 2-40 (b) summarizes the southbound route choice pattern at the Lebec rest stop.

The survey results indicate that in the northbound direction (both Kettleman City and Tipton rest stops), 50.9 percent of truck drivers accessed via I-5 north, 13.7 percent via SR 99 north and 8.6 percent via SR 58 west. The results indicate that in the northbound direction, the predominate routes used to reach the final destination are I-5 north and SR 99 north. Figure 2-40 (a) summarizes the northbound route choice pattern for Kettleman City/Tipton rest stops.

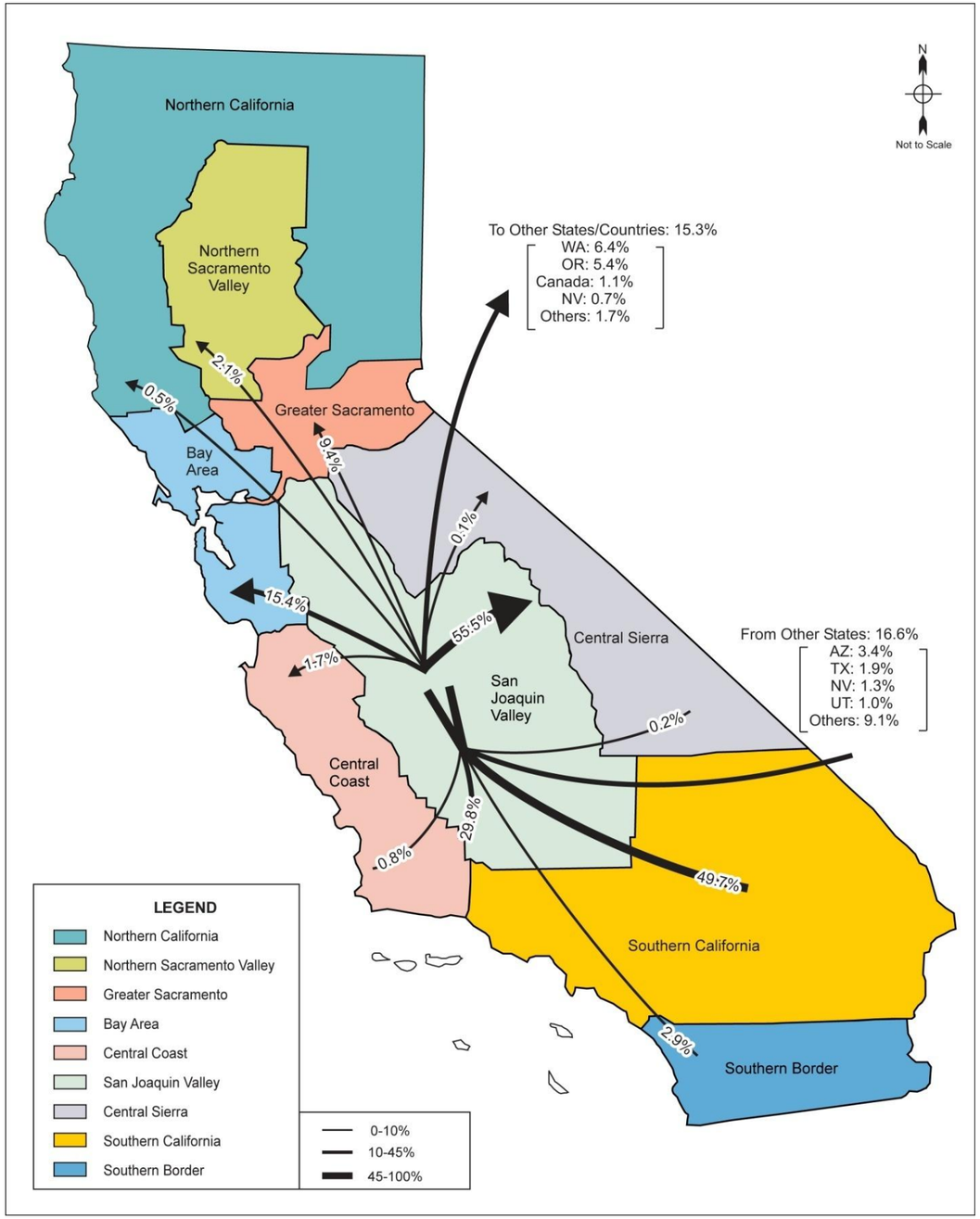
The information below is relevant to the High Desert Corridor:

- The survey results indicate that in the northbound direction (Lebec rest stop), 24.8 percent of truck drivers accessed via I-5 north, 35.5 percent via I-210 west and 6.9 percent via I-405 north. The results indicate that in the northbound direction, the predominate route used to reach the final destination is SR 99 north followed by I-5 north. Figure 2-41 (a) summarizes the northbound route choice pattern for Lebec rest stop.
- The results also indicate that in the southbound direction (Lebec rest stop), 15.7 percent of truck drivers accessed via I-5 south and 51.4 percent via SR 99 south. The results also indicate that in the southbound direction, I-5 south is the predominate route of choice by truck drivers, and from I-5 the majority route choice is split into I-210 east and I-405 south. Figure 2-41 (b) summarizes the southbound route choice pattern for Lebec rest stop.

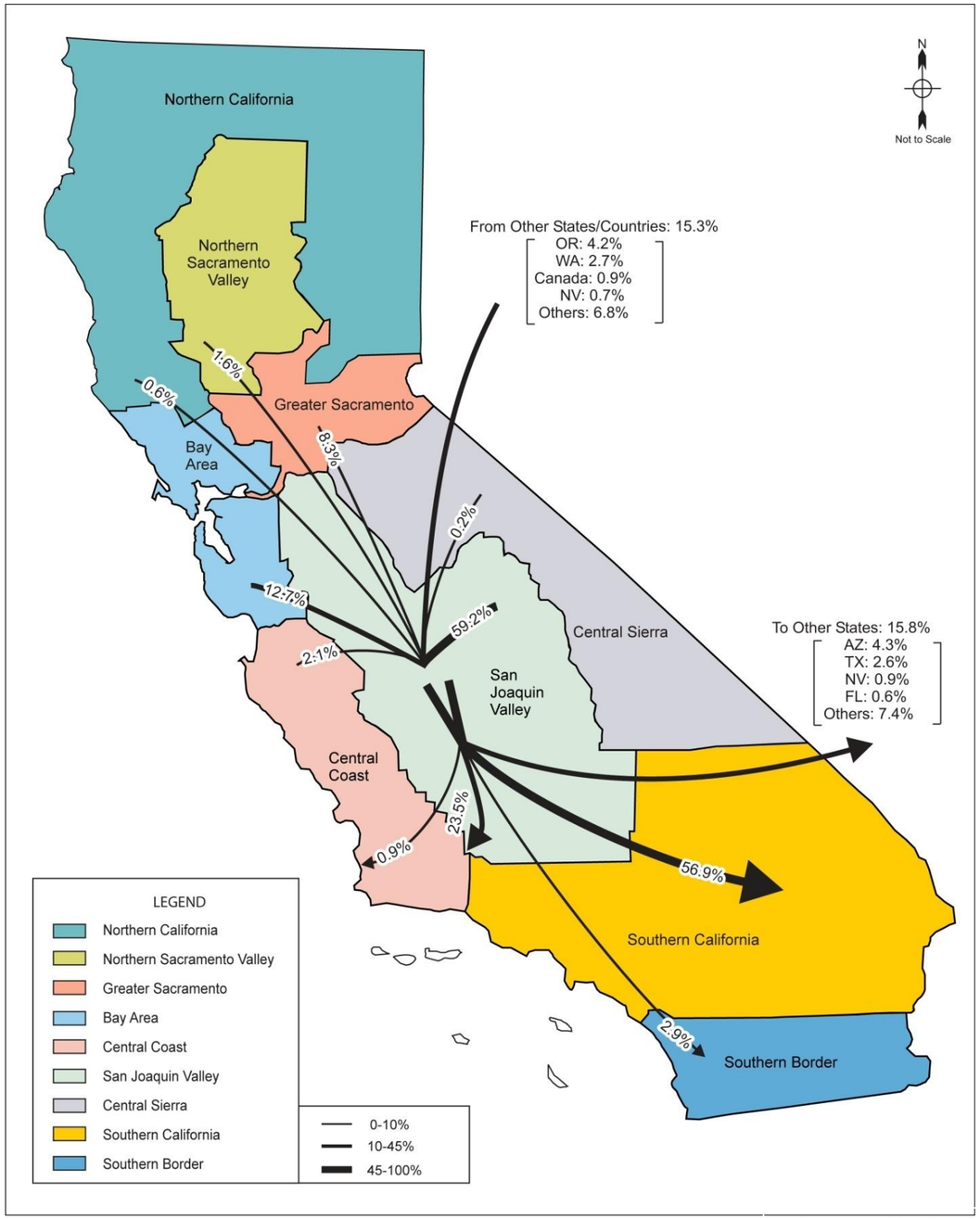
SR-58 ORIGIN AND DESTINATION TRUCK STUDY

San Bernardino Associated Governments (SANBAG), Kern COG, and Caltrans District 6, 8, 9, and Headquarters, February 2009

The purpose of the study was to gain statistical information on the origin and destination of trucks traveling along SR 58 in San Bernardino and Kern counties. The study helps provide a better understanding of the directional truck distribution and types of cargo being transported in the region for use in future planning efforts. The project tasks included literature review, vehicle classification counts, truck intercept surveys, and commercial fleet operator surveys during the fall and spring seasons. The study provided insight into seasonal truck goods movement patterns and truck volume data along State



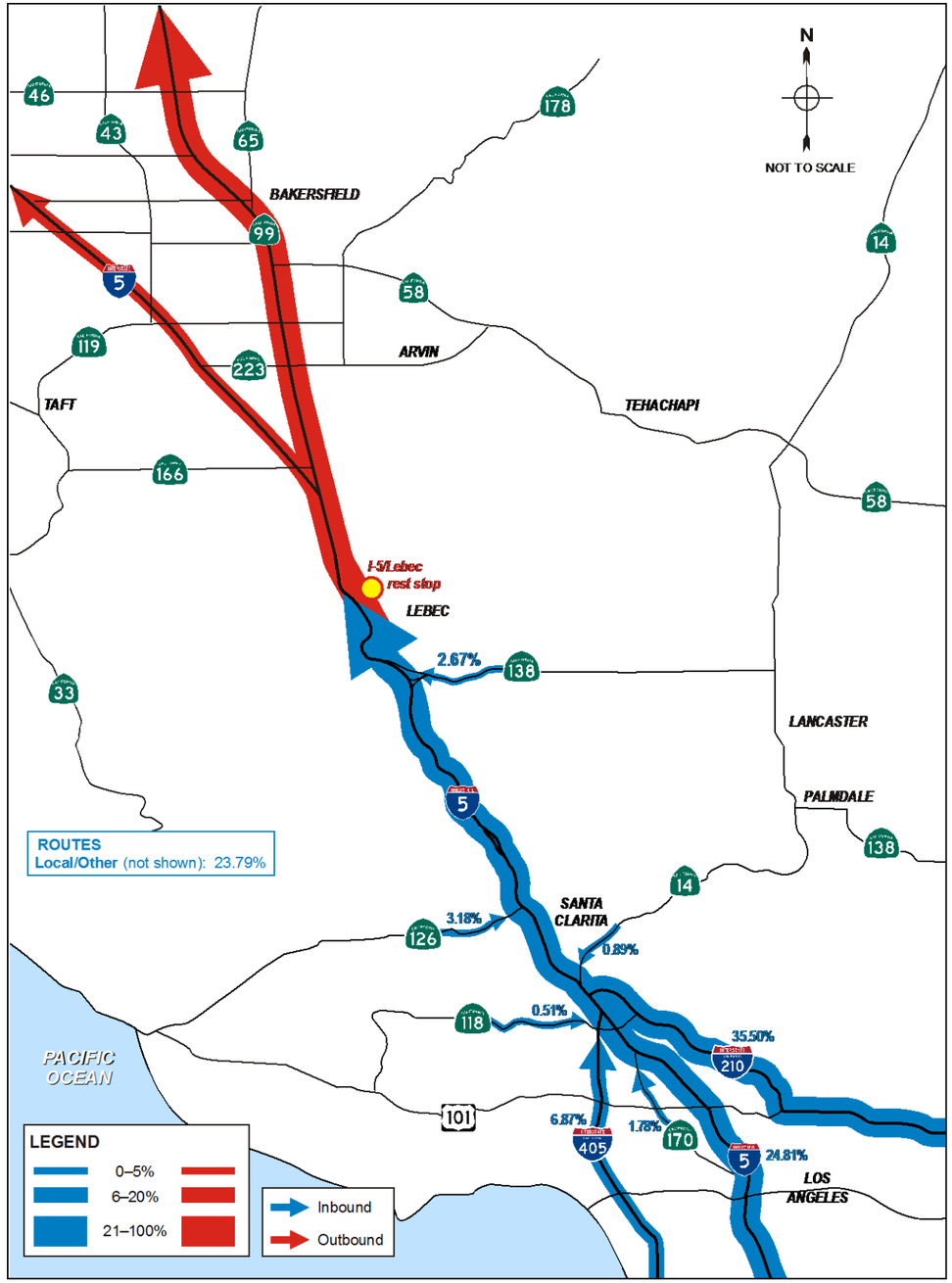
(a) NORTHBOUND



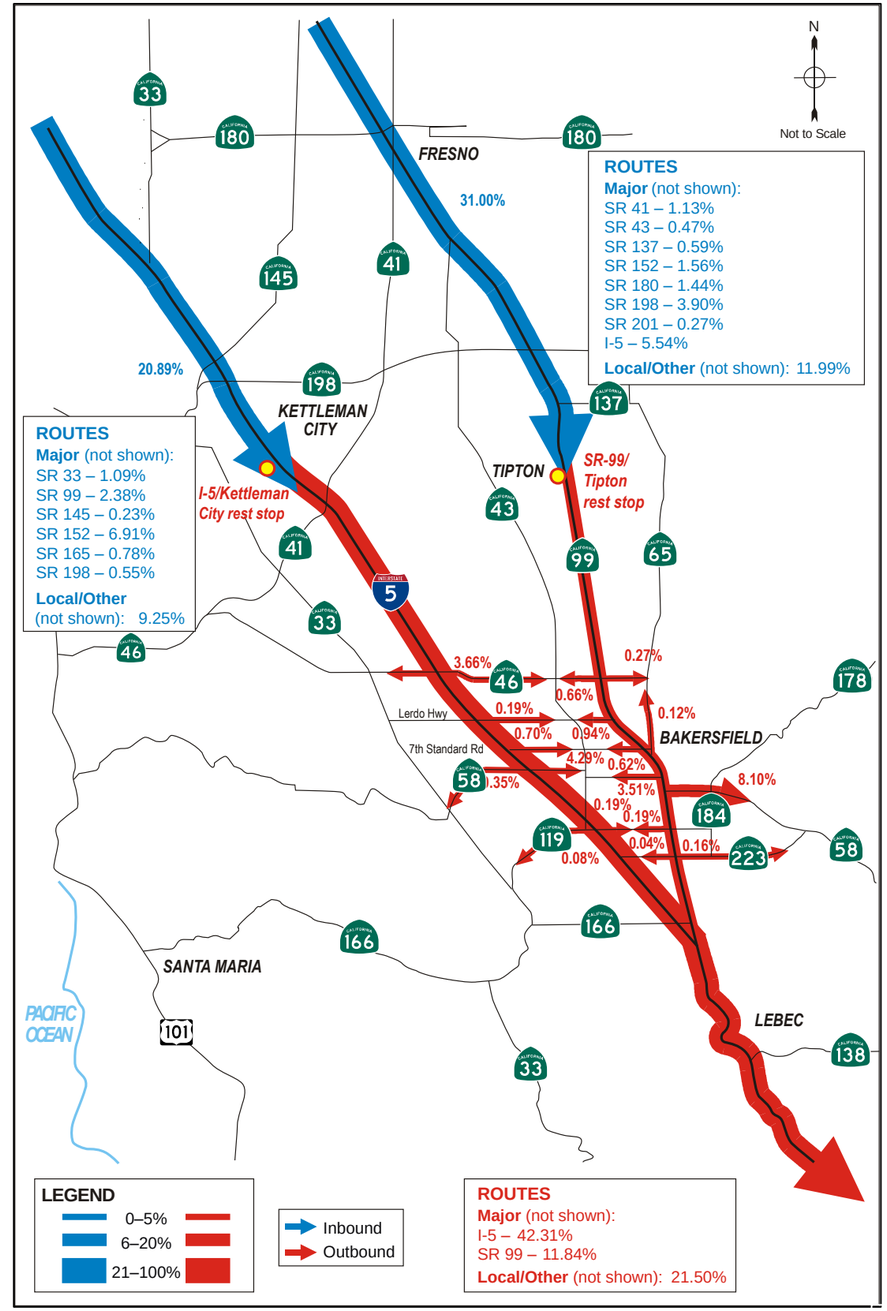
(b) SOUTHBOUND

Source: I-5/SR-99 Origin and Destination Study, KOA Corporation

Figure 2-40: Truck Travel Patterns from the Kettleman City/Tipton Rest Stops



(a) NORTHBOUND (LEBEC REST STOP)



(b) SOUTHBOUND (KETTLEMAN CITY/TIPTON REST STOPS)

Source: I-5/SR-99 Origin and Destination Study, KOA Corporation, Parsons

Figure 2-41: Northbound and Southbound Truck Route Choice Patterns

Route 58. The following provides a brief description of key study findings from the surveys as they relate to the High Desert Corridor.

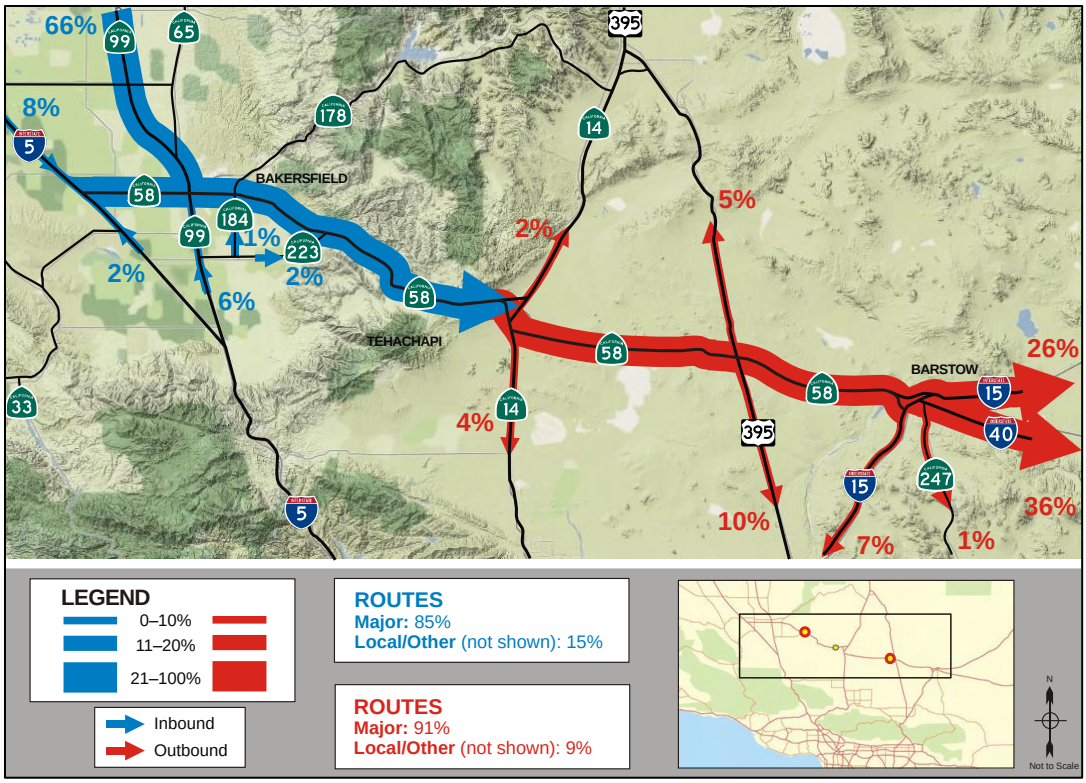
- The majority (66 percent) of eastbound trucks used the southbound SR 99 to access the SR 58 corridor. This indicated the concentration of the agricultural industry located in the western San Joaquin Valley and Central Coast regions. Figure 2-42 illustrates the eastbound route-choice pattern.
- The majority (62 percent) of eastbound trucks would use either the I-15 north or I-40 east freeways from SR 58. This is reflective of the majority of truck trips destined for other states outside of California (see Figure 2-42).
- Eastbound trucks on SR 58 travelled southbound on the selected highway facilities at the following percentages to reach the Southern California region:
  - SR 14: 4 percent
  - U.S. Route 395: 10 percent
  - I-15: 7 percent
  - SR 247: 1 percent
- The majority (67 percent) of westbound trucks used either the I-15 south or I-40 west freeways to access the SR 58 corridor. Figure 2-43 illustrates the westbound route choice pattern.
- The majority (73 percent) of westbound truck trips would use the SR 99 north freeway from SR 58 (see Figure 2-43).
- Westbound trucks travelled northbound on the selected highway facilities at the following percentages to reach SR 58 from the Southern California region:
  - SR 14: 3 percent
  - U.S. Route 395: 11 percent
  - I-15: 7 percent
  - SR 247: 1 percent

2.5.3 Truck Volumes on State Routes

Table 2-16 summarizes daily truck traffic volumes on state highways compiled by Caltrans' Division of Traffic Operations, Office of System Planning Management Traffic Data Branch for the year 2009. Annual average daily truck traffic is shown for selected locations state highways that have an east–west orientation. Truck traffic is classified by number of axles. The two-axle class includes 1.5-ton trucks with dual rear tires and excludes pickups and vans with only four tires. Total vehicle annual average daily traffic (AADT) for the same year is taken from the Traffic Volumes on California State Highways booklet published by the California Department of Transportation.

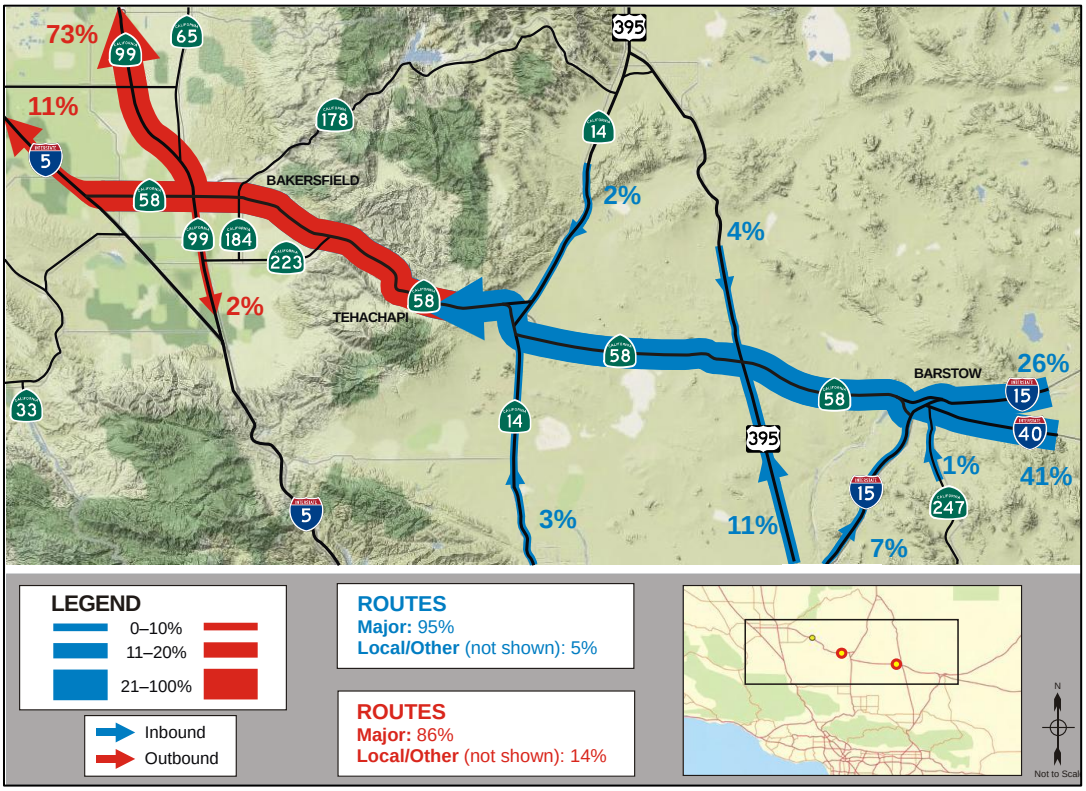
Annual average daily truck traffic is the total truck traffic volume divided by 365 days. Truck counting is done throughout the state in a program of continuous truck count sampling. The sampling includes a partial day, 24-hour, seven-day and continuous vehicle classification counts. The partial day and 24-hour counts are usually made on high volume, urban highways. The seven-day counts are made on low volume, rural highways. The counts are usually taken only once in the year. About one-sixth of the locations are counted annually. The resulting counts are adjusted to an estimate of annual average daily truck traffic by compensating for seasonal influence, weekly variation, and other variables that may be present.

The columns entitled "Year" and "Verified/Estimated" represent the year the truck percentages were verified (counted continuously or quarterly) or estimated. Selected points on a route are typically counted and the ones in between are estimated.



Source: SR-58 Origin and Destination Truck Study, KOA Corporation

Figure 2-42: Eastbound Route Pattern on SR 58 Corridor



Source: SR-58 Origin and Destination Truck Study, KOA Corporation

Figure 2-43: Westbound Route Pattern on SR 58 Corridor

Table 2-16. State Route Truck Counts *(Year 2009)*

ROUTE	COUNTY	POSTMILE	LEG	AADT TOTAL	TOTAL TRUCKS	TOTAL TRUCKS %	2–3 AXLE VOLUME	2–3 AXLE %	4–5 AXLE VOLUME	4–5 AXLE %	DESCRIPTION	YEAR VER/ EST
5	LA	44.014	A	277000	21938	7.92	8633	3%	13306	5%	Los Angeles, Junction Route 210, Foothill Freeway	09E
5	LA	45.584	A	193000	19165	9.93	5175	3%	13991	7%	Junction Route 14, Antelope Valley Freeway	09E
5	LA	53.565	B	144000	18792	13.05	5074	4%	13718	10%	Santa Clarita, S. Junction Route 126, Magic Mountain Fwy	09E
5	LA	55.48	A	106000	17543	16.55	4737	4%	12806	12%	Santa Clarita, North Junction Route 126, Henry Mayo	09E
5	LA	55.48	B	119000	18421	15.48	4974	4%	13448	11%	Santa Clarita, North Junction Route 126, Henry Mayo	09E
5	LA	81.487	B	69000	17209	24.94	4662	7%	12547	18%	South Junction Route 138, Route 138 Freeway	09E
5	LA	82.103	A	71000	16529	23.28	4509	6%	12021	17%	North Junction Route 138, Route 138 Freeway	09E
5	LA	88.605	O	69000	16360	23.71	4469	6%	11888	17%	Los Angeles/Kern County Line	09E
5	KER	0	O	69000	16360	23.71	4469	6%	11888	17%	Los Angeles/Kern County Line	09E
5	KER	15.858	A	28000	6770	24.18	1768	6%	5002	18%	Junction Route 99 North	08E
5	KER	15.858	B	72000	17410	24.18	4264	6%	13146	18%	Junction Route 99 North	08V
14	LA	24.788	A	159000	8968	5.64	5298	3%	3670	2%	SB Off to SB Route 5 and Junction Route 5	09E
14	LA	54.543	B	97000	5015	5.17	2681	3%	2334	2%	Angeles Forest Highway Interchange	09V
14	LA	59.803	B	77000	4497	5.84	2556	3%	1940	3%	Palmdale, South Junction Route 138, Palmdale	09E
14	LA	59.803	A	87000	3654	4.2	2201	3%	1453	2%	Palmdale, South Junction Route 138, Palmdale	09E
14	LA	74.003	B	35000	2440	6.97	1552	4%	888	3%	North Junction Route 138; Avenue D Interchange	09E
14	LA	74.003	A	33500	2335	6.97	1486	4%	849	3%	North Junction Route 138; Avenue D Interchange	09E
14	KER	0	A	30000	2091	6.97	1330	4%	760	3%	Avenue A Interchange, Los Angeles/Kern County Line	09E
14	KER	17.384	B	18300	3294	18	791	4%	2504	14%	Junction Route 58	04E
14	KER	16.07	A	17800	1780	10	463	3%	1317	7%	Junction Route 58	04E
14	KER	21.29	A	6800	1227	18.05	466	7%	761	11%	Randsburg Cut-Off Road, California City/Boulevard	08E
14	KER	57.767	B	5400	1026	19	179	3%	847	16%	Freeman Junction, Junction Route 178 West	08E
14	KER	57.767	A	5400	1018	18.85	225	4%	793	15%	Freeman Junction, Junction Route 178 West	08E
14	KER	64.559	B	3100	603	19.45	152	5%	451	15%	Homestead North Junction, Junction Route 395	08V
15	RIV	0	A	130000	8775	6.75	3902	3%	4874	4%	San Diego/Riverside County Line	04V
15	RIV	3.436	A	150000	10575	7.05	4702	3%	5873	4%	South Junction Route 79	04E
15	RIV	3.436	B	129000	8708	6.75	3872	3%	4837	4%	South Junction Route 79	04E
15	RIV	6.623	B	161000	10578	6.57	4703	3%	5876	4%	North Junction Route 79	04E
15	RIV	8.737	A	109000	9810	9	5209	5%	4601	4%	Junction Route 215 North	06E
15	RIV	8.737	B	186000	10323	5.55	4590	2%	5734	3%	Junction Route 215 North	04E
15	RIV	15.071	B	123000	10701	8.7	5682	5%	5019	4%	Baxter Road	06E
15	RIV	20.948	B	122000	11224	9.2	5960	5%	5264	4%	Main Street	06E
15	RIV	22.277	B	119000	9782	8.22	5587	5%	4195	4%	Junction Route 74	08V
15	RIV	22.277	A	107000	11235	10.5	5966	6%	5269	5%	Junction Route 74	06E
15	RIV	41.501	B	174000	9761	5.61	4622	3%	5139	3%	Junction Route 91	00E
15	RIV	44.66	O	150000	17190	11.46	8169	5%	9021	6%	Fourth St, Norco	00E
15	RIV	51.474	A	214000	17548	8.2	8339	4%	9209	4%	Junction Route 60	00E
15	SBD	2.389	A	198000	20493	10.35	7429	4%	13064	7%	Junction Route 10	06E
15	SBD	5.306	A	164000	17089	10.42	6195	4%	10894	7%	Junction Route 66	06V
15	SBD	5.306	B	187000	18794	10.05	6813	4%	11981	6%	Junction Route 66	06E
15	SBD	16.374	B	133000	15229	11.45	5706	4%	9523	7%	Junction Route 215	08V
15	SBD	13.779	A	154000	21237	13.79	7348	5%	13889	9%	Junction Route 215	04E
15	SBD	31.813	A	101000	15786	15.63	4735	5%	11050	11%	Junction Route 395 North	00E
15	SBD	31.813	B	124000	16777	13.53	5025	4%	11752	9%	Junction Route 395 North	00E
15	SBD	40.509	A	87000	14851	17.07	4449	5%	10403	12%	Junction Route 18 South	00E
15	SBD	40.509	B	86000	15540	18.07	4645	5%	10893	13%	Junction Route 18 South	00E
15	SBD	43.488	A	60000	14196	23.66	4248	7%	9947	17%	Victorville, Junction Route 18 Southeast	00E

Table 2-16. State Route Truck Counts *(Year 2009)*

ROUTE	COUNTY	POSTMILE	LEG	AADT TOTAL	TOTAL TRUCKS	TOTAL TRUCKS %	2–3 AXLE VOLUME	2–3 AXLE %	4–5 AXLE VOLUME	4–5 AXLE %	DESCRIPTION	YEAR VER/ EST
15	SBD	68.77	A	57000	13629	23.91	4094	7%	9536	17%	Barstow, Lenwood Road	01E
15	SBD	68.77	B	53000	13245	24.99	3979	8%	9267	17%	Barstow, Lenwood Road	00E
15	SBD	74.418	A	45000	7515	16.7	2154	5%	5360	12%	Barstow, Junction Route 40 East	05E
15	SBD	74.418	B	64000	12589	19.67	3770	6%	8819	14%	Barstow, Junction Route 40 East	01E
15	SBD	76.883	B	45000	7650	17	2193	5%	5457	12%	Junction Route 58 West	05E
15	SBD	76.883	A	45000	7376	16.39	1677	4%	5699	13%	Junction Route 58 West	08V
15	SBD	87.26	O	37500	7425	19.8	2128	6%	5296	14%	Yermo Inspection Station	05E
15	SBD	136.57	B	30500	6100	20	1482	5%	4617	15%	Baker, Junction Route 127	01E
15	SBD	136.57	A	30000	6312	21.04	1535	5%	4777	16%	Baker, Junction Route 127	01E
15	SBD	176.45	B	36000	6466	17.96	1867	5%	4598	13%	Nipton Road	01E
15	SBD	186.23	B	37000	6645	17.96	1919	5%	4725	13%	Nevada State Line	01E
18	SBD	6.179	A	29500	3127	10.6	2138	7%	988	3%	San Bernardino, Junction Route 30	84E
18	SBD	7.548	A	17800	1495	8.4	1215	7%	280	2%	San Bernardino, 40th Street	84E
18	SBD	8.264	A	17200	1754	10.2	1439	8%	316	2%	San Bernardino, Sierra Way	84E
18	SBD	9.15	A	16700	1703	10.2	1410	8%	293	2%	Waterman Canyon Road	84E
18	SBD	17.732	A	8800	2006	22.8	1771	20%	234	3%	Junction Route 138 North	84E
18	SBD	17.732	B	16700	2188	13.1	1812	11%	376	2%	Junction Route 138 North	84V
18	SBD	20.612	A	7100	1292	18.2	1141	16%	151	2%	Junction Route 189 North	84E
18	SBD	24.712	A	8800	1153	13.1	1020	12%	133	2%	Junction Route 173 North	84E
18	SBD	24.712	B	11000	1903	17.3	1700	15%	204	2%	Junction Route 173 North	84E
18	SBD	25.81	A	7400	955	12.9	877	12%	78	1%	Kuffel Canyon Road	84E
18	SBD	31.651	A	6900	662	9.6	583	8%	79	1%	West Junction Route 330	84E
18	SBD	31.651	B	7400	940	12.7	863	12%	77	1%	West Junction Route 330	84E
18	SBD	31.903	A	10300	742	7.2	630	6%	113	1%	Junction Route 330 South	89V
18	SBD	34.52	B	7400	836	11.3	748	10%	88	1%	Green Valley Lake Road	84E
18	SBD	44.319	A	4500	563	12.5	482	11%	81	2%	Junction Route 38 Northeast	88V
18	SBD	44.319	B	6100	671	11	567	9%	104	2%	Junction Route 38 Northeast	88E
18	SBD	53.917	B	15700	1727	11	1382	9%	346	2%	Junction Route 38 East	88E
18	SBD	54.537	A	5400	691	12.8	524	10%	167	3%	Junction Route 38 West	92V
18	SBD	58.44	A	2900	365	12.6	281	10%	85	3%	Baldwin Lake Road	88V
18	SBD	58.44	B	2450	194	7.9	171	7%	23	1%	Baldwin Lake Road	91E
18	SBD	73.783	A	9600	1805	18.8	695	7%	1110	12%	Lucerne Valley, Junction Route 247	91E
18	SBD	73.783	B	5400	967	17.9	241	4%	726	13%	Lucerne Valley, Junction Route 247	87E
18	SBD	84.325	A	5400	805	14.9	425	8%	379	7%	Bear Valley Cutoff	87E
18	SBD	84.325	B	10400	2028	19.5	771	7%	1257	12%	Bear Valley Cutoff	90E
18	SBD	94.39	A	47500	5653	11.9	4596	10%	1057	2%	Apple Valley Road	93V
18	SBD	94.39	B	33500	3920	11.7	2947	9%	972	3%	Apple Valley Road	93V
18	SBD	96.571	B	27500	2063	7.5	1546	6%	518	2%	Victorville, North Junction Route 15, Barstow Freeway	92V
18	SBD	96.577	A	43500	3828	8.8	2496	6%	1332	3%	Victorville, North Junction Route 15, Barstow Freeway	92V
18	SBD	100.95	A	8600	635	7.38	304	4%	330	4%	Junction Route 395	03E
18	SBD	100.95	B	18700	1459	7.8	844	5%	616	3%	Junction Route 395	93V
18	LA	4.5	B	5300	514	9.69	246	5%	267	5%	Junction Route 138, Pearblossom/Antelope Highway	02V
58	KER	52.36	A	68000	14960	22	4217	6%	7929	12%	Bakersfield, South Junction Route 99	03E
58	KER	55.404	A	65000	16250	25	4905	8%	9588	15%	Cottonwood Road	03E
58	KER	59.44	A	25000	7845	31.38	2252	9%	5175	21%	Junction Route 184	07E
58	KER	75.63	A	19500	6119	31.38	1762	9%	4037	21%	Junction Route 223	07E
58	KER	75.63	B	19000	5962	31.38	1718	9%	3933	21%	Junction Route 223	07V

Table 2-16. State Route Truck Counts *(Year 2009)*

ROUTE	COUNTY	POSTMILE	LEG	AADT TOTAL	TOTAL TRUCKS	TOTAL TRUCKS %	2–3 AXLE VOLUME	2–3 AXLE %	4–5 AXLE VOLUME	4–5 AXLE %	DESCRIPTION	YEAR VER/ EST
58	KER	90.717	A	20900	6558	31.38	1886	9%	4327	21%	Junction Route 202 Southwest	07E
58	KER	90.717	B	21200	6653	31.38	1913	9%	4389	21%	Junction Route 202 Southwest	07E
58	KER	107.46	B	19300	6508	33.72	357	2%	5628	29%	Randsburg Cut-Off Road	06V
58	KER	111.13	B	14050	4918	35	753	5%	4082	29%	Junction Route 14	03E
58	KER	127.63	A	17000	6290	37	959	6%	5221	31%	California City Boulevard	03E
58	SBD	5.4	A	10200	3949	38.72	561	5%	3333	33%	Junction Route 395	06V
58	SBD	5.4	B	12600	6169	48.96	940	7%	5121	41%	Junction Route 395	03E
58	SBD	34.812	B	11500	4508	39.2	643	6%	3801	33%	Junction Route 15	06E
138	LA	0	A	3600	740	20.57	90	3%	650	18%	Junction Route 5, Golden State Freeway Interchange	03E
138	LA	4.11	A	3850	439	11.4	186	5%	252	7%	Old Ridge Route Road	93E
138	LA	36.874	B	3750	529	14.1	69	2%	461	12%	Junction Route 14 North, Antelope Valley Freeway	02V
138	LA	43.418	A	31500	1698	5.39	1240	4%	458	1%	Palmdale, Junction Route 14 South, Antelope Valley Fwy	03V
138	LA	48.59	B	20800	924	4.44	534	3%	389	2%	Palmdale, 47th Street East	03V
138	LA	51.41	B	15300	1086	7.1	392	3%	693	5%	Palmdale, Pearlblossom Highway/Avenue T	03V
138	LA	51.41	A	16100	1504	9.34	1067	7%	437	3%	Palmdale, Pearlblossom Highway/Avenue T	02V
138	LA	69.3	B	12900	1237	9.59	605	5%	631	5%	Junction Route 18, Palmdale Road	02E
138	LA	69.3	A	8100	771	9.52	383	5%	388	5%	Junction Route 18, Palmdale Road	02V
138	LA	74.973	O	8800	838	9.52	416	5%	422	5%	Los Angeles/San Bernardino County Line	02E
138	SBD	0	O	8800	838	9.52	416	5%	422	5%	Los Angeles/San Bernardino County Line	02E
138	SBD	6.662	B	18000	2484	13.8	1220	7%	1265	7%	Junction Route 2 West	93E
138	SBD	15.203	A	4400	568	12.9	556	13%	11	0%	Junction Route 15	88E
138	SBD	15.203	B	17600	1866	10.6	1150	7%	716	4%	Junction Route 15	92V
138	SBD	23.959	A	1650	210	12.7	197	12%	13	1%	Junction Route 173 East	88E
138	SBD	37.848	B	7900	435	5.5	421	5%	15	0%	Junction Route 18	88E
395	SBD	3.981	A	28000	6160	22	1497	5%	4663	17%	Junction Route 15	90V
395	SBD	11.18	B	25000	3350	13.4	877	4%	2472	10%	Palmdale Road; Junction Route 18	93V
395	SBD	11.18	A	19000	3287	17.3	700	4%	2587	14%	Palmdale Road; Junction Route 18	93V
395	SBD	15.707	B	19000	3268	17.2	696	4%	2572	14%	George Air Force Base Road	93E
395	SBD	15.707	A	16000	2880	18	614	4%	2267	14%	George Air Force Base Road	98E
395	SBD	45.948	B	7800	1404	18	299	4%	1105	14%	Junction Route 58	98E
395	SBD	45.948	A	4800	576	12	122	3%	453	9%	Junction Route 58	98E
395	KER	1.152	A	4100	574	14	144	4%	431	11%	Redrock, Randsburg Road	03E
395	KER	1.152	B	4100	656	16	210	5%	446	11%	Redrock, Randsburg Road	04E
395	KER	23.48	B	2850	684	24	171	6%	513	18%	Junction Route 178	03E
395	KER	29.64	B	2750	643	23.37	206	7%	438	16%	Junction Route 14 South	08V

Source: State of California Business, Transportation and Housing Agency, Department of Transportation, Division of Traffic Operations, "2009 Annual Average Daily Truck Traffic on the California State Highway System," December 2010.

Each count location is identified by the post mile value corresponding to that point on the highway. The post mile values increase from the beginning of a route within a county to the next county line. The post mile values start over again at each county line. Post mile values increase usually from south to north or west to east depending on the general direction the route follows within the state. For SR 99, the post miles run from south to north. The counts located nearest the Golden State Avenue interchange are highlighted in blue.

A leg is given for each count location and is denoted by an A, B or O. For traffic volumes purposes, a highway intersection or interchange has two legs. According to ascending post miles (route direction) and a post mile reference at the center of the intersection or interchange, B = back leg, A = ahead leg, and O = traffic volume is equal for the back and ahead legs.

Truck AADTs are reported as two-way traffic. Figure 2-44 illustrates the vehicle types included under each two-axle (Classes 4 and 5), three-axle (Class 6 and 50 percent of Class 8), four-axle (Class 7 and 50 percent of Class 8), and five-axle (Classes 9 through 13) count.

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. Figure 2-45 illustrates the magnitude of four- and five-axle or greater truck volumes on state routes in the Inland Empire region. 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 SR 18 (three percent of the AADT); 616 four- and five-axle trucks on SR 18 east of U.S. Route 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).

ROUTE CHOICE FOR FREIGHT MOVEMENT THROUGH HIGH DESERT CORRIDOR

Figure 2-46 visually illustrates why truckers choose SR 58 (Tehachapi) or I-5 (the Grapevine) to access Los Angeles and San Bernardino counties from Kern County and points north.

The Grapevine profile shows the relative grades of the five-mile section of I-5 between Grapevine, California (elevation 1,499 feet) and the Tejon Pass (elevation 4,144 or 4,160 feet depending on the source). The grade is relatively steady at six percent both up and down. On SR 58, the elevation of Tehachapi Pass is about the same, just over 4,000. The Tehachapi profile illustrates that the grade is less steep, however, 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. Figure 2-46 illustrates that the distance is relatively the same, following either SR 58/SR 14 or I-5/SR 138. In the winter, SR 58 is less subject to closure due to inclement weather than the Grapevine segment of I-5.

TRUCK TRAFFIC IN HIGH DESERT CORRIDOR AREA

Figure 2-47 illustrates the designation of truck routes within the focused study area. North–south roadways so designated include SR 14, 10th Street West, Sierra Highway, 50th Street East and 90th Street East. East–west truck routes include East Avenue P, SR 138 (Palmdale Boulevard), and Pearblossom Highway/East Avenue T. Figure 2-48 illustrates the truck routes in the vicinity of Victorville. These routes include I-15, U.S. Route 395, SR 18 and numerous local arterial streets.

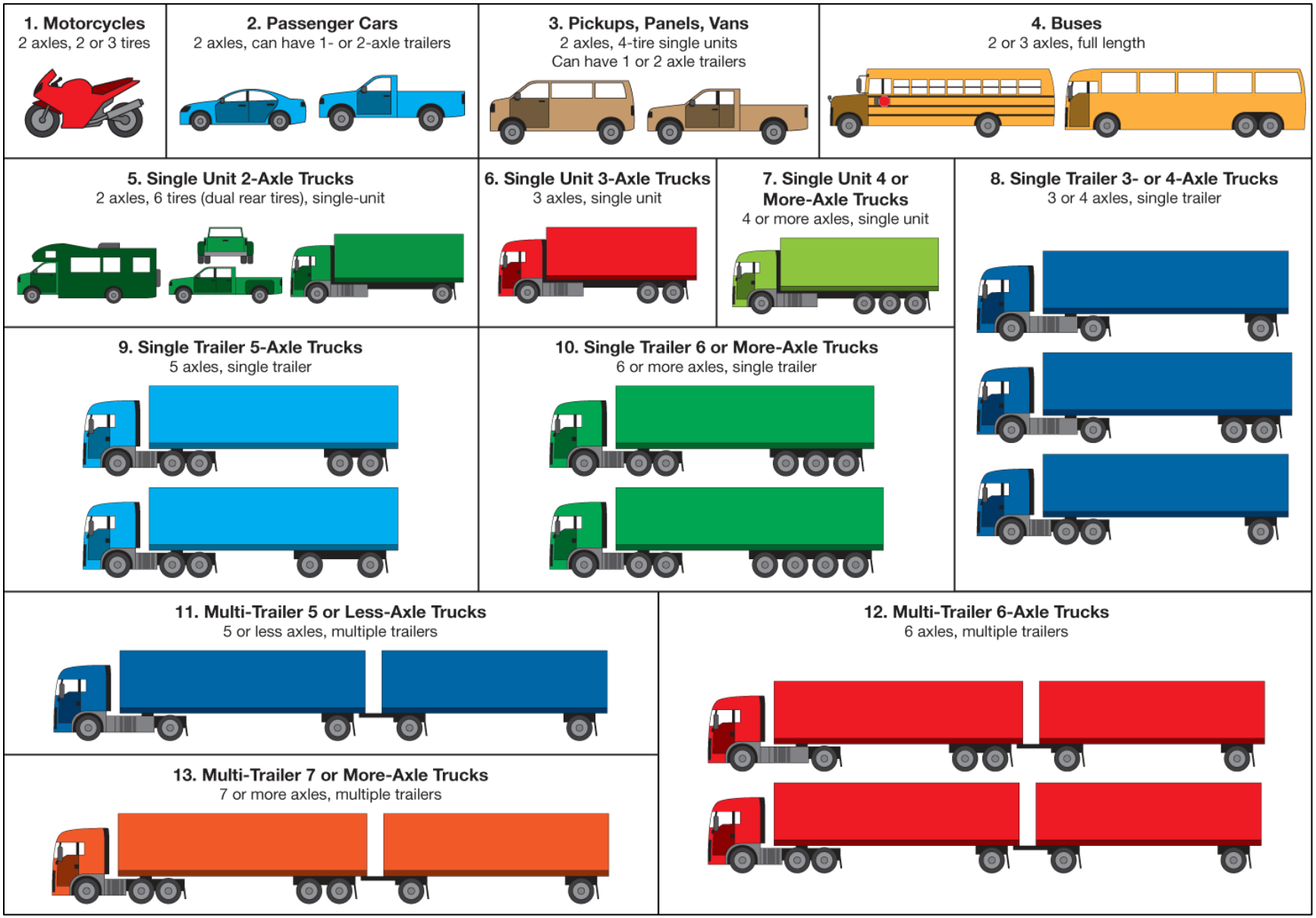
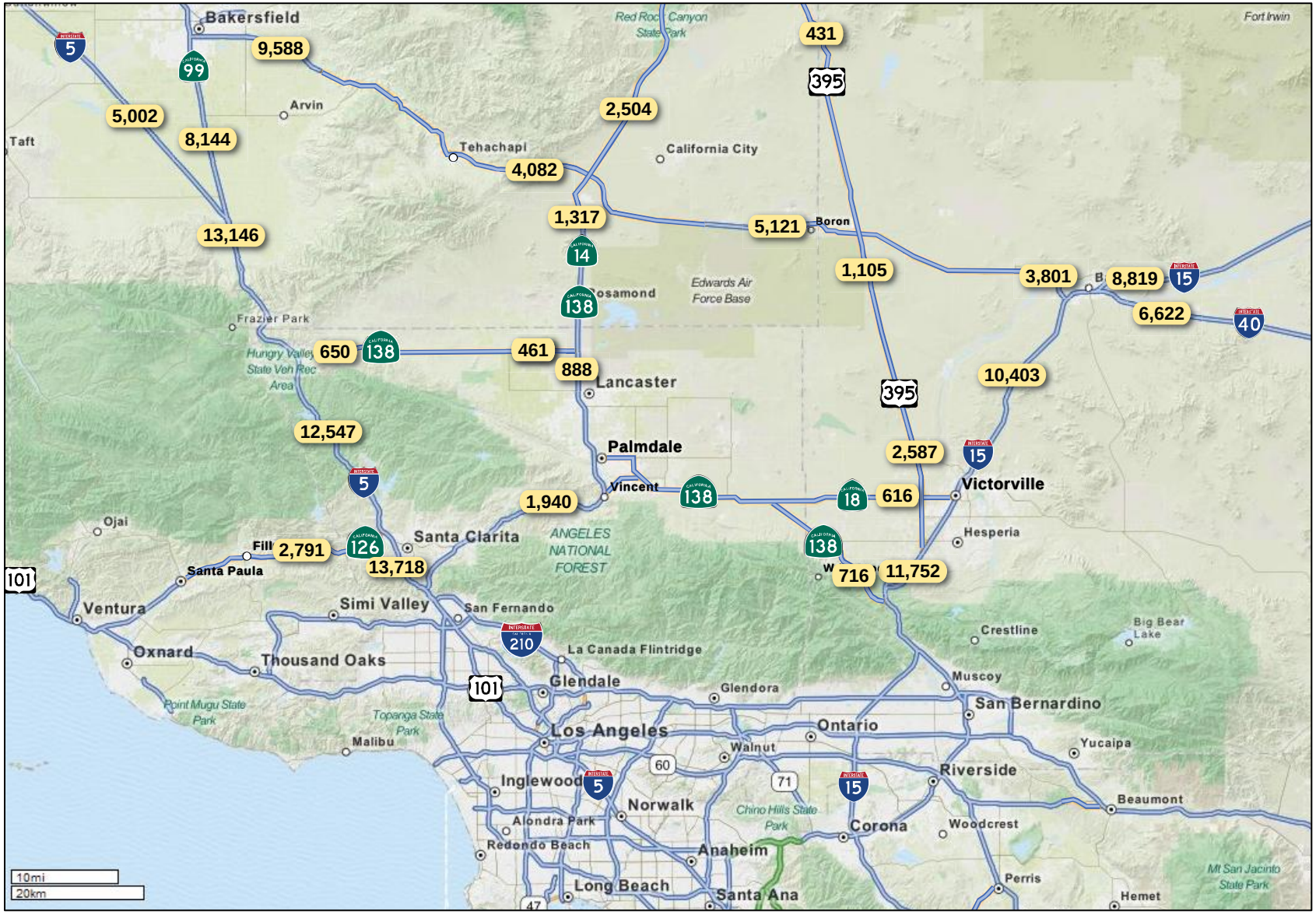


Figure 2-44: Federal Highway Administration Vehicle Classifications



Source: Caltrans, 2009 Traffic Volumes on the State Highway System, Truck Data

Figure 2-45: Medium–Heavy (4-Axle) and Heavy–Heavy (5- and 6-Axle) Truck Volumes in the High Desert Corridor

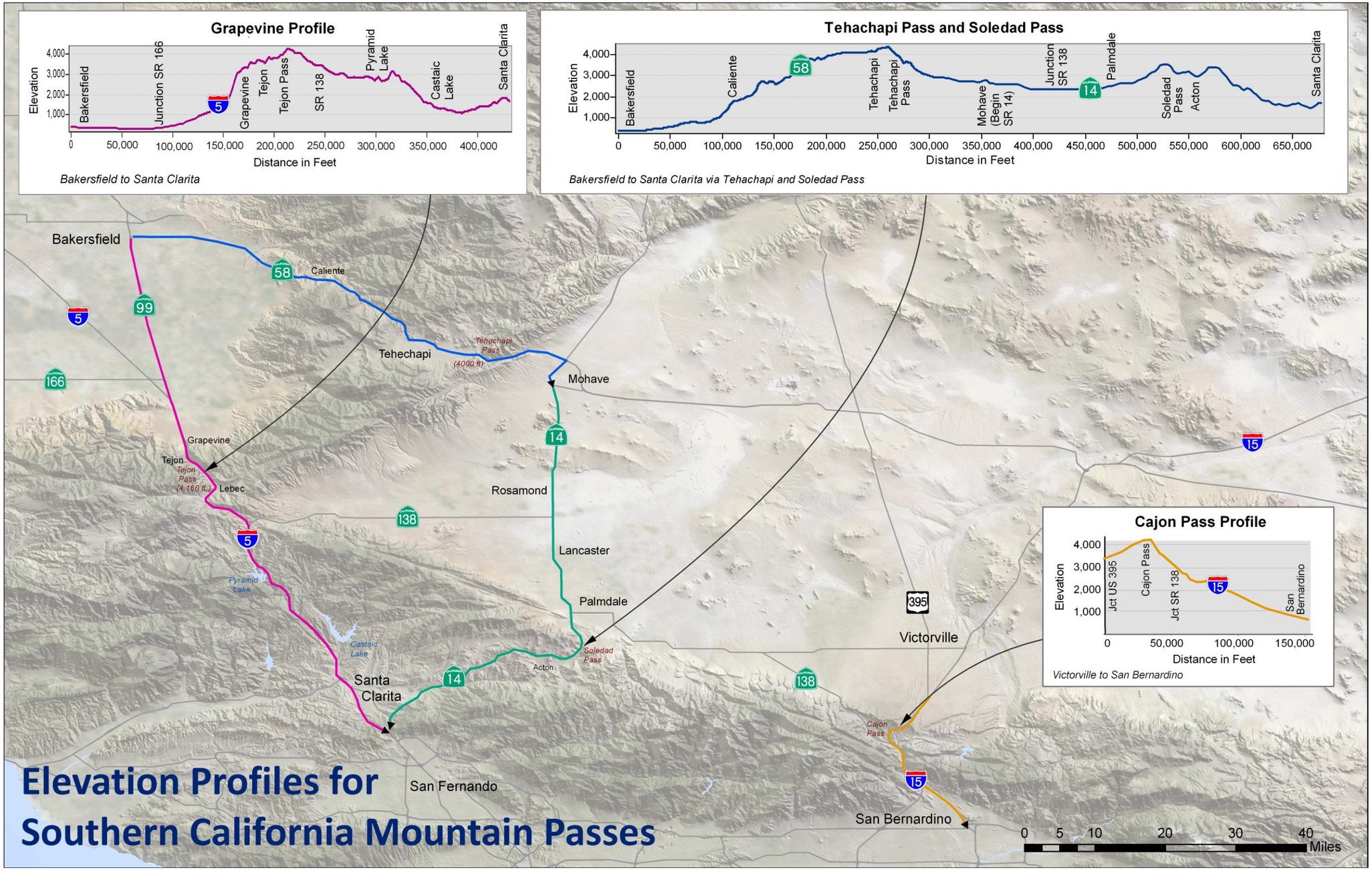
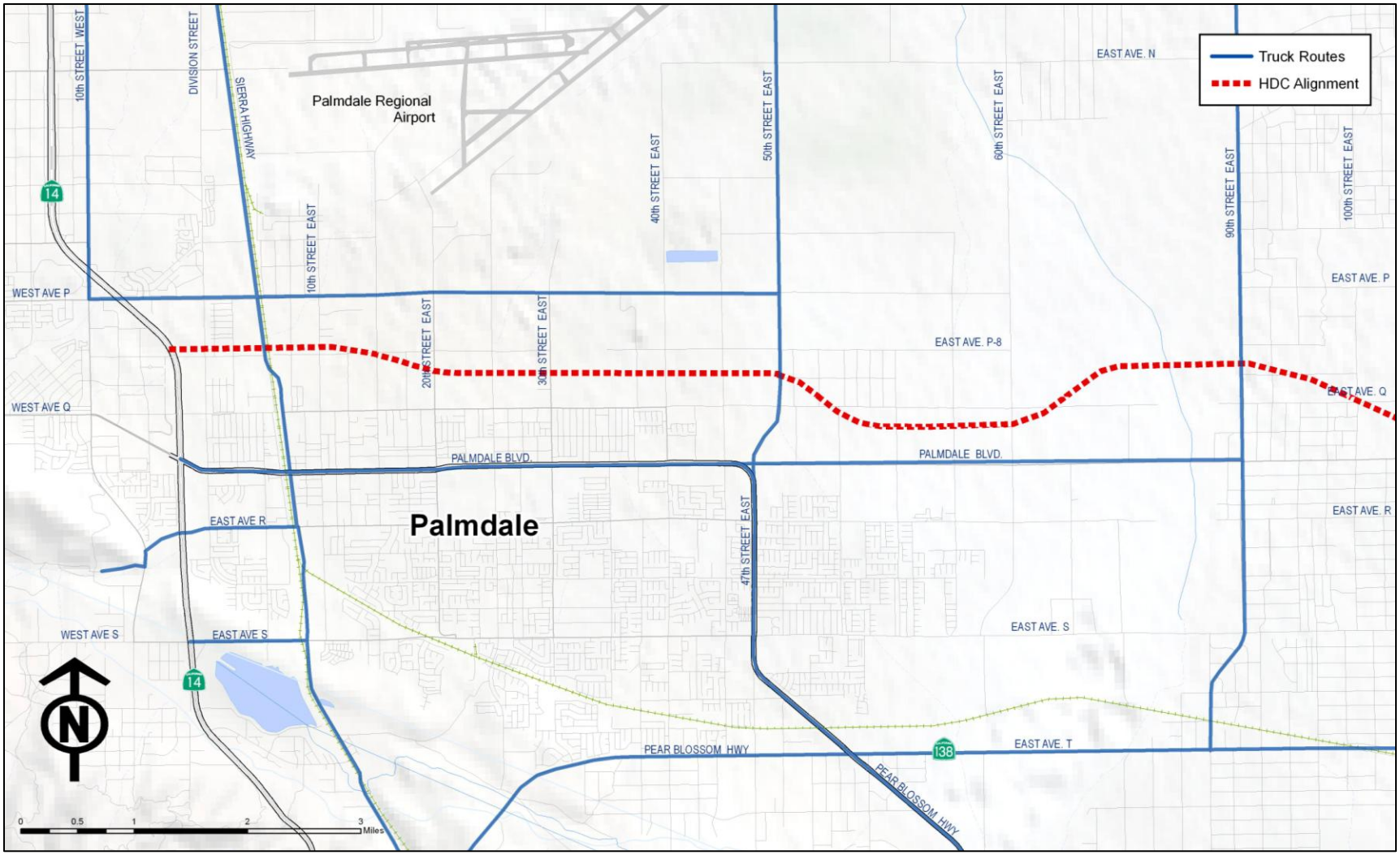
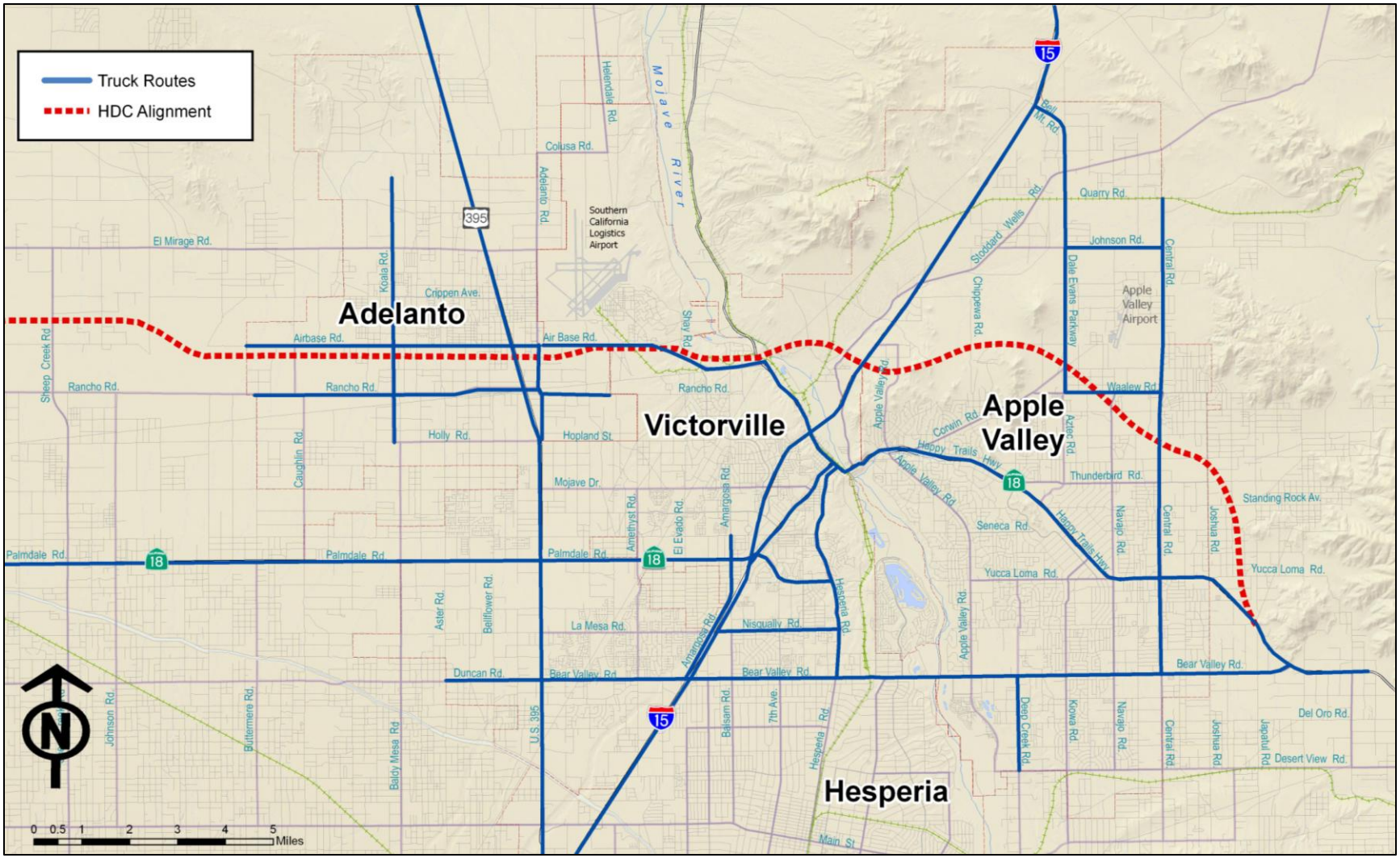


Figure 2-46: Elevation Profiles for Southern California Mountain Passes



Source: City of Palmdale

Figure 2-47: Truck Routes in the Palmdale Segment of the Study Area



Source: Parsons

Figure 2-48: Truck Routes in the Victorville Segment of the Study Area

Vehicle classification counts were conducted in the High Desert Corridor study area during the week of May 12 through 18, 2011 to supplement the truck volume data compiled by Caltrans. Table 2-17 summarizes the two-way traffic count data, following the Caltrans method of vehicle classification. Mid-weekday (Tuesday through Thursday) daily average count data is presented. This supplemental truck count data generally corresponds to the Caltrans truck data presented previously.

Table 2-17. Supplemental Truck Counts in the High Desert Corridor from Truck Count Data *(Year 2011)*

LOCATION TIME	ADT TOTAL	TOTAL TRUCKS	TOTAL TRUCK %	2- AND 3-AXLE VOLUME	2- AND 3-AXLE AS % OF ADT	4- AND 5+-AXLE VOLUME	4- AND 5+-AXLE AS % OF ADT
Palmdale Boulevard (SR 138) East of 25th Street East							
Weekday average	21,143	584	2.8%	401	1.9%	183	0.9%
Pearblossom Highway (SR 18) between SR 138 and 233rd Street							
Weekday average	4,271	419	9.8%	205	4.8%	215	5.0%
Palmdale Road (SR 18) between U.S. Route 395 and Amethyst Road							
Weekday average	17,807	1702	9.6%	1,597	9.0%	105	0.6%
Happy Trail Highway N (SR 18) west of Navajo Road							
Weekday average	14,935	1,696	11.4%	1,210	8.1%	486	3.3%
U.S. Route 395 north of Air Expressway Boulevard							
Weekday average	11,676	3,178	27.2%	1,522	13.0%	1,656	14.2%
U.S. Route 395 north of Palmdale Boulevard							
Weekday average	22,959	1,875	8.2%	879	3.8%	997	4.3%

Note: Weekday average of counts taken May 12 through May 18, 2011.

In addition to the supplemental counts listed in Table 2-17, video counts were taken on the I-15 mainline section in the area of Victorville. These counts were processed using video analysis and the results converted into a report format based on vehicle lengths. The following assumptions were used to convert this data into a format consistent with the other data provided in this report. These counts serve to validate the Caltrans truck count data shown earlier in Table 2-16.

Vehicle length to number of axles conversion assumptions:

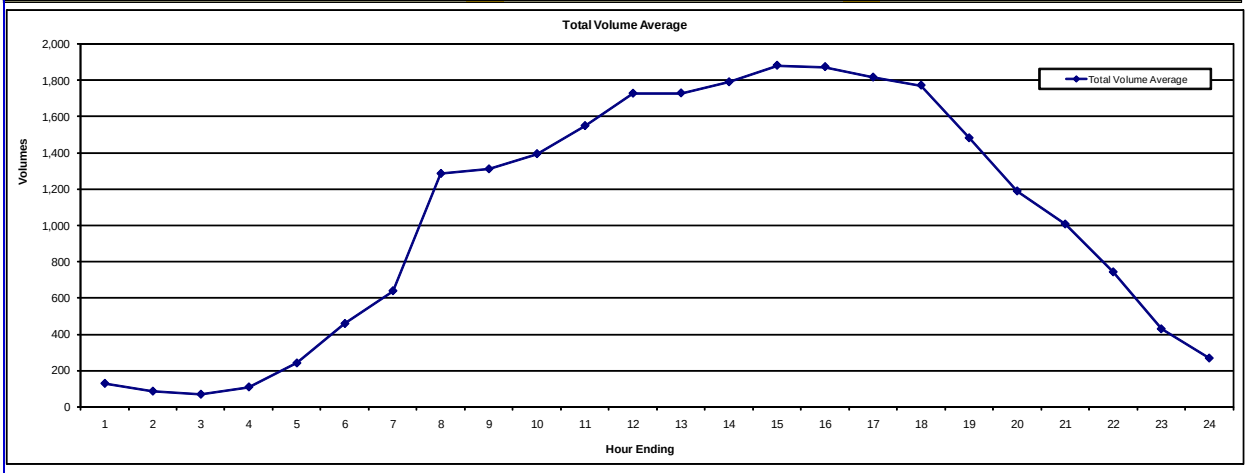
- 0 to 20 feet: FHWA classifications 1 through 3, automobiles and light-duty trucks
- 20 to 40 feet: FHWA classifications 4 through 6, two- to three-axle trucks
- 40 to 50+ feet: FHWA classifications 4 through 6, four- to 5+-axle trucks

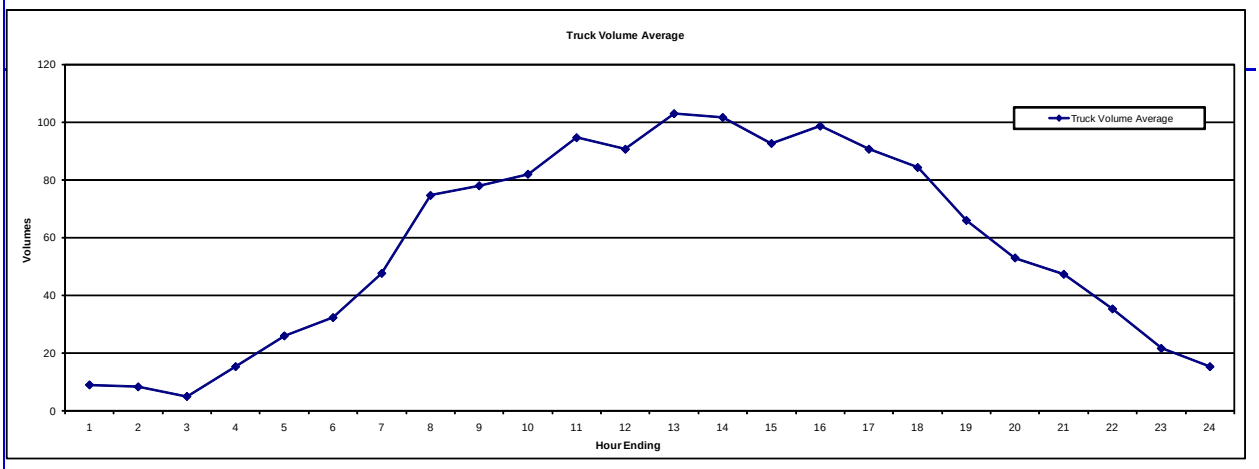
In addition to the Caltrans annual truck counts or estimates, vehicle classification counts were conducted within the vicinity of the proposed project during May 12 through 14, 2009. These counts were conducted mid-block on SR 138 (Palmdale Boulevard) east of 25th Street East, and along SR 14 between the Palmdale Boulevard and Rancho Vista Boulevard/Avenue P interchanges. Figure 2-49 illustrates the diurnal distribution of total traffic and truck traffic (Class 5 through 13) on SR 138. During the AM peak hour for analysis, 7:00 to 8:00 a.m., truck volumes averaged 5.8 percent of the total hourly volume. During the PM peak hour selected for analysis, 5:00 to 6:00 p.m., truck volumes averaged 4.8 percent of the total hourly volume.

Insofar as SR 14, vehicle classification count data was collected on one day, May 14, 2009, by video recording traffic flows, and subsequently manually counting and classifying vehicles off site.

The results of this effort are illustrated on Figure 2-50, with results broken down by direction of travel. The vehicle classification counts on SR 14 indicate that trucks (Classes 5 through 13) constitute 6.0 percent of northbound AM peak hour traffic and 3.1 percent of southbound volumes. During the PM peak hour, the proportion of trucks is 1.9 percent of northbound volumes and 2.5 percent of southbound flows.

DAY	24-HOUR PERIOD																								24-HOUR COUNT TOTAL
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
Tuesday Total Volume	120	78	62	111	224	449	616	1,285	1,260	1,401	1,516	1,667	1,643	1,743	1,883	1,910	1,817	1,742	1,484	1,126	937	699	407	281	24,461
Wednesday Total Volume	134	85	63	93	248	492	651	1,297	1,377	1,359	1,610	1,815	1,743	1,841	1,937	1,847	1,779	1,759	1,507	1,218	1,019	757	452	217	25,300
Thursday Total Volume	129	91	78	120	249	433	649	1,276	1,297	1,425	1,524	1,704	1,805	1,791	1,829	1,869	1,857	1,819	1,457	1,224	1,065	773	427	304	25,195
Tuesday Truck Volume	9	10	5	16	25	29	42	69	76	77	86	84	95	96	83	101	80	81	66	49	41	39	23	18	1,300
Wednesday Truck Volume	9	10	4	10	22	37	52	72	81	80	111	101	106	95	92	91	92	84	68	55	42	32	24	11	1,381
Thursday Truck Volume	9	5	6	20	31	31	49	83	77	89	87	87	108	114	103	104	100	88	64	55	59	35	18	17	1,439
Tuesday Truck Percentage	7.5%	12.8%	8.1%	14.4%	11.2%	6.5%	6.8%	5.4%	6.0%	5.5%	5.7%	5.0%	5.8%	5.5%	4.4%	5.3%	4.4%	4.6%	4.4%	4.4%	4.4%	5.6%	5.7%	6.4%	5.3%
Wednesday Truck Percentage	6.7%	11.8%	6.3%	10.8%	8.9%	7.5%	8.0%	5.6%	5.9%	5.9%	6.9%	5.6%	6.1%	5.2%	4.7%	4.9%	5.2%	4.8%	4.5%	4.5%	4.1%	4.2%	5.3%	5.1%	5.5%
Thursday Truck Persentage	7.0%	5.5%	7.7%	16.7%	12.4%	7.2%	7.6%	6.5%	5.9%	6.2%	5.7%	5.1%	6.0%	6.4%	5.6%	5.6%	5.4%	4.8%	4.4%	4.5%	5.5%	4.5%	4.2%	5.6%	5.7%
Total Volume Average	128	85	68	108	240	458	639	1,286	1,311	1,395	1,550	1,729	1,730	1,792	1,883	1,875	1,818	1,773	1,483	1,189	1,007	743	429	267	24,985
Truck Volume Average	9	8	5	15	26	32	48	75	78	82	95	91	103	102	93	99	91	84	66	53	47	35	22	15	1,373
Truck Percentage Average	7.1%	10.0%	7.4%	13.9%	10.8%	7.0%	7.5%	5.8%	6.0%	5.9%	6.1%	5.2%	5.9%	5.7%	4.9%	5.3%	5.0%	4.8%	4.5%	4.5%	4.7%	4.8%	5.1%	5.7%	5.5%





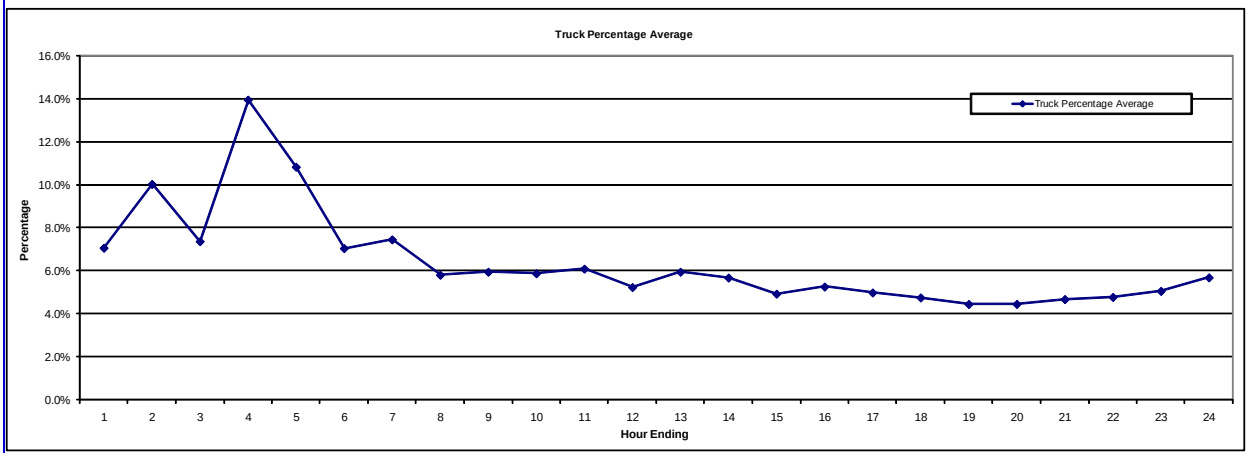
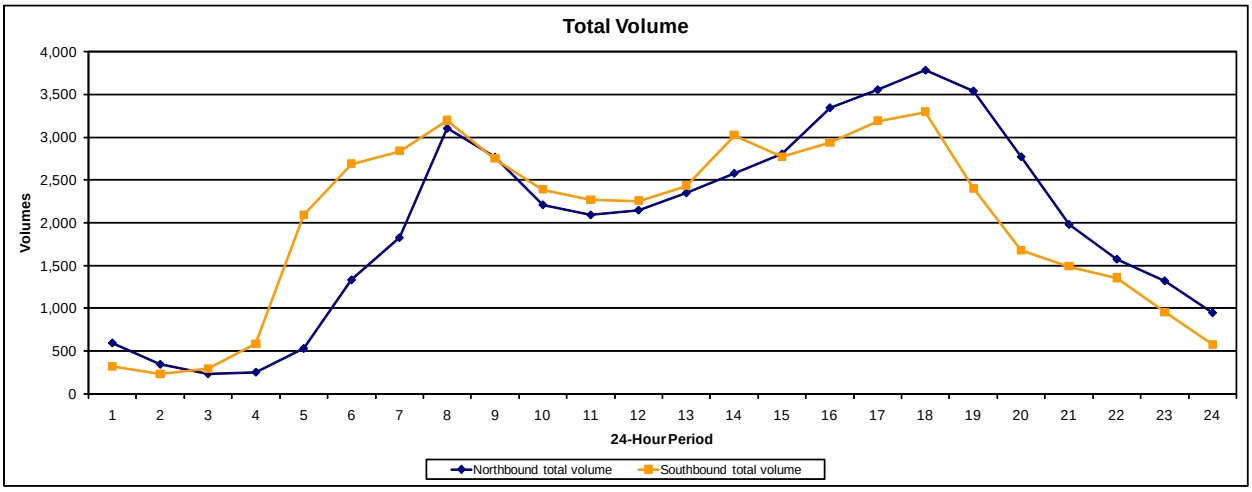
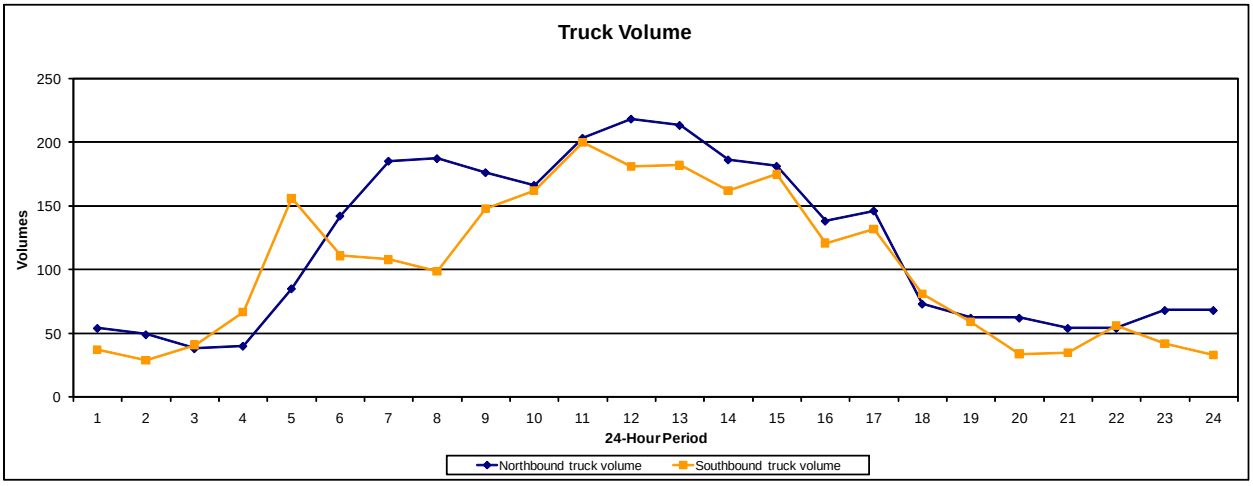


Figure 2-49: Existing Diurnal Distribution of Truck Volumes on SR 138 *(PM 46.6) (Year 2009)*

THURSDAY VOLUMES	24-HOUR PERIOD																								24-HOUR COUNT TOTAL
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	
Northbound total volume	592	343	232	251	528	1,329	1,822	3,098	2,762	2,206	2,088	2,144	2,345	2,574	2,800	3,339	3,550	3,778	3,535	2,767	1,976	1,571	1,318	945	47,893
Northbound truck volume	54	49	38	40	85	142	185	187	176	166	203	218	213	186	181	138	146	73	62	62	54	54	68	68	2,848
Northbound truck percentage	9.1%	14.3%	16.4%	15.9%	16.1%	10.7%	10.2%	6.0%	6.4%	7.5%	9.7%	10.2%	9.1%	7.2%	6.5%	4.1%	4.1%	1.9%	1.8%	2.2%	2.7%	3.4%	5.2%	7.2%	5.9%
Southbound total volume	319	231	291	582	2,088	2,683	2,832	3,190	2,747	2,387	2,265	2,254	2,429	3,021	2,767	2,934	3,188	3,291	2,396	1,674	1,487	1,351	952	574	47,933
Southbound truck volume	37	29	41	67	156	111	108	99	148	162	200	181	182	162	175	121	132	81	59	34	35	56	42	33	2,451
Southbound truck percentage	11.6%	12.6%	14.1%	11.5%	7.5%	4.1%	3.8%	3.1%	5.4%	6.8%	8.8%	8.0%	7.5%	5.4%	6.3%	4.1%	4.1%	2.5%	2.5%	2.0%	2.4%	4.1%	4.4%	5.7%	5.1%





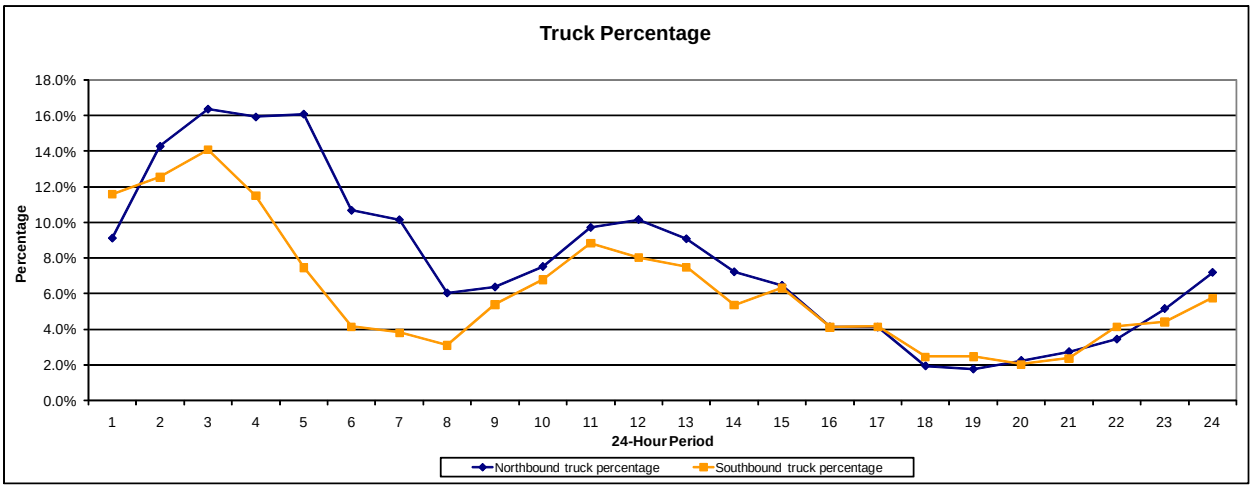


Figure 2-50: Existing Diurnal Distribution of Truck Volumes on SR 14 *(PM 60.8) (Year 2009)*

2.6 Public Transportation

2.6.1 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.

LOCAL BUS

The Antelope Valley Transit Authority's local bus service takes children to school, employees to work and residents to local stores and malls. The Antelope Valley Transit Authority patrons pay a one-way fare of only $1.50 cash or $1.25 with a TAP card. Seniors and persons with disabilities ride free with proper identification. The Antelope Valley Transit Authority also provides Dial-a-Ride, which is a curb-to-curb service primarily for disabled persons.

The alignment of the Antelope Valley Transit Authority bus routes serving Palmdale and Lancaster are illustrated on Figure 2-51. This graphic indicates that five routes serve the Palmdale Transportation Center, accessing the facility from East Avenue P, Technology Drive, Sierra Highway, and Carriage Way.

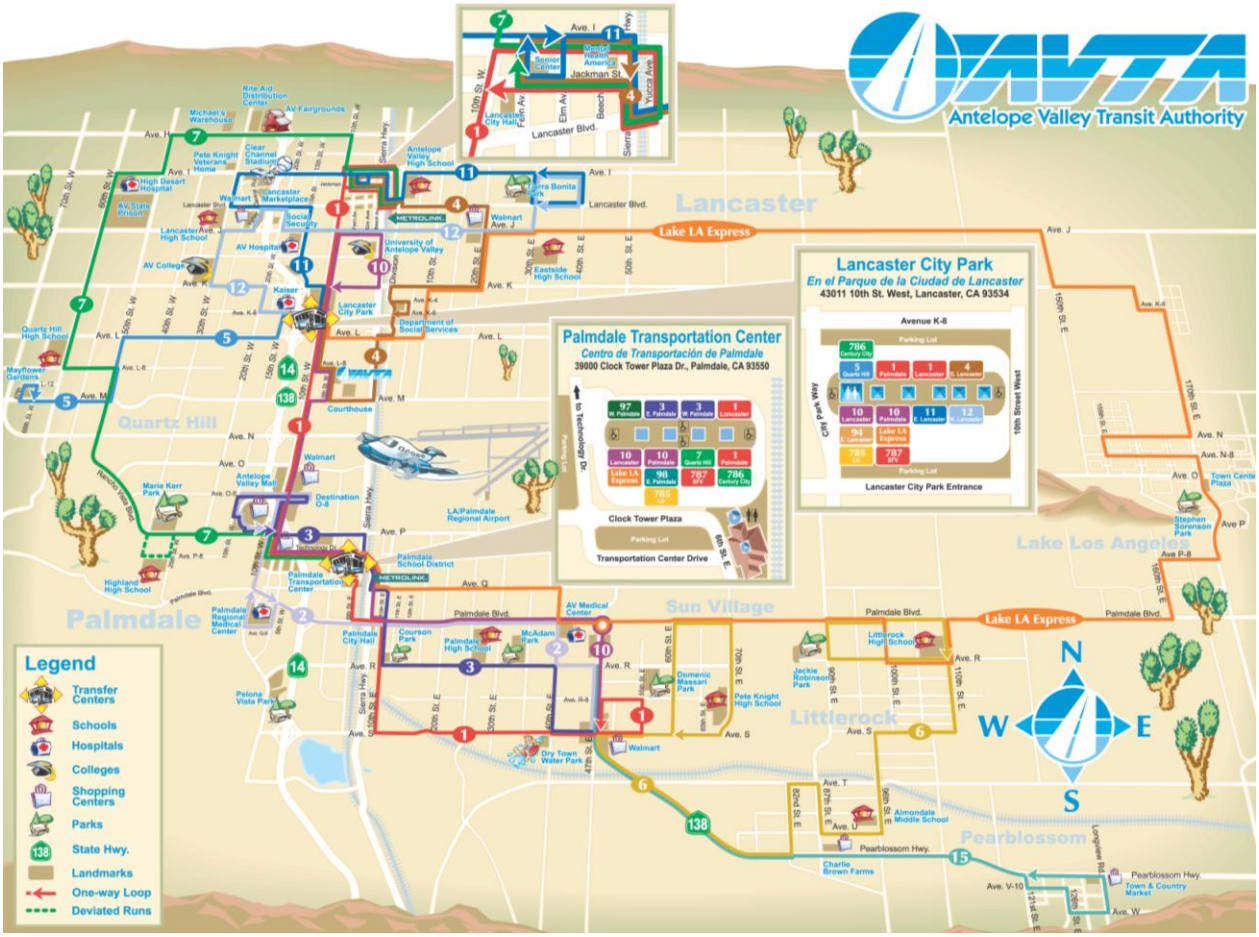


Figure 2-51: Antelope Valley Transit Authority Local Bus Route Network

The proposed alignment and grade separations of the proposed multimodal High Desert Corridor project will not affect access to these facilities or services.

To the east, the Lake L.A. Express route, which operates on 60-minute headways, crosses the proposed freeway alignment at 40th Street East. A grade separation is currently proposed at 40th Street, so this transit line will not be affected.

COMMUTER BUS

The Antelope Valley Transit Authority provides commuter bus service to Los Angeles and the San Fernando Valley. All commuter buses are equipped with plush, high-back reclining seats, restrooms and individually controlled lighting and air conditioning vents. There are three park-and-ride lots in Palmdale.

Commuter bus routes serve three locations:

- **Route 785** runs to downtown Los Angeles. Seven trips depart the PTC in the morning, beginning at 4:05 a.m. with the last trip leaving at 6:45 a.m. Seven trips return in the afternoon, arriving at the PTC between 4:40 and 7:15 p.m.
- **Route 786** runs to West Los Angeles, with two trips in the morning, departing the PTC at 5:20 and 6:00 a.m. These buses return to the PTC at 6:25 and 6:50 p.m.
- **Route 787** runs to the West San Fernando Valley with nine trips in the morning, leaving the PTC between 4:00 and 6:20 a.m. Return trips (nine) arrive at the PTC between 4:15 and 7:18 p.m.

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. The weekday timetable for this popular service is shown in Table 2-18. Individual Metrolink fares are calculated with a distance-based formula using the shortest driving distance between stations, with substantial discounts available for weekly and monthly passes. A popular $10 weekend pass is offered, featuring unlimited system-wide travel after 7:00 p.m. on Friday until 11:59 p.m. Sunday.

BICYCLE ROUTES AND TRAILS

Figure 2-52 illustrates the locations of bicycle facilities and multi-use trails within the focused traffic study area. Schools, City of Palmdale facilities (attractions) and parks are additionally indicated on the graphic.

City adopted master plan routes cross the proposed multimodal High Desert Corridor alignment along Sierra Highway, 40th Street East, 50th Street East and 90th Street East.

2.6.2 High Desert

BICYCLE ROUTES AND TRAILS

There are a number 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 which 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.

Table 2-18. Metrolink Public Timetable

ANTELOPE VALLEY LINE • 200 SERIES — **Lancaster to LA**

MONDAY THROUGH FRIDAY

Metrolink Service No.	200	202	204	282	206	208	🚌	210	284	212	🚌	286	214	216	🚌	218	🚌	220	222
Lancaster	3:58	4:55	5:20		6:15	6:52				8:55			11:35	1:30					6:05
Palmdale	4:07	5:04	5:29	6:07	6:24	7:01	8:00			9:04	10:40		11:44	1:39	2:15		4:00		6:15
Vincent Grade/Acton	4:18	5:15	5:40		6:35	7:12				9:15			11:55	1:50					↓
Via Princessa	4:50	5:49	6:14	↓	7:09	7:46		8:52		9:47			•12:29	2:24		3:15			7:12
Santa Clarita	4:56	5:55	6:20	6:53	7:15	7:52	↓	8:58	9:30	9:53	↓	11:55	•12:35	2:30	↓	3:21	↓	5:05	7:18
Newhall	5:03	6:02	6:27	↓	7:22	7:59	8:50 ➤	9:05	9:37	10:01	11:30 ➤	12:02	•12:47	2:38	3:05 ➤	3:28	4:50 ➤	5:13	7:25
Sylmar/San Fernando	5:16	6:16	6:41	7:12	7:36	8:13		9:19	9:56	10:14		12:16	•1:01	2:52		3:42		5:27	7:39
Sun Valley	5:23	6:23	6:57	↓	7:43	8:20		9:26	10:03	10:21		12:23	•1:08	2:59		3:49		5:34	7:46
Downtown Burbank	•5:30	•6:31	•7:03	•7:25	•7:51	•8:27		•9:34	10:10	•10:28		•12:29	•1:15	•3:06		•3:56		•5:41	•7:53
Glendale ★	•5:37	•6:38	•7:09	↓	•7:58	•8:33		•9:41	10:17	•10:35		•12:35	•1:22	•3:13		•4:03		•5:48	•8:00
L.A. Union Station ★	5:53	6:55	7:26	7:40	8:15	8:52		10:00	10:30	10:50		12:50	1:35	3:30		4:20		6:10	8:25

🚌 North County TRANSporter bus service

NOTES: See page 3

MONDAY THROUGH FRIDAY

Metrolink Service No.	201	203	281	🚌	205	283	🚌	207	209	🚌	211	213	🚌	215	285	217	219	221	223
L.A. Union Station ★	6:30	7:30	8:10		9:20	10:45		11:20	1:55		3:45	4:00		4:45	5:35	5:50	6:30	7:40	9:25
Glendale ★	6:41	7:40	8:19		9:30	10:55		11:30	2:05		3:55	4:10		4:55	↓	6:00	6:40	7:50	9:35
Downtown Burbank	6:47	7:46	8:25		9:36	11:01		11:36	2:11		4:01	4:16		5:01	5:49	6:06	6:46	7:56	9:41
Sun Valley	6:52	7:52	8:32		9:42	11:08		11:42	2:17		4:07	4:22		5:07	↓	6:12	6:52	8:02	9:47
Sylmar/San Fernando	6:59	8:00	8:39		9:50	11:15		11:50	2:25		4:16	4:30		5:15	6:02	6:20	7:00	8:10	9:55
Newhall	7:18	•8:17	•8:52 ➤	9:10	10:04	•11:28 ➤	11:40	12:03	•2:38 ➤	2:50	4:29	•4:43 ➤	5:00	5:34	↓	6:33	7:13	8:23	10:08
Santa Clarita	7:25	•8:24	9:14		10:12	11:40		12:11	•2:45		4:36	4:55		5:41	•6:22	6:41	7:23	8:31	10:15
Via Princessa	7:31	8:37			10:18			12:17	3:00		4:42			5:48		6:47	7:29	8:37	10:21
Vincent Grade/Acton	•8:10			↓	•10:54		↓	•12:58		↓	•5:19		↓	•6:25	↓	•7:30	•8:06	•9:11	•10:58
Palmdale	•8:20			10:00	•11:04		12:30	•1:08		3:40	•5:30		5:50	•6:35	7:08	•7:40	•8:16	•9:20	•11:08
Lancaster	8:40				11:20			1:20			5:50			6:55		7:56	8:32	9:40	11:25

🚌 North County TRANSporter bus service
Northbound TRANSporter bus stops at the Vincent Grade/Acton Metrolink station by request only.

NOTES: See page 3

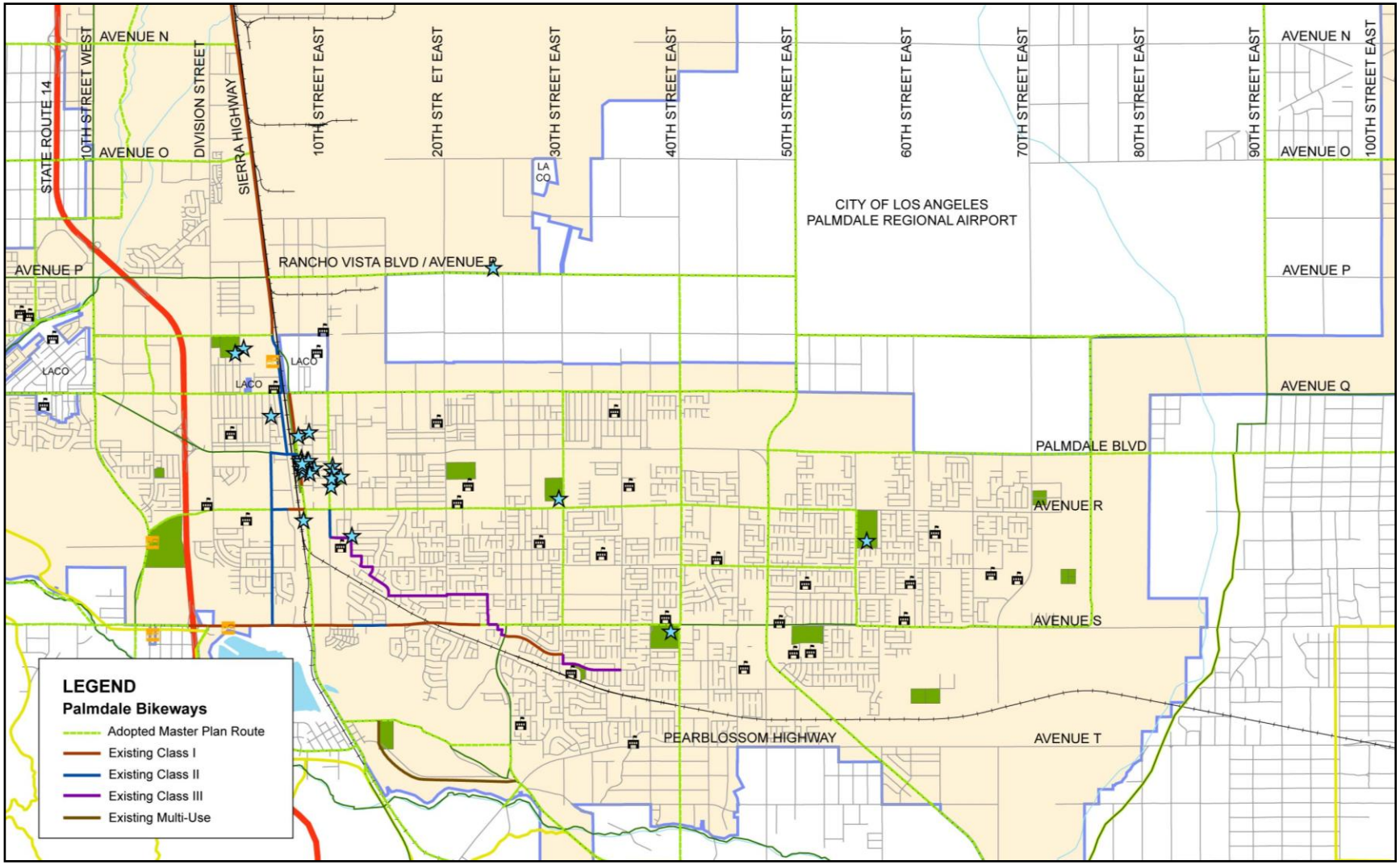
ANTELOPE VALLEY LINE • 200 SERIES — **LA to Lancaster**

Source: Metrolink All Lines Timetable, effective October 1, 2012

2.6.3 Victor Valley

The Victor Valley Transit Authority provides local bus service for the communities of Adelanto, Apple Valley, Hesperia, Victorville, and San Bernardino County. The majority of the public transportation servicing the Victor Valley area revolves around the Victor Valley Transit Center. The Victor Valley Transit Authority 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, Wrightwood. Service is also provided to Barstow and Fort Irwin.

The Victor Valley Transit Authority operates local fixed-route and Americans with Disabilities Act (ADA) complementary paratransit bus services in the Victor Valley area. It has a maintenance facility located in Hesperia. The Fort Irwin service is branded as the NTC Commuter. The board of directors includes council members from the above cities and the San Bernardino 1st District supervisor. Since 1998, the board has held a management contract with McDonald Transit Associates, Inc. for administration of the system. In January 2005, the operations contract for all transit service in the Victor Valley area was consolidated under a separate contract with ATC (now Veolia).



Source: City of Palmdale

Figure 2-52: Palmdale Bicycle Routes and Multi-purpose Trails

LOCAL BUS

The Victor Valley Transit Authority is the agency that runs the public bus service throughout Victor Valley. There are three types of routes that Victor Valley Transit Authority runs, totaling 18 different bus routes that run Monday through Saturday. There are eleven fixed routes that charge $1.25 one-way for adults ($50/month), $1.00 one-way for students ($40/month), $0.60 one-way for seniors ($25/month), and children under five ride for free. For the three county routes, the regular one-way fare is $2.25 ($75/month), the student one-way fare is $2.00 ($65/month), the senior one-way fare is $1.00 ($35/month), and children under five ride free. Day passes are also available for both county and fixed routes for the range of $1.75 to $5.50. There are also deviated service routes whose fares are about the same as county routes. The fixed-bus routes offered by Victor Valley Transit Authority are listed in Table 2-19.

The proposed alignment and grade separations of the proposed multimodal High Desert Corridor project will not affect access to these facilities or services.

The Victor Valley Transportation Authority also offers services to help senior citizens and people with disabilities. The Bus Buddy program is designed to help seniors and persons with disabilities get acquainted with the bus system by pairing them with volunteers who are familiar with services that the Victor Valley Transportation Authority has to offer. Direct Access is a public transportation service, by reservations, for those who are eligible for the ADA, and so caters to people's needs, although companions and registered personal care attendants are allowed with the riders.

Table 2-19. Victor Valley Transit Authority Fixed-Bus Routes

Route 21	Tri-Community
Route 23	Helendale
Route 23	Lucerne Valley
Route 31	Adelanto–Victorville
Route 32	Adelanto– Victorville North
Route 33	Adelanto Circulator
Route 40	Apple Valley North
Route 41	Apple Valley/Victorville
Route 43	Apple Valley/Victor Valley College
Route 44	Victor Valley Mall/Hesperia
Route 45	Victorville/Hesperia
Route 46	Hesperia Route Deviation
Route 47	Apple Valley South Route Deviation
Route 48	Hesperia West
Route 51	Victorville Circulator
Route 52	Victorville/Mall
Route 53	Victor Valley College/Victor Valley Mall
Route 54	Victorville West

There are 64 active and spare buses that are operated by the Victor Valley Transportation Authority. Most of the buses that the Victor Valley Transportation Authority operates are diesel powered, while five are liquefied natural gas and 15 are compressed natural gas. More than half of the buses that the Victor Valley Transportation Authority operates are equipped as ADA service vehicles.

National Training Center (NTC) Commuter Route

The NTC Commuter Route is a relatively new service provided by the Victor Valley Transportation Authority with a Monday-Friday schedule between Victorville and Fort Irwin. The current service schedule for the NTC Route is shown in Table 2-20, while fares for this service are shown in Table 2-21.

Table 2-20. NTC Commuter Route Service

	NTC Commuter							
	Departure Times from Victorville & Barstow							
	Monday through Friday							
	Route 101A	Route 103A	Route 104A	Route 102A	Route 105A	Route 106A	Route 107A	Route 101A
	WLMT-NTC AM	D ST-NTC AM	BVPR-NTC AM	WLMT-NTC AM	L ST-NTC AM	WLMT-NTC AM	BVPR-NTC AM	WLMT-NTC AM
Bear Valley Park & Ride (Victorville)			5:00				5:45	
D Street (Victorville)		4:45					6:00	
Silver Lakes Market (Helendale)					4:45			
Walmart (Barstow)	4:15			5:25		5:50		6:30
L Street Park & Ride (Barstow)					5:15	6:00		
Williams Street (Barstow)	4:25				5:25	6:05	6:35	
Cemetery (Barstow)	4:45	5:30				6:25		6:45
NTC (Ft. Irwin)	5:25	6:30	6:30	6:30	6:30	7:15*	7:30	7:30
						Becomes B-V Link M, W, TH		

*The NTC Commuter bus becomes B-V Link on Mondays, Wednesdays and Thursdays only.
After NTC, the bus becomes B-V Link, travels to Barstow Hospital for the 7:50 a.m. stop and then continues to Victorville.
B-V Link returns to NTC after its 4:00 p.m. Barstow City Hall Stop.
B-V Link limited time fare: $6 each way, $12 round trip. B-V Link passes are valid on all VVTA routes on day of purchase

	NTC Commuter							
	Departure Times from NTC							
	Monday through Friday							
	Route 101B	Route 102B	Route 103B	Route 104B	Route 105B	Route 106B	Route 107B	Route 101B
	NTC-WLMT PM	NTC-BVPR PM	NTC-BVPR PM	NTC-L ST PM	NTC-S LAK PM	NTC-WILLIAMS PM	NTC-BVPR PM	NTC-BVPR PM
NTC (Ft. Irwin)	3:45	3:45	4:15	4:15	4:45	4:45	4:45	6:00
Cemetery (Barstow)	4:30			5:00		5:30		6:35
Williams Street (Barstow)	4:50			5:20		5:50		6:55
Walmart (Barstow)	5:00			5:30	5:40			7:00
L Street Park & Ride (Barstow)	5:10			5:40	5:55			7:10
Silver Lakes Market (Helendale)					6:25			
D Street (Victorville)		5:10	5:40				6:10	7:50
Bear Valley Park & Ride (Victorville)		5:20	5:45				6:20	8:05

Source: Victor Valley Transit Authority, http://www.vvta.org/ntccommuter.html

Table 2-21. NTC Commuter Route Fares

Monthly Flash Pass (Victorville)	$200.00
Monthly Flash Pass (Barstow)	$150.00
Regular One-way Fare (Victorville)	$ 10.00
Regular One-way Fare (Barstow)	$ 8.00
Student/Senior/Disabled Monthly Flash Pass (Victorville)*	$100.00
Student/Senior/Disabled Monthly Flash Pass (Barstow)*	$ 75.00
Student/Senior/Disabled One-way Fare (Victorville)*	$ 5.00
Student/Senior/Disabled One-way Fare (Barstow)*	$ 4.00
Children 5 and under	Free (up to 3 children per adult fare)

* Students 14 and older must present a valid school photo ID for discounted fare.

BARSTOW TO VICTOR VALLEY (B-V) LINK LIFELINE SERVICES

The Victor Valley Transportation Authority offers the B-V (Barstow to Victor Valley) Link Lifeline Services, which link Fort Irwin, Barstow, Apple Valley, Victorville and San Bernardino Valley. The current service operates on Monday, Wednesdays, and Fridays on the service schedule shown in Table 2-22, while fares for this service are shown in Table 2-23.

Table 2-22. B-V Link Lifeline Services Schedule

MONDAY – WEDNESDAY – THURSDAY										
FORT IRWIN to SAN BERNARDINO VALLEY – SOUTHBOUND										
FORT IRWIN	BARSTOW HOSPITAL	BARSTOW MAIN ST. AND 6th	BARSTOW TRANSIT CTR. CITY HALL	ST. MARY MEDICAL CENTER	7th AND LORENE (COSTCO)	DOWNTOWN SAN BERNARDINO (4th AND G)	SAN BERNARDINO METROLINK	ARROWHEAD MEDICAL CENTER	KAISER HOSPITAL FONTANA	FONTANA METROLINK
—	—	—	—	—	7:00 a.m.	7:45 a.m.	7:47 a.m.	7:55 a.m.	8:05 a.m.	8:10 a.m.
6:30 a.m.	7:50 a.m.	7:53 a.m.	8:00 a.m.	8:40 a.m.	9:00 a.m.	9:45 a.m.	9:47 a.m.	9:55 a.m.	10:05 a.m.	10:10 a.m.
—	9:50 a.m.	9:53 a.m.	10:00 a.m.	10:40 a.m.	11:00 a.m.	—	—	—	—	—
—	—	—	—	—	12:15 p.m.	1:00 p.m.	1:03 p.m.	1:10 p.m.	1:20 p.m.	1:25 p.m.
—	—	—	—	—	2:15 p.m.	3:00 p.m.	3:03 p.m.	3:10 p.m.	3:20 p.m.	3:25 p.m.
—	3:50 p.m.	3:53 p.m.	4:00 p.m.	4:40 p.m.	5:00 p.m.	—	—	—	—	—

SAN BERNARDINO VALLEY to FORT IRWIN – NORTHBOUND										
DOWNTOWN SAN BERNARDINO (4th AND G)	SAN BERNARDINO METROLINK	ARROWHEAD MEDICAL CENTER	KAISER HOSPITAL FONTANA	FONTANA METROLINK	7th AND LORENE (COSTCO)	ST. MARY MEDICAL CENTER	BARSTOW HOSPITAL	BARSTOW MAIN ST. AND 6th	BARSTOW TRANSIT CTR. CITY HALL	FORT IRWIN
—	—	—	—	—	8:45 a.m.	9:06 a.m.	9:50 a.m.	9:53 a.m.	10:00 a.m.	—
7:45 a.m.	7:47 a.m.	7:55 a.m.	8:05 a.m.	8:10 a.m.	9:00 a.m.	—	—	—	—	—
9:45 a.m.	9:47 a.m.	9:55 a.m.	10:05 a.m.	10:10 a.m.	11:00 a.m.	—	—	—	—	—
1:00 p.m.	1:03 p.m.	1:10 p.m.	1:20 p.m.	1:25 p.m.	2:45 p.m.	3:06 p.m.	3:50 p.m.	3:53 p.m.	4:00 p.m.	—
3:00 p.m.	3:03 p.m.	3:10 p.m.	3:20 p.m.	3:25 p.m.	4:45 p.m.	5:06 p.m.	5:50 p.m.	5:53 p.m.	6:00 p.m.	7:00 p.m.

Table 2-23. B-V Link Fares

NTC to Barstow	$ 6.00
NTC to Victor Valley	$12.00
NTC to San Bernardino Valley	$18.00
Barstow to Victor Valley	$ 6.00
Barstow to San Bernardino Valley	$12.00
Victor Valley to San Bernardino Valley	$ 6.00

Senior/disabled/Medicare pass available at half off the regular rates.

BICYCLE ROUTES AND TRAILS

Figures 2-53 and 2-54 illustrate the locations of bicycle facilities and multi-use trails within the focused traffic study area. These trails are largely located within the Town of Apple Valley and in Victorville. Schools, attractions and parks are additionally indicated on the graphic.

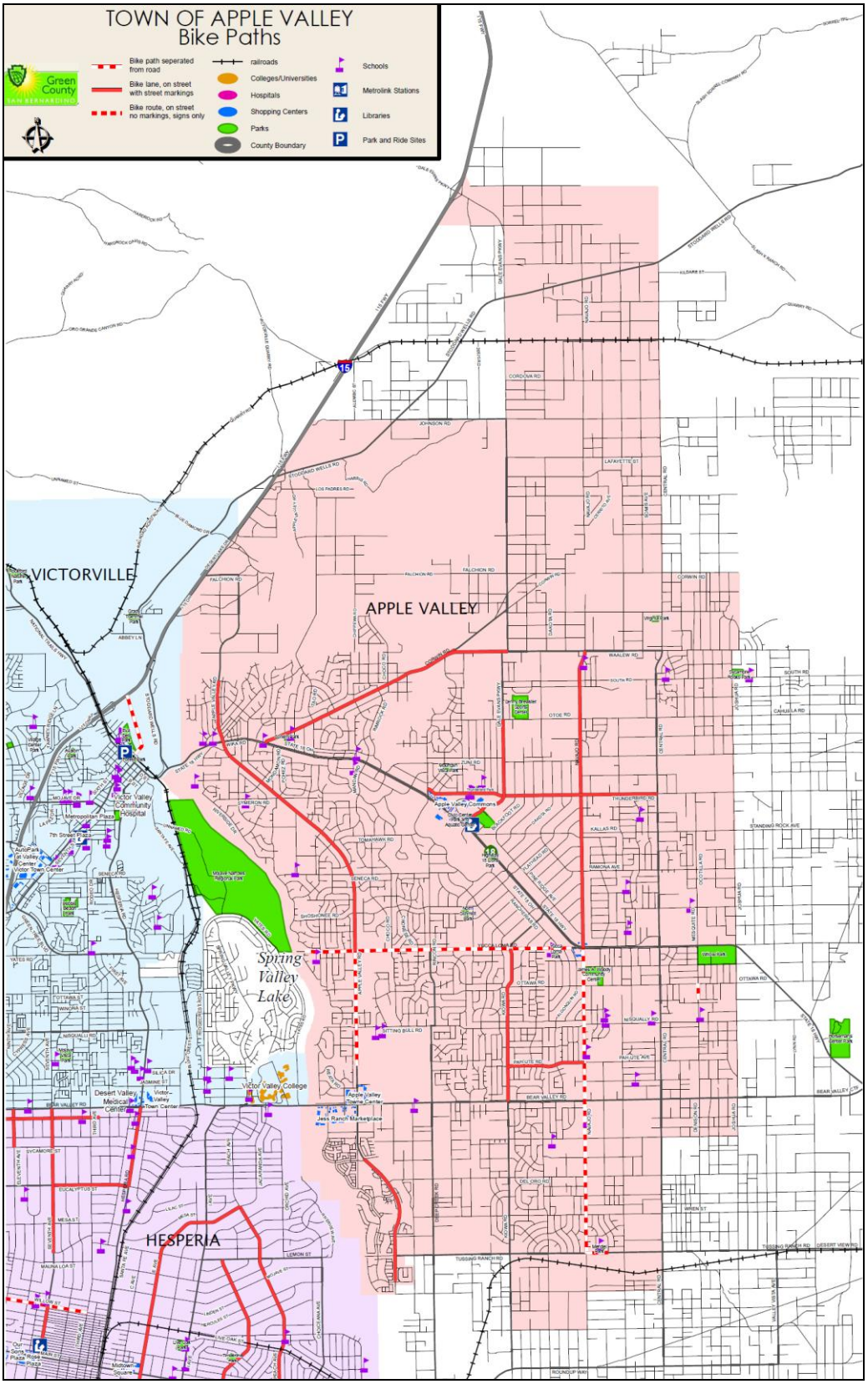
City adopted master plans indicate that proposed bicycle routes, lanes or paths cross the proposed multimodal High Desert Corridor alignment along U.S. Route 395, Phantom East and National Trails Highway, all of which would be grade separated.

SAN BERNARDINO REGIONAL VANPOOL PROGRAM

The Victor Valley Transportation Authority has secured a federal grant to jump-start an ongoing, vanpool subsidy program for vanpools that originate or terminate in the greater Victor Valley. Qualified vanpools will receive up to $400 per month, on an ongoing basis, to help defray the costs of this alternative commuting mode. This monthly subsidy is provided for the entire vanpool and is not provided to the individual participants. Only the vanpool leaseholder may apply for the subsidy and upon approval, the subsidy reduces the cost of the monthly lease.

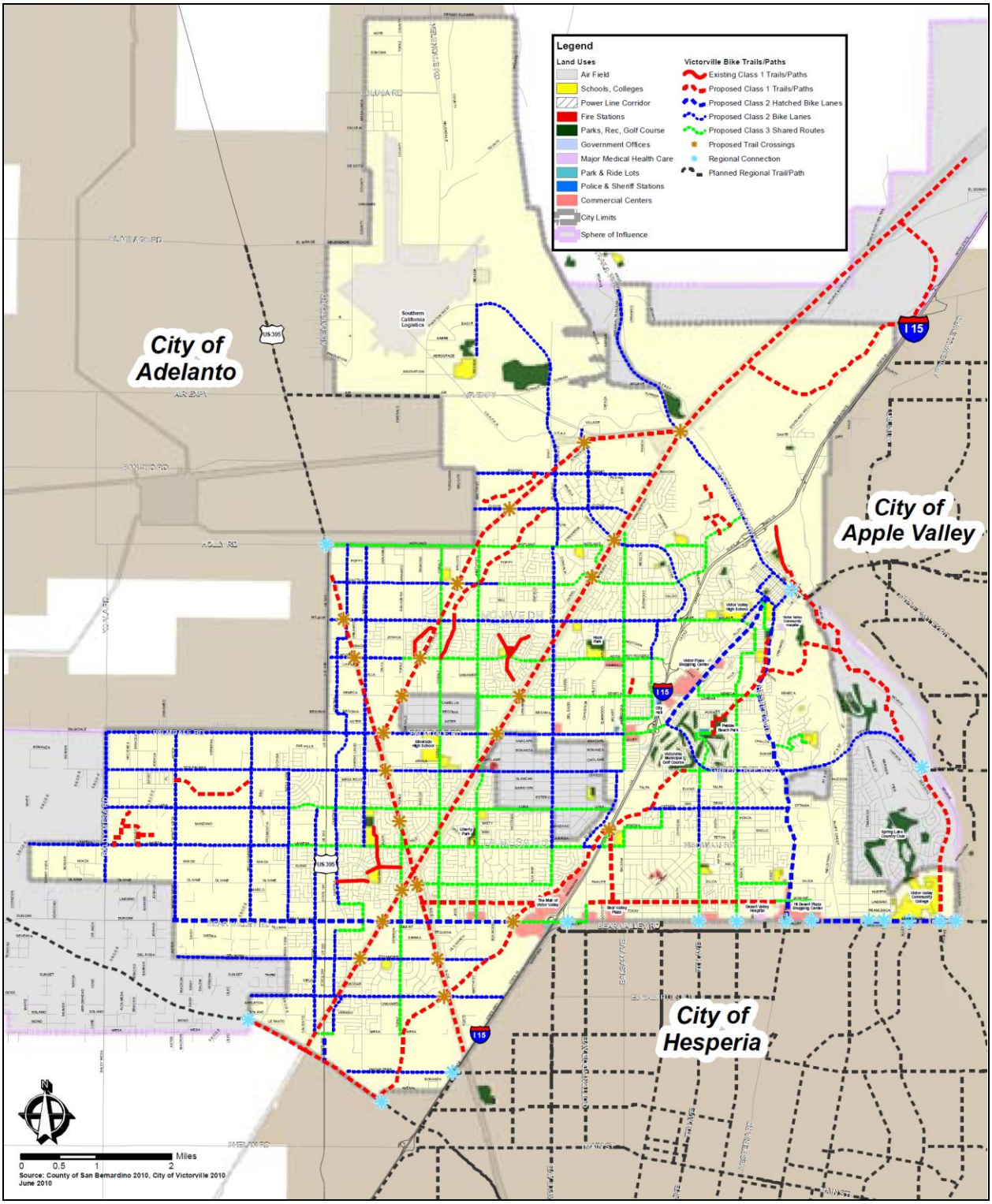
RAIL SERVICE

The Amtrak Southwest Chief that goes from Chicago to Los Angeles is only one train route that runs through Victorville. There is one train that runs west to Los Angeles in the morning and one train that runs to the east in the evening.



Source: County of San Benito, http://www.sbcounty.gov/greencountysb/

Figure 2-53: Apple Valley Bicycle Trails



Source: City of Victorville *Non-Motorized Transportation Plan,* Compass Blueprint, June 2010

Figure 2-54: City of Victorville Non-motorized Transportation Plan Map

2.7 Traffic Accident Data

2.7.1 State Route 14, State Route 138, Interstate 15, and State Route 18

The accident data for Caltrans' facilities impacted by this project are collected from Traffic Accident Surveillance and Analysis System-Transportation System Network (TASAS-TSN) Table B. The data covers two three-year periods (January 1, 2008 to December 31, 2010 and April 1, 2009 to March 31, 2012) and is summarized and compared in Tables 2-24 through 2-28 with the exception of SR 18, for which the PM 84.46-115.91 data is not available for the earlier dates. All TASAS data analyzed in this section are provided in Volume II of this report.

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. The majority 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 was 15 percent higher than the statewide average accident rate for similar facilities during the 1/1/2008 to 12/31/2010 time period and has worsened since then. The crash rate between PM 43.42 and PM 57.18 on SR 138 for the 4/1/2009 to 3/31/2012 time period is 45 percent higher than the statewide average accident rate for similar facilities. Twenty-eight percent of the accidents for the more recent time period are broadside accidents, which are mainly associated with movements through intersections and with left-turn movements in and out of driveways. In this same timeframe, thirty-nine percent of the accidents are rear end collisions, and fourteen percent are sideswipe collisions. Both of these types of accidents are associated with traffic congestion.

The crash rate for I-15 between PM 43.0 and PM 49.0 was approximately one-half of the statewide average rate for similar facilities, insofar as total accidents during the 1/1/2008 to 12/31/2010 time period. The statewide average went down during the more recent timeframe, and the crash rate for PM 43.0 to 49.0 was 25 percent of the average.

Table 2-24. Accident Rates and Collision Types on SR 14 *(PM 58.17–PM 63.67)*

ACCIDENT RATES										
					ACTUAL ACCIDENT RATES			AVERAGE ACCIDENT RATES		
TIME PERIOD	ROUTE SEGMENT	TOTAL	FATAL	INJURY	FATALITIES	INJURIES AND FATALITIES	TOTAL	FATALITIES	INJURIES AND FATALITIES	TOTAL
1/1/2008 to 12/31/2010	SR 14	374	5	139	0.010	0.24	0.61	0.008	0.24	0.77
4/1/2009 to 3/31/2012	SR 14	269	3	98	0.006	0.20	0.53	0.003	0.20	0.63
Difference		**-105**	**-2**	**-41**	**-0.004**	**-0.04**	**-0.08**	**-0.005**	**-0.04**	**-0.14**

COLLISION TYPES										
		COLLISION TYPE								
TIME PERIOD	ROUTE SEGMENT	HEAD-ON	SIDE-SWIPE	REAR-END	BROAD-SIDE	HIT OBJECT	OVER-TURN	AUTO–PEDESTRIAN	OTHER	TOTAL
1/1/2008 to 12/31/2010	SR 14	1	56	100	30	171	13	1	2	374
4/1/2009 to 3/31/2012	SR 14	4	46	110	34	123	15	2	3	337
Difference		**3**	**-10**	**10**	**4**	**-48**	**2**	**1**	**1**	**-37**

Source: TASAS-TSN Table B, Caltrans District 7

Note: Accident rate expressed as number of accidents per million vehicle miles.

Table 2-25. Accident Rates and Collision Types on SR 138 *(PM 43.42–PM 69.36)*

ACCIDENT RATES										
					ACTUAL ACCIDENT RATES			AVERAGE ACCIDENT RATES		
TIME PERIOD	ROUTE SEGMENT	TOTAL	FATAL	INJURY	FATALITIES	INJURIES AND FATALITIES	TOTAL	FATALITIES	INJURIES AND FATALITIES	TOTAL
1/1/2008 to 12/31/2010	SR 138	699	7	303	0.014	0.56	1.3	0.023	0.47	1.13
4/1/2009 to 3/31/2012	SR 138	647	7	288	0.015	0.64	1.39	0.017	0.41	0.96
Difference		**-52**	**0**	**-15**	**0.001**	**0.08**	**0.09**	**-0.06**	**-0.06**	**-0.17**

COLLISION TYPES										
		COLLISION TYPE								
TIME PERIOD	ROUTE SEGMENT	HEAD-ON	SIDE-SWIPE	REAR-END	BROAD-SIDE	HIT OBJECT	OVER-TURN	AUTO–PEDESTRIAN	OTHER	TOTAL
1/1/2008 to 12/31/2010	SR 138	37	93	273	186	68	9	20	13	699
4/1/2009 to 3/31/2012	SR 138	35	107	294	213	66	6	20	9	750
Difference		**-2**	**14**	**21**	**27**	**-2**	**-3**	**0**	**-4**	**51**

Source: TASAS-TSN Table B, Caltrans District 7

Note: Accident rate expressed as number of accidents per million vehicle miles

Table 2-26. Accident Rates and Collision Types on Interstate 15 *(PM 43.0–PM 49.0)*

ACCIDENT RATES										
					ACTUAL ACCIDENT RATES			AVERAGE ACCIDENT RATES		
TIME PERIOD	ROUTE SEGMENT	TOTAL	FATAL	INJURY	FATALITIES	INJURIES AND FATALITIES	TOTAL	FATALITIES	INJURIES AND FATALITIES	TOTAL
1/1/2008 to 12/31/2010	I-15	190	3	55	0.008	0.14	0.42	0.011	0.27	0.81
4/1/2009 to 3/31/2012	I-15	151	1	49	0.003	0.13	0.39	0.003	0.17	0.52
Difference		**-39**	**-2**	**-6**	**-0.005**	**-0.01**	**-0.03**	**-0.008**	**-0.10**	**-0.29**

COLLISION TYPES										
		COLLISION TYPE								
TIME PERIOD	ROUTE SEGMENT	HEAD-ON	SIDE-SWIPE	REAR-END	BROAD-SIDE	HIT OBJECT	OVER-TURN	AUTO–PEDESTRIAN	OTHER	TOTAL
1/1/2008 to 12/31/2010	I-15	2	47	52	4	58	20	1	6	190
4/1/2009 to 3/31/2012	I-15	3	42	48	5	59	19	0	4	180
Difference		**1**	**-5**	**-4**	**1**	**1**	**-1**	**-1**	**-2**	**-10**

Source: TASAS-TSN Table B, Caltrans District 7
Note: Accident rate expressed as number of accidents per million vehicle miles.

Table 2-27. Accident Rates and Collision Types on SR 18 *(PM 0.00–PM 4.50)*

ACCIDENT RATES										
					ACTUAL ACCIDENT RATES[1, 2]			AVERAGE ACCIDENT RATES[1, 2]		
TIME PERIOD	ROUTE SEGMENT/ PM	TOTAL	FATAL	INJURY	FATALITIES	INJURIES AND FATALITIES	TOTAL	FATALITIES	INJURIES AND FATALITIES	TOTAL
1/1/2008 to 12/31/2010	SR 18/ 0.00–4.50	6	0	4	0.000	0.15	0.22	0.026	0.34	0.81
4/1/2009 to 3/31/2012	SR 18/ 0.00–4.50	12	0	5	0.000	0.19	0.46	0.018	0.31	0.72
Difference		**6**	**0**	**1**	**0**	**0.04**	**0.24**	**-0.008**	**-0.03**	**-0.09**

COLLISION TYPES										
		COLLISION TYPE								
TIME PERIOD	ROUTE SEGMENT/ PM	HEAD-ON	SIDE-SWIPE	REAR-END	BROAD-SIDE	HIT OBJECT	OVER-TURN	AUTO–PEDESTRIAN	OTHER	TOTAL
1/1/2008 to 12/31/2010	SR-18/ 0.00–4.50	2	2	0	1	1	0	0	0	6
4/1/2009 to 3/31/2012	SR-18/ 0.00–4.50	1	3	0	0	6	1	0	1	12
Difference		**-1**	**1**	**0**	**-1**	**5**	**1**	**0**	**1**	**6**

Source: TASAS-TSN Table B, Caltrans District 7
Notes: Accident rate expressed as number of accidents per million vehicle miles.

Table 2-28. Accident Rates and Collision Types on SR 18 *(PM 84.46-PM 115.91)*

ACCIDENT RATES										
					ACTUAL ACCIDENT RATES			AVERAGE ACCIDENT RATES		
TIME PERIOD	ROUTE SEGMENT/ PM	TOTAL	FATAL	INJURY	FATALITIES	INJURIES AND FATALITIES	TOTAL	FATALITIES	INJURIES AND FATALITIES	TOTAL
4/1/2009 to 3/31/2012	SR-18/ 84.46-115.91	622	21	160	0.039	0.33	1.15	0.014	0.49	1.16

COLLISION TYPES										
		COLLISION TYPE								
TIME PERIOD	ROUTE SEGMENT/ PM	HEAD-ON	SIDE-SWIPE	REAR-END	BROAD-SIDE	HIT OBJECT	OVER-TURN	AUTO–PEDESTRIAN	OTHER	TOTAL
4/1/2009 to 3/31/2012	SR-18/ 84.46-115.91	34	64	296	153	56	44	16	11	674

Source: TASAS-TSN Table B, Caltrans District 7

Notes:
1. Accident rate expressed as number of accidents per million vehicle miles
2. Time period 1/1/2008 to 12/31/2010 not available for this roadway section

Chapter 3
TRAFFIC VOLUME FORECASTS

3.1 Travel Forecast Model

The traffic forecasts contained in this document were produced using the Southern California Association of Governments (SCAG) 2008 RTP Regional Transportation Model. The model is calibrated to year 2000 travel behavior and validated to year 2003 travel statistics. A complete description of the model is provided in a January 2008 report entitled *2003 Model Validation and Summary* which may be viewed at *www.scag.ca.gov/modeling/index.htm.*

The SCAG Regional Transportation Model covers the entire SCAG region which includes six counties and 187 cities located within those counties. The coverage of the SCAG regional model is illustrated on Figure 3-1 along with the boundaries of traffic analysis zones (TAZ).

Traffic analysis zones provide the spatial unit (or geographical area) within which travel behavior and traffic generation are estimated. The regional model zone system contains 4,109 TAZs, 31 port related TAZs, 12 airport TAZs and 40 cordon stations (points of entry and exit along streets and highways at the perimeter of the modeling area).

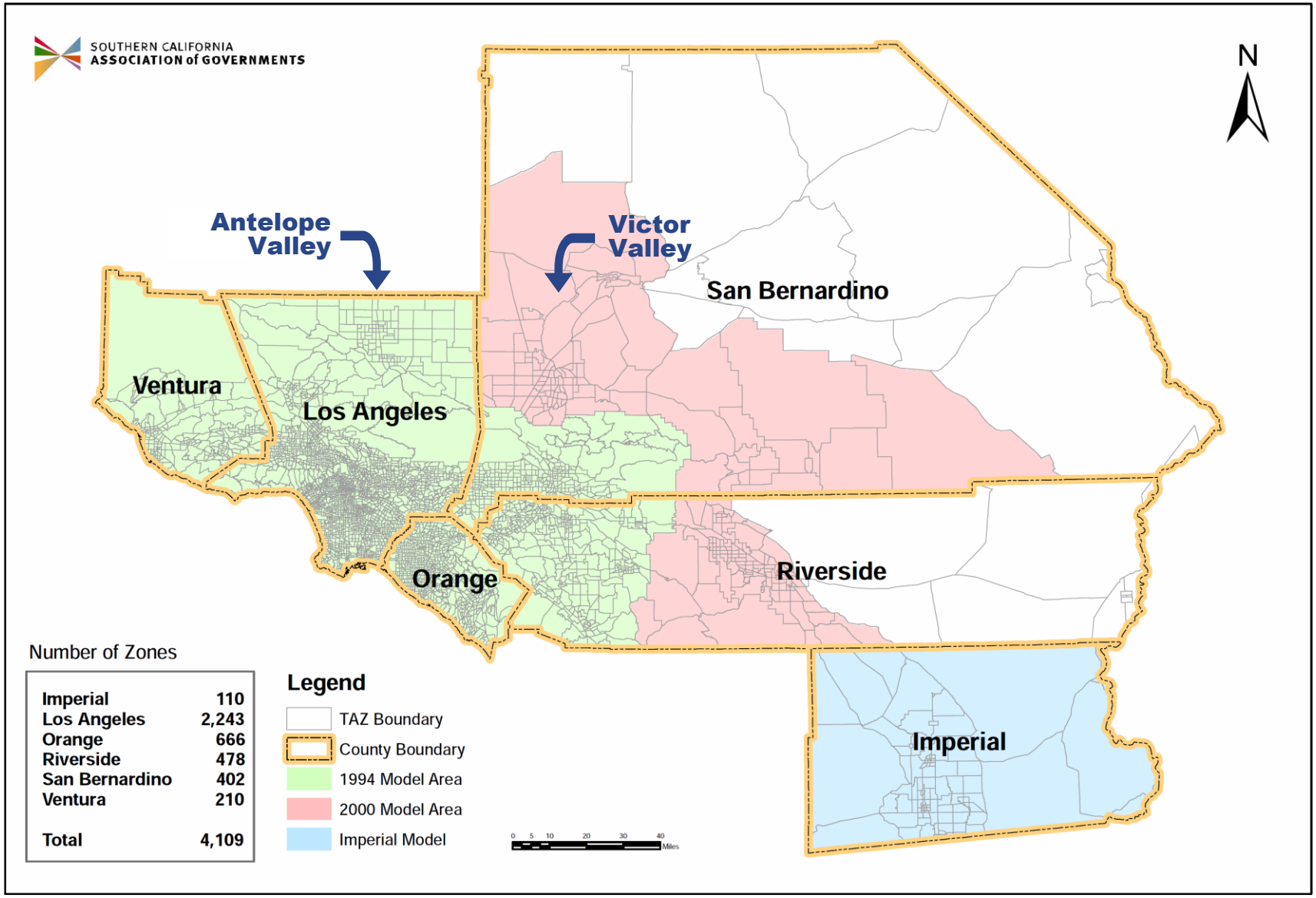
The SCAG model uses the TransCAD version 4.8 travel demand forecasting software suite of programs. The current version of the model was deployed to SCAG member entities, including Caltrans, during 2008. Periodically, SCAG updates model components for specific applications and refines inputs such as land use or transportation network components. The version of the SCAG model used for the High Desert Corridor traffic volume forecasts was provided to Caltrans and Parsons on February 23, 2010.

3.1.1 User Defined Modifications

The SCAG Regional Transportation Model consists of numerous submodels which can be grouped according to the following major categories:

- Trip generation model
- Trip distribution model
- Mode choice model
- Assignment model.

The publication *User Guide for the SCAG Planning Model in TransCAD 5.0*, June 2008, details procedures for defining scenarios for testing land use and network modifications. Most aspects of the model are not eligible for (non-SCAG staff) user modifications.



Source: Southern California Associations of Governments, Year 2003 Model Validation and Summary: Regional Transportation Model, http://www.scag.ca.gov/modeling/

Figure 3-1: SCAG Traffic Analysis Zone System

For the *High Desert Corridor Traffic Study*, the following user-defined modifications were made to the SCAG model.

1. **Freeway Ramp Capacity.** A validation check of the 2003 base year model traffic assignment indicated that freeway on-ramp and off-ramp model assigned volumes were significantly less than historical traffic volume counts obtained from Caltrans for the Antelope Valley portion of the study area. To address this finding, the "capacity multiplier" feature of the SCAG model was employed to set freeway off-ramp to arterial street capacities at 3,000 vehicles per hour, and arterial street on-ramp to freeway capacities as 2,500 vehicles per hour. These modifications were made only to SR 14 freeway ramps serving Antelope Valley, I-15 freeway ramps serving Victor Valley, and the proposed High Desert Corridor freeway connecting SR 14 with I-15.

2. **Subdivision of Traffic Analysis Zones.** Within the Palmdale/Lancaster portion of the High Desert Corridor, there are 42 traffic analysis zones represented in the SCAG regional model. The boundaries of the Antelope Valley area TAZs are illustrated on Figure 3-2. Of these 42 TAZs, 26 encompass the limits of the High Desert Corridor focused traffic study area. For the purpose of this focused traffic study, the SCAG TAZs covering the study area were subdivided into smaller geographic areas to improve the quality of the assignments of forecasted traffic to the local street circulation system. The boundaries of these finer grain TAZs were established to nest within the SCAG zones and be compatible with the Enhanced Antelope Valley Transportation Analysis Model, developed for the cities of Palmdale and Lancaster in June 2007.

   The boundaries of the subdivided TAZs are additionally illustrated on Figure 3-2. Trips generated and attracted to the SCAG-defined TAZs were allocated to the finer grain zone system based on the proportion of households or total employment located in each of the sub-TAZs, as established for the Enhanced Antelope Valley Transportation Analysis Model.

   Insofar as the Victor Valley and High Desert portions of the High Desert Corridor, the SCAG defined TAZs were utilized without subdivision. These boundaries are illustrated on Figure 3-3 along with the underlying street network and the alignment of the High Desert Corridor freeway/ expressway. Traffic analysis zone centroid connector links were added to support the additional roadway detail as discussed below.

3. **Addition of Roadway Network Detail.** Whereas the SCAG roadway network is of sufficient detail for testing freeway interchange locations within Antelope Valley, the future year (2035) network available for testing the High Desert Corridor did not fully reflect Victor Valley's master plan for street improvements. To address this inconsistency, the "Recommended Plan for Year 2035" streets and highways set forth in the *Victor Valley Area Transportation Study*[15], illustrated on Figure 3-4, was assumed for this traffic analysis. A similar network was assumed as part of the *High Desert Corridor SR-18 Realignment Traffic Analysis Report*[16], which was based on San Bernardino Associated Governments' (SANBAG) subregional transportation forecast model developed for the *Victor Valley Area Transportation Study*.

   These network improvements and additions are discussed further in section 3.3 of this traffic report.

[15] Kimley-Horn and Associates, Inc., March 2008, prepared for San Bernardino Associated Governments
[16] PB Americas, Inc., March 2010, prepared for City of Victorville

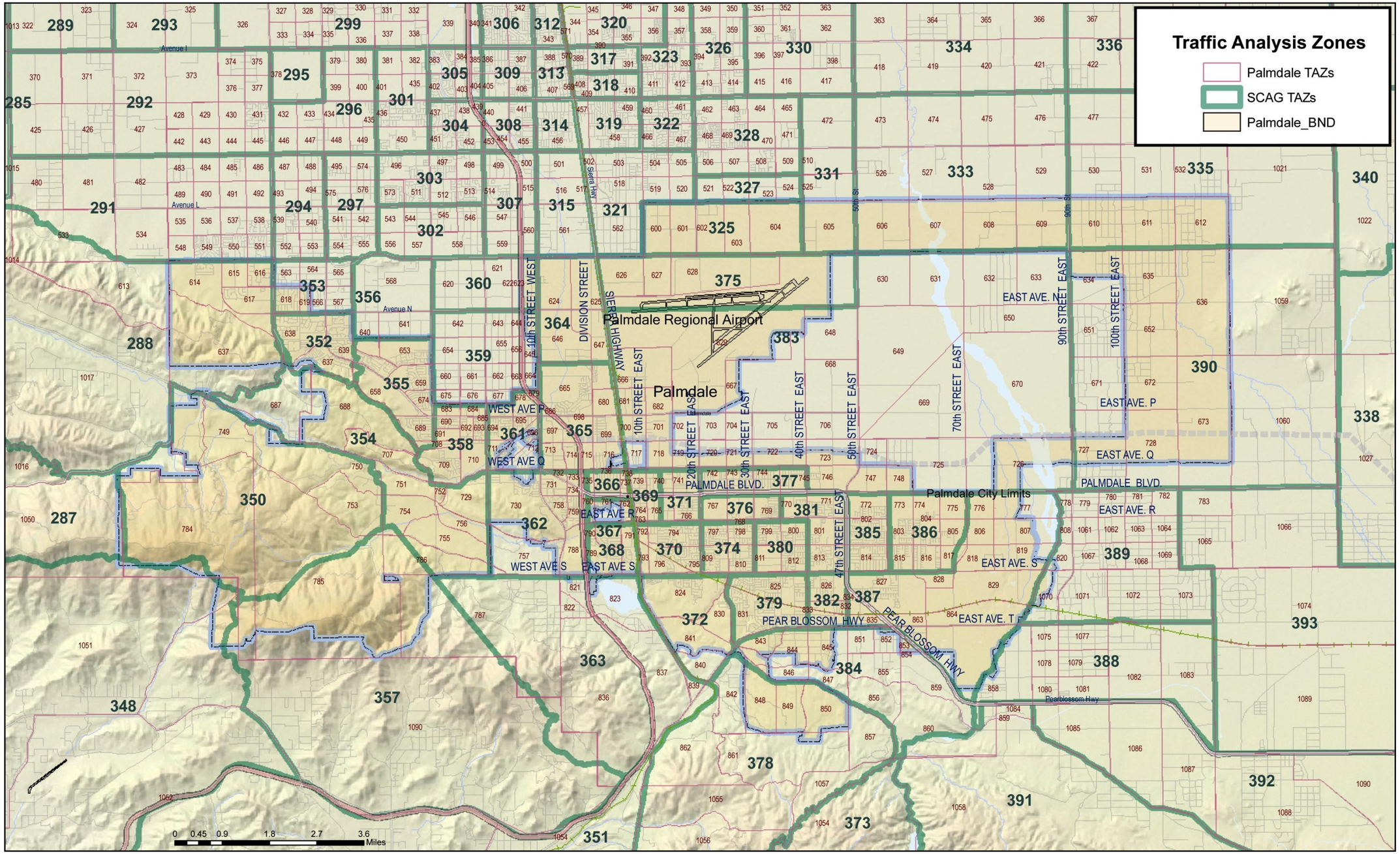
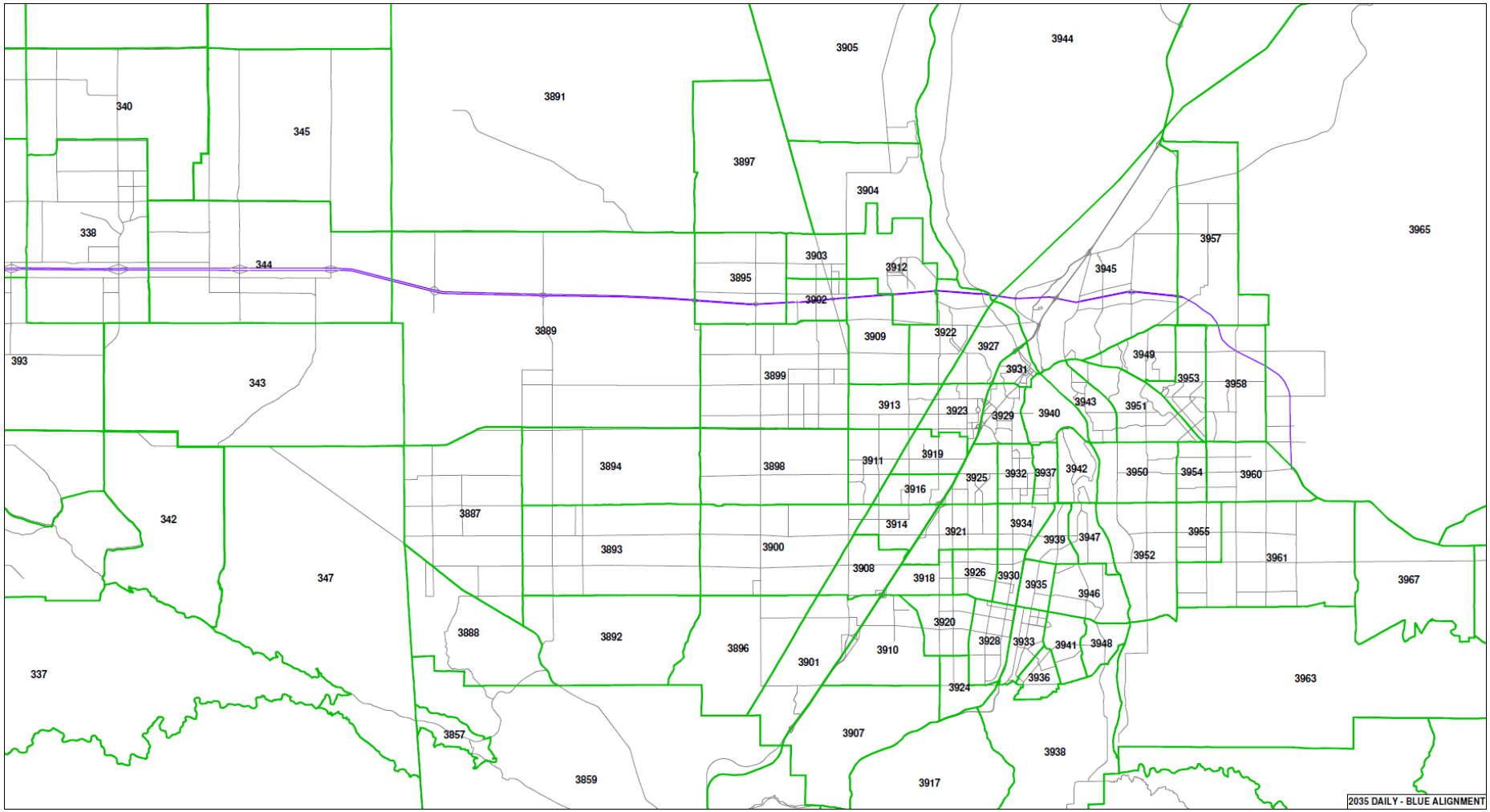
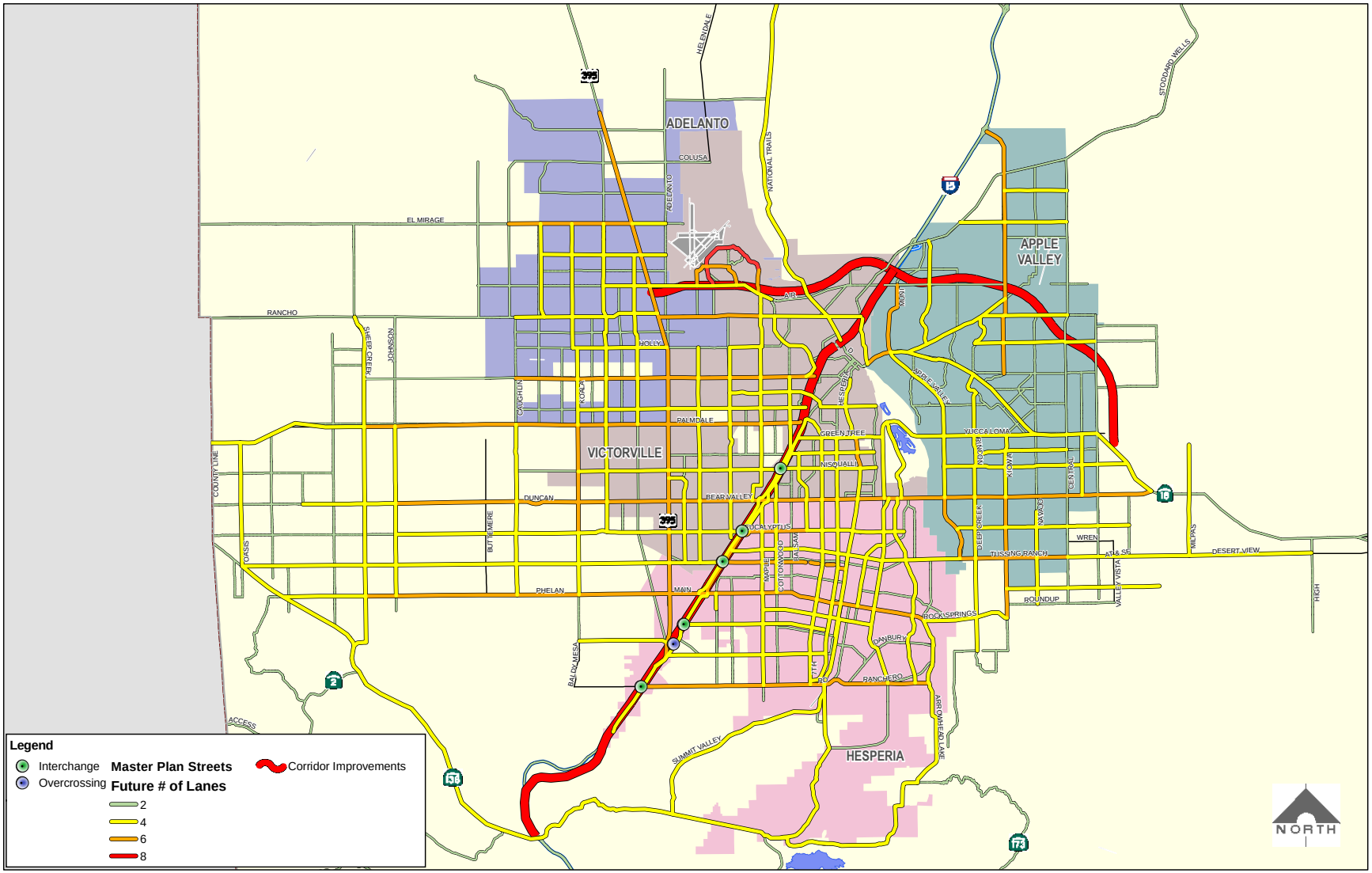


Figure 3-2: SCAG and Palmdale Traffic Analysis Zones



Source: Parsons

Figure 3-3: Victor Valley and High Desert Traffic Analysis Zones



Source: San Bernardino Associated Governments, *Victor Valley Area Transportation Study,* March 2008

Figure 3-4: Victor Valley Area Transportation Study Recommended Plan for Year 2035 Key Elements

4. **Antelope Valley Mall Employment Reclassification.** The Antelope Valley Mall is a regional shopping center serving the Antelope Valley region. It currently employs approximately 1,800 persons, according to local records, and these employees are primarily retail serving. The mall is situated to the west of 10th Street West, north of West Avenue P. This shopping center lies entirely within SCAG TAZ 361. Traffic analysis zone 361 also includes a neighborhood shopping center located south of West Avenue P, along the west side of 10th Street West. Collectively, these two retail centers employ approximately 2,100 to 2,200 persons. The SCAG demographic data set assumes the correct count of total employment; however, the employment is spread among twelve employment types, with retail comprising just 20 percent of the whole.

   For the purpose of this traffic study, all of the 2,194 jobs attributed to TAZ 361 in the 2035 demographic data set were reclassified as retail, and the full model rerun to reflect this assumption.

5. **Palmdale High-Speed Rail Station.** The SCAG Plan 2035 System network reflects highway and transit investments included in the *2008 Regional Transportation Plan* (2008 RTP). The 2008 RTP includes high-speed rail service from Anaheim to Union Station (HSRT 0701) and high-speed rail from Los Angeles International Airport through Union Station to Ontario Airport, an extension from Ontario Airport to San Bernardino Airport, and high-speed rail between Anaheim and the Ontario Airport sponsored by the California–Nevada Superspeed Train Commission. SCAG assumes that each of these regional transportation plan projects will be implemented by 2020.

   Of the above, the segment from Anaheim to Union Station is assumed to be funded and constructed by the California High-Speed Rail Authority. The Authority in turn assumes that the Phase 1 blended link between Los Angeles/Anaheim and San Francisco will be in place by 2030 or before, and this route coverage (see Figure 3-5) is addressed by the Authority's *California High-Speed Rail Program Revised 2012 Business Plan*. The business plan route includes service to Palmdale as indicated on the graphic. Earlier authority publications identify the Palmdale Airport/Transportation Center station as generating 17,300 boarding trips per day.

   To address the cumulative impacts of high-speed rail service to Palmdale, a trip table producing and attracting vehicle trips to the Palmdale Transportation Center was added to the SCAG model generated trip table for the year 2035 forecast scenarios. Home based trip origins were distributed throughout Palmdale and Lancaster in proportion to the number of households per TAZ divided by the total number of households within this portion of the Antelope Valley region. The following access activity pattern was assumed, based on the *California High-Speed Train Ridership Forecast Report*.[17] Figure 3-6 illustrates the distribution of vehicle trips assigned to the highway network leading to and from the Palmdale Transportation Center (high-speed rail station) in 2035.

Palmdale Station Boardings and Access Activity

	ACCESS ACTIVITY*	
	2025	2035
Total boardings	15,200	17,300
Automobiles dropping off passengers	3,000	3,400
Motorized vehicles arriving to park	4,600	5,200
Rental cars brought back	400	400
Taxis dropping off passengers	600	700

*Egress is mirror of access

[17] *California High-Speed Rail Ridership and Revenue Model: Development, Application, and Project-Level EIR/EIS Forecasts*, Parsons Brinckerhoff , November 2010

SECTION	LENGTH (approx)	ENDPOINTS	SERVICE DESCRIPTION	SERVICE START
Initial Operating Section	300 miles	Merced to San Fernando Valley	One-seat ride from Merced to San Fernando Valley Closes north–south intercity rail gap, connecting Bakersfield and Palmdale and then into Los Angeles Basin Begins with construction of up to 130 miles of HSR track and structures in central Valley Private sector operator Ridership and revenues sufficient to attract private capital for expansion Connects with enhanced regional/local rail for blended operations, with common ticketing	2022
Bay to Basin	410 miles	San Jose and Merced to San Fernando Valley	One-seat ride between San Francisco and San Fernando Valley Shared use of electrified/upgraded Caltrain corridor between San Jose and San Francisco Transbay Transit Center First HSR service to connect the San Francisco Bay Area with the Los Angeles Basin	2026
Phase 1 Blended	520 miles	San Francisco to Los Angeles/ Anaheim	One-seat ride between San Francisco and Los Angeles Dedicated HSR infrastructure between San Jose and Los Angeles Union Station Shared use of electrified/upgraded Caltrain corridor between San Jose and San Francisco Transbay Transit Center Upgraded Metrolink corridor from LA to Anaheim	2029

Source: California High-Speed Rail Authority, *California High-Speed Rail Program Revised 2012 Business Plan,* April 2012

Figure 3-5: California High-Speed Rail Phase 1 Blended Route—Los Angeles/Anaheim to San Francisco

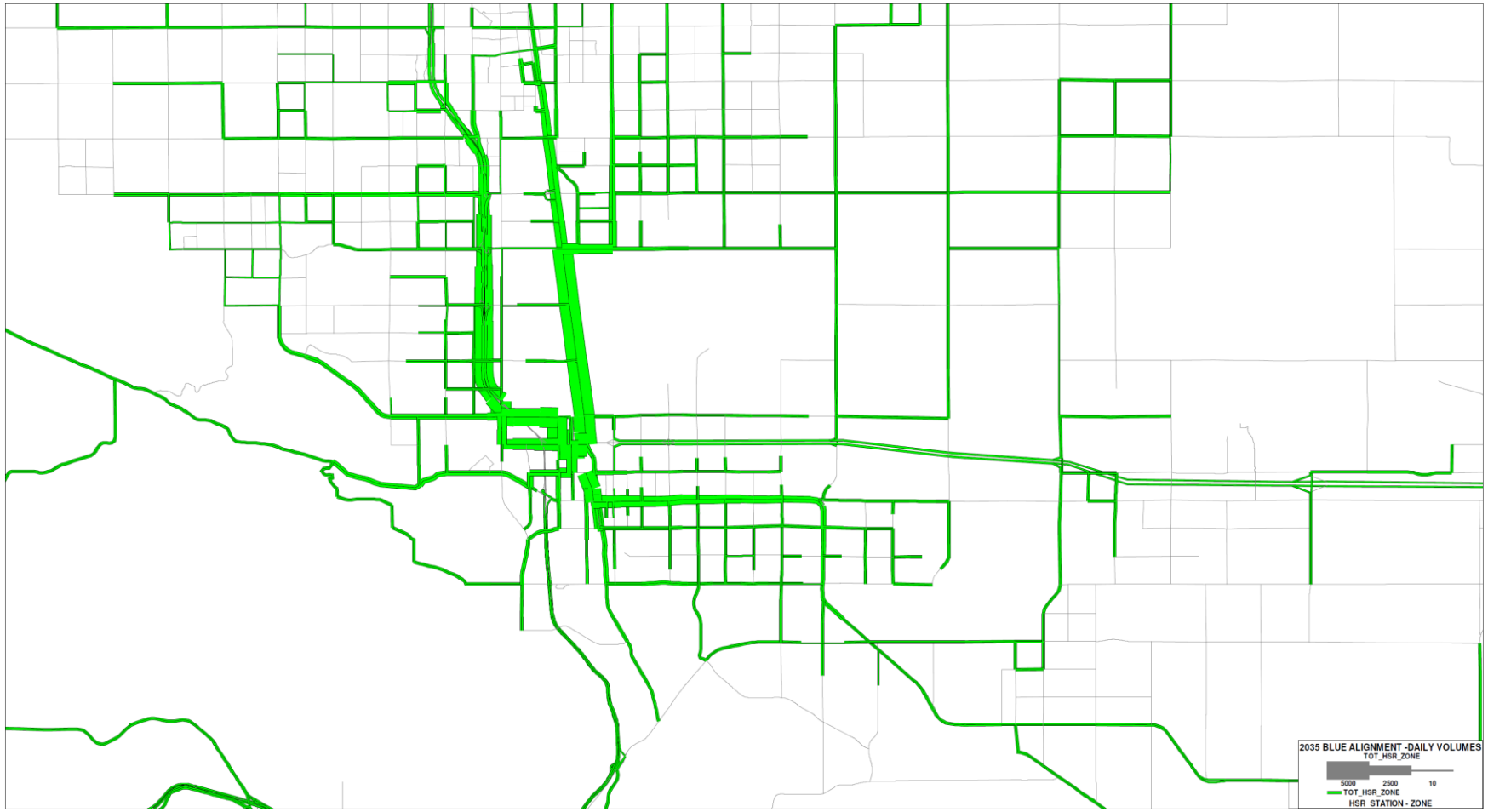


Figure 3-6: Daily Vehicle Trip Pattern to/from TAZ 4173 *(Palmdale Transportation Center)*

6. **XpressWest (formerly DesertXpress) High-Speed Passenger Train.** A Record of Decision has been issued by the U.S. DOT Federal Railroad Administration regarding a privately funded passenger rail project proposed for the I-15 corridor, running between Victorville and Las Vegas, Nevada. A preliminary operations plan assumed the project would be constructed and in operation by 2013, with trains running between the hours of 6 a.m. and 10:00 p.m. This schedule for implementation has since been delayed. The Victorville Station site will be located adjacent to the I-15/Dale Evans Parkway interchange, on the west side of the freeway. The *Traffic Impact Analysis*[18] states that "South of Victorville, the rail project will have a negligible effect on mainline freeway traffic volumes." Since I-15 is essentially the only route to Las Vegas, all auto and bus trips must pass through Victorville. Rail trips that otherwise would have been made by the auto and bus modes will use I-15 to reach Victorville from Southern California. *These trips would be on I-15 south of Victorville whether or not the rail project is built.* With the rail project, these trips will leave the freeway at Victorville and switch to the rail mode.

Given this diversion of trips from I-15 mainline segments located to the north of the Dale Evans Parkway interchange, traffic assignment impacts will be "post-processed" outside the SCAG travel forecast model.

According to the *DesertXpress Traffic Impact Analysis*, the Victorville train station will attract peak ridership loads on Friday and Sunday, and off-peak loads Monday through Thursday and on Saturday. The traffic impact report lists the following vehicle access activity for two types of vehicle propulsion systems—electric multiple units and diesel multiple units.

Peak Hour Vehicle Trips Generated for Victorville Station *(Year 2030)*

DAY OF WEEK	ELECTRIC MULTIPLE UNITS		DIESEL MULTIPLE UNITS	
	TRIPS IN	TRIPS OUT	TRIPS IN	TRIPS OUT
Monday–Thursday, Saturday (arrive/depart)	342	342	243	243
Friday (peak=depart off-peak=arrive)	993	739	704	524
Sunday (peak-arrive, off-peak=depart)	739	993	524	704

Eighty percent of these trips are expected to access the site to/from the south via the I-15/Dale Evans Parkway interchange, while five percent will access the site using this same interchange to/from the north.[19]

For the purpose of the *High Desert Corridor Traffic Study* report, Monday through Thursday XpressWest generated traffic activity will be reflected for the Dale Evans Parkway interchange ramps with I-15. Electrical multiple unit vehicle technology will be assumed. Year 2030 XpressWest ridership volumes will be assumed for year 2040 High Desert Corridor design year traffic volumes, based on the effects of the 2007–2010 economic downturn, and its impacts on Las Vegas visitation.[20]

7. **Distribution Center Truck Trips.** A portion of the heavy trucks (4+ axle) trips traveling through SCAG model external gateways at I-15, I-40, and U.S. Route 395 were diverted from their model generated origin-destination pairs to pass through distribution centers located in the Victor Valley as an additional stop. In other words, the origin-destination pair was split into two

[18] *DesertXpress Traffic Impact Analysis Final Report*, DMJM Harris/AECOM, February 2009
[19] *Victorville Station Site (VV3) Supplemental Traffic Impact Analysis*, AECOM Transportation, April 2010.
[20] *Las Vegas Valley Employment Forecasts*, Parsons, prepared for Regional Transportation Commission of Southern Nevada, October 28, 2011.

pairs (origin-distribution center and distribution center-destination) before the trips were assigned to the roadway network. Three major distribution centers or complexes were identified in Victor Valley:

- The Walmart center on Dale Evans Parkway in Apple Valley (SCAG TAZ 3957)
- The Nisqualli Road distribution center complex in Victorville (SCAG TAZ 3937)
- The Southern California Logistics Airport distribution center complex in Victorville (SCAG TAZ 3912).

The daily volume of heavy trucks (4+ axle) diverted to each of these centers, assuming the 2040 design year horizon, was estimated to be as follows:

- Walmart—650 inbound, plus 650 outbound
- Nisqualli Road—500 inbound, plus 500 outbound
- Southern California Logistics Airport—8,500 inbound, plus 8,500 outbound[21]

Other light, medium and heavy truck trip assignments produced by the SCAG model were left unchanged.

The SCLA truck activity estimates were based on a report prepared for the City of Victorville. The volume of truck trips was reduced to coincide with the land use assumptions discussed in section 3.2 of this traffic report.

3.2 Land Use Assumptions

3.2.1 Regional Population Forecasts

The Southern California Association of Governments' *2008 Regional Transportation Plan Growth Forecast Report* documents demographic planning variable assumptions. This document may be viewed at *www.scag.ca.gov/forecast/adoptedgrowth.htm*. These planning variable assumptions are the adopted forecasts of population, households and employment for the six-county Southern California Association of Governments (SCAG) region as of 2011, and are the basis for air quality conformity determinations.

Subsequent to the preparation and adoption of the *2008 Regional Transportation Plan Growth Forecasts*, California's *Sustainable Communities and Climate Protection Act of 2008* (Senate Bill 375) was enacted.

> *"…SB 375 modified State law to encourage better integration of transportation and land use planning in ways that reduce greenhouse gas emissions. It requires each of the State's 18 federally designated Metropolitan Planning Organizations (MPO) to explicitly consider the impact of land use patterns and transportation choices on greenhouse gas emissions. MPOs must develop a sustainable communities strategy, or alternative plan, that meets a greenhouse gas emission reduction target for passenger vehicles which is set by ARB. In addition to reducing greenhouse gas emissions, a sustainable communities strategy is expected to provide other benefits including increased mobility, cleaner air, improved health, and protection of natural resources.*
>
> *"…SB 375 adds a sustainable communities strategy (SCS) as a new element in the Regional Transportation Plan (RTP) that MPOs prepare every four or five years. The SCS element adds*

[21] Based on *Southern California Logisitics Airport AM and PM Peak Hour Intersection Analysis*, RBF Consulting, February 2008

more detail to the land use allocations in RTPs, and is intended to reflect a more integrated approach to land use and transportation planning. Within this integrated land use pattern and transportation network, the MPO must identify the general location of different land use types, residential densities, and areas to house the region's population. The MPOs must demonstrate that their SCS meets the target set by ARB or do an alternative planning strategy (APS) that shows how the target could be met.

"SB 375 provides MPOs the flexibility to develop a SCS tailored to regional needs. The targets can be achieved through any combination of land use patterns, transportation system improvements, and transportation-related measures or policies developed at the local and regional level.

"While SB 375 requires regions to consider a variety of greenhouse gas emission reduction strategies, it reaffirms local government authority over land use decisions, and recognizes the critical role local governments play in implementing these kinds of strategies. Local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. Thus, local land use decisions are central to the long-term sustainability of California's communities.[22]"

Anticipating the new planning requirements of Senate Bill (SB) 375, SCAG initiated the integrated growth forecasting process for the *2012 Regional Transportation Plan (2012 RTP)/Sustainable Communities Strategy* in September 2008, just a few months after the adoption of 2008 RTP. Through the 20-month bottom-up process, SCAG worked with each subregion and local jurisdiction to reach a consensus on population, household and employment growth between the base year of 2008 and 2020 and 2035. This projected growth in population, household, and employment will be the basis used to develop the 2012 RTP/ Sustainable Communities Strategy and the Regional Housing Needs Assessment. The total regional housing construction needs will be determined by adding replacement and vacancy needs to the projected growth in households for the planning period, recognizing that the State Housing and Community Development Department makes the final determination of SCAG's total regional housing need. The Regional Housing Needs Assessment allocation plan at the city level will be based on the city level totals from the Integrated Growth Forecast for the 2012 RTP/Sustainable Communities Strategy, which may be adjusted based on considerations of vacancy and replacement needs, as well as shifts in income distribution to avoid the over-concentration of low-income housing units in places where low-income housing are disproportionately high.[23]

As noted above, a draft set of population, household and employment related planning variables has been developed by SCAG for 2008, 2020 and 2035, and circulated for review by local entities. The draft set of planning variables is not adopted at the current time (2011), but is scheduled for adoption along with the 2012 Regional Transportation Plan/Sustainable Communities Strategy in April 2012.

[22] *Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375,* State of California Air Resources Board Staff Report, SB 375 Planning Process Changes, released August 9, 2010, scheduled for consideration September 23, 2010

[23] Memorandum report to Regional Housing Needs Assessment Subcommittee (subject: Integrated Growth Forecast Foundation), Frank Wen, Manager, SCAG Research, Analysis and Information Services, February 23, 2011

Much of the work for the 2012 Integrated Growth Forecast has been influenced by the State of California Department of Finance long-range population forecasts. California Government Code Section 65584.01 states that:

> *"(a) For the fourth and subsequent revision of the housing element pursuant to Section 65588, the department, in consultation with each council of governments, where applicable, shall determine the existing and projected need for housing for each region in the following manner:*
> *(b) The department's determination shall be based upon population projections produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans, in consultation with each council of governments. If the total regional population forecast for the planning period, developed by the council of governments and used for the preparation of the regional transportation plan, is within a range of 3 percent of the total regional population forecast for the planning period over the same time period by the Department of Finance, then the population forecast developed by the council of governments shall be the basis from which the department determines the existing and projected need for housing in the region. If the difference between the total population growth projected by the council of governments and the total population growth projected for the region by the Department of Finance is greater than 3 percent, then the department and the council of governments shall meet to discuss variances in methodology used for population projections and seek agreement on a population projection for the region to be used as a basis for determining the existing and projected housing need for the region. If no agreement is reached, then the population projection for the region shall be the population projection for the region prepared by the Department of Finance as may be modified by the department as a result of discussions with the council of governments."*

The Department of Finance Demographic Research Unit's population projections were released in July 2007. The projections are at a county level of detail and cover horizon years 2010 to 2050 at 10-year intervals. Given the release of 2010 Census results in April 2011, it is expected that these July 2007 Department of Finance projections will be recalibrated.[24] The Department of Finance's Demographic Research Unit develops long-term population projections every three to five years. An interim projection is prepared after the release of decennial census data, which updates the forecasts to account for differences between the Department of Finance horizon forecast and the census count. This interim projection was released in January 2013.

A review and comparison of the adopted SCAG 2008 Regional Transportation Plan growth forecasts, the SCAG Draft 2012 Regional Transportation Plan/Sustainable Communities Strategy forecasts, the State of California Department of Finance 2007 and 2013 long-range forecasts, and the 2010 Census count of population has been undertaken at a county level for the SCAG region. Table 3-1 presents the results of this comparison. The table indicates the following:

- For the SCAG six-county region, the Department of Finance 2007 population forecast for year 2010 was 1,153,165 persons higher than counted during the 2010 Census.
- The SCAG adopted 2008 Regional Transportation Plan growth forecast for year 2035 is approximately equal to the Department of Finance2007 projection for the same year, but is 8 percent higher than the Department of Finance's 2013 projection for year 2040.
- The SCAG draft 2012 Regional Transportation Plan growth forecast for year 2035 is approximately 6 percent higher than the Department of Finance 2013 projection for year 2035.

[24] For discussion of how U.S. Census and Department of Finance population projections differ by metropolitan planning organization region and plans for Department of Finance recalibration, see State of California, Department of Finance, Review of Department of Finance's Long-Term 2007 Population Projects memo: http//www.arb.ca.gov/cc/sb375/data/data.htm.

Table 3-1. Population Forecast Comparison *(SCAG Region)*

COUNTY	SCAG ADOPTED 2008 RTP GROWTH FORECAST		SCAG DRAFT 2012 RTP GROWTH FORECAST		CENSUS 2010	DEPARTMENT OF FINANCE 2007 LONG-RANGE FORECAST			
	2010	2035	2008	2035	2010	2010	2030	*2035**	2040
1 Los Angeles County	10,615,730	12,338,620	10,347,644	11,889,867	9,818,605	10,514,663	11,920,289	*12,205,947*	12,491,606
2 San Bernardino County	2,182,049	3,133,801	2,052,929	2,838,320	2,035,210	2,177,596	2,958,939	*3,134,116*	3,309,292
3 Orange County	3,314,948	3,653,990	3,123,253	3,576,235	3,010,232	3,227,836	3,705,322	*3,777,486*	3,849,650
4 Riverside County	2,242,745	3,596,680	2,093,135	3,418,623	2,189,641	2,239,053	3,507,498	*3,805,340*	4,103,182
5 Ventura County	860,607	1,013,753	831,676	978,978	823,318	855,876	1,049,758	*1,092,721*	1,135,684
6 Imperial County	202,270	320,448	177,441	303,136	174,528	189,675	283,693	*309,322*	334,951
Total SCAG Region	***19,418,349***	***24,057,292***	***18,626,078***	***23,005,159***	***18,051,534***	***19,204,699***	***23,425,499***	***24,324,932***	***25,224,365***

Sources: SCAG, California Department of Finance, 2010 Census, Parsons

COUNTY	DEPARTMENT OF FINANCE 2013 LONG-RANGE FORECAST			
	2010	2030	*2035*	2040
1 Los Angeles County	9,824,906	10,950,335	*11,120,284*	11,243,022
2 San Bernardino County	2,038,523	2,626,945	*2,811,986*	2,988,648
3 Orange County	3,017,327	3,286,100	*3,311,811*	3,321,037
4 Riverside County	2,191,886	3,046,064	*3,263,942*	3,462,256
5 Ventura County	825,077	912,548	*940,102*	960,528
6 Imperial County	175,389	259,339	*277,418*	294,585
Total SCAG Region	***18,073,108***	***21,081,331***	***21,725,543***	***22,270,076***

Source: California Department of Finance, January 2013

*Average of 2030 and 2040

Insofar as Los Angeles County, the SCAG adopted 2008 Regional Transportation Plan growth forecast for year 2035 is 10 percent higher than the 2013 Department of Finance forecast for year 2040. The SCAG Draft 2012 Regional Transportation Plan growth forecast for year 2035 is seven percent higher than the 2013 Department of Finance forecast for 2035.

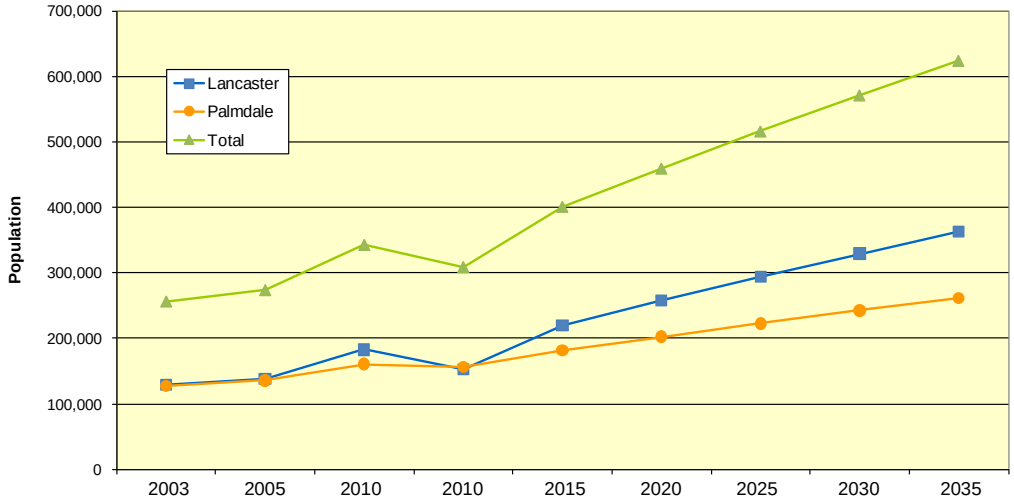
Insofar as San Bernardino County, the SCAG adopted Regional Transportation Plan population forecast for year 2035 is five percent higher than the 2013 Department of Finance forecast for year 2040. The SCAG draft 2012 Regional Transportation Plan population for year 2035 is one percent higher than the 2013 Department of Finance forecast 2035.

Given these findings of forecast consistency and the delayed (2013) release of the Department of Finance interim projections, the High Desert Corridor project development team elected to utilize the SCAG 2008 adopted Regional Transportation Plan growth forecast for year 2035 as the basis of the 2040(+) design year traffic volumes, along with the corresponding year 2035 highway and transit networks which meet air quality conformity determinations.

3.2.2 Subregional Population Forecasts

ANTELOPE VALLEY

Antelope Valley is home to 475,000 residents as of January 2009. Of this number, the cities of Palmdale and Lancaster account for some 300,000 residents. Figure 3-7 charts the expected growth of population, households, and employment for these two cities based on SCAG's adopted 2008 RTP growth forecast. The graphic illustrates that SCAG expected the population of Palmdale to double between 2010 and 2035, while Lancaster faces a 63 percent increase.



	2003	2005	2010	2010	2015	2020	2025	2030	2035
Census									
Palmdale	127,548	135,672	160,650	156,633	181,493	202,406	222,761	242,523	261,501
Lancaster	129,181	138,423	182,663	152,750	220,121	257,545	293,971	329,321	363,252
Total	256,729	274,095	343,313	309,383	401,614	459,951	516,732	571,844	624,753
Households									
Palmdale	36,491	38,893	49,143	42,952	58,710	68,791	76,661	84,262	90,516
Lancaster	39,609	41,924	49,331	46,992	56,245	63,532	69,220	74,713	79,233
Total	76,100	80,817	98,474	89,944	114,955	132,323	145,881	158,975	169,749
Employment									
Palmdale	31,132	31,229	35,059	N/A	38,103	40,047	42,332	44,772	47,108
Lancaster	41,112	41,593	49,280	N/A	55,390	59,291	63,878	68,775	73,463
Total	72,244	72,822	84,339	N/A	93,493	99,338	106,210	113,547	120,571

Sources: Southern California Association of Governments, *Adopted 2008 RTP Growth Forecast by City* 2010 Census

Figure 3-7: SCAG Adopted RTP 2008 Growth Forecasts for Palmdale and Lancaster

While Palmdale has been among California's fastest growing cities for more than two decades, city officials appealed the allocation of growth leading up to the 2008 SCAG adopted forecast. City of Palmdale plans call for less housing and more employment growth compared to SCAG's forecasts.

Figures 3-8 and 3-9 compare SCAG projections for households and employment for the area served by the western segment of the High Desert Corridor. SCAG projections are for the 2035 planning horizon, now representative of 2040(+) conditions, while Palmdale projections reflect a 2035 planning horizon.

The graphics clearly illustrate that the City of Palmdale is planning for significant employment growth to the north of the High Desert Corridor on lands surrounding the Palmdale Regional Airport. SCAG's vision of growth reflects fewer jobs and more houses for Palmdale as mentioned above.

Having now circulated its draft *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy*, there are now three visions of growth for Palmdale and Lancaster. Table 3-2 provides a comparison of these population and employment forecasts.

The table indicates that the magnitude of growth appears uncertain at the present time, reflecting in part the slowdown in growth affecting the SCAG region as a whole, along with the Antelope Valley sub-region. Given the uncertain growth in the region, the High Desert Corridor project team elected to utilize the SCAG *2008 Adopted Regional Transportation Plan* growth forecast for year 2035 as the basis of the 2040(+) design year traffic volumes, along with corresponding year 2035 highway and transit networks which meet air quality conformity determinations. Sensitivity tests will be performed using the Palmdale forecasts, as the city's vision of future land use would likely result in different roadway requirements and environmental impacts. As a consequence, Caltrans and City of Palmdale staff concluded that it would be prudent to analyze both land use scenarios for a subset of the build project alternatives.

Volume IV of this traffic study provides tables detailing the two sets of land use assumptions for 2040(+) (the design year) and 2020 (the opening year).

Antelope Valley Inland Port

An inland port has been proposed for lands surrounding the Palmdale Regional Airport to the west and southeast of the airport. These lands are designated for commercial use in Palmdale's *General Plan*, as illustrated on Figure 2-2 of this report. Significant levels of employment are envisioned, as illustrated on Figure 3-9. No specific plan for the Antelope Valley inland port currently exists. Initially, the port was envisioned as a *satellite marine terminal* that would function as an extension of the Los Angeles/Long Beach marine-to-truck intermodal facilities. This vision of an inland port was guided by SCAG's regional objective of reducing truck-based vehicle miles traveled (VMT). Ladened containers arriving at the marine ports would be transferred to rail (containers on flat cars), and shuttled to inland ports, where a second transfer to truck would occur, for travel to nearby distribution centers. Given the concentrations of distribution centers in the Los Angeles region, south of the San Gabriel Mountain range, inland ports located in the High Desert were not ideally located to support this satellite marine terminal concept.

As inland ports come in many varieties, the Antelope Valley Inland Port remains as a potential future development for lands surrounding the Palmdale Regional Airport. The Alliance California trade and logistics center, located adjacent to the San Bernardino International Airport, provides an example for modeling the Antelope Valley inland port. Alliance California has attracted aircraft-related business centers and commercial distribution centers. By virtue of its centralized location, this inland port has successfully attracted some 64 million square feet of development and more than 29,000 jobs since 2000.[25]

[25] *Inland Port Feasibility Study*, Southern California Association of Governments, Inland Port Case Studies, The Tioga Group, Inc., June 30, 2006

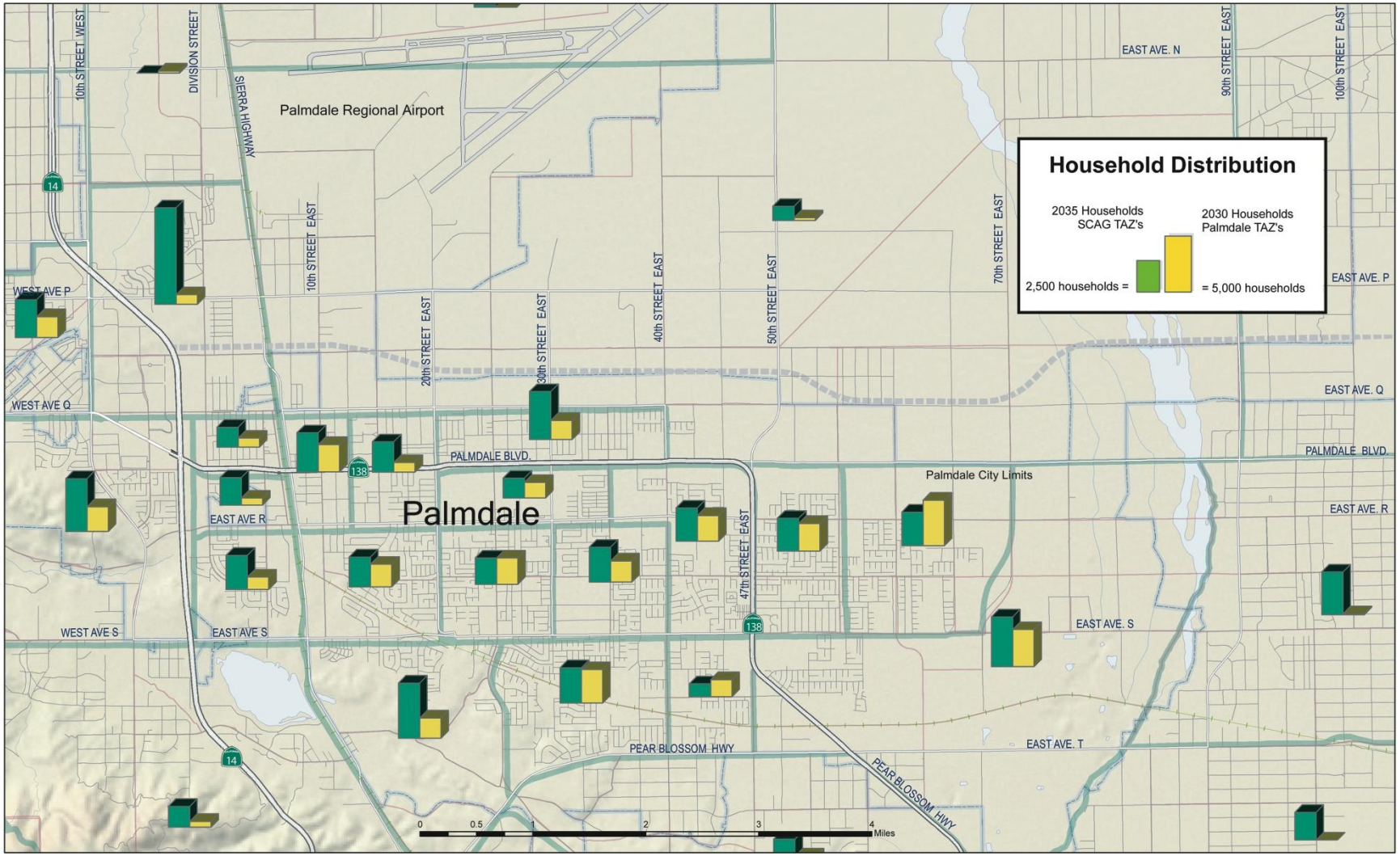


Figure 3-8: Household Projection—SCAG *(Year 2035 = Year 2040)* **Compared to Palmdale** *(Year 2035)*

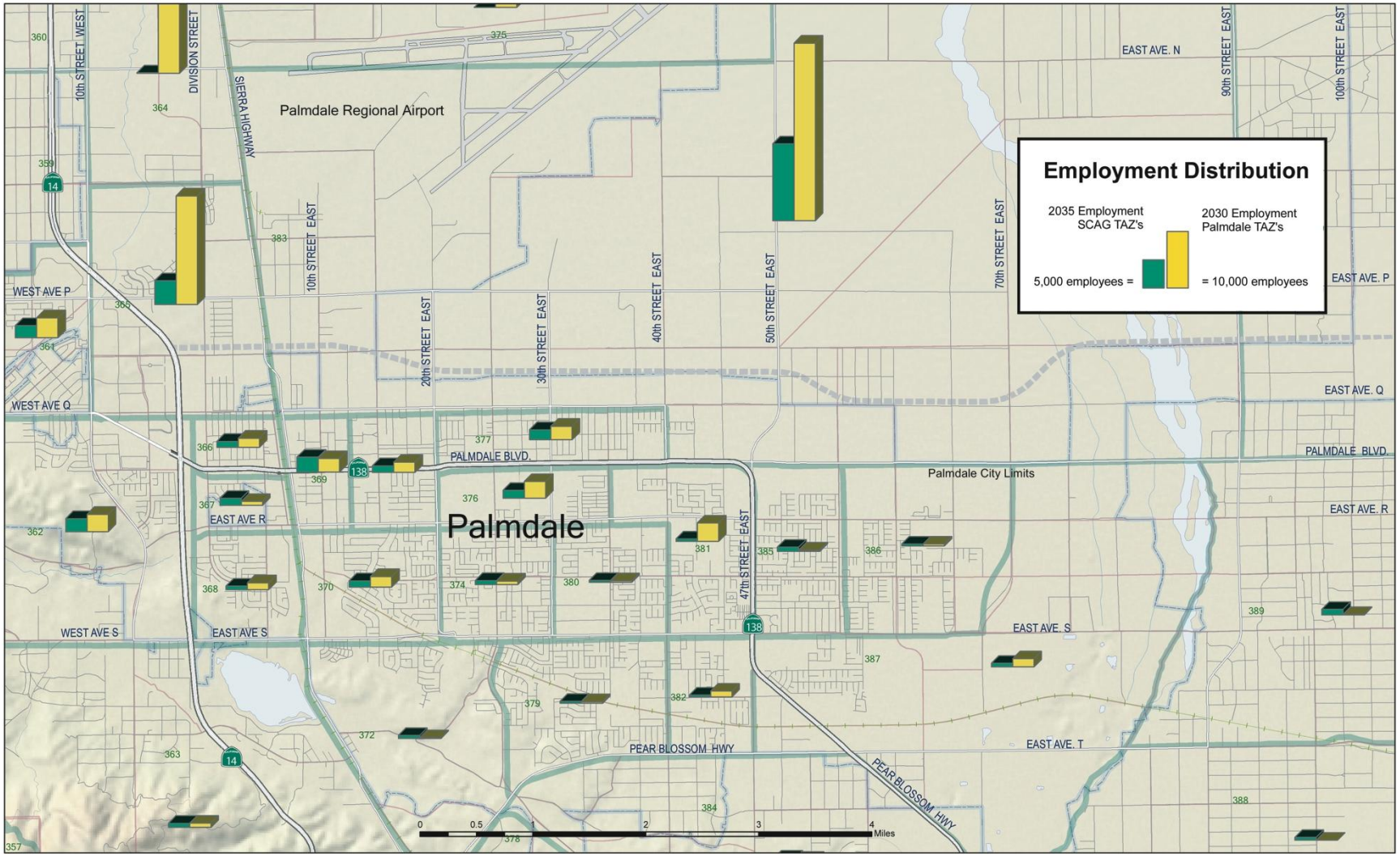


Figure 3-9: Employment Projection—SCAG *(Year 2035 = Year 2040)* **Compared to Palmdale** *(Year 2035)*

Table 3-2. Population and Employment Forecast Comparison
(Palmdale and Lancaster Subregion)

	SCAG ADOPTED 2008 RTP GROWTH FORECAST (2035)*		SCAG DRAFT 2012 RTP GROWTH FORECAST (2035)		PALMDALE FORECAST (2035)**	
	POPULATION	EMPLOYMENT	POPULATION	EMPLOYMENT	POPULATION	EMPLOYMENT
Palmdale	363,252	47,108	206,586	47,442	238,397	94,574
Lancaster	261,501	73,463	191,995	56,471	261,501	73,463
Total	***624,753***	***120,571***	***398,581***	***103,913***	***499,898***	***168,037***

*Equal to year 2040(+)
**City of Palmdale, includes 75,000 of special generator employment. Palmdale forecasts reflect a 2035 planning horizon, while Lancaster forecasts reflect a 2030 planning horizon.

For the purpose of analyzing the potential impacts of an Antelope Valley inland port development on the High Desert Corridor freeway/expressway project, a sensitivity analysis will be conducted for a subset of the build project alternatives. The sensitivity analysis will reflect the Palmdale population and employment forecasts discussed above, along with corresponding levels of heavy truck movement activity, destined to and from the potential Antelope Valley inland port.

HIGH DESERT

For the purpose of this traffic study report, the "High Desert" is defined as the unincorporated portions of Los Angeles and San Bernardino counties lying between the Palmdale/Lancaster and Adelanto/ Victorville/Hesperia/Apple Valley urbanized areas. The High Desert area is rural. As reported in Chapter 2, Lake Los Angeles, with a population of 12,328, and Phelan, with a population of 14,304, are the only communities characterized by the 2010 census as "places." The Bureau of Census does not individually report population or housing for the remaining unincorporated communities, which generally have fewer than 2,000 residents apiece.

General plans prepared for the High Desert area[26,27] indicate that residents desire to maintain the rural character of their communities, and prefer that growth be focused in the adjacent urbanized areas to the east and west of their communities. Preservation of the rural character of the region is the common vision which unites the communities of the High Desert area.

According to the *Preliminary Draft Antelope Valley Area Plan*, the term "rural" is defined by the following characteristics:

- Living in a low density environment without high intensity land uses, such as regional commercial centers;
- A natural, peaceful, quiet setting with the ability to find a sense of solitude
- Views of adjacent natural areas by day, such as hillsides and ridgelines, and views of starry skies by night
- Agricultural and equestrian uses that are sensitive to land
- An absence of infrastructure generally found in urban and suburban areas, including but not limited to curbs, gutters, sidewalks, street lighting, and traffic signals.

[26] *Preliminary Draft Antelope Valley Area Plan*, Los Angeles County General Plan, March 2011
[27] *Phelan/Pinon Hills Community Plan*, General Plan County of San Bernardino, April 2007

While rural preservation is the common objective of High Desert communities, some growth in population and employment is expected to occur. Figure 3-10 illustrates the magnitude and distribution of population growth reflected in the SCAG *2008 Regional Transportation Plan* growth forecasts, while Figure 3-11 illustrates the same for employment growth. Table 3-3 lists these forecasts by traffic analysis zone. The growth forecast for year 2035 is the basis of the 2040(+) design year traffic volumes, and is so labeled on the two graphics. The growth forecast for 2018 is the basis of the 2020(+) opening year (for the High Desert Corridor freeway/expressway) and is labeled accordingly as 2020 population or employment.

VICTOR VALLEY

Victor Valley contains five incorporated towns and cities, and 15 unincorporated communities. The population of the valley subregion is more than 380,000, while the population of the five incorporated cities and towns is 329,615 according to the 2010 Census.

Victorville is the largest of the incorporated places with 115,903 residents, followed by Hesperia (90,173), Apple Valley (69,135), Adelanto (31,765) and Barstow (22,639). The remaining 15 communities each has under 20,000 residents apiece. Of these, Phelan is the largest with 14,304 residents, followed by Spring Valley Lake (population 8,220), Piñon Hills (7,272), and Lucerne Valley (5,811), all of which fall within the High Desert Corridor area of influence.

Figure 3-12 charts the expected growth of population, households and employment for the four largest cities of Victor Valley, all of which are directly served by the proposed High Desert Corridor freeway. These growth trends are based on SCAG's *Adopted 2008 RTP Growth Forecast.* The graphic illustrates an expected growth in population of nearly 100 percent between 2010 and the 2035 planning horizon, now representative of 2040(+) conditions.

While this amount and rate of growth is significant, SANBAG expects even more growth for the Victor Valley subregion.

Figures 3-13 and 3-14 compare SCAG and SANBAG projections for population and employment for the Victor Valley segment of the High Desert Corridor. Both SCAG and SANBAG projections are for the 2035 planning horizon, with these now being representative of 2040 conditions. The graphics clearly indicate that SANBAG expects far more employment growth for the Victor Valley, compared to SCAG, which in turn, will negate some of the jobs/housing imbalance which exists as of 2010.

Table 3-4 provides a quantitative comparison of the SCAG adopted 2008 RTP growth forecast with the draft *2012 Regional Transportation Plan/Sustainable Communities Strategy* and the *Victor Valley Area Transportation Study* forecasts for the four major Victor Valley towns and cities. As with Palmdale and Lancaster, SCAG has lowered its expectation regarding population and employment growth for the High Desert region.

Compared to the adopted RTP growth forecast for 2035, the *Draft 2012 RTP/Sustainable Communities Strategy* population forecast for 2035 is 16.7 percent lower. Compared to the City of Victor Valley and SANBAG 2008 era forecasts, the *Victor Valley Area Transportation Study* population forecasts are higher than the SCAG adopted 2008 RTP forecasts by 17.3 percent, while the employment forecasts are 44.6 percent higher. The table indicates that the magnitude of growth appears uncertain at the present time, reflecting in part the slowdown in growth affecting the SCAG region as a whole, along with the Victor Valley subregion. Given the uncertain growth in the region, the High Desert Corridor project team elected to utilize the SCAG *2008 Adopted Regional Transportation Plan* growth forecast for year 2035 as the basis of the 2040(+) design year traffic volumes, along with corresponding year 2035 highway and transit networks which meet air quality conformity determinations.

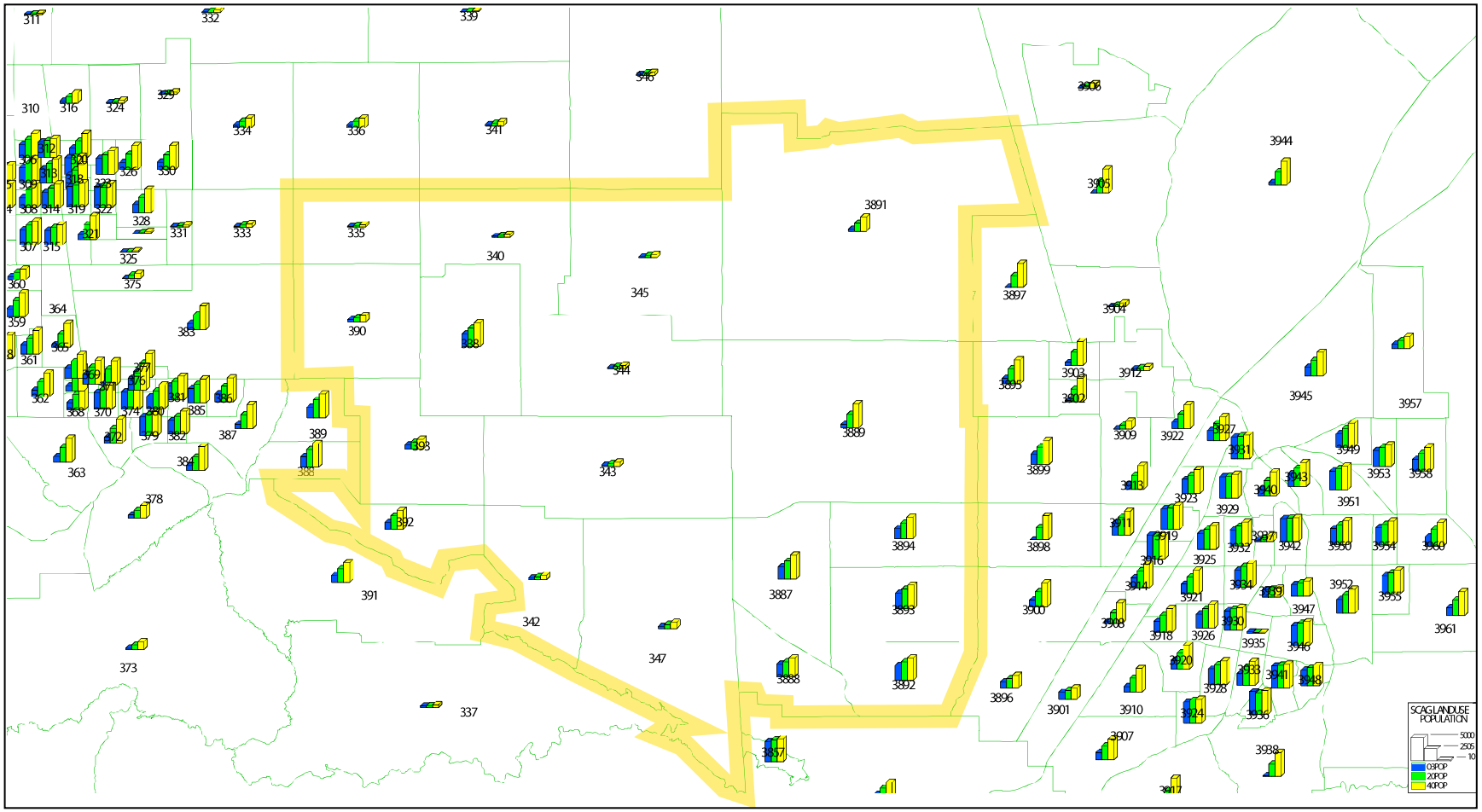


Figure 3-10: Magnitude and Distribution of Population Growth in the High Desert Region

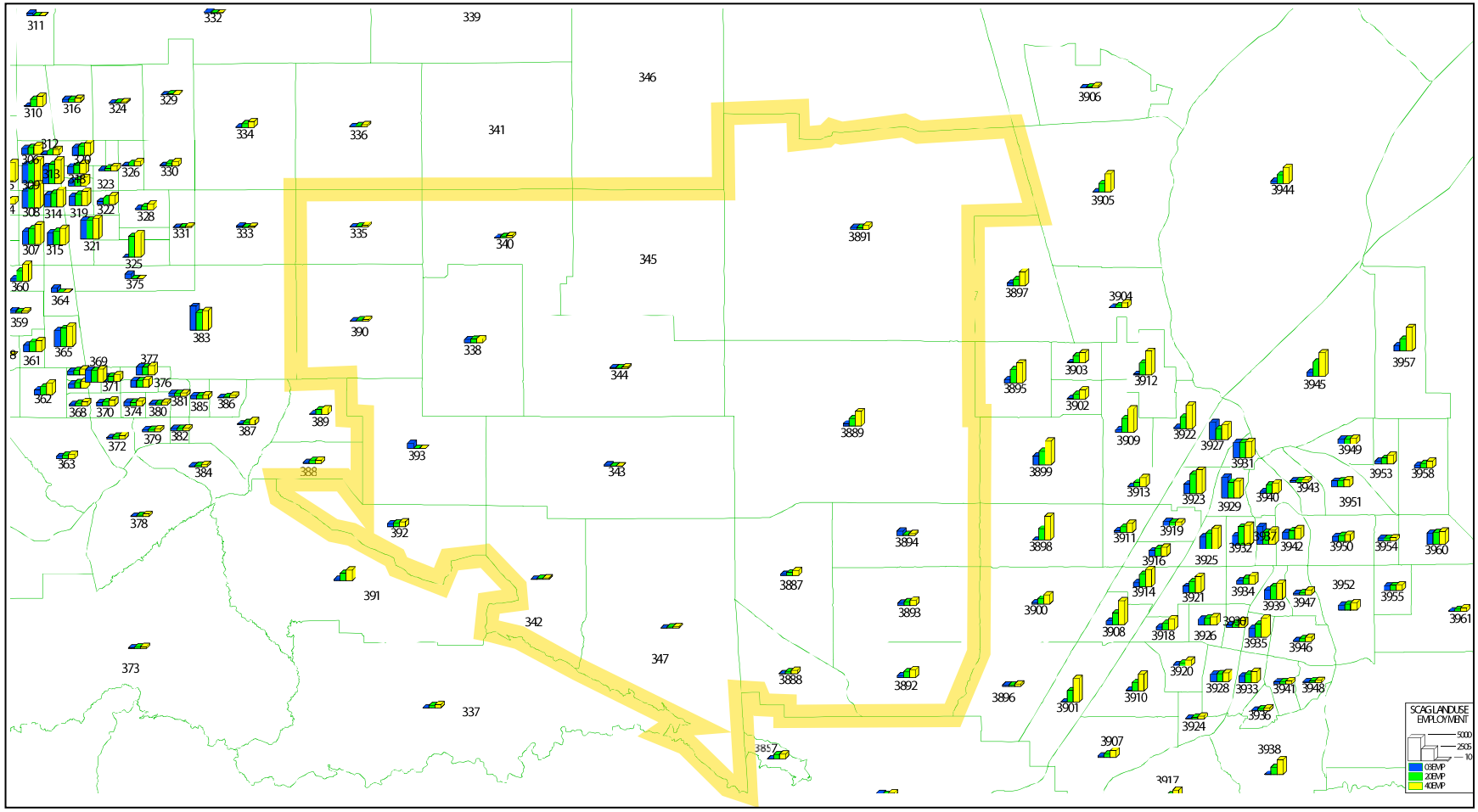


Figure 3-11: Magnitude and Distribution of Employment Growth in the High Desert Region

Table 3-3. SCAG Adopted RTP 2008 Growth Forecasts for High Desert Region

TAZ	POPULATION			HOUSEHOLDS			EMPLOYMENT		
	2003	2018	2035*	2003	2018	2035*	2003	2018	2035*
LOS ANGELES COUNTY									
335	75	171	255	20	49	71	36	100	149
338	11,958	17,519	22,214	3,176	5,149	6,567	584	631	664
340	142	257	353	57	111	149	7	198	265
342	303	516	697	143	254	335	15	66	90
343	301	509	687	95	167	220	79	37	50
344	208	372	511	79	151	203	54	60	81
345	194	350	482	61	118	159	2	7	9
347	457	779	1,052	181	322	424	10	29	40
390	479	784	1,043	119	216	285	43	106	120
392	1,430	2,760	3,897	516	1,081	1,493	586	738	832
393	861	1,417	1,891	252	459	609	844	32	36
Subtotal	*16,408*	*25,434*	*33,082*	*4,699*	*8,077*	*10,515*	*2,260*	*2,004*	*2,336*
SAN BERNARDINO COUNTY									
3887	3,226	4,809	6,291	998	1,522	2,026	302	493	885
3888	2,621	3,122	3,807	929	1,134	1,408	21	332	484
3889	1,179	4,692	8,272	351	1,460	2,624	545	1,564	2,889
3891	468	1,644	2,872	148	546	971	336	346	590
3892	3,218	3,955	4,687	1,003	1,247	1,504	462	1,213	1,520
3893	4,318	5,279	6,360	1,403	1,732	2,123	422	667	858
3894	2,208	3,373	4,471	668	1,029	1,388	674	171	316
Subtotal	*17,238*	*26,874*	*36,760*	*5,500*	*8,670*	*12,044*	*2,762*	*4,786*	*7,542*
TOTAL	**33,646**	**52,308**	**69,842**	**10,199**	**16,747**	**22,559**	**5,022**	**6,790**	**9,878**

*Equal to year 2040(+).

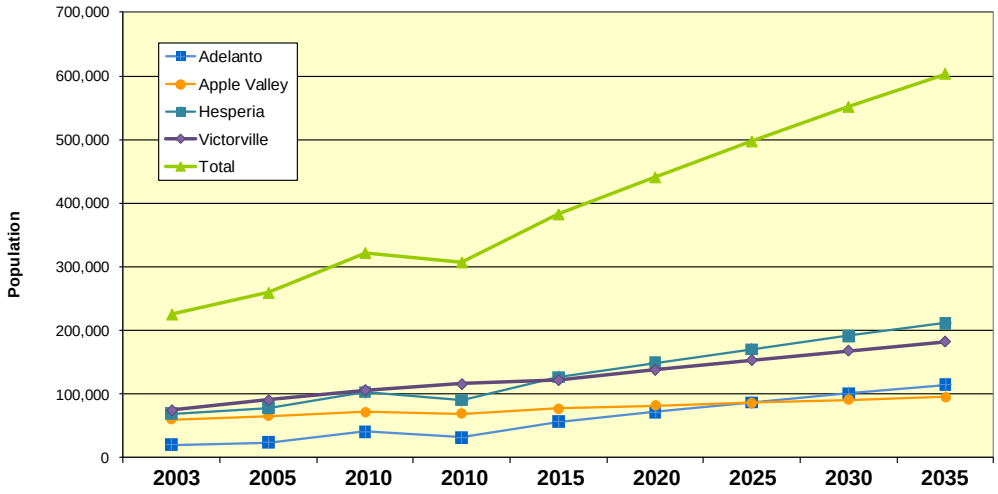
As the growth forecast for Victor Valley is uncertain, sensitivity tests will be performed using the SANBAG Victor Valley area population, housing and employment forecasts, in conjunction with the City of Palmdale forecasts as discussed earlier.

These local visions of development would likely result in different roadway requirements and environmental impacts. As a consequence, Caltrans, SANBAG and Victorville city staff concluded that it would be prudent to analyze both land use scenarios for a subset of the build project alternatives. Adjustments to these planning variable forecasts were made to account for two significant land developments located in Victorville, as described below.

Southern California Logistics Airport

The SCLA development is located in the northwest corner of Victorville and is owned by the Southern California Logistics Airport Authority (SCLA), a component unit entity of the City of Victorville. It is also a joint power authority created by the City of Victorville and the Victorville Redevelopment Agency. Plans call for developing the SCLA as an air cargo and aircraft maintenance facility and a business/industrial center, ultimately providing some 28,646 jobs by year 2080.[28]

[28] Year 2080 represents buildout conditions. Land use and employee assumptions provided by SCLA.



	2003	2005	2010	2010	2015	2020	2025	2030	2035
Census									
Adelanto	20,380	24,156	40,742	31,765	56,674	71,877	86,629	100,814	114,398
Apple Valley	60,255	65,760	71,630	69,135	77,115	82,005	86,749	91,311	95,681
Hesperia	69,249	78,284	102,895	90,173	126,456	148,751	170,384	191,186	211,108
Victorville	75,259	90,913	106,649	115,903	122,205	138,023	153,376	168,134	182,275
Total	225,143	259,113	321,916	306,976	382,450	440,656	497,138	551,445	603,462
Households									
Adelanto	5,132	6,107	10,755	7,809	16,487	20,726	24,798	28,606	32,192
Apple Valley	19,749	21,277	23,692	23,598	26,742	29,088	31,343	33,455	35,441
Hesperia	21,164	23,621	28,869	26,431	36,347	43,240	49,859	56,055	61,887
Victorville	22,975	27,108	32,392	32,558	38,919	43,766	48,421	52,775	56,875
Total	69,026	78,113	95,708	90,396	118,495	136,820	154,421	170,381	186,395
Employment									
Adelanto	4,643	5,125	8,022	N/A	10,501	12,682	15,232	17,982	20,884
Apple Valley	11,417	12,488	14,623	N/A	16,243	17,283	18,500	19,972	23,662
Hesperia	13,554	14,934	21,051	N/A	25,706	28,959	32,787	37,275	47,998
Victorville	28,527	31,425	41,280	N/A	49,131	55,044	61,972	69,861	84,335
Total	58,141	63,972	84,976	N/A	101,581	113,968	128,491	145,090	176,879

Sources: Southern California Association of Governments, *Adopted 2008 RTP Growth Forecast by City*
2010 Census

Figure 3-12: SCAG Adopted RTP 2008 Growth Forecasts for Adelanto, Apple Valley, Hesperia, and Victorville

For traffic circulation planning purposes, the City of Victorville assumes that SCLA will have the following level of development by 2035.

- Office space comprising 2,171,600 square feet
- Warehouse space comprising 31,732,350 square feet
- Intermodal rail yard with 3,700 container lifts/day
- Air cargo airport employing 3,000 persons
- Collective employee head count of just over 20,000.

These development assumptions were provided by the City of Victorville for the purpose of estimating internal SCLA roadway and intersection right-of-way cross sections, and should not be construed as a forecast of 2035 activity. For reference, employment at SCLA was 2,073 as of June 30, 2009.[29]

[29] City of Victorville, *2009 Comprehensive Annual Financial Report*.

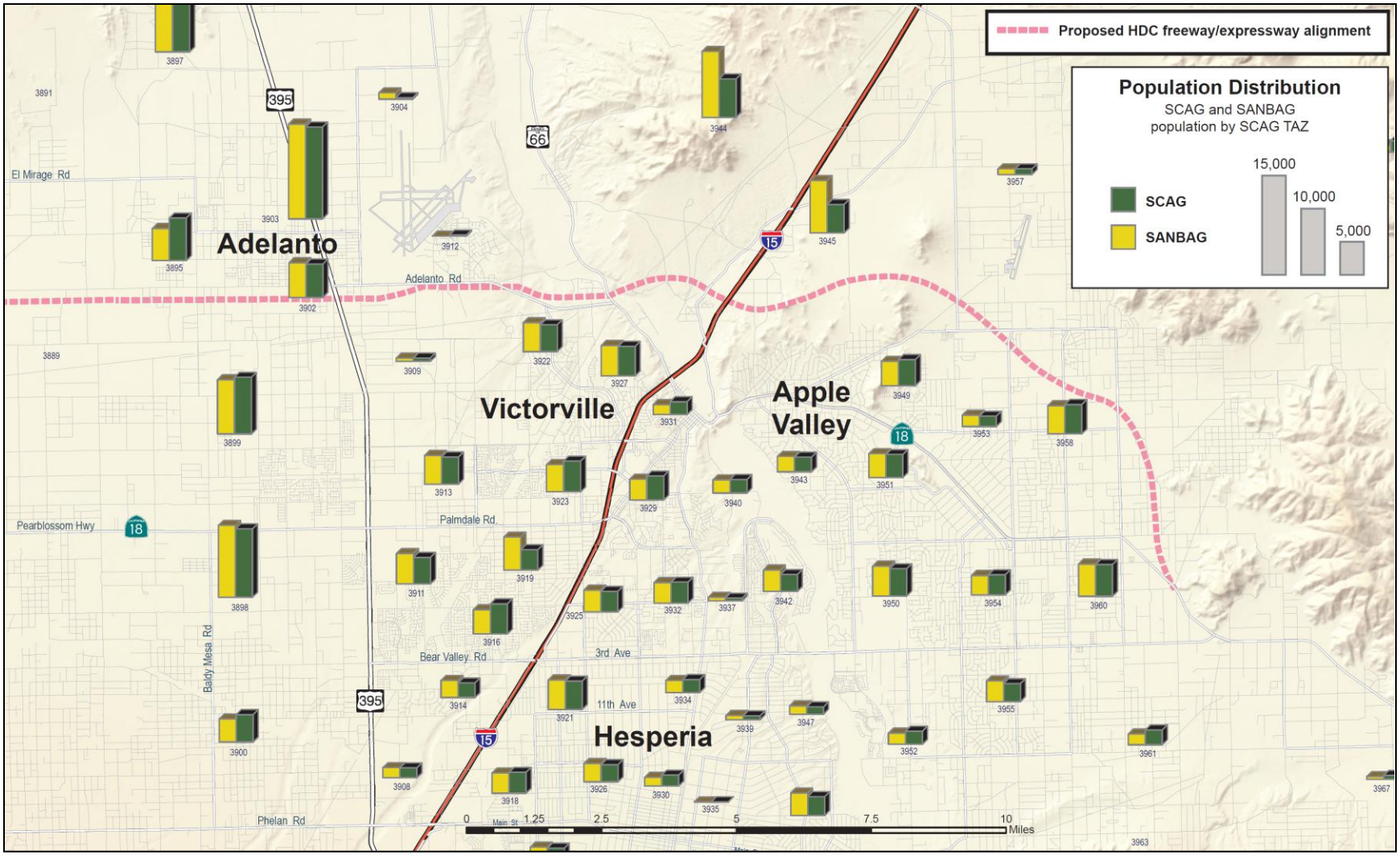


Figure 3-13: Population Projection—SCAG Compared to SANBAG *(Year 2035 = Year 2040)*

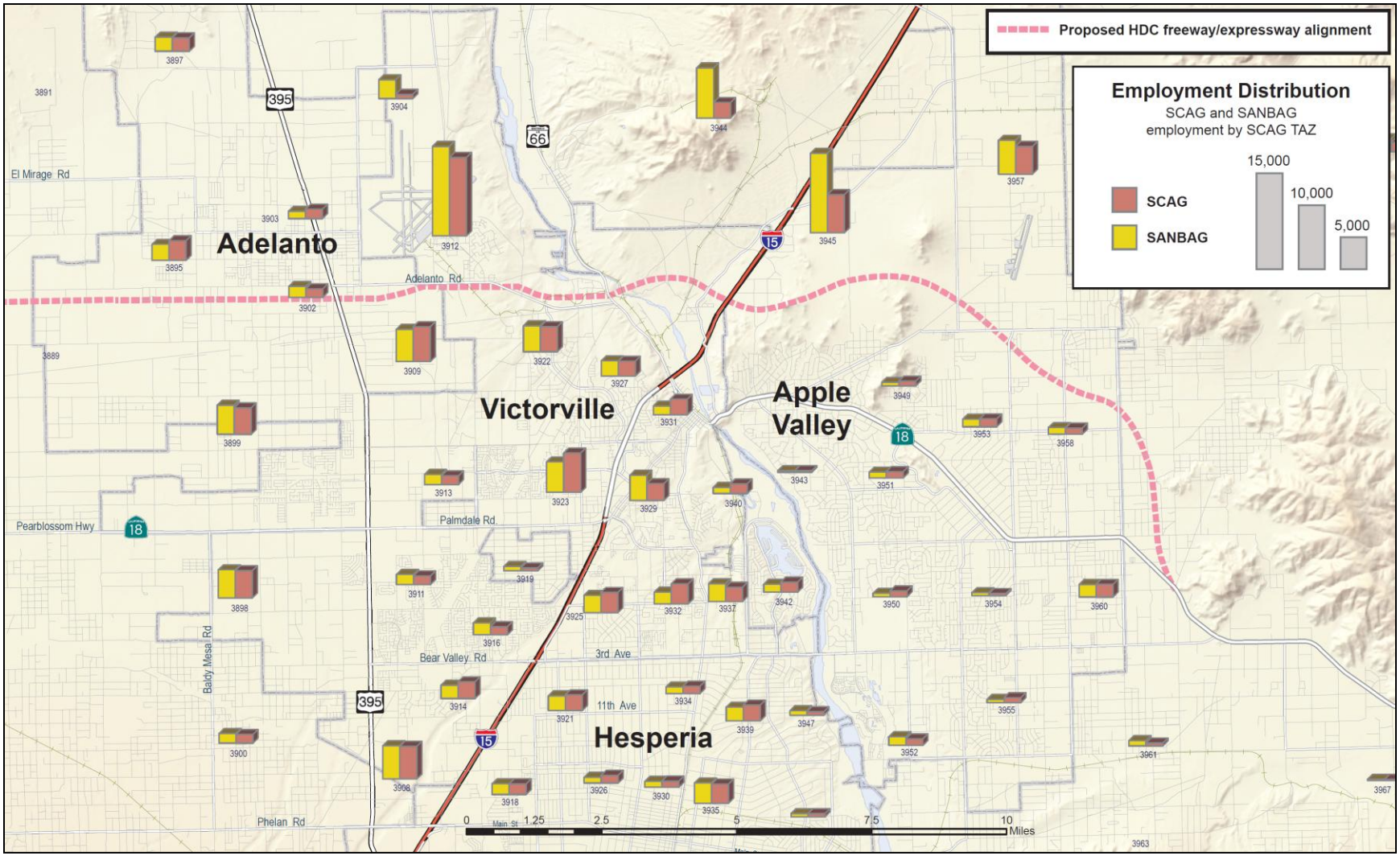


Figure 3-14: Employment Projection—SCAG Compared to SANBAG *(Year 2035 = Year 2040)*

Table 3-4. Population and Employment Forecast Comparison *(Victor Valley Subregion)*

	SCAG ADOPTED 2008 RTP GROWTH FORECAST (2035)*		SCAG DRAFT 2012 RTP GROWTH FORECAST (2035)		VICTOR VALLEY AERA TRANSPORTATION STUDY (2035)	
	POPULATION	EMPLOYMENT	POPULATION	EMPLOYMENT	POPULATION	EMPLOYMENT
Adelanto	114,398	20,884	68,252	11,153	104,075	49,691
Apple Valley	95,681	23,662	112,988	23,663	150,780	50,278
Hesperia	211,108	47,998	132,056	30,263	187,879	74,766
Victorville	182,275	84,335	189,513	70,000	264,864	80,962
TOTAL	**603,462**	**176,879**	**502,809**	**135,079**	**707,598**	**255,697**

* Equal to year 2040(+).

Insofar as the SCAG adopted 2008 RTP growth forecast for 2035 (now equal to a 2040(+) planning horizon), SCAG forecast 16,367 employees for TAZ 3912, which comprises the SCLA and the Victorville Federal Correctional Complex. Of this count, Parsons estimates that approximately 15,400 will be employed at SCLA. This headcount closely corresponds to City of Victorville planning assumptions, once delays to the intermodal rail and air cargo components for the SCLA are accounted for.[30]

Desert Gateway

The City of Victorville adopted its *2030 General Plan* in October 2008, which designated the Desert Gateway area, along with the northwestern edge of I-15, as a "specific plan" land use. A *Desert Gateway Specific Plan* was subsequently published in February 2010, identifying the potential for a development comprised of some 26,100 housing units with 82,900 residents and a reservation of lands for commercial, mixed use and industrial uses capable of accommodating 45,000 to 65,000 jobs.

As no timetable is set forth by the Specific Plan to realize this development and the magnitude of growth appears uncertain at the present time, the High Desert Corridor project team will assume the SCAG *2008 Adopted Regional Transportation Plan* growth forecast for year 2035 as the basis of the 2040 design year traffic volumes insofar as the Desert Gateway Specific Plan area. These forecasts assume 10,000 households with a population of 28,600 and 11,200 jobs for SCAG traffic analysis zones 3944 and 3945, which comprise the Desert Gateway area plus a portion of Apple Valley to the east of I-15. Insofar as the sensitivity tests, which assume SANBAG forecasts of population, households and employment, these will be performed assuming a higher proportion of *Desert Gateway Specific Plan* buildout, equal to an arbitrary 60 percent of the projected population and employment planned for the *Desert Gateway Specific Plan* area.[31]

Figure 3-15 illustrates the *Desert Gateway Specific Plan* land use designations and the geographic relationship of the project area to SCLA.

[30] After signing a memorandum of understanding with the City of Victorville in 2007, the BNSF Railway Company withdrew their letter of intent to construct an intermodal rail yard in Victorville in 2010, placing the yard on indefinite hold. From a High Desert Corridor environmental analysis perspective, it would be difficult to say with certainty when the yard will be constructed, particularly given the new ownership of BNSF. Regarding air cargo prospects, tonnage at the Los Angeles regionwide airports fell from 2.5 million metric tons in 2006 to 1.95 million metric tons in 2009. Of this amount, Los Angeles International Airport shipped 1,509,236 metric tons, Ontario 354,691 metric tons, Burbank 42,263 metric tons, Long Beach 31,797 metric tons, and Santa Ana 15,075 metric tons. Source: Airports Council International. SCLA air cargo totaled 227 metric tons for fiscal year 2009.

[31] Sixty percent of the buildout capacity growth equals 15,660 housing units with 49,740 residents and 27,000 jobs.

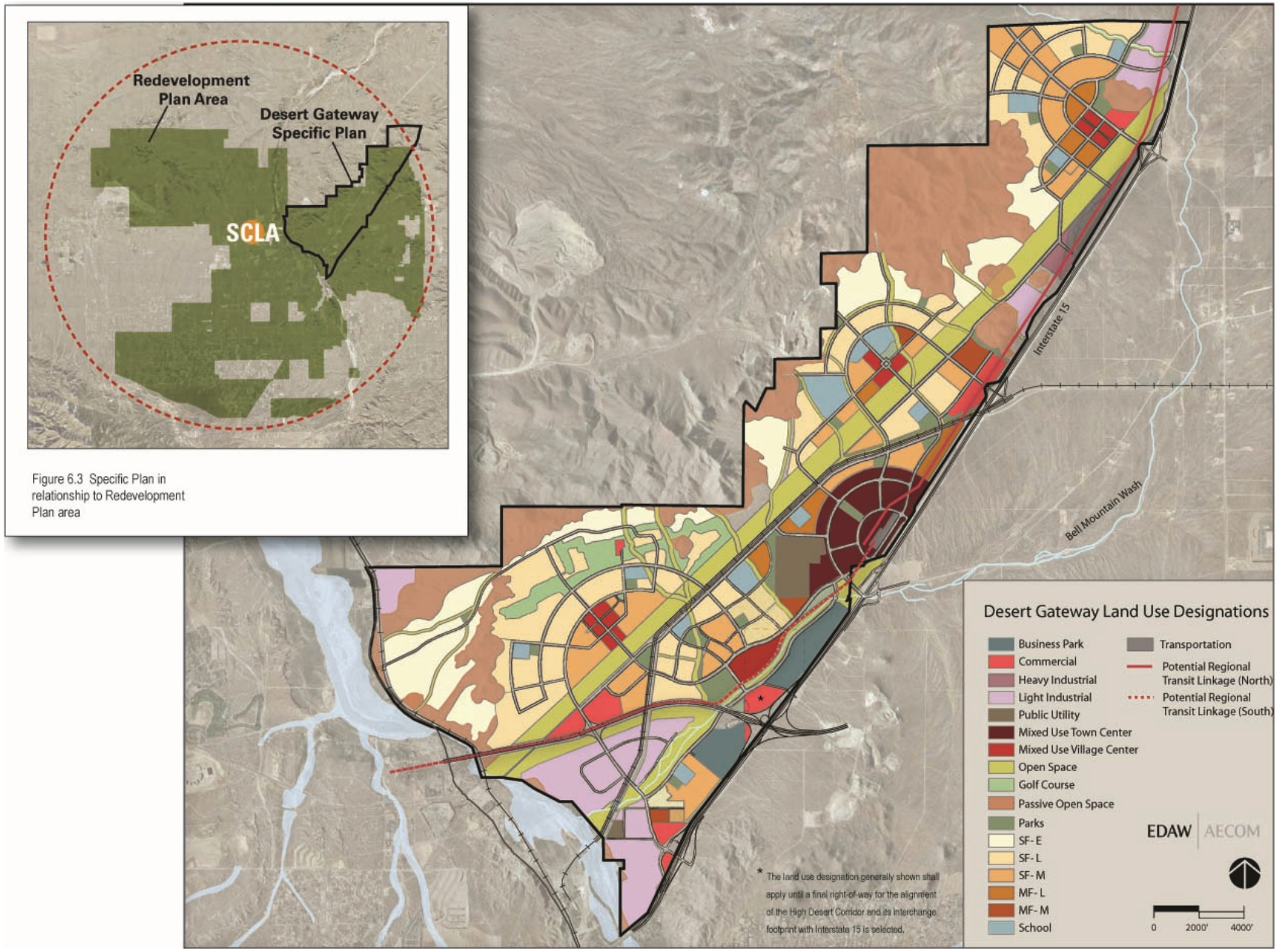


Figure 3-15: *Desert Gateway Specific Plan* Land Use Map

3.2.3 Land Use Sensitivity Test

The preceding text (section 3.2.2) described the land use assumptions underlying the traffic forecasts for the multimodal High Desert Corridor alternatives. The text indicated that the SCAG *2008 Adopted Regional Transportation Plan* growth forecast for year 2035 serves as the basis of the 2040(+) design year traffic volumes, along with corresponding year 2035 highway and transit networks which meet air quality conformity determinations. These forecasts are reflected in the environmental documents prepared for this project.

In addition to these assumptions used for design and environmental impact analysis, an alternative land use data set was tested for a subset of the build alternatives reflecting the following:

- City of Palmdale growth assumptions, which accommodate higher levels of employment and lower levels of housing development
- The "Antelope Valley inland port" development potential, located adjacent to the Palmdale Regional Airport, serving as an aerospace economic development cluster, and research and development and /or logistics distribution center.
- SANBAG projections of population, housing and employment for the Victor Valley portion of the study area—which are generally, but not uniformly, higher than the SCAG adopted 2008 growth forecast.
- Development of the Desert Gateway Specific Plan land use, set equal to 60 percent of the projected population and employment at buildout.

The results of this land use sensitivity test are reported in section 3.12 of this document.

3.3 Highway Network Assumptions

Highway network assumptions form a critical component of the traffic forecasting effort insofar as they define the background condition upon which the build alternatives are evaluated. The planned highway system is defined by the locally approved and adopted regional transportation plan. The regional transportation plan is a long-range transportation plan covering a 20+ year time span. The most recent regional transportation plan was adopted on May 8, 2008. The 2008 RTP is a $531.5 billion plan that emphasizes the importance of system management, goods movement and innovative transportation financing. A description of the overall plan, *2008 Regional Transportation Plan: Making the Connections*, may be viewed at www.scag.ca.gov/rtp2008/final.htm. The streets and highways element of the RTP is described in the 2008 RTP *Highways and Arterials Report.* This document may be viewed at www.scag.ca.gov/rtp2008/pdfs/finalrtp/reports/HighwaysandArterials.pdf.

The *Highways and Arterials Report* describes three sets of conditions.

- The Existing System—Base Year 2003
- The Baseline 2035 System
- The Plan 2035 System.

The **Existing 2003 System** is the basis of the Regional Travel Demand Model Validation, and forms a point of comparison with respect to highway system performance.

The **Baseline 2035 System** includes all projects listed in the six-year Regional Transportation Improvement Program (RTIP). These short-term projects are funded and programmed for near-term construction.

The RTP is periodically updated to reflect the current listing of locally approved projects. On November 4, 2010, SCAG adopted Amendment #4 to the 2008 RTP and made the corresponding air quality conformity determinations via Resolution 10-524-01. On December 8, 2010, the Federal Highway Administration and Federal Transit Administration concurred with this conformity determination, in consultation with the Environmental Protection Agency Region 9 office. A listing of highway and arterial street projects included in these latest amendments can be viewed at *www.scag.ca.gov/rtp2008/pdfs/amendrtp/ ModelingList_2008RTPA4.pdf*. Projects which are relevant to the Antelope Valley portion of the High Desert Corridor are listed in Table 3-5. Projects which are relevant to the Victor Valley portion of the High Desert Corridor are too numerous to list in the main body of this document, but are highlighted in the comprehensive modeling list (Draft 2008 RTP Amendment #4) in Volume IV of this report.

Consistent with Caltrans District 7, 8 and 12 practice, the Baseline 2035 System is the assumed background condition for the analysis of the 2035 High Desert Corridor build alternatives and the 2035 no-build alternative.

The **Plan 2035 System** represents the full array of regional transportation plan projects expected to be in place by 2035. These projects are needed to respond to projected population and employment growth *and* are fiscally constrained by existing and projected revenue sources and amounts. Table 3-5 includes a number of projects which are listed in the regional transportation plan, but not the near-term regional transportation improvement program. These projects are:

- Extending the high occupancy vehicle (HOV) lane on SR 14 from Avenue P-8 to Avenue L
- Constructing the High Desert Corridor Freeway/Expressway
- Widening Avenue S to six lanes from 30th Street to 45th Street in Palmdale
- Victor Valley Area Transportation Study Recommended Plan for 2035
- Miscellaneous Palmdale circulation system improvements.

These projects are included with the build and no-build alternatives, as follows:

1. Extending the HOV lane on SR 14 is included in all design year (2040) scenarios and the opening year (2020) build alternatives. This project is not assumed for the opening year no-build alternative (2020).

2. The High Desert Corridor is assumed to be constructed between SR 14 and east of I-15 for the 2040 High Desert Corridor build alternatives, as described in Chapters 1 and 4 of this traffic report. (The opening year for this facility is assumed to be 2020.)

   In conjunction with the High Desert Corridor full build project, SR 14 is assumed to be widened to three mixed flow lanes and one HOV lane in each direction between Sand Canyon Road (PM 33.1) on the eastern edge of Santa Clarita to north of the study area limits in Lancaster. This SR 14 widening was identified by Caltrans in a District 7 approved Project Study Report (Project Development Support) under EA 23340K. This widening of SR 14 is needed to accommodate both Antelope Valley to Los Angeles commuters and interregional traffic using the High Desert Corridor.

3. Widening Avenue S to a consistent six lanes between SR 14 and 45th Street East is assumed for all design year Build and No-Build scenarios.

4. The roadway widening, extension and freeway interchange projects identified in the *Victor Valley Area Transportation Study Recommended Plan* (Figure 3-4) are assumed for all design year (2040) scenarios. These projects are individually identified in the adopted 2008 RTP Amendment #4 and are highlighted in Volume IV of this report.

Table 3-5. Draft 2008 RTP Amendment #4

CO	SYS*	LEAD AGENCY	RTP ID	RTIP ID	RTE	BEG PM	END PM	STREET	FROM	TO	DESCRIPTION	ADDITIONAL DETAILS, IF AVAILABLE	2008 RTIP	NO BUILD	NETWORK YEAR (PROJECT COMPLETION BY)**							
															2006	2009	2010	2012	2014	2020	2030	2035
LA	S	Caltrans	LA962201	LA962201	14	24.3	27.1	SR-14	Route 57	Route 126	Near Santa Clarita, from Route 5 to 126/S.F. Road HOV Project: Add one HOV lane each direction (EA# 119843, PPNO# 0380G).	Add one HOV lane in each direction.	✓	✓	✓							
LA	S	Caltrans	LA01348	LA01348	14	44.0	54.5	SR-14	Escondido Canyon Road	Mountain Spring Road	Near Palmdale from Escondido Canyon Road to Mountain Spring Road: Widen freeway for one HOV in each direction (EA# 117101, PPNO# 0389N).	Widen freeway for one HOV in each direction.	✓	✓	✓							
LA	S	Caltrans	LA01347	LA01347	14	53.6	60.7	SR-14	Vincent Ramp UC	Avenue P-8	Route 14 from Vincent Ramp UC to Avenue P-8 HOV lanes (4 to 6 lanes) (2001 CFP, 8348) (EA# 125201, PPNO# 0391A)	Add one HOV in each direction. Note: Changed beginning limit name, but same post miles.	✓	✓	✓							
LA	S	Los Angeles County MTA	1H0101		14	60.7	65.7	SR-14	Avenue P-8	Avenue L	Add one HOV lane in each direction on the SR-14 from Avenue P-8 to Avenue L.										✓	
LA	S	Caltrans	LA0D451	LA0D451	138	51.4	69.4	SR-138	Avenue T	Route 18	Route 138 from Avenue T to Route 18: Widen 2 to 4 through lanes with median turn lane (EA# 12721, 12722, 12723, 12724, 12725, 12728, PPNO# 3325, 3326, 3327, 3328, 3329, 3331).	Widen from 2 to 4 lanes	✓	✓						✓		
LA	S	Caltrans	LA0D174	LA0D174	138	61.5	63.6	SR-138	At Twin Bridges		Route 138 widening from 2 lanes to 4 lanes: Widening at Twin Bridges (Seg. 11B) (EA# 127261, PPNO# 3330 (SAFETEALU #2542).	Widen from 2 to 4 lanes	✓	✓			✓					
LA	S	Caltrans	LA0D180	LA0D180	138	63.6	67.3	SR-138	165th Street East	Largo Vista Road	Route 138 widening from 2 to 4 lanes with median turn lane near Liano from 0.30 mile west of 165th Street East to 0.37 mile west of 190th Street East (EA# 127271, PPNO# 0694Q).	Widen from 2 to 4 lanes	✓	✓								
LA and SB	S	TBD	1C0404		TBD	0.0	0.0	High Desert Corridor	Interstate 5 in LA County	US-395 in San Bernardino County (connecting with Route 220 project #20020144	High Desert Corridor (toll for LA County portion): E-W 4 MF each direction along Avenue P-8 from SR-14 to 50th Street East, 3 MF each direction from 50th Street East to 240th Street East. Exwy 3 lanes each direction from 240th Street East to US-395 (connecting at SB CO #20020144). N-S Exwy 2 lanes each direction along Avenue D (SR-14 to Old Sierra Highway), Avenue E (to 90th Street East), 90th Street East (connecting to Avenue P-8 Freeway at 126th Street East), and south to SR-138 near 150th Street East. E-W Exwy 3 lanes each direction on SR-138 from Interstate 5 to SR-14.	Note: This corridor project is located in both LA and SB counties; this single project entry covers both counties.								✓		
LA	L	Palmdale	LA9811099	LA9811099	0	0.0	0.0	20th Street West	P-8	Elizabeth Lake Road	20th Street West form Avenue P-8 to Elizabeth Lake Road: One mile street extension and widening from 0 to 4 lanes.	Extension widen from 0 to 4 lanes.	✓	✓					✓			
LA	L	Palmdale	LA981101	LA981101	0	0.0	0.0	Avenue 2	Sheffield	25th Street East	Avenue S from Sheffield to 25th Street East: Widen from 2 to 4 lanes.	Widen from 2 to 4 lanes.	✓	✓	✓							
LA	L	Palmdale	1A1006		0	0.0	0.0	Avenue S	30th Street East	45th Street East	Avenue S Widening Phase II: Provide a 6 lane roadway, sidewalk, curb and gutter, Class 1 bikeway, traffic signals, and enhancements.	Widen 4 to 6 lanes.								✓		
LA	L	Palmdale	LA960134	LA960134	0	0.0	0.0	Avenue S	Highway 14	Downing Street	Avenue S Highway 14/Downing Street (widen 4 to 6 lanes) 3 lanes each direction.	Widen 4 to 6 lanes.	✓	✓								
LA	L	Palmdale	LA9811102	LA9811102	0	0.0	0.0	Avenue S	Casa Verde (easterly)	20th Street East	Avenue S Railroad Overpass West of Sierra Highway: Widen bridge from 4 to 6 lanes. Includes grade separation of Sierra Highway and applicable ramping	Widen from 4 to 6 lanes.	✓	✓						✓		
LA	L	Palmdale	LA996365	LA996365	0	0.0	0.0	Avenue S	20th Street East	Route 14	Avenue S Widening: Widen 2 miles from 20th Street East to Route 14 from 2 lanes to 4 lanes in each direction and one left turn lane. 4 to 6 lanes will be done at a later date.	Widen from 2 to 4 lanes in each direction.	✓	✓	✓							
LA	L	Palmdale	LA0C51	LA0C51	0	0.0	0.0	Rancho Vista Boulevard	Fairway Drive	20th Street East	Rancho Vista Boulevard/Avenue P Widening from Fairway Drive to 20th Street East: 4 to 6 lanes with sidewalks, bike lanes, landscaping, signal modification, drainage improve.	Widening 4 to 6 lanes; with sidewalks, bike lanes, landscaping, signal modification, drainage improve	✓	✓						✓		
LA	L	Palmdale	LAF1104	LAF1104	0	0.0	0.0	Rancho Vista Boulevard	Sierra Highway/ railroad tracks		Rancho Vista Boulevard Grade Separation at Sierra Highway/Railroad Tracks: City of Palmdale-Rancho Vista Boulevard grade separation at Sierra Highway and at the grade UPRR/Metrolink railroad crossing.	Project location: Along Rancho Vista Boulevard at Sierra Highway and the UPRR/Metrolink railroad crossing, between 3rd Street East and 10th Street East, and along Sierra Highway approaches north and south of Rancho Vista Boulevard in the City of Palmdale. Description: Construct a grade separation to separate Rancho Vista Boulevard from both Sierra Highway and the double track at-grade railroad crossing of both Metrolink and Union Pacific Railroad tracks. The project will require the construction of two connector roads in order to reestablish the connection between Rancho Vista and Sierra Highway	✓							✓		
LA	L	Palmdale	LA0D145	LA0D145	0	0.0	0.0	Tierra Subida			Tierra Subida Widening from Avenue S to Palmdale Boulevard: 2 to 4 lanes from Avenue S to Avenue Q-8; 4 to 6 lanes from Avenue Q-8 to Palmdale Boulevard; with sidewalks, bike lanes, landscaping, drainage improvements and traffic signals.		✓	✓						✓		

Source: Southern California Association of Governments, Amendment #4 to the *2008 Regional Transportation Plan,* adopted November 2010

Inclusion of the local Victor Valley area roadway projects as background facilities for the build and no-build scenarios will ensure that the High Desert Corridor is not oversized with respect to traffic volume demand forecasts. This is a particularly important consideration, as funding for the High Desert Corridor is being considered via a public–private partnership. Thus, potential tolling revenues should not be overstated.

Two projects identified in both the adopted 2008 RTP Amendment 4 and the *Victor Valley Area Traffic Study Recommended Plan* comprise the widening of I-15 from I-215 in San Bernardino to the Mojave River in Victorville. Regional transportation plan project 4H021005 would add one HOV lane in each direction from the Devore interchange (I-15/ I-215) to U.S. Route 395, a distance of 17.2 miles. Regional transportation plan project 4H01006 would extend the HOV lanes to the National Trails Highway interchange, an additional 7.4 miles. This latter extension of the HOV lanes on I-15 is not reflected in the build or no-build alternatives as the addition of the HOV lane in the northbound direction would overload I-15 to the north of National Trails Highway. This overloading of traffic capacity would occur with or without the build High Desert Corridor or transportation systems management alternatives. Southbound, design year (2040) traffic volumes do not warrant the addition of an HOV lane to the north of U.S. Route 395.

5. Subsequent to the initial testing of alternatives, the City of Palmdale and the High Desert Corridor (HDC) project development team identified local street improvements needed to support development, high-speed rail station access, and implementation of the High Desert Corridor multimodal investments. For the refined definition of High Desert Corridor access within Palmdale, the following circulation system improvements were assumed.

   - **2020 and 2040 no-build networks.** These changes are also included with the build alternatives.
     - 10th Street West—Assume four lanes per direction between Rancho Vista Boulevard and Avenue O-8
     - 10th Street West—Assume three lanes per direction between Rancho Vista Boulevard and West Palmdale Boulevard
     - West Palmdale Boulevard—Assume three lanes per direction between 10th Street West and SR 14
     - East Palmdale Boulevard—Assume three lanes per direction between SR 14 and 10th Street East.

   - **2040 no-build network.**
     - Avenue Q—Assume two lanes per direction between 5th Street West and Sierra Highway, including a grade separation of the UP Railroad/High-Speed Rail corridor.

   - **2020 and 2040 build networks.** In addition to the network assumptions for the no-build alternative:
     - 10th Street West—Assume four lanes per direction between Avenue O-8 and West Avenue O-4
     - 20th Street East—Assume two lanes per direction between East Avenue P and Palmdale Boulevard
     - 30th Street East—Assume two lanes per direction between East Avenue P and Palmdale Boulevard
     - 50th Street East—Assume two lanes per direction between East Avenue P and Palmdale Boulevard
     - East Avenue P—Assume three lanes per direction between west of 10th Street West and 20th Street East, and two lanes per direction between 20th Street East and 50th Street East.

- **2040 build network.** In addition to the above:
  - East Avenue Q—Assume two lanes per direction between Sierra Highway and 30th Street East to provide access to the high-speed train station.

These traffic lane assumptions do not necessarily reflect City of Palmdale right-of-way dedication requirements for arterial streets as set forth in the General Plan Circulation Element (adopted January 25, 1993). The General Plan identifies standard street cross sections for all arterial roadways that will be needed to accommodate "build out" of the adopted land use zoning. As the population and employment levels forecast for 2035 (2040) do not represent build out conditions, these roadway network assumptions may be less than the build out requirement.

Consistent with Caltrans District 7, 8 and 12 practices, the remaining elements (non-RTIP) of the **Plan 2035 System are not assumed** as the background condition for environmental impact or design purposes. While projects listed in the regional transportation plan are financially constrained, projects assumed to be implemented in distant horizon years are not necessarily funded. As these far distant projects are subject to reprioritization every regional transportation plan cycle, Caltrans assumes a conservative posture with respect to facilities that are not programmed (funded) for relatively near-term construction.

As noted throughout this document, "The High Desert corridor (HDC) project proposes the construction of a new, approximately 63-mile, east–west freeway/expressway linking SR 14 in Los Angeles County with SR 18 in San Bernardino County. This new freeway/expressway connection would link some of the fastest residential, commercial and industrial growth areas in Southern California, including the cities of Palmdale, Lancaster, Adelanto, Victorville and the Town of Apple Valley. In addition to addressing the issue of growth, the HDC project will address traffic safety and support the growing need to move goods through our region."[32]

This project is identified as RTP ID 1C0404 of SCAG's Amendment #4 to the *2008 Regional Transportation Plan.* (See Table 3-5 of this traffic study document.) One element of Project 1C0404 not addressed by the High Desert Corridor project is the "east–west expressway 3-lanes each direction on SR-138 from I-5 to SR-14." This element was not included in the *Baseline 2035 System* and was not, therefore, included as a background highway network assumption.

To determine the potential impact of improving SR 138 from I-5 to SR 14 on the design requirements for the High Desert Corridor new freeway/expressway, a sensitivity test was conducted. The results of this sensitivity test are reported in section 3.12.

3.4 Highway Network Utilization

Figures 3-16 and 3-17 illustrate the concentration of daily traffic on freeways and major arterial streets within the focused traffic study area. Figure 3-16 illustrates traffic volumes, by way of bandwidths for 2035 (2040) no-build conditions. Figure 3-17 illustrates the same types of traffic volumes for the 2035 (2040) High Desert Corridor build alternative.

[32] Los Angeles County Metropolitan Transportation Authority, http://www.metro.net/projects/high-desert-corridor/

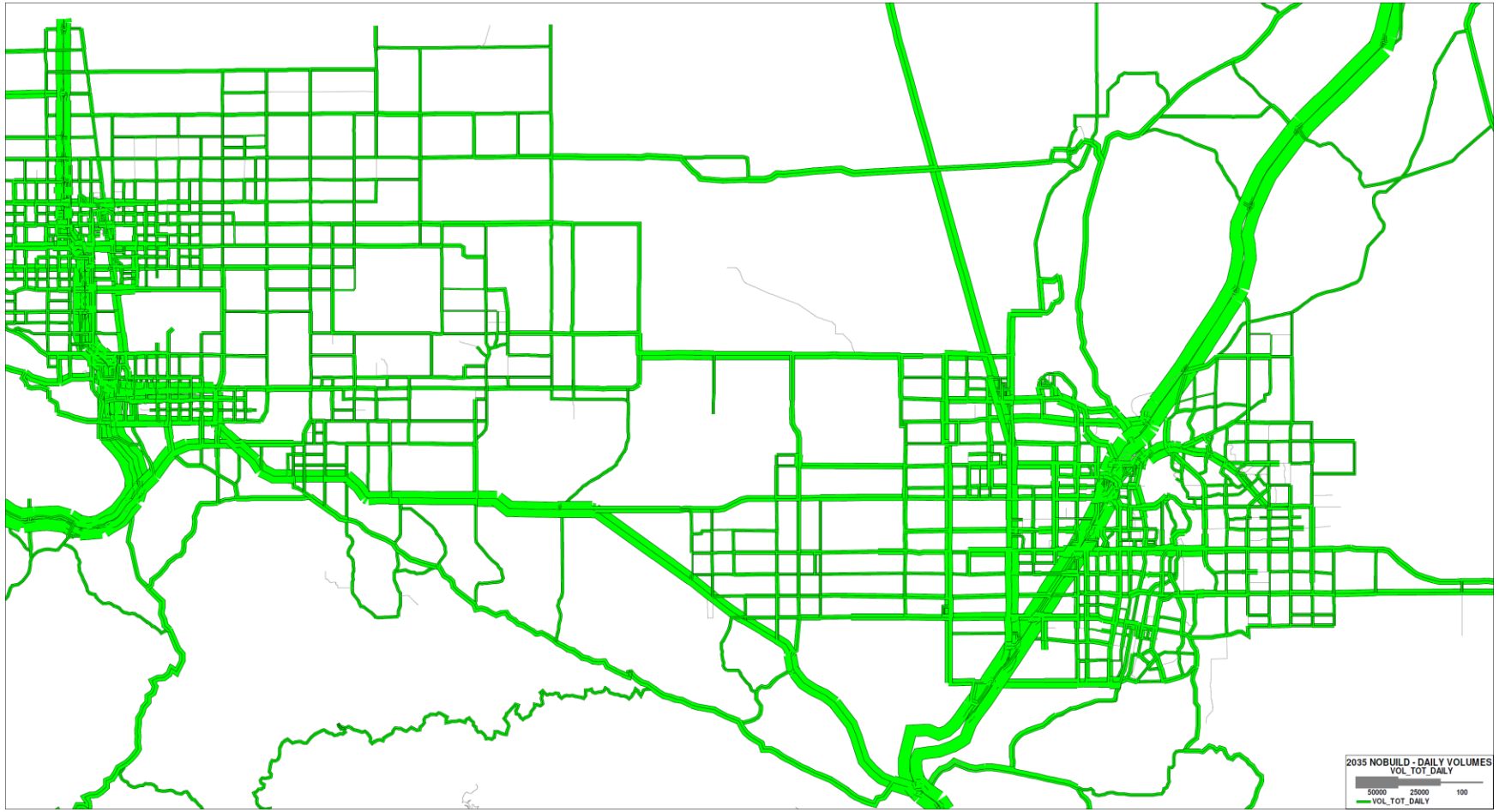


Figure 3-16: No-Build Alternative Daily Traffic Volumes on Freeways and Arterial Streets *(Year 2035)*

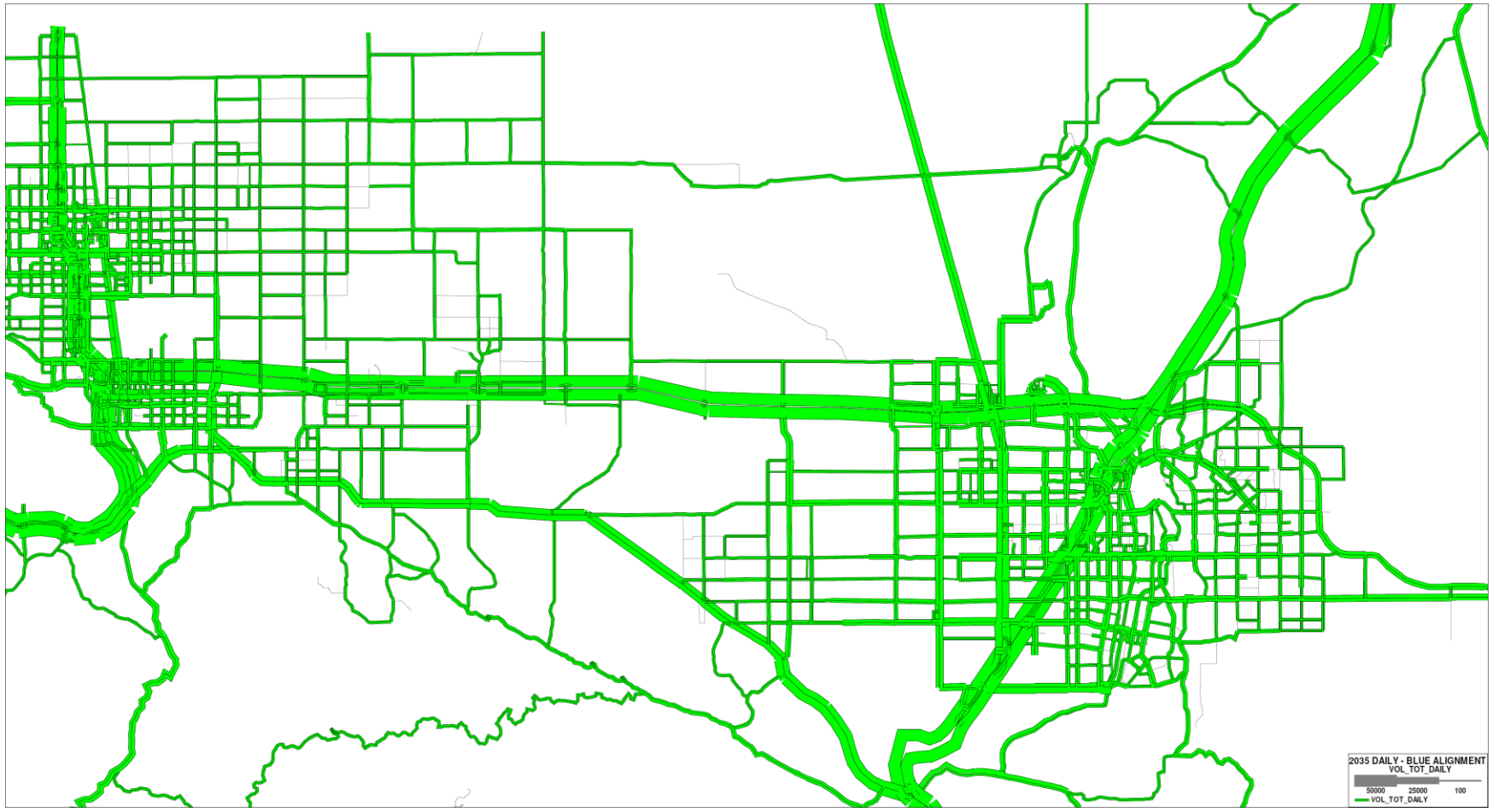


Figure 3-17: High Desert Corridor Build Alternative Daily Traffic Volumes on Freeways and Arterial Streets *(Year 2035)*

A comparison of the two illustrations clearly indicates the forecasted utilization of the new High Desert Corridor facility. Table 3-6 brings the comparison into sharper focus. The table indicates traffic volumes utilizing the six network roadways which cross an imaginary "screenline" drawn along the Los Angeles/San Bernardino County line. The location of the screenline and names of the roadways are illustrated on Figure 3-18.

Table 3-6 indicates that by year 2040, under no-build conditions, approximately 133,500 vehicles are forecast to cross the county line along five roadways. Each of the five roadways carries between roughly 16,000 and 45,000 vehicles per day.

Given the construction of the High Desert Corridor new freeway, linking I-15 with SR 14, the volume of daily traffic crossing the county line will increase to approximately 171,000 vehicles per day on weekdays. Of this volume, the High Desert Corridor will carry approximately 114,000 vehicles daily across the imaginary screenline. With the exception of SR 138, the remaining roads will see significant traffic reductions.

Quantitative information related to the utilization of highways by facility type is reported for the network alternatives in Table 3-7 assuming SCAG land use assumptions for year 2035. The table indicates the shift in traffic from arterial streets to freeways under the High Desert Corridor build alternatives. As a consequence, average speeds increase and cumulative vehicle hours of travel decrease. Table 3-8 presents similar statistics for year 2020. Figure 3-19 illustrates the extent of the highway network addressed by the comparison.

Close examination of the data reported in Table 3-7 indicates that the build alternative produces some unintended consequences. The provision of a freeway/expressway allows for greater utilization of the High Desert Corridor by vehicles traveling longer distances (less direct routes) and at higher speeds compared to the no-build alternative. Figure 3-20 provides some additional evidence of this route choice pattern. The graphic illustrates the difference in daily traffic volumes (assigned to the highway network by the SCAG model) between build alternative and the no-build alternative. Only volume decreases are plotted, with the magnitude of the volume illustrated by bandwidths.

The same phenomenon explains the change in vehicle miles and vehicle hours reported for the new freeway with tolls alternative. Figure 3-21 illustrates that a portion of the travelers using the High Desert Corridor freeway west of 90th Street in Palmdale and east of U.S. Route 395 in Adelanto divert from the freeway upon reaching the tolled section of the facility. Only volume increases are plotted. These travelers then continue their journey on parallel, but slower arterial streets running through the High Desert portion of the corridor.

The above discussion of highway network utilization pertains to the "window" of roadway segments illustrated on Figure 3-19, all of which lie within the High Desert portion of Los Angeles and San Bernardino counties. To provide a glimpse of SCAG region-wide impacts, vehicle miles and hours of travel were tabulated for the entire six county area. Under the 2035 (2040) no-build alternative, weekday vehicle miles traveled (VMT) totaled 599,218,899 compared with 601,096,922 VMT for the 2035 (2040) build alternative, an increase of 1,878,023 VMT. Virtually all of this increased travel occurred in the High Desert region. Insofar as vehicles hours of travel (VHT), under the 2035 (2040) no-build alternative, weekday VHT totaled 23,037,127 hours compared with 22,988,340 for the 2035 (2040) build alternative, a savings of 48,787 hours per day. Virtually all of this travel time savings occurred outside the High Desert region as motorists shifted their route choices from south of the San Gabriel Mountain Range to the High Desert Corridor.

Table 3-6. Year 2040 High Desert Corridor Screenline Volumes

LOCATION	NO. OF LANES/ DIRECTION	AM PEAK		MID PEAK		PM PEAK		NIGHT		DAILY	
		EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
NO-BUILD ALTERNATIVE											
East Avenue G	1	2,962	548	2,571	1,633	3,403	5,751	1,112	864	10,048	8,796
El Mirage Road	2	5,050	1,067	5,573	4,602	4,478	8,684	1,803	1,794	16,903	16,148
High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—
233rd Street East/SR 18	1	1,929	1,388	3,369	2,772	3,290	2,858	2,117	2,302	10,706	9,320
State Highway 138	2	5,235	2,072	7,489	6,518	4,723	7,507	5,082	6,473	22,529	22,571
Angeles Crest Highway	1	2,763	305	3,051	1,748	3,202	4,718	316	393	9,331	7,164
	Total	**17,939**	**5,380**	**22,053**	**17,273**	**19,096**	**29,518**	**10,430**	**11,826**	**69,517**	**63,999**
NEW FREEWAY/EXPRESSWAY BUILD ALTERNATIVE											
East Avenue G	1	607	88	395	178	1,200	1,357	168	95	2,371	1,718
El Mirage Road	2	469	26	163	53	214	1,569	70	16	916	1,664
High Desert Corridor	3	15,628	5,293	18,951	15,945	16,904	24,436	7,877	8,715	59,360	54,388
233rd Street East/SR 18	1	595	243	381	593	626	1,425	258	317	1,860	2,579
State Highway 138	2	3,667	1,820	6,265	4,660	4,168	6,503	4,656	5,367	18,757	18,349
Angeles Crest Highway	1	1,670	291	1,260	604	1,742	2,877	243	350	4,914	4,122
	Total	**22,636**	**7,761**	**27,415**	**22,033**	**24,854**	**38,167**	**13,272**	**14,860**	**88,178**	**82,820**
NEW FREEWAY/EXPRESSWAY BUILD ALTERNATIVE—ALTERNATE ALIGNMENT											
East Avenue G	1	612	90	402	176	1,211	1,423	171	96	2,396	1,785
El Mirage Road	2	563	28	164	55	256	1,683	73	17	1,055	1,783
High Desert Corridor	3	15,575	5,332	18,901	16,014	16,868	24,302	7,906	8,770	59,252	54,418
233rd Street East/SR 18	1	564	243	375	564	561	1,408	244	286	1,744	2,501
State Highway 138	2	3,687	1,773	6,253	4,627	4,202	6,470	4,635	5,329	18,777	18,200
Angeles Crest Highway	1	1,648	290	1,306	604	1,743	2,881	243	356	4,940	4,132
	Total	**22,649**	**7,756**	**27,402**	**22,040**	**24,841**	**38,167**	**13,272**	**14,854**	**88,164**	**82,819**
NEW FREEWAY WITH TOLLS ALTERNATIVE											
East Avenue G	1	1,051	324	1,227	575	1,901	2,336	456	327	4,635	3,562
El Mirage Road	2	1,892	611	1,882	1,172	1,519	3,292	958	618	6,251	5,693
High Desert Corridor	3	11,848	3,278	12,259	10,203	12,303	19,842	4,037	4,639	40,447	37,962
233rd Street East/SR 18	1	844	774	1,250	1,660	1,165	1,688	1,224	1,512	4,483	5,634
State Highway 138	2	4,161	2,207	7,275	6,810	4,622	6,989	5,289	6,507	21,347	22,513
Angeles Crest Highway	1	2,255	322	2,624	929	2,580	3,224	321	397	7,780	4,872
	Total	**22,051**	**7,516**	**26,517**	**21,349**	**24,090**	**37,371**	**12,285**	**14,000**	**84,943**	**80,236**
TRANSPORTATION SYSTEMS MANAGEMENT ALTERNATIVE											
East Avenue G	1	2,692	508	2,346	1,489	3,044	5,399	968	804	9,050	8,200
El Mirage Road	2	4,874	1,074	5,282	4,246	4,408	8,448	1,688	1,619	16,252	15,387
High Desert Corridor	—	—	—	—	—	—	—	—	—	—	—
233rd Street East/SR 18	2	2,816	1,721	4,798	3,913	4,264	3,934	2,836	3,005	14,714	12,573
State Highway 138	2	4,916	2,071	7,409	6,616	4,665	7,132	5,104	6,502	22,094	22,321
Angeles Crest Highway	1	2,815	157	2,895	1,589	1,999	5,175	229	286	7,938	7,207
	Total	**18,113**	**5,531**	**22,730**	**17,853**	**18,380**	**30,088**	**10,825**	**12,216**	**70,048**	**65,688**

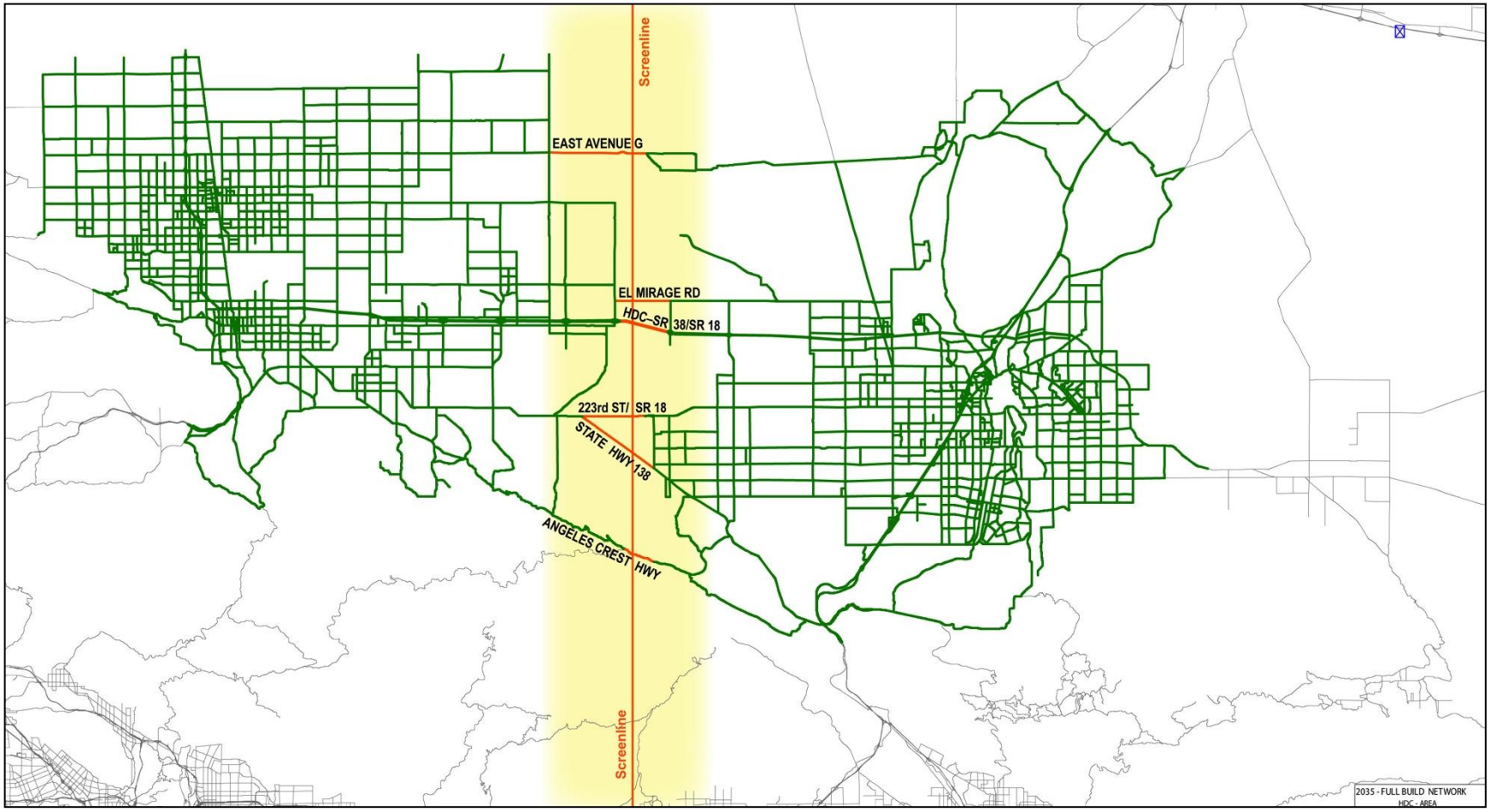


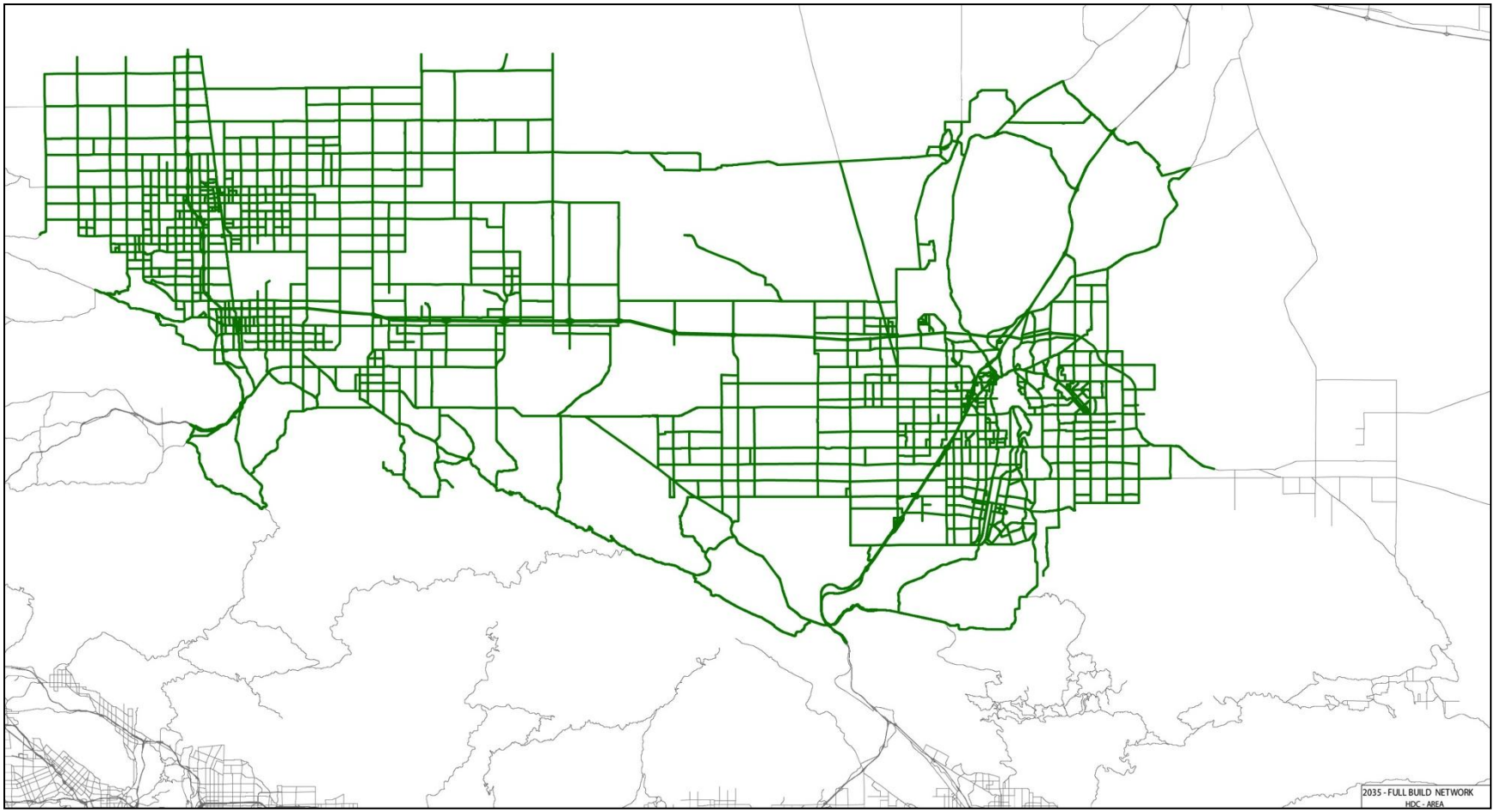
Figure 3-18: Los Angeles/San Bernardino County Screenline for Traffic Volume Comparison

Table 3-7. Year 2040 Highway Network Utilization

FACILITY	NO. OF LINKS	VOLUMES	VMT	VHT	AVERAGE SPEED (mph)
NO-BUILD ALTERNATIVE					
Freeways	186	11,118,749	8,963,335	210,738	42.53
HOV facilities	94	807,902	544,402	10,973	49.61
Expressway/parkway	1	21,191	75,992	1,503	50.57
Principal arterials	422	9,899,161	5,404,077	154,362	35.01
Minor arterials	1,518	18,297,507	9,063,181	255,026	35.54
Major collectors	986	4,996,873	4,845,079	144,865	33.45
Minor collectors	110	398,640	295,171	9,565	30.86
Freeway ramps	170	1,048,150	312,619	20,869	14,98
Centroids connectors	963	4,179,251	2,826,128	104,419	27.07
Total without centroids	3,487	46,588,173	29,503,856	807,901	36.52
Total of all links	***4,450***	***50,767,425***	***32,329,984***	***912,320***	***35.44***
NEW FREEWAY/EXPRESSWAY BUILD ALTERNATIVE					
Freeways	286	15,976,277	14,638,664	317,514	46.10
HOV facilities	92	860,043	579,987	11,980	48.41
Expressway/parkway	9	174,216	234,253	5,425	43.18
Principal arterials	422	8,377,783	4,175,543	111,540	37.44
Minor arterials	1,516	16,112,821	7,728,667	214,653	36.01
Major collectors	987	4,371,286	3,657,346	110,535	33.09
Minor collectors	110	349,885	238,210	7,782	30.61
Freeway ramps	257	1,458,407	361,984	21,831	16.58
Centroids connectors	963	4,184,610	2,847,594	105,099	27.09
Total without centroids	3,679	47,680,718	31,614,653	801,261	39.46
Total of all links	***4,642***	***51,865,328***	***34,462,247***	***906,360***	***38.02***
NEW FREEWAY EXPRESSWAY BUILD ALTERNATIVE—ALTERNATE ALIGNMENT					
Freeways	286	16,046,088	14,723,281	319,314	46.11
HOV facilities	92	857,905	578,203	11,952	48.38
Expressway/parkway	9	172,783	232,671	5,368	43.35
Principal arterials	422	8,324,950	4,155,842	110,688	37.55
Minor arterials	1,520	16,128,658	7,716,346	213,816	36.09
Major collectors	987	4,341,630	3,637,088	109,776	33.13
Minor collectors	110	337,108	232,985	7,623	30.56
Freeway ramps	257	1,449,538	359,774	21,742	16.55
Centroids connectors	963	4,184,669	2,819,169	104,138	27.07
Total without centroids	3,683	47,658,659	31,636,189	800,279	39.53
Total of all links	***4,646***	***51,843,329***	***34,455,358***	***904,417***	***38.10***
NEW FREEWAY WITH TOLLS ALTERNATIVE					
Freeways	336	15,997,775	13,185,448	286,594	46.01
HOV facilities	92	830,913	560,341	11,512	48.67
Expressway/parkway	9	169,435	229,196	5,293	43.30
Principal arterials	422	8,775,276	4,701,942	125,435	37.49
Minor arterials	1,516	16,108,711	7,881,815	217,666	36.21
Major collectors	987	4,569,810	4,036,903	120,564	33.48
Minor collectors	110	350,966	254,055	8,224	30.89
Freeway ramps	257	1,411,557	357,547	22,310	16.03
Truck lanes only	68	279,060	11,434	178	64.27
Centroids connectors	963	4,184,521	2,846,251	105,040	27.10
Total without centroids	3,781	48,426,446	31,216,018	797,734	39.13
Total of all links	***4,744***	***52,610,967***	***34,062,269***	***902,774***	***37.73***
TRANSPORTATION SYSTEMS MANAGEMENT ALTERNATIVE					
Freeways	200	11,922,900	9,375,596	218,020	43.00
HOV facilities	92	777,166	531,167	10,763	49.35
Expressway/parkway	8	402,950	614,045	13,822	44.42
Principal arterials	426	9,571,209	5,483,554	152,191	36.03
Minor arterials	1,519	17,112,646	8,563,598	237,699	36.03
Major collectors	985	4,794,371	4,614,263	137,586	33.54
Minor collectors	110	395,414	288,255	9,333	30.89
Freeway ramps	178	1,050,265	305,780	20,596	14.85
Centroids connectors	963	4,183,441	2,823,882	104,313	27.07
Total without centroids	3,518	46,026,922	29,776,257	800,008	37.22
Total of all links	***4,481***	***50,210,363***	***32,600,139***	***904,321***	***36.05***

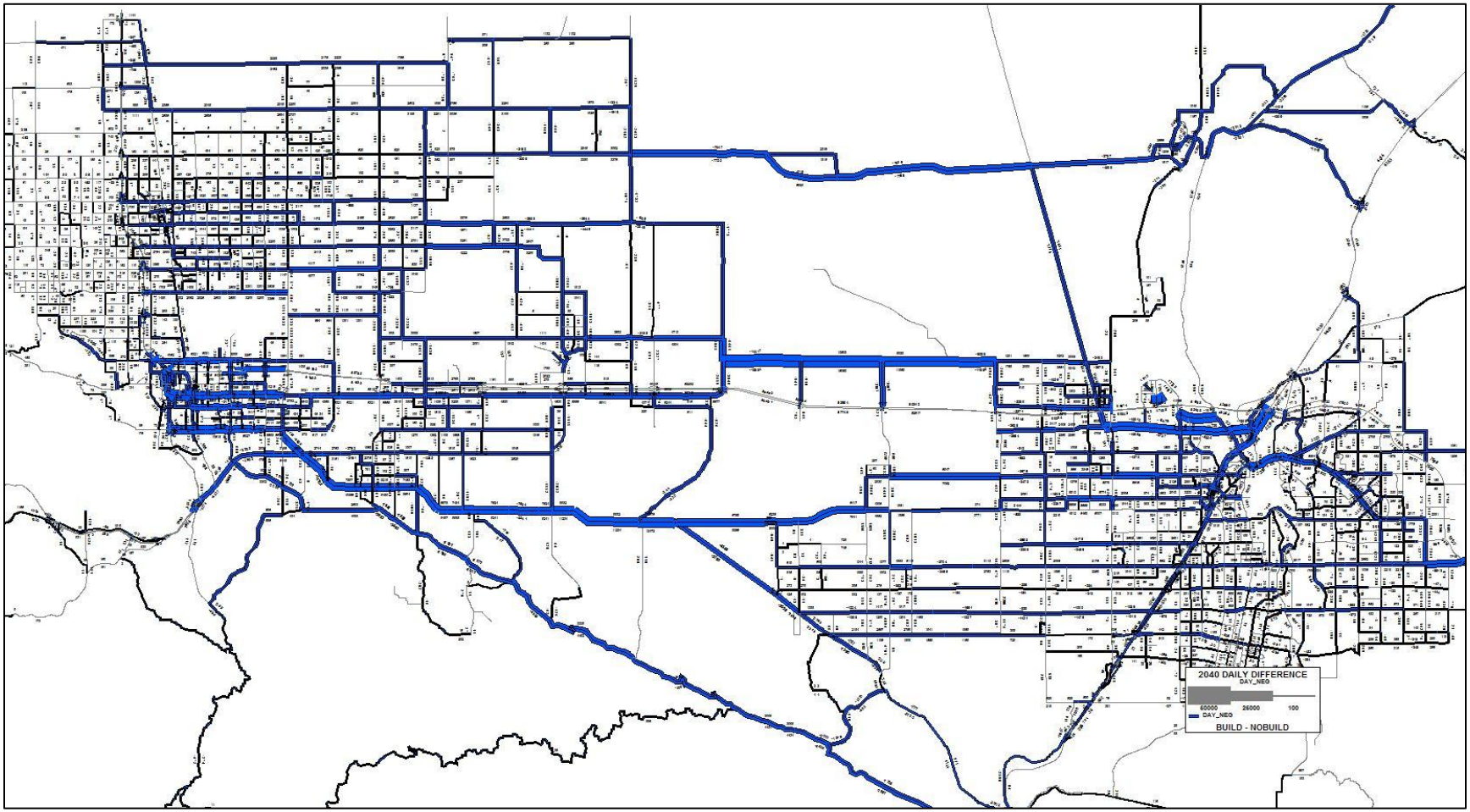
Table 3-8. Year 2020 Highway Network Utilization

FACILITY	NO. OF LINKS	VOLUMES	VMT	VHT	AVERAGE SPEED (mph)
NO-BUILD ALTERNATIVE					
Freeways	199	10,590,545	7,416,252	149,634	49.56
HOV facilities	52	408,961	346,064	7,531	45.95
Principal arterials	640	11,860,902	5,908,531	157,596	37.49
Minor arterials	1,301	9,918,438	4,822,868	138,105	34.92
Major collectors	925	3,092,307	2,696,309	78,746	34.24
Minor collectors	94	189,151	142,561	4,710	30.26
Freeway ramps	172	809,492	252,252	9,224	27.35
Centroids connectors	925	3,042,392	1,922,380	71,923	26.73
Total without centroids	3,383	36,869,797	21,584,838	545,545	39.57
Total of all links	4,308	39,912,189	23,507,217	617,468	38.07
NEW FREEWAY/EXPRESSWAY BUILD ALTERNATIVE					
Freeways	293	13,775,263	11,350,421	218,384	51.97
HOV facilities	52	460,102	385,384	8,495	45.37
Expressway/parkway	8	89,395	102,617	2,326	44.12
Principal arterials	638	10,195,045	4,708,119	121,660	38.70
Minor arterials	1,298	8,737,762	4,253,149	120,972	35.16
Major collectors	925	2,782,901	2,052,640	59,861	34.29
Minor collectors	96	176,150	97,837	3,343	29.27
Freeway ramps	255	1,116,447	286,448	10,141	28.25
Centroids connectors	925	3,047,630	1,912,967	71,551	26.74
Total without centroids	3,565	37,333,065	23,236,615	545,182	42.62
Total of all links	4,490	40,380,694	25,149,582	616,733	40.78
NEW FREEWAY EXPRESSWAY PARTIAL BUILD ALTERNATIVE—EAST AND WEST SEGMENTS ONLY					
Freeways	255	11,651,236	8,309,180	164,541	50.50
HOV facilities	52	426,142	360,545	7,870	45.81
Expressway/parkway	8	77,217	88,919	1,972	45.08
Principal arterials	638	10,940,183	5,550,491	146,075	38.00
Minor arterials	1,295	8,953,974	4,500,721	126,560	35.56
Major collectors	925	3,154,516	2,729,384	79,658	34.26
Minor collectors	96	183,296	134,996	4,416	30.57
Freeway ramps	219	939,797	256,848	9,258	27.74
Centroids connectors	923	3,045,633	1,910,537	71,497	26.72
Total without centroids	3,488	36,326,360	21,931,083	540,349	40.59
Total of all links	4,411	39,371,993	23,841,620	611,847	38.97
NEW FREEWAY WITH TOLLS ALTERNATIVE					
Freeways	323	13,552,859	10,254,725	197,474	51.93
HOV facilities	52	443,275	371,009	8,120	45.69
Expressway/parkway	8	86,132	98,981	2,233	44.32
Principal arterials	638	10,559,079	5,141,460	132,678	38.75
Minor arterials	1,297	8,729,350	4,301,060	121,833	35.30
Major collectors	924	2,876,803	2,235,189	64,656	34.57
Minor collectors	94	177,689	106,803	3,624	29.47
Freeway ramps	255	1,071,620	280,510	10,029	27.97
Truck lanes only	60	197,341	7,189	112	64.45
Centroids connectors	923	3,045,434	1,909,856	71,451	26.73
Total without centroids	3,651	37,694,148	22,796,927	540,759	42.16
Total of all links	4,574	40,739,581	24,706,783	612,210	40.36



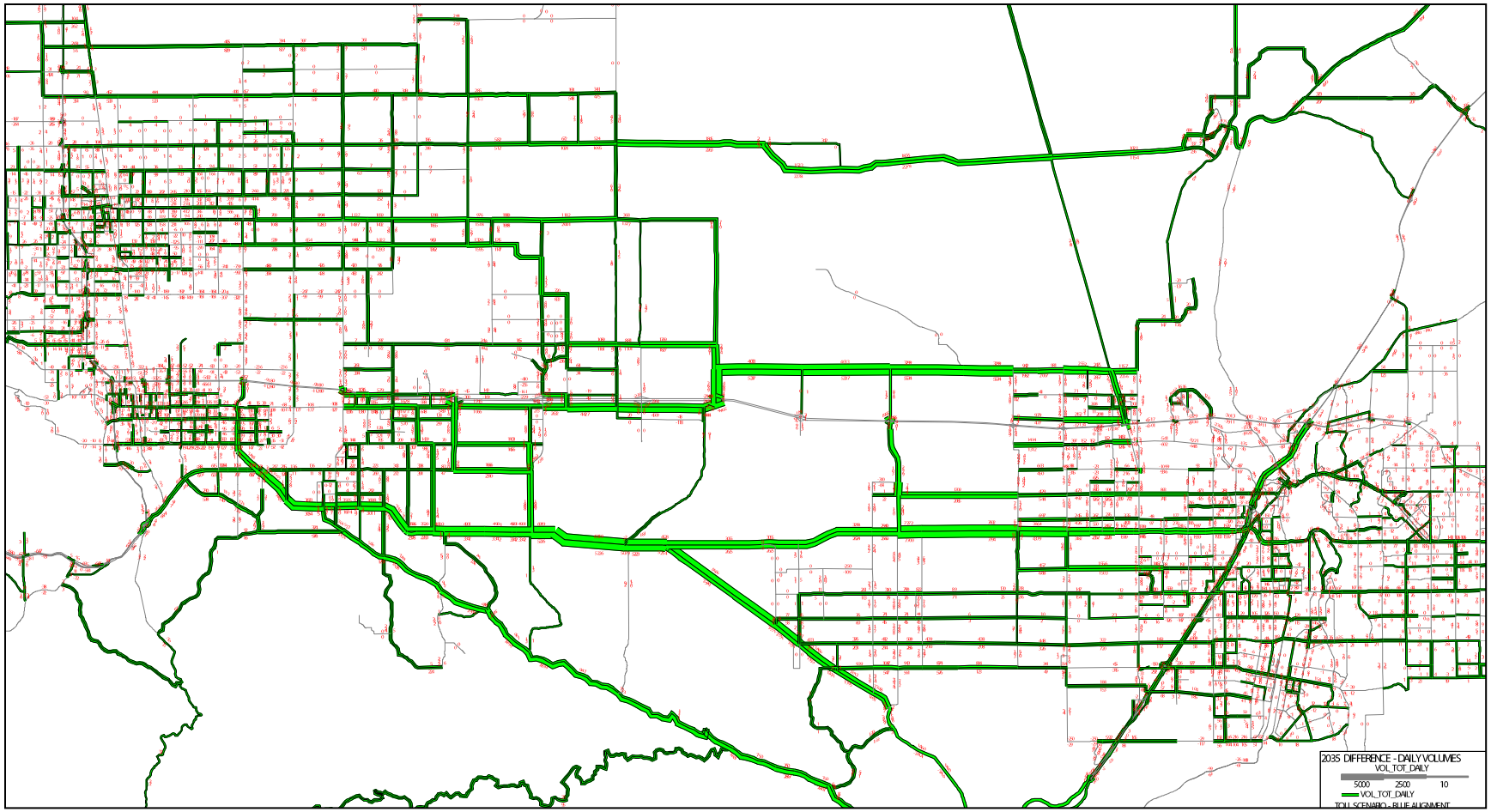
*See Tables 3-7 and 3-8 for traffic data

Figure 3-19: Highway Network Utilization Window for Analysis of the High Desert Corridor



Note: Blue bandwidths indicate decreased volumes.

Figure 3-20: Difference in Daily Traffic Volumes between the Build Alternative and the No-Build Alternative



Note: Green bandwidths indicate increased volumes.

Figure 3-21: Difference in Daily Traffic Volumes between the Build with Tolls Alternative and the Build (No Tolls) Alternative

Volume IV of this traffic report provides link level traffic volumes for select study area roadways. These link level forecasts are divided by vehicle type (passenger vehicles, light and heavy trucks), by direction and by time period of the day.

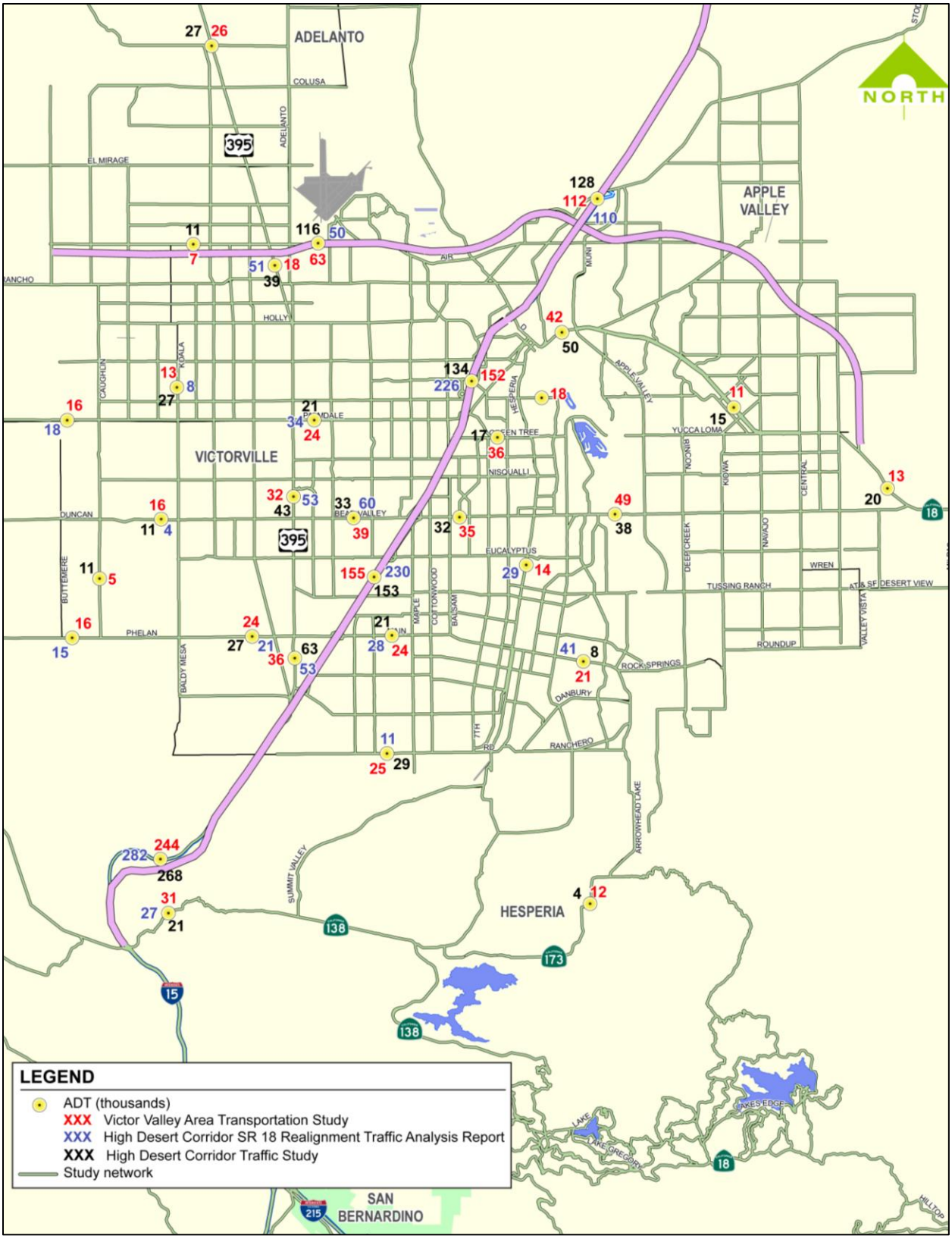
3.5 Traffic Volume Forecast Comparison

As noted earlier, two subregional traffic studies have been conducted in the Victor Valley portion of the study area within the past five years. The most recent, the *High Desert Corridor SR-18 Realignment Traffic Analysis Report*, was prepared for the City of Victorville by PBAmericas, Inc., and was finalized in March 2010. The *Victor Valley Area Transportation Study* subregional transportation forecast model was applied to develop the traffic forecasts, taking into account two modifications. In order to account for trucking activity at the Southern California Logistics Airport, 25,300 additional truck trips were added to the Victor Valley Area Transportation Study truck trip tables, into and out of the Southern California Logistics Airport each weekday, representing full buildout of the Southern California Logistics Airport, as documented in the *Southern California Logistics Airport AM and PM Peak Hour Intersection Analysis* traffic impact report prepared for the City of Victorville by RBF Consulting. PBAmericas additionally added trips associated with the full buildout of the *Desert Gateway Specific Plan* to the *Victor Valley Area Transportation Study* traffic model. Full buildout of the *Desert Gateway Specific Plan* area would provide for 26,100 residential units, housing a population of 82,900, and some 22,590,000 square feet of office, commercial and industrial uses.

As noted above, the High Desert Corridor SR-18 Realignment Traffic Study utilized the Victor Valley Area Transportation Study subregional travel forecast model. The Victor Valley Area Transportation Study was prepared for SANBAG by Kimley-Horn and Associates, Inc. and the final report was published in March 2008. The Victor Valley Area Transportation Study utilized an interim version of the SCAG regional model as a starting point, and disaggregated the model's zone system from 68 zones in the SCAG interim model to 582 zones in the Victor Valley Area Transportation Study model. The Victor Valley Area Transportation Study base year model was validated to year 2003 traffic counts. During the validation process, it was found that the afternoon PM peak period forecasts were more consistent with the traffic counts than total daily volume forecasts. To address this issue, it was determined that daily traffic volumes used in the *Victor Valley Area Transportation Study* would be developed by multiplying the afternoon peak period traffic volumes by a factor of 3.5, and by post processing the results to address anomalies.

Figure 3-22 is extracted from the Victor Valley Area Transportation Study final report which depicts daily traffic volumes at representative locations throughout the Victor Valley area. Overlaid on the same graphic are year 2035 traffic volumes extracted from the *High Desert Corridor SR 18 Realignment Traffic Analysis Report*, and those generated for the *High Desert Corridor Traffic Study* using the SCAG 2008 RTP model.

Overall, the forecast results are similar, taking into account that: (1) the roadway networks used in the model were different, as this traffic report reflects the full construction of the High Desert Corridor New Freeway/Expressway between I-15 and SR 14, whereas the first two studies did not reflect construction of the High Desert Corridor west of U.S. Route 395; and (2) the land use assumptions are different, as identified in section 3.2 of this traffic report.



Sources: Kimley-Horn and Associates, Inc., PB Americas, Inc., Parsons

Figure 3-22: Traffic Volume Forecast Comparison

3.6 Freeway and Ramp Peak Hour and Daily Traffic Volumes

Daily, morning and afternoon peak period and peak hour forecasts were prepared for the 2020 and 2035 (2040) network scenarios. Table 3-9 presents year 2040 traffic volumes for the SR 14 freeway mainline links and ramps, while Table 3-10 presents the same data for the proposed High Desert Corridor, and Table 3-11 presents the same data for I-15. The link and ramp volumes reported in these tables cover the focused study area addressed by this traffic report. Year 2020 traffic volume information is presented in Tables 3-12 through 3-14.

The AM peak hour, PM peak hour and average daily traffic volumes are "post-processed" to augment the direct model output with other methods to achieve reasonable levels of sensitivity. In this regard, post-processing allows the user to account for traffic model assignment validation adjustments and micro area diurnal (time of day) peak hour factors specific to individual freeway on- and off-ramps.

Individual ramp peak hour factors were determined by analyzing existing condition peak hour, peak period and daily traffic counts for interchanges serving primarily residential, employment, retail and mixed land uses. Engineering judgment was then applied to translate direct peak period model output to post-processed peak hour forecasts.

Subsequent to the analysis reported in Tables 3-9 through 3-13, the freeway access in Palmdale was revised based on design review and local input. The interchange proposed for the High Desert Corridor freeway at 10th Street East was deleted, a new High Desert Corridor interchange at 30th Street East was added, and a connector ramp from Palmdale Boulevard to eastbound High Desert Corridor was added. The traffic volume results of these refinements are reported in section 3.14.

3.7 Freeway and Ramp Truck Utilization

The SCAG Regional Travel Forecast Model incorporates a computerized truck model, which estimates trip generation, distribution, and traffic assignment for heavy duty trucks. According to the California Air Resources Board, a heavy duty truck is defined as a truck with a gross vehicle weight of 8,500 pounds or more. The Heavy Duty Truck Model is fully integrated with the SCAG Regional Transportation Model. The truck traffic assignment process is integrated with the assignment process for light-and-medium duty vehicles in the Regional Model, so that the effects of congestion on truck route choice are represented.

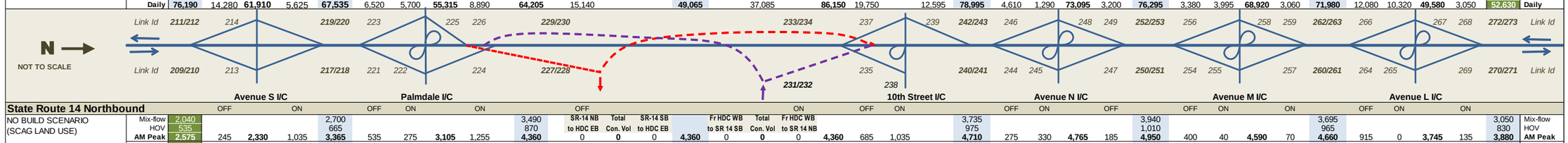
The Heavy Duty Truck Model is designed to develop forecasts of heavy-duty trucks in the following three gross vehicle weight categories:

- Light–heavy trucks: 8,500 to 14,000 pounds gross vehicle weight
- Medium–heavy trucks: 14,000 to 33,000 pounds gross vehicle weight
- Heavy–heavy trucks: over 33,000 pounds gross vehicle weight

The model is specifically designed to forecast truck movements in the region for air quality conformity determinations. The Heavy Duty Truck Model employs socioeconomic data by TAZ, with employment data broken down into further detail by North American Industry Classification System code to better estimate commodity flow demand that corresponds to truck travel demand.

Table 3-9. Year 2040 SR 14 Mainline Link and Ramp Forecast Traffic Volumes

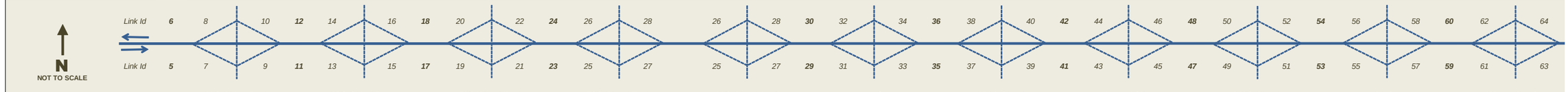
State Route 14 Southbound																																					
			ON		OFF		ON	ON		OFF		ON			OFF		ON	OFF		ON	ON		OFF		ON	ON		OFF		ON	ON		OFF			
NO BUILD SCENARIO (SCAG LAND USE)	Mix-flow	5,755			5,105					5,020	FR HDC WB		To HDC EB	5,020			4,565					4,525					4,355					3,055	Mix-flow
	HOV	1,950			1,745					1,425	to SR-14 SB		fr SR 14 SB	1,425			1,385					1,365					1,225					925	HOV
	AM Peak	**7,705**	1,795	**5,910**	940	**6,850**	780	900	**5,170**	1,275	**6,445**	0	**6,445**	0	**6,445**	1,235	740	**5,950**	320	70	**5,560**	330	**5,890**	180	460	**5,250**	330	**5,580**	1,020	945	**3,615**	365	**3,980**	**AM Peak**
	Mix-flow	3,170			3,285					4,285				4,285			4,510					4,490					4,215					915	Mix-flow
	HOV	790			920					1,095				1,095			1,300					1,310					1,190					3,045	HOV
	PM Peak	**3,960**	950	**3,010**	1,195	**4,205**	245	320	**3,640**	1,740	**5,380**	0	**5,380**	0	**5,380**	1,110	1,540	**5,810**	365	145	**5,300**	500	**5,800**	240	335	**5,225**	180	**5,405**	965	710	**3,730**	230	**3,960**	**PM Peak**
	Mix-flow	61,693			58,608					61,728				61,728			57,475					57,110					53,055					37,310	Mix-flow
	HOV	16,150			16,445					15,670				15,670			17,135					16,460					14,675					10,995	HOV
	Daily	**77,843**	15,695	**62,148**	12,905	**75,053**	6,415	9,070	**59,568**	17,830	**77,398**	0	**77,398**	0	**77,398**	16,988	14,200	**74,610**	3,790	825	**69,995**	3,575	**73,570**	3,080	5,850	**64,640**	3,090	**67,730**	12,085	10,435	**45,210**	3,095	**48,305**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE)	Mix-flow	5,688			4,735					4,365	Fr HDC WB		To HDC EB	5,865			5,280					5,140					5,280					4,030	Mix-flow
	HOV	1,967			1,715					1,455	to SR-14 SB		fr SR 14 SB	1,955			1,695					1,720					1,630					1,210	HOV
	AM Peak	**7,655**	1,590	**6,065**	385	**6,450**	680	665	**5,105**	715	**5,820**	1,570	**4,250**	3,570	**7,820**	1,620	775	**6,975**	370	65	**6,540**	320	**6,860**	225	50	**6,585**	325	**6,910**	1,145	800	**4,965**	275	**5,240**	**AM Peak**
	Mix-flow	3,602			3,695					4,099				5,040			5,245					5,210					4,980					3,550	Mix-flow
	HOV	983			1,115					1,366				1,680			1,590					1,660					1,495					1,130	HOV
	PM Peak	**4,585**	675	**3,910**	900	**4,810**	275	260	**4,275**	1,190	**5,465**	1,995	**3,470**	3,250	**6,720**	1,055	1,170	**6,835**	365	120	**6,350**	520	**6,870**	280	290	**6,300**	175	**6,475**	1,095	845	**4,535**	145	**4,680**	**PM Peak**
	Mix-flow	64,871			59,860					57,671				70,905			66,680					64,000					62,785					45,375	Mix-flow
	HOV	18,199			18,150					19,224				23,635			19,805					19,885					18,150					13,605	HOV
	Daily	**83,070**	12,560	**70,510**	7,500	**78,010**	5,905	5,415	**66,690**	10,205	**76,895**	24,145	**52,750**	41,790	**94,540**	19,845	11,790	**86,485**	4,490	1,175	**80,820**	3,065	**83,885**	3,545	2,440	**77,900**	3,035	**80,935**	13,560	10,805	**56,570**	2,410	**58,980**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC	Mix-flow	5,668			4,845					4,403	Fr HDC WB		To HDC EB	5,915			5,335					5,215					5,330					4,050	Mix-flow
	HOV	1,967			1,610					1,468	to SR-14 SB		fr SR 14 SB	1,970			1,685					1,740					1,655					1,225	HOV
	AM Peak	**7,635**	1,550	**6,085**	370	**6,455**	695	655	**5,105**	765	**5,870**	1,580	**4,290**	3,595	**7,885**	1,625	760	**7,020**	350	55	**6,615**	340	**6,955**	235	75	**6,645**	340	**6,985**	1,160	820	**5,005**	270	**5,275**	**AM Peak**
	Mix-flow	3,597			3,710					4,125				5,065			5,295					5,295					5,005					3,540	Mix-flow
	HOV	983			1,095					1,375				1,730			1,580					1,665					1,505					1,145	HOV
	PM Peak	**4,580**	665	**3,915**	890	**4,805**	280	240	**4,285**	1,215	**5,500**	1,970	**3,530**	3,265	**6,795**	1,080	1,160	**6,875**	360	100	**6,415**	545	**6,960**	285	340	**6,335**	175	**6,510**	1,110	850	**4,550**	135	**4,685**	**PM Peak**
	Mix-flow	64,806			60,470					57,551				70,865			66,595					63,995					62,310					44,745	Mix-flow
	HOV	18,199			17,665					19,184				23,620			19,810					19,665					18,145					13,600	HOV
	Daily	**83,005**	12,535	**70,470**	7,665	**78,135**	5,920	5,385	**66,830**	9,905	**76,735**	24,040	**52,695**	41,790	**94,485**	19,865	11,785	**86,405**	4,610	1,200	**80,595**	3,065	**83,660**	3,635	2,655	**77,370**	3,085	**80,455**	13,575	10,910	**55,970**	2,375	**58,345**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395	Mix-flow	5,713			4,840					4,125	Fr HDC WB		Total	5,840			5,270					5,265					5,270					3,940	Mix-flow
	HOV	1,967			1,550					1,305	to SR 14 SB		Con. Vol	1,955			1,695					1,660					1,575					1,185	HOV
	AM Peak	**7,680**	1,650	**6,030**	360	**6,390**	790	695	**4,905**	525	**5,430**	1,455	**3,975**	3,820	**7,795**	1,585	755	**6,965**	345	55	**6,565**	360	**6,925**	220	210	**6,495**	350	**6,845**	1,140	850	**4,855**	270	**5,125**	**AM Peak**
	Mix-flow	3,562			3,495					3,675				5,050			5,115					5,245					4,970					3,495	Mix-flow
	HOV	983			1,055					1,095				1,680			1,590					1,615					1,460					1,115	HOV
	PM Peak	**4,545**	815	**3,730**	820	**4,550**	425	440	**3,685**	1,085	**4,770**	1,895	**2,875**	3,855	**6,730**	1,135	1,110	**6,705**	240	105	**6,360**	500	**6,860**	280	325	**6,255**	175	**6,430**	1,100	860	**4,470**	140	**4,610**	**PM Peak**
	Mix-flow	64,311			60,215					54,405				70,570			66,655					64,755					62,260					44,420	Mix-flow
	HOV	18,199			15,970					17,405				23,635			19,805					19,015					17,535					13,220	HOV
	Daily	**82,510**	13,395	**69,115**	7,070	**76,185**	8,095	5,370	**62,720**	9,090	**71,810**	21,315	**50,495**	43,710	**94,205**	19,445	11,700	**86,460**	4,490	1,295	**80,675**	3,095	**83,770**	3,595	3,480	**76,695**	3,100	**79,795**	13,370	11,195	**55,230**	2,410	**57,640**	**Daily**
TSM ALTERNATIVE	Mix-flow	6,225			5,290					4,315	Fr HDC WB		Total	6,145			5,115					4,830					4,765					3,410	Mix-flow
	HOV	1,670			1,300					1,190	to SR 14 SB		Con. Vol	1,190			1,280					1,475					1,365					1,015	HOV
	AM Peak	**7,895**	1,695	**6,200**	390	**6,590**	755	750	**5,085**	420	**5,505**	1,050	**4,455**	2,880	**7,335**	1,540	600	**6,395**	380	50	**5,965**	340	**6,305**	200	305	**5,800**	330	**6,130**	1,095	965	**4,070**	355	**4,425**	**AM Peak**
	Mix-flow	3,070			3,015					3,005				4,180			5,030					4,755					4,470					3,300	Mix-flow
	HOV	880			700					900				900			1,265					1,470					1,345					1,025	HOV
	PM Peak	**3,950**	800	**3,150**	565	**3,715**	370	340	**3,005**	900	**3,905**	1,320	**2,585**	2,495	**5,080**	100	1,315	**6,295**	395	100	**5,800**	425	**6,225**	260	320	**5,645**	170	**5,815**	900	840	**4,075**	250	**4,325**	**PM Peak**
	Mix-flow	59,405			54,760					51,735				73,680			63,280					58,895					56,045					40,665	Mix-flow
	HOV	16,785			12,775					12,470				12,470			15,715					17,400					15,935					11,965	HOV
	Daily	**76,190**	14,280	**61,910**	5,625	**67,535**	6,520	5,700	**55,315**	8,890	**64,205**	15,140	**49,065**	37,085	**86,150**	19,750	12,595	**78,995**	4,610	1,290	**73,095**	3,200	**76,295**	3,380	3,995	**68,920**	3,060	**71,980**	12,080	10,320	**49,580**	3,050	**52,630**	**Daily**



State Route 14 Northbound			OFF		ON		OFF	ON		ON		OFF						ON			OFF	ON		OFF		ON		OFF		ON			
NO BUILD SCENARIO (SCAG LAND USE)	Mix-flow	2,040			2,700					3,490	SR-14 NB	Total	SR-14 SB		Fr HDC WB	Total	Fr HDC WB				3,735					3,940					3,695			3,050	Mix-flow
	HOV	535			665					870	to HDC EB	Con. Vol	to HDC EB		to SR 14 SB	Con. Vol	to SR 14 NB				975					1,010					965			830	HOV
	AM Peak	**2,575**	245	**2,330**	1,035	**3,365**	535	275	**3,105**	1,255	**4,360**	0	**0**	0	**4,360**	0	**0**	0	**4,360**	685	1,035	**4,710**	275	330	**4,765**	185	**4,950**	400	40	**4,590**	70	**4,660**	915	0	**3,745**	135	**3,880**	**AM Peak**
	Mix-flow	6,400			5,335					5,145												4,380					4,525					4,170			3,550	Mix-flow
	HOV	1,800			1,695					1,565												1,540					1,565					1,455			1,265	HOV
	PM Peak	**8,200**	1,995	**6,205**	825	**7,030**	1,865	260	**5,425**	1,285	**6,710**	0	**0**	0	**6,710**	0	**0**	0	**6,710**	1,640	850	**5,920**	440	335	**5,815**	275	**6,090**	920	80	**5,250**	375	**5,625**	1,400	0	**4,225**	590	**4,815**	**PM Peak**
	Mix-flow	60,760			57,600					56,305									56,280			54,500					54,590					51,190			41,825	Mix-flow
	HOV	16,825			16,735					18,735									18,760			16,115					16,300					15,490			13,860	HOV
	Daily	**77,585**	14,375	**63,210**	11,125	**74,335**	17,290	1,275	**58,320**	16,720	**75,040**	0	**0**	0	**75,040**	0	**0**	0	**75,040**	16,220	11,795	**70,615**	4,600	2,895	**68,910**	1,980	**70,890**	8,155	1,020	**63,755**	2,925	**66,680**	15,260	0	**51,420**	4,265	**55,685**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE)	Mix-flow	2,130			2,565					2,900	SR-14 NB	Total	SR-14 SB		Fr HDC WB	Total	Fr HDC WB				3,700					3,835					3,645			2,940	Mix-flow
	HOV	695			775					900	to HDC EB	Con. Vol	to HDC EB		to SR 14 SB	Con. Vol	to SR 14 NB				1,100					1,165					1,110			945	HOV
	AM Peak	**2,825**	200	**2,625**	715	**3,340**	420	355	**3,275**	525	**3,800**	1,385	**4,955**	3,570	**2,415**	1,570	**3,755**	2,185	**4,600**	715	915	**4,800**	310	340	**4,830**	170	**5,000**	350	35	**4,685**	70	**4,755**	985	0	**3,770**	115	**3,885**	**AM Peak**
	Mix-flow	7,080			6,350					5,810												6,375					6,190					5,710			5,065	Mix-flow
	HOV	2,410			2,090					2,020												2,030					2,070					1,890			1,580	HOV
	PM Peak	**9,490**	1,590	**7,900**	540	**8,440**	1,435	225	**7,230**	600	**7,830**	2,580	**5,830**	3,250	**5,250**	1,995	**5,790**	3,795	**9,045**	1,300	660	**8,405**	555	210	**8,060**	200	**8,260**	1,085	75	**7,250**	350	**7,600**	1,365	0	**6,235**	410	**6,645**	**PM Peak**
	Mix-flow	64,105			61,725					59,320									65,558			63,580					62,880					59,035			49,130	Mix-flow
	HOV	21,445			19,735					18,735									21,853			19,510					19,920					18,745			16,255	HOV
	Daily	**85,550**	10,920	**74,630**	6,830	**81,460**	13,450	3,945	**71,955**	6,100	**78,055**	27,075	**68,865**	41,790	**50,980**	24,145	**60,575**	36,430	**87,410**	14,955	10,635	**83,090**	4,995	2,565	**80,660**	2,140	**82,800**	8,680	980	**75,100**	2,680	**77,780**	15,785	0	**61,995**	3,390	**65,385**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC	Mix-flow	2,165			2,645					2,925	SR-14 NB	Total	SR-14 SB		Fr HDC WB	Total	Fr HDC WB				3,750					3,915					3,665			2,965	Mix-flow
	HOV	690			745					875	To HDC EB	Con. Vol	To HDC EB		To SR 14 SB	Con. Vol	To SR 14 NB				1,065					1,135					1,115			950	HOV
	AM Peak	**2,855**	190	**2,665**	725	**3,390**	450	350	**3,290**	510	**3,800**	1,355	**4,950**	3,595	**2,445**	1,580	**3,750**	2,170	**4,615**	715	915	**4,815**	305	365	**4,875**	175	**5,050**	370	35	**4,715**	65	**4,780**	975	0	**3,805**	110	**3,915**	**AM Peak**
	Mix-flow	7,105			6,520					5,940												6,465					6,220					5,795			5,140	Mix-flow
	HOV	2,420			2,030					1,975												1,985					2,090					1,895			1,565	HOV
	PM Peak	**9,525**	1,515	**8,010**	540	**8,550**	1,450	240	**7,340**	575	**7,915**	2,575	**5,840**	3,265	**5,340**	1,970	**5,745**	3,775	**9,115**	1,330	665	**9,450**	535	205	**8,120**	190	**8,310**	1,040	75	**7,345**	345	**7,690**	1,390	0	**6,300**	405	**6,705**	**PM Peak**
	Mix-flow	64,490			62,700					59,526									65,686			63,011					62,676					58,466			48,241	Mix-flow
	HOV	21,365			19,550					18,380									21,895			19,460					19,430					18,600			16,325	HOV
	Daily	**85,855**	10,440	**75,415**	6,835	**82,250**	13,735	3,871	**72,386**	5,520	**77,906**	27,100	**68,890**	41,790	**50,806**	24,040	**60,815**	36,775	**87,581**	15,420	10,310	**82,471**	5,000	2,510	**79,981**	2,125	**82,106**	8,675	980	**74,411**	2,655	**77,066**	15,910	0	**61,156**	3,410	**64,566**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395	Mix-flow	2,100			2,670					2,890	SR-14 NB	Total	SR-14 SB		Fr HDC WB	Total	Fr HDC WB				3,975					4,005					3,775			3,075	Mix-flow
	HOV	670			625					730	to HDC EB	Con. Vol	to HDC EB		to SR 14 SB	Con. Vol	to SR 14 NB				945					1,135					1,095			930	HOV
	AM Peak	**2,770**	185	**2,585**	710	**3,295**	445	300	**3,150**	470	**3,620**	1,230	**5,050**	3,820	**2,390**	1,455	**3,800**	2,345	**4,735**	735	920	**4,920**	300	345	**4,965**	175	**5,140**	375	35	**4,800**	70	**4,870**	975	0	**3,895**	110	**4,005**	**AM Peak**
	Mix-flow	7,085			6,715					5,925												6,910					6,330					5,770			5,110	Mix-flow
	HOV	2,400			1,700					1,650												1,745					2,090					1,855			1,535	HOV
	PM Peak	**9,485**	1,615	**7,870**	545	**8,415**	1,470	155	**7,100**	475	**7,575**	2,355	**6,210**	3,855	**5,220**	1,895	**6,330**	4,435	**9,655**	1,665	665	**8,655**	560	140	**8,235**	185	**8,420**	1,220	75	**7,275**	350	**7,625**	1,410	0	**6,215**	430	**6,645**	**PM Peak**
	Mix-flow	64,025			64,659					60,139									68,242			68,264					64,459					60,129			49,639	Mix-flow
	HOV	20,450			15,725					14,875									22,747			16,400					19,430					18,170			16,010	HOV
	Daily	**84,475**	10,876	**73,599**	6,785	**80,384**	13,935	3,100	**69,549**	5,465	**75,014**	23,350	**67,060**	43,710	**51,664**	21,315	**60,640**	39,325	**90,989**	16,650	10,325	**84,664**	5,030	2,145	**81,779**	2,110	**83,889**	9,230	980	**75,639**	2,660	**78,299**	16,110	0	**62,189**	3,460	**65,649**	**Daily**
TSM ALTERNATIVE	Mix-flow	1,905			2,325					2,435	SR-14 NB	Total	SR-14 SB		Fr HDC WB	Total	Fr HDC WB				3,890					3,955					3,695			2,995	Mix-flow
	HOV	580			530					680	To HDC EB	Con. Vol	To HDC EB		To SR 14 SB	Con. Vol	To SR 14 NB				910					1,050					1,035			900	HOV
	AM Peak	**2,485**	210	**2,275**	580	**2,855**	460	250	**2,645**	470	**3,115**	770	**3,650**	2,880	**2,345**	1,050	**3,275**	2,225	**4,570**	730	960	**4,800**	300	325	**4,825**	180	**5,005**	380	35	**4,660**	70	**4,730**	965	0	**3,765**	130	**3,895**	**AM Peak**
	Mix-flow	7,095			6,275					5,155												6,150					5,715					5,220			4,580	Mix-flow
	HOV	2,350			1,570					1,435												1,515					1,765					1,625			1,375	HOV
	PM Peak	**9,445**	2,100	**7,345**	500	**7,845**	1,825	170	**6,190**	400	**6,590**	1,255	**3,750**	2,495	**5,335**	1,320	**4,540**	3,220	**8,555**	1,650	760	**7,665**	570	195	**7,290**	190	**7,480**	1,060	80	**6,500**	345	**6,845**	1,410	0	**5,435**	520	**5,955**	**PM Peak**
	Mix-flow	61,845			59,730					53,080												64,020					61,205					56,840			46,550	Mix-flow
	HOV	19,635			14,565					13,675												15,185					17,430					16,735			14,825	HOV
	Daily	**81,480**	13,220	**68,260**	6,035	**74,295**	16,020	3,220	**61,495**	5,260	**66,755**	14,090	**51,175**	37,085	**52,665**	15,140	**47,540**	32,400	**85,065**	16,665	10,805	**79,205**	5,115	2,320	**76,410**	2,225	**78,635**	8,705	995	**70,925**	2,650	**73,575**	16,060	0	**57,515**	3,860	**61,375**	**Daily**

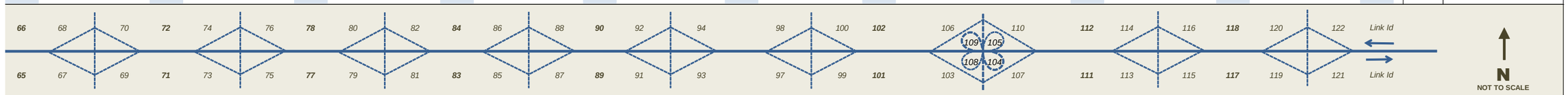
Table 3-10. Year 2040 High Desert Corridor Mainline Link and Ramp Forecast Traffic Volumes

High Desert Corridor Westbound			ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	3,755	370	3,385	545	3,930	845	3,085	300	3,385	995	2,390	525	2,915	0	2,915	0	2,915	445	2,470	230	2,700	540	2,160	160	2,320	180	2,140	180	2,320	60	2,260	65	2,325	25	2,300	175	2,475	80	2,395	80	2,475	140	2,335	290
	PM Peak	5,790	305	5,485	650	6,135	750	5,385	355	5,740	815	4,925	720	5,645	0	5,645	0	5,645	375	5,270	365	5,635	325	5,310	245	5,555	125	5,430	365	5,795	55	5,740	375	6,115	245	5,870	525	6,395	205	6,190	160	6,350	1,070	5,280	360
	Daily	60,575	2,750	57,825	8,925	66,750	10,465	56,285	2,650	58,935	12,175	46,760	7,935	54,695	0	54,695	0	54,695	4,735	49,960	2,645	52,605	4,995	47,610	1,890	49,500	2,235	47,265	2,955	50,220	665	49,555	2,795	52,350	990	51,360	3,170	54,530	1,760	52,770	900	53,670	7,815	45,855	3,285
FULL BUILD SCENARIO WITH REDUCED INTERCHANGES ALONG HDC	AM Peak	3,750	350	3,400	500	3,900	830	3,070	335	3,405	905	2,500	445	2,945	155	2,790	175	2,965	420	2,545	195	2,740	525	2,215	185	2,400	185	2,215	175	2,390	55	2,335	50	2,385	40	2,345	150	2,495	0	2,495	0	2,495	215	2,280	320
	PM Peak	5,745	275	5,470	635	6,105	800	5,305	405	5,710	825	4,885	705	5,590	160	5,430	250	5,680	360	5,320	295	5,615	380	5,235	290	5,525	110	5,415	355	5,770	50	5,720	390	6,110	260	5,850	520	6,370	0	6,370	0	6,370	1,160	5,210	340
	Daily	60,815	2,550	58,265	8,280	66,545	10,745	55,800	2,940	58,740	11,795	46,945	7,625	54,570	1,215	53,355	1,955	55,310	4,630	50,680	2,040	52,720	5,315	47,405	2,290	49,695	2,425	47,270	2,850	50,120	660	49,460	2,880	52,340	970	51,370	3,150	54,520	0	54,520	0	54,520	6,585	47,935	3,085
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC	AM Peak	3,800	285	3,515	465	3,980	850	3,130	275	3,405	1,125	2,280	320	2,600	0	2,600	0	2,600	635	1,965	25	1,990	750	1,240	50	1,290	95	1,195	60	1,255	50	1,205	25	1,230	140	1,090	145	1,235	75	1,160	25	1,185	165	1,020	65
	PM Peak	6,330	295	6,035	630	6,665	1,035	5,630	320	5,950	925	5,025	395	5,420	0	5,420	0	5,420	530	4,890	50	4,940	460	4,480	30	4,510	75	4,435	315	4,750	25	4,725	330	5,055	230	4,825	550	5,375	200	5,175	30	5,205	1,025	4,180	70
	Daily	60,645	3,180	57,465	6,845	64,310	12,005	52,305	2,300	54,605	13,900	40,705	4,415	45,120	0	45,120	0	45,120	9,220	35,900	4,250	40,150	7,690	32,460	225	32,685	385	32,300	2,360	34,660	735	33,925	1,385	35,310	2,445	32,865	5,255	38,120	1,645	36,475	250	36,725	7,605	29,120	835
TSM ALTERNATIVE	AM Peak	3,275	420	2,855	400	3,255	650	2,605	35	2,640				1,970				1,870				1,365																							
	PM Peak	4,540	835	3,705	475	4,180	1,235	2,945	50	2,995				2,545				2,520				2,045																							
	Daily	47,540	3,790	43,750	6,900	50,740	13,005	37,735	450	38,185				28,630				28,310				22,500																							



High Desert Corridor Eastbound			OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	4,955	275	4,680	595	5,275	665	4,610	285	4,895	700	4,195	640	4,835	0	4,835	0	4,835	235	4,600	225	4,825	310	4,515	215	4,730	100	4,630	320	4,950	50	4,900	170	5,070	180	4,890	400	5,290	175	5,115	150	5,265	870	4,395	295
	PM Peak	5,830	425	5,405	600	6,005	1,125	4,880	370	5,250	1,120	4,130	590	4,720	0	4,720	0	4,720	470	4,250	300	4,550	575	3,975	260	4,235	195	4,040	250	4,290	65	4,225	80	4,305	40	4,265	225	4,490	125	4,365	100	4,465	515	3,950	370
	Daily	68,865	4,230	64,635	8,215	72,850	11,520	61,330	3,280	64,610	11,995	52,615	7,940	60,555	0	60,555	0	60,555	4,150	56,405	2,155	58,560	5,455	53,105	1,920	55,025	2,520	52,505	2,785	55,290	705	54,585	1,245	55,830	1,110	54,720	3,370	58,090	1,740	56,350	1,000	57,350	8,995	48,355	3,785
FULL BUILD SCENARIO WITH REDUCED INTERCHANGES ALONG HDC	AM Peak	4,950	305	4,645	610	5,255	685	4,570	170	4,740	720	4,020	560	4,580	100	4,480	275	4,755	230	4,525	255	4,780	365	4,415	285	4,700	85	4,615	330	4,945	55	4,890	180	5,070	200	4,870	410	5,280	0	5,280	0	5,280	900	4,380	260
	PM Peak	5,840	480	5,360	645	6,005	1,190	4,815	280	5,095	1,055	4,040	520	4,560	125	4,435	265	4,700	480	4,220	340	4,560	660	3,900	370	4,270	190	4,080	265	4,345	65	4,280	75	4,355	50	4,305	240	4,545	0	4,545	0	4,545	600	3,945	365
	Daily	68,890	4,290	64,600	8,110	72,710	12,380	60,330	2,675	63,005	11,600	51,405	7,550	58,955	1,040	57,915	2,525	60,440	4,220	56,220	2,260	58,480	5,520	52,960	2,350	55,310	2,515	52,795	2,780	55,575	715	54,860	1,240	56,100	1,150	54,950	3,810	58,760	0	58,760	0	58,760	10,095	48,665	3,750
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC	AM Peak	5,050	290	4,760	550	5,310	705	4,605	250	4,855	775	4,080	395	4,475	0	4,475	0	4,475	525	3,950	25	3,975	625	3,350	250	3,600	50	3,550	25	3,575	25	3,550	170	3,720	400	3,320	630	3,950	170	3,780	130	3,910	950	2,960	140
	PM Peak	6,210	430	5,780	565	6,345	1,135	5,210	355	5,565	1,205	4,360	390	4,750	0	4,750	0	4,750	660	4,090	25	4,115	875	3,240	120	3,360	220	3,140	20	3,160	55	3,105	20	3,125	135	2,990	340	3,330	120	3,210	75	3,285	555	2,730	190
	Daily	67,055	4,370	62,685	7,050	69,735	11,640	58,095	3,265	61,360	13,820	47,540	4,765	52,305	0	52,305	0	52,305	6,635	45,670	255	45,925	8,870	37,055	1,995	39,050	2,500	36,550	140	36,690	430	36,260	800	37,060	2,640	34,420	6,770	41,190	1,640	39,550	500	40,050	8,970	31,080	1,185
TSM ALTERNATIVE	AM Peak	3,650	425	3,225	285	3,510	650	2,860	35	2,895				2,150				2,130				1,535																							
	PM Peak	3,750	500	3,250	410	3,660	1,220	2,440	50	2,490				2,305				2,360				1,945																							
	Daily	51,175	8,810	42,365	6,495	48,860	12,680	36,180	610	36,790				30,480				29,990				24,255																							

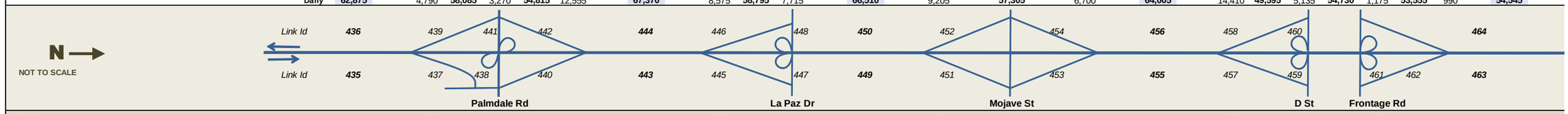
			ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF			
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	3,755	2,625	560	2,065	100	2,165	150	2,015	485	2,500	595	1,905	950	2,855	785	2,070	745	2,815	315	2,500	1,405	3,905	390	3,515	230	3,745	1,270	165	2,640	1,080	170	1,730	335	1,395	105	1,500	220	1,280	130	1,410	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE)
	PM Peak	5,790	5,640	810	4,830	170	5,000	370	4,630	1,110	5,740	910	4,830	1,405	6,235	1,555	4,680	355	5,035	635	4,400	740	5,140	465	4,675	290	4,965	1,455	200	3,710	870	210	3,050	235	2,815	15	2,830	505	2,325	200	2,525	PM Peak	
	Daily	60,575	49,140	8,655	40,485	615	41,100	3,305	37,795	8,265	46,060	9,325	36,735	19,085	55,820	17,250	38,570	3,895	42,465	6,410	36,055	16,525	52,580	4,870	47,710	2,790	50,500	18,700	2,090	33,890	13,395	1,950	22,445	2,955	19,490	780	20,270	1,875	18,395	1,155	19,550	Daily	
FULL BUILD SCENARIO WITH REDUCED INTERCHANGES ALONG HDC	AM Peak	3,750	2,600	570	2,030	140	2,170	140	2,030	510	2,540	555	1,985	895	2,880	880	2,000	850	2,850	0	2,850	0	2,850	780	2,070	1,125	3,195	1,150	200	2,245	980	205	1,470	280	1,190	160	1,350	175	1,175	175	1,350	AM Peak	FULL BUILD SCENARIO WITH REDUCED INTERCHANGES ALONG HDC
	PM Peak	5,745	5,550	715	4,835	160	4,995	360	4,635	1,100	5,735	880	4,855	1,375	6,230	1,635	4,595	460	5,055	0	5,055	0	5,055	1,115	3,940	1,030	4,970	1,440	210	3,740	870	200	3,070	250	2,820	50	2,870	550	2,320	195	2,515	PM Peak	
	Daily	60,815	51,020	9,225	41,795	780	42,575	3,805	38,770	7,360	46,130	9,020	37,110	18,985	56,095	18,345	37,750	4,880	42,630	0	42,630	0	42,630	9,890	32,740	14,530	47,270	17,900	2,280	31,650	11,590	2,050	22,110	2,870	19,240	885	20,125	1,920	18,205	1,350	19,555	Daily	
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC	AM Peak	3,800	1,085	160	925	25	950	75	875	230	1,105	95	1,010	945	1,955	335	1,620	255	1,875	265	1,610	740	2,350	415	1,935	175	2,110	1,190	280	1,200	175	150	1,175	335	840	105	945	220	725	130	855	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC
	PM Peak	6,330	4,250	675	3,575	55	3,630	170	3,460	990	4,450	35	4,415	1,665	6,080	1,680	4,400	170	4,570	515	4,055	495	4,550	730	3,820	150	3,970	1,400	305	2,875	410	150	2,615	235	2,380	15	2,395	505	1,890	200	2,090	PM Peak	
	Daily	60,645	29,955	4,610	25,345	210	25,555	1,505	24,050	6,385	30,435	235	30,200	21,010	51,210	15,565	35,645	1,930	37,575	6,385	31,190	8,725	39,915	6,820	33,095	1,790	34,885	18,090	3,075	19,870	225	1,550	21,195	2,955	18,240	780	19,020	1,875	17,145	1,155	18,300	Daily	
TSM ALTERNATIVE	AM Peak	3,650																																								AM Peak	TSM ALTERNATIVE
	PM Peak	3,750																																								PM Peak	
	Daily	51,175																																								Daily	



High Desert Corridor Eastbound			OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON			
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	4,955	4,690	780	3,910	145	4,055	380	3,675	1,020	4,695	820	3,875	1,375	5,250	1,435	3,815	335	4,150	625	3,525	625	4,150	380	3,770	275	4,045	985	200	3,260	1,135	170	2,295	150	2,145	50	2,195	475	1,720	170	1,890	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE)
	PM Peak	5,830	4,320	790	3,530	105	3,635	190	3,445	575	4,020	660	3,360	1,145	4,505	920	3,585	775	4,360	395	3,965	1,330	5,295	475	4,820	250	5,070	1,140	260	4,190	2,005	315	2,500	365	2,135	125	2,260	310	1,950	145	2,095	PM Peak	
	Daily	68,865	52,140	8,725	43,415	335	43,750	2,590	41,160	8,325	49,485	10,645	38,840	18,385	57,225	16,575	40,650	3,470	44,120	5,975	38,145	16,990	55,135	5,055	50,080	2,650	52,730	12,610	2,400	42,520	23,085	2,470	21,905	2,545	19,360	430	19,790	1,630	18,160	1,720	19,880	Daily	
FULL BUILD SCENARIO WITH REDUCED INTERCHANGES ALONG HDC	AM Peak	4,950	4,640	860	3,780	90	3,870	360	3,510	1,145	4,655	560	4,095	1,010	5,105	1,630	3,475	690	4,165	0	4,165	0	4,165	990	3,175	830	4,005	990	210	3,225	1,180	185	2,230	135	2,095	65	2,160	485	1,675	155	1,830	AM Peak	FULL BUILD SCENARIO WITH REDUCED INTERCHANGES ALONG HDC
	PM Peak	5,840	4,310	820	3,490	75	3,565	195	3,370	790	4,160	320	3,840	575	4,415	1,050	3,365	1,400	4,765	0	4,765	0	4,765	855	3,910	1,080	4,990	1,125	250	4,115	1,975	350	2,490	350	2,140	130	2,270	340	1,930	140	2,070	PM Peak	
	Daily	68,890	52,415	9,785	42,630	380	43,010	3,020	39,990	11,200	51,190	6,215	44,975	9,530	54,505	14,595	39,910	11,020	50,930	0	50,930	0	50,930	10,525	40,405	11,750	52,155	12,500	2,350	42,005	22,965	2,755	21,795	2,585	19,210	435	19,645	1,680	17,965	1,800	19,765	Daily	
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC	AM Peak	5,050	3,100	505	2,595	20	2,615	100	2,515	905	3,420	150	3,270	1,585	4,855	1,360	3,495	290	3,785	640	3,145	575	3,720	390	3,330	200	3,530	755	200	2,975	1,100	125	2,000	145	1,855	35	1,890	375	1,515	145	1,660	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC
	PM Peak	6,210	2,920	325	2,595	30	2,625	50	2,575	290	2,865	100	2,765	1,305	4,070	895	3,175	650	3,825	325	3,500	1,165	4,665	495	4,170	250	4,420	995	260	3,685	1,830	310	2,165	340	1,825	100	1,925	290	1,635	155	1,790	PM Peak	
	Daily	67,055	32,265	4,315	27,950	150	28,100	500	27,600	5,270	32,870	570	32,300	19,870	52,170	15,455	36,715	2,800	39,515	6,335	33,180	14,490	47,670	5,795	41,875	2,500	44,375	9,500	2,400	37,275	20,290	2,475	19,460	2,260	17,200	475	17,675	1,525	16,150	1,615	17,765	Daily	
TSM ALTERNATIVE	AM Peak	3,650																																								AM Peak	TSM ALTERNATIVE
	PM Peak	3,750																																								PM Peak	
	Daily	51,175																																								Daily	

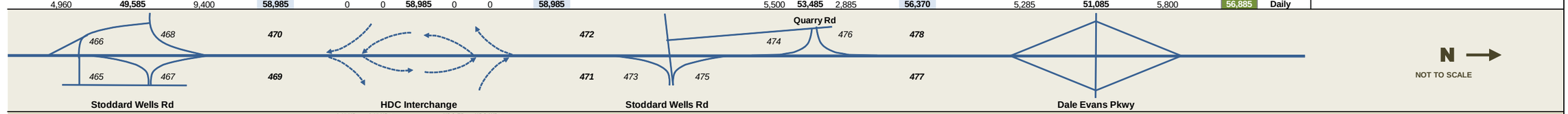
Table 3-11. Year 2040 I-15 Mainline Link and Ramp Forecast Traffic Volumes

I-15 Southbound			ON		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF	
NO BUILD SCENARIO (SCAG LAND USE)	AM Peak	4,980	340	4,640	205	4,435	840	5,275	450	4,825	385	5,210	755	4,455	355	4,810	890	3,920	360	4,280	60	4,220	35	4,255
	PM Peak	4,320	365	3,955	220	3,735	960	4,695	625	4,070	465	4,535	695	3,840	470	4,310	1,110	3,200	300	3,500	50	3,450	50	3,500
	Daily	62,560	4,705	57,855	3,250	54,605	12,655	67,260	8,510	58,750	7,645	66,395	9,425	56,970	6,640	63,610	14,200	49,410	5,025	54,435	1,150	53,285	950	54,235
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	4,870	310	4,560	225	4,335	855	5,190	435	4,755	455	5,210	725	4,485	375	4,860	925	3,935	345	4,280	65	4,215	45	4,260
	PM Peak	4,320	335	3,985	240	3,745	995	4,740	580	4,160	475	4,635	680	3,955	495	4,450	1,210	3,240	315	3,555	55	3,500	60	3,560
	Daily	63,495	4,505	58,990	3,160	55,830	12,595	68,425	8,625	59,800	7,945	67,745	9,550	58,195	6,690	64,885	15,310	49,575	5,080	54,655	1,165	53,490	975	54,465
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC	AM Peak	4,865	290	4,575	235	4,340	840	5,180	420	4,760	460	5,220	690	4,530	360	4,890	950	3,940	355	4,295	55	4,240	55	4,295
	PM Peak	4,410	325	4,085	270	3,815	980	4,795	595	4,200	450	4,650	645	4,005	440	4,445	1,190	3,255	325	3,580	60	3,520	60	3,580
	Daily	61,715	4,410	57,305	3,160	54,145	12,575	66,720	8,765	57,955	7,940	65,895	9,585	56,310	6,740	63,050	15,210	47,840	5,020	52,860	1,190	51,670	950	52,620
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	AM Peak	4,915	300	4,615	215	4,400	800	5,200	410	4,790	430	5,220	705	4,515	355	4,870	900	3,970	305	4,275	70	4,205	40	4,245
	PM Peak	4,330	350	3,980	200	3,780	950	4,730	555	4,175	460	4,635	695	3,940	480	4,420	1,115	3,305	285	3,590	55	3,535	55	3,590
	Daily	63,475	4,465	59,010	3,100	55,910	12,500	68,410	8,550	59,860	8,120	67,980	9,355	58,625	5,800	64,425	15,810	48,615	4,895	53,510	1,255	52,255	960	53,215
TSM ALTERNATIVE	AM Peak	5,010	325	4,685	250	4,435	865	5,300	480	4,820	415	5,235	775	4,460	380	4,840	925	3,915	380	4,295	65	4,230	50	4,280
	PM Peak	4,340	350	3,990	235	3,755	980	4,735	650	4,085	495	4,580	700	3,880	500	4,380	1,175	3,205	320	3,525	60	3,465	55	3,520
	Daily	62,875	4,790	58,085	3,270	54,815	12,555	67,370	8,575	58,795	7,715	66,510	9,205	57,305	6,700	64,005	14,410	49,595	5,135	54,730	1,175	53,555	990	54,545



I-15 Northbound			OFF		ON		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON	
NO BUILD SCENARIO (SCAG LAND USE)	AM Peak	3,545	465	3,080	370	3,450	460	3,910	570	3,340	410	3,750	565	3,185	470	3,655	1,155	2,500	310	2,810	45	2,765	55	2,820
	PM Peak	6,055	630	5,425	440	5,865	540	6,405	615	5,790	595	6,385	770	5,615	420	6,035	1,065	4,970	395	5,365	60	5,305	40	5,345
	Daily	68,275	7,390	60,885	5,950	66,835	6,345	73,180	8,445	64,735	7,445	72,180	9,400	62,780	5,790	68,570	15,100	53,470	4,650	58,120	1,110	57,010	980	57,990
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	3,690	475	3,215	385	3,600	450	4,050	560	3,490	425	3,915	605	3,310	450	3,760	1,185	2,575	290	2,865	50	2,815	50	2,865
	PM Peak	6,000	650	5,350	405	5,755	505	6,260	620	5,640	565	6,205	790	5,415	390	5,805	1,095	4,710	370	5,080	70	5,010	55	5,065
	Daily	68,495	7,670	60,825	5,975	66,800	6,365	73,165	8,450	64,715	7,400	72,115	9,505	62,610	5,820	68,430	15,410	53,020	4,800	57,820	1,180	56,640	1,080	57,720
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC	AM Peak	3,690	475	3,215	385	3,600	450	4,050	560	3,490	425	3,915	605	3,310	450	3,760	1,185	2,575	290	2,865	50	2,815	50	2,865
	PM Peak	6,000	650	5,350	405	5,755	505	6,260	620	5,640	565	6,205	790	5,415	390	5,805	1,095	4,710	370	5,080	70	5,010	55	5,065
	Daily	68,495	7,670	60,825	5,975	66,800	6,365	73,165	8,450	64,715	7,400	72,115	9,505	62,610	5,820	68,430	15,410	53,020	4,800	57,820	1,180	56,640	1,080	57,720
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	AM Peak	3,700	460	3,240	380	3,620	440	4,060	555	3,505	390	3,895	655	3,240	500	3,740	1,150	2,590	300	2,890	50	2,840	50	2,890
	PM Peak	6,025	625	5,400	400	5,800	500	6,300	580	5,720	500	6,220	680	5,540	355	5,895	1,070	4,825	305	5,130	70	5,060	55	5,115
	Daily	68,500	7,330	61,170	5,900	67,070	6,380	73,450	8,000	65,450	6,800	72,250	9,255	62,995	5,220	68,215	15,200	53,015	4,650	57,665	1,180	56,485	1,080	57,565
TSM ALTERNATIVE	AM Peak	3,430	450	2,980	375	3,355	490	3,845	530	3,315	395	3,710	570	3,140	485	3,625	1,150	2,475	320	2,795	50	2,745	60	2,805
	PM Peak	6,000	640	5,360	420	5,780	535	6,315	590	5,725	590	6,315	775	5,540	435	5,975	1,055	4,920	405	5,325	55	5,270	45	5,315
	Daily	68,595	7,580	61,015	5,960	66,975	6,350	73,325	8,385	64,940	7,320	72,260	9,530	62,730	5,700	68,430	15,000	53,430	4,695	58,125	1,125	57,000	995	57,995

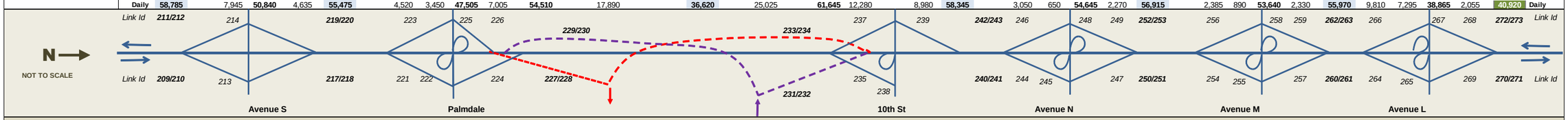
I-15 Southbound			ON		OFF		HDC EB to I-15 SB	HDC WB to I-15 SB		I-15 SB to HDC EB	I-15 SB to HDC WB		ON		OFF			ON		OFF			
NO BUILD SCENARIO (SCAG LAND USE)	510	3,745	745	4,490	0	0	4,490	0	0	4,490	205	4,285	225	4,510	4,221	390	4,120	430	4,550	AM Peak
	495	3,005	625	3,630	0	0	3,630	0	0	3,630	420	3,210	250	3,460	3,071	435	3,025	485	3,510	PM Peak
	5,050	49,185	9,365	58,550	0	0	58,550	0	0	58,550	5,525	53,025	2,820	55,845	52,883	5,330	50,515	6,085	56,600	Daily
FULL BUILD SCENARIO (SCAG LAND USE)	550	3,710	680	4,390	985	165	3,240	200	1,270	4,710	270	4,440	220	4,660		400	4,260	415	4,675	AM Peak
	530	3,030	515	3,545	1,140	200	2,205	260	1,455	3,920	360	3,560	275	3,835		455	3,380	520	3,900	PM Peak
	5,760	48,705	7,510	56,215	12,610	2,090	41,515	2,400	18,700	62,615	5,255	57,360	2,990	60,350		5,370	54,980	6,100	61,080	Daily
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC	475	3,820	700	4,520	990	200	3,330	210	1,150	4,690	275	4,415	190	4,605		395	4,210	420	4,630	AM Peak
	550	3,030	530	3,560	1,125	210	2,225	250	1,440	3,915	340	3,575	260	3,835		450	3,385	505	3,890	PM Peak
	5,560	47,060	7,890	54,950	12,500	2,280	40,170	2,350	17,900	60,420	5,380	55,040	2,885	57,925		5,350	52,575	7,925	60,500	Daily
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	595	3,650	700	4,350	755	280	3,315	200	1,190	4,705	290	4,415	185	4,600		430	4,170	385	4,555	AM Peak
	495	3,095	500	3,595	995	305	2,295	260	1,400	3,955	375	3,580	260	3,840		480	3,360	500	3,860	PM Peak
	5,990	47,225	7,400	54,625	9,500	3,075	42,050	2,400	18,090	62,540	5,405	57,135	3,310	60,445		5,550	54,895	5,985	60,880	Daily
TSM ALTERNATIVE	555	3,725	760	4,485	0	0	4,485	0	0	4,485	195	4,290	240	4,530		415	4,115	460	4,575	AM Peak
	535	2,985	645	3,630	0	0	3,630	0	0	3,630	400	3,230	265	3,495		445	3,050	555	3,605	PM Peak
	4,960	49,585	9,400	58,985	0	0	58,985	0	0	58,985	5,500	53,485	2,885	56,370		5,285	51,085	5,800	56,885	Daily



I-15 Northbound			OFF		ON		I-15 NB to HDC EB	I-15 NB to HDC WB		HDC EB to I-15 NB	HDC WB to I-15 NB		OFF		ON		OFF		ON		
NO BUILD SCENARIO (SCAG LAND USE)	455	2,365	320	2,685	0	0	2,685	0	0	2,685	360	2,325	160	2,485		415	2,070	465	2,535	AM Peak
	515	4,830	800	5,630	0	0	5,630	0	0	5,630	220	5,410	275	5,685		405	5,280	450	5,730	PM Peak
	5,075	52,915	8,150	61,065	0	0	61,065	0	0	61,065	5,630	55,435	3,495	58,930		5,500	53,430	5,980	59,410	Daily
FULL BUILD SCENARIO (SCAG LAND USE)	495	2,370	440	2,810	170	1,080	1,560	1,135	170	2,865	245	2,620	260	2,880		430	2,450	440	2,890	AM Peak
	620	4,445	710	5,155	315	870	3,970	2,005	210	6,185	265	5,920	240	6,160		425	5,735	455	6,190	PM Peak
	6,145	51,575	7,555	59,130	2,470	13,395	43,265	23,085	1,950	68,300	5,585	62,715	3,070	65,785		5,550	60,235	5,990	66,225	Daily
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC	495	2,370	440	2,810	185	980	1,645	1,180	205	3,030	245	2,785	260	3,045		430	2,615	440	3,055	AM Peak
	620	4,445	710	5,155	350	870	3,935	1,975	200	6,110	265	5,845	240	6,085		425	5,660	455	6,115	PM Peak
	6,145	51,575	7,555	59,130	2,755	11,590	44,785	22,965	2,050	69,800	5,585	64,215	3,070	67,285		5,550	61,735	5,990	67,725	Daily
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	590	2,300	275	2,575	125	175	2,275	1,100	150	3,525	460	3,065	230	3,295		455	2,840	395	3,235	AM Peak
	680	4,435	570	5,005	310	410	4,285	1,830	150	6,265	350	5,915	220	6,135		435	5,700	470	6,170	PM Peak
	8,005	49,560	5,305	54,865	2,475	225	52,165	20,290	1,550	74,005	8,580	65,425	2,550	67,975		5,750	62,225	4,970	67,195	Daily
TSM ALTERNATIVE	420	2,385	330	2,715	0	0	2,715	0	0	2,715	385	2,330	150	2,480		395	2,085	455	2,540	AM Peak
	500	4,815	800	5,615	0	0	5,615	0	0	5,615	230	5,385	260	5,645		415	5,230	480	5,710	PM Peak
	5,005	52,990	8,135	61,125	0	0	61,125	0	0	61,125	5,600	55,525	3,480	59,005		5,535	53,470	5,950	59,420	Daily

Table 3-12. Year 2020 SR 14 Mainline Link and Ramp Forecast Traffic Volumes

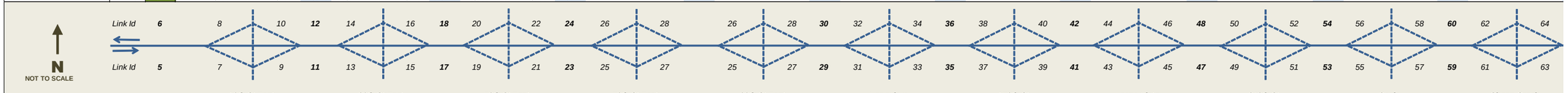
State Route 14 Southbound			ON		OFF		ON	ON		OFF		ON		OFF			ON	OFF			ON	ON		OFF			ON	ON		OFF			ON	ON		OFF			
NO BUILD SCENARIO (SCAG LAND USE)	Mix-flow	3,310				2,960					3,010	FR HDC WB		To HDC EB	3,010			4,015					4,025					4,060					2,775	Mix-flow
	HOV	1,950				1,545					1,195	To SR-14 SB		Fr SR 14 SB	1,195																				HOV
	AM Peak	**5,260**	1,280	**3,980**	525	**4,505**	580	760	**3,165**	1,040	**4,205**	0	**4,205**	0	**4,205**	800	610	**4,015**	255	50	**3,710**	315	**4,025**	4,230	125	90	**3,810**	250	**4,060**	855	690	**2,515**	260	**2,775**	**AM Peak**
	Mix-flow	2,240				2,670					3,250				3,250			4,435					4,595					4,310					3,245	Mix-flow
	HOV	790				780					760				760																				HOV
	PM Peak	**3,030**	485	**2,545**	905	**3,450**	240	295	**2,915**	1,095	**4,010**	0	**4,010**	0	**4,010**	680	1,105	**4,435**	190	110	**4,135**	460	**4,595**	4,670	150	255	**4,190**	120	**4,310**	750	480	**3,080**	165	**3,245**	**PM Peak**
	Mix-flow	39,555				41,100					46,225				46,225			55,855					54,965					52,945					38,495	Mix-flow
	HOV	16,150				13,990					10,600				10,600																				HOV
	Daily	**55,705**	8,505	**47,200**	7,890	**55,090**	5,445	6,515	**43,130**	13,695	**56,825**	0	**56,825**	0	**56,825**	9,920	8,950	**55,855**	2,750	430	**52,675**	2,290	**54,965**	55,090	2,190	1,980	**50,795**	2,150	**52,945**	9,445	7,330	**36,170**	2,325	**38,495**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE)	Mix-flow	3,815				3,645					3,120	FR HDC WB		To HDC EB	4,510			5,190					3,435					5,195					3,900	Mix-flow
	HOV	1,960				1,290					1,255	To SR-14 SB		Fr SR 14 SB	1,340								1,720												HOV
	AM Peak	**5,775**	6,119	1,095	**4,680**	255	**4,935**	560	510	**3,865**	510	**4,375**	1,275	**3,100**	2,750	**5,850**	1,280	620	**5,190**	290	55	**4,845**	310	**5,155**	4,765	150	60	**4,945**	250	**5,195**	920	610	**3,665**	235	**3,900**	**AM Peak**
	Mix-flow	2,760				2,825					3,265				3,955			5,195					3,650					5,025					3,845	Mix-flow
	HOV	885				975					920				1,060								1,660												HOV
	PM Peak	**3,645**	3,231	400	**3,245**	555	**3,800**	235	105	**3,460**	725	**4,185**	1,590	**2,595**	2,420	**5,015**	930	1,110	**5,195**	225	110	**4,860**	450	**5,310**	4,810	165	245	**4,900**	125	**5,025**	845	450	**3,730**	115	**3,845**	**PM Peak**
	Mix-flow	44,455				42,095					42,710				49,895			62,325					41,175					60,355					45,340	Mix-flow
	HOV	16,200				15,400					13,345				15,900								19,885												HOV
	Daily	**60,655**	61,644	7,750	**52,905**	4,590	**57,495**	4,920	3,610	**48,965**	7,090	**56,055**	19,050	**37,005**	28,790	**65,795**	13,100	9,630	**62,325**	3,115	600	**58,610**	2,450	**61,060**	58,755	2,380	875	**57,805**	2,550	**60,355**	10,270	6,900	**43,185**	2,155	**45,340**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395	Mix-flow	3,720				3,265					3,030	FR HDC WB		To HDC EB	4,230			4,925					4,885					4,930					3,650	Mix-flow
	HOV	1,910				1,570					1,220	To SR-14 SB		Fr SR 14 SB	1,305																				HOV
	AM Peak	**5,630**	1,045	**4,585**	250	**4,835**	***5,359***	570	520	**3,745**	505	**4,250**	1,250	**3,000**	2,535	**5,535**	1,210	600	**4,925**	4,842	290	50	**4,585**	300	**4,885**		145	55	**4,685**	245	**4,930**	910	610	**3,410**	240	**3,650**	**AM Peak**
	Mix-flow	2,680				2,655					3,125				3,280			4,775					4,850					4,575					3,385	Mix-flow
	HOV	860				1,000					900				1,620																				HOV
	PM Peak	**3,540**	410	**3,130**	525	**3,655**	***3,364***	220	105	**3,330**	695	**4,025**	1,485	**2,540**	2,360	**4,900**	920	795	**4,775**	4,586	225	100	**4,450**	400	**4,850**		160	235	**4,455**	120	**4,575**	825	485	**3,265**	120	**3,385**	**PM Peak**
	Mix-flow	43,995				41,280					42,095				47,415			58,700					57,305					56,360					41,045	Mix-flow
	HOV	16,050				15,690					13,300				15,635																				HOV
	Daily	**60,045**	7,595	**52,450**	4,520	**56,970**	***57,133***	4,855	3,680	**48,435**	6,960	**55,395**	19,670	**35,725**	27,325	**63,050**	13,035	8,685	**58,700**	58,584	3,115	655	**54,930**	2,375	**57,305**		2,425	855	**54,025**	2,335	**56,360**	10,180	7,185	**38,995**	2,050	**41,045**	**Daily**
PARTIAL FREEWAY ALTERNATIVE	Mix-flow	3,565				3,270					3,175	FR HDC WB		To HDC EB	4,150			4,805					4,780					4,845					3,590	Mix-flow
	HOV	1,900				1,485					1,180	To SR-14 SB		Fr SR 14 SB	1,265																				HOV
	AM Peak	**5,465**	935	**4,530**	225	**4,755**	555	435	**3,765**	590	**4,355**	1,025	**3,330**	2,085	**5,415**	1,230	620	**4,805**	285	45	**4,475**	305	**4,780**		140	45	**4,595**	250	**4,845**	870	635	**3,340**	250	**3,590**	**AM Peak**
	Mix-flow	2,435				2,450					3,020				3,310			4,670					4,750					4,480					3,305	Mix-flow
	HOV	870				995					885				1,485																				HOV
	PM Peak	**3,305**	395	**2,910**	535	**3,445**	170	110	**3,165**	740	**3,905**	1,240	**2,665**	2,130	**4,795**	965	840	**4,670**	220	90	**4,360**	390	**4,750**		155	230	**4,365**	115	**4,480**	800	490	**3,190**	115	**3,305**	**PM Peak**
	Mix-flow	42,835				40,170					42,250				46,910			58,345					56,915					55,970					40,920	Mix-flow
	HOV	15,950				15,305					12,260				14,735																				HOV
	Daily	**58,785**	7,945	**50,840**	4,635	**55,475**	4,520	3,450	**47,505**	7,005	**54,510**	17,890	**36,620**	25,025	**61,645**	12,280	8,980	**58,345**	3,050	650	**54,645**	2,270	**56,915**		2,385	890	**53,640**	2,330	**55,970**	9,810	7,295	**38,865**	2,055	**40,920**	**Daily**



State Route 14 Northbound			OFF		ON		OFF	ON		ON		OFF							ON			OFF	ON		ON		OFF	ON		ON		OFF	ON		ON			
NO BUILD SCENARIO (SCAG LAND USE)	Mix-flow	1,360				2,135					2,800	SR-14 NB	Total	SR-14 SB		Fr HDC WB	Total	Fr HDC WB				3,480					3,695					3,485					2,985	Mix-flow
	HOV	565				545					585	To HDC EB	Con. Vol	To HDC EB		To SR 14 SE	Con. Vol	To SR 14 NB																					HOV
	AM Peak	**1,925**	190	**1,735**	945	**2,680**	475	245	**2,450**	935	**3,385**	0	**0**	0	**3,385**	0	**0**	0	**3,385**	600	695	**3,480**	240	325	**3,565**	130	**3,695**	285	30	**3,440**	45	**3,485**	610	0	**2,875**	110	**2,985**	**AM Peak**
	Mix-flow	4,970				4,550					4,470											5,180					5,335					4,990					4,265	Mix-flow
	HOV	1,660				1,380					1,225																												HOV
	PM Peak	6,630	1,480	**5,150**	780	**5,930**	1,495	200	**4,635**	1,060	**5,695**	0	**0**	0	**5,695**	0	**0**	0	**5,695**	1,305	790	**5,180**	370	270	**5,080**	255	**5,335**	625	50	**4,760**	230	**4,990**	1,075	0	**3,915**	350	**4,265**	**PM Peak**
	Mix-flow	38,250				36,115					36,155											52,900					53,040					49,505					41,665	Mix-flow
	HOV	**14,435**				14,425					15,570																												HOV
	Daily	52,685	9,475	**43,210**	7,330	**50,540**	13,100	1,005	**38,445**	13,280	**51,725**	0	**0**	0	**51,725**	0	**0**	0	**51,725**	10,620	11,795	**52,900**	3,470	1,995	**51,425**	1,615	**53,040**	6,200	705	**47,545**	1,960	**49,505**	10,660	0	**38,845**	2,820	**41,665**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE)	Mix-flow	1,685				2,435					2,830	SR-14 NB	Total	SR-14 SB		Fr HDC WB	Total	Fr HDC WB				4,005					4,150					3,920					3,340	Mix-flow
	HOV	**600**				620					625	To HDC EB	Con. Vol	To HDC EB		To SR 14 SE	Con. Vol	To SR 14 NB																					HOV
	AM Peak	2,285	140	**2,145**	910	**3,055**	340	255	**2,970**	485	**3,455**	1,085	**3,835**	2,750	**2,370**	1,275	**2,940**	1,665	**4,035**	595	565	**4,005**	270	295	**4,030**	120	**4,150**	305	30	**3,875**	45	**3,920**	675	0	**3,245**	95	**3,340**	**AM Peak**
	Mix-flow	5,045				5,145					4,850											6,905					7,035					6,240					5,510	Mix-flow
	HOV	**1,855**				1,655					1,695																												HOV
	PM Peak	6,900	850	**6,050**	750	**6,800**	955	185	**6,030**	515	**6,545**	2,120	**4,540**	2,420	**4,425**	1,590	**4,785**	3,195	**7,620**	1,255	540	**6,905**	295	175	**6,785**	250	**7,035**	1,085	60	**6,010**	230	**6,240**	1,085	0	**5,155**	355	**5,510**	**PM Peak**
	Mix-flow	47,830				48,495					46,515								69,830			64,985					65,685					59,790					51,515	Mix-flow
	HOV	**17,725**				16,720					16,745																												HOV
	Daily	65,555	6,450	**59,105**	6,110	**65,215**	9,795	2,090	**57,510**	5,750	**63,260**	22,785	**51,575**	28,790	**40,475**	19,050	**48,405**	29,355	**69,830**	13,110	8,265	**64,985**	3,105	2,030	**63,910**	1,775	**65,685**	8,680	770	**57,775**	2,015	**59,790**	11,275	0	**48,515**	3,000	**51,515**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395	Mix-flow	1,710				2,240					2,560	SR-14 NB	Total	SR-14 SB		Fr HDC WB	Total	Fr HDC WB				3,850					4,000					3,780					3,195	Mix-flow
	HOV	**590**				580					620	To HDC EB	Con. Vol	To HDC EB		To SR 14 SE	Con. Vol	To SR 14 NB																					HOV
	AM Peak	2,300	140	**2,160**	660	**2,820**	335	250	**2,735**	445	**3,180**	965	**3,500**	2,535	**2,215**	1,250	**2,910**	1,660	**3,875**	600	575	**3,850**	255	280	**3,875**	125	**4,000**	290	25	**3,735**	45	**3,780**	680	0	**3,100**	95	**3,195**	**AM Peak**
	Mix-flow	5,100				4,985					4,720											6,825					6,905					6,175					5,360	Mix-flow
	HOV	**1,820**				1,620					1,640																												HOV
	PM Peak	6,920	835	**6,085**	520	**6,605**	930	190	**5,865**	495	**6,360**	1,960	**4,320**	2,360	**4,400**	1,485	**4,515**	3,030	**7,430**	1,120	515	**6,825**	300	135	**6,660**	245	**6,905**	1,010	50	**5,945**	230	**6,175**	1,130	0	**5,045**	315	**5,360**	**PM Peak**
	Mix-flow	47,615				47,870					47,315								68,825			64,465					64,875					59,339					50,829	Mix-flow
	HOV	**17,435**				16,630					15,575																												HOV
	Daily	65,050	6,630	**58,420**	6,080	**64,500**	9,285	2,075	**57,290**	5,600	**62,890**	20,660	**47,985**	27,325	**42,230**	19,670	**46,265**	26,595	**68,825**	12,585	8,225	**64,465**	3,040	1,860	**63,285**	1,590	**64,875**	8,171	675	**57,379**	1,960	**59,339**	11,485	0	**47,854**	2,975	**50,829**	**Daily**
PARTIAL FREEWAY ALTERNATIVE	Mix-flow	1,555				2,025					2,350	SR-14 NB	Total	SR-14 SB		Fr HDC WB	Total	Fr HDC WB				3,570					3,720					3,515					2,955	Mix-flow
	HOV	**575**				600					680	To HDC EB	Con. Vol	To HDC EB		To SR 14 SE	Con. Vol	To SR 14 NB																					HOV
	AM Peak	2,130	145	**1,985**	640	**2,625**	295	260	**2,590**	440	**3,030**	835	**2,920**	2,085	**2,195**	1,025	**2,450**	1,425	**3,620**	620	570	**3,570**	245	260	**3,585**	135	**3,720**	275	25	**3,470**	45	**3,515**	655	0	**2,860**	95	**2,955**	**AM Peak**
	Mix-flow	5,055				4,955					4,920											6,445					6,575					5,820					5,025	Mix-flow
	HOV	**1,800**				1,605					1,435																												HOV
	PM Peak	6,855	855	**6,000**	560	**6,560**	885	205	**5,880**	475	**6,355**	1,750	**3,880**	2,130	**4,605**	1,240	**3,550**	2,310	**6,915**	1,010	540	**6,445**	280	145	**6,310**	265	**6,575**	1,030	50	**5,595**	225	**5,820**	1,120	0	**4,700**	325	**5,025**	**PM Peak**
	Mix-flow	47,435				48,510					48,945											62,030					62,565					57,085					49,005	Mix-flow
	HOV	**17,475**				15,915					13,675												.																HOV
	Daily	64,910	6,405	**58,505**	5,920	**64,425**	9,375	2,080	**57,130**	5,490	**62,620**	18,500	**43,525**	25,025	**44,120**	17,890	**39,860**	21,970	**66,090**	12,585	8,525	**62,030**	2,995	1,910	**60,945**	1,620	**62,565**	8,160	680	**55,085**	2,000	**57,085**	11,145	0	**45,940**	3,065	**49,005**	**Daily**

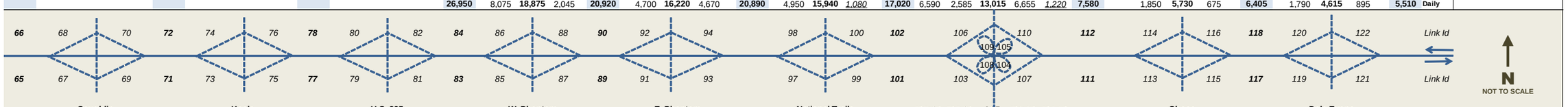
Table 3-13. Year 2020 High Desert Corridor Mainline Link and Ramp Forecast Traffic Volumes

High Desert Corridor			OFF		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	2,940	255	2,685	380	3,065	675	2,390	110	2,500	690	1,810	380	2,190	0	2,190	0	2,190	355	1,835	95	1,930	500	1,430	120	1,550	115	1,435	100	1,535	40	1,495	50	1,545	20	1,525	150	1,675	75	1,600	60	1,660	135	1,525	200
	PM Peak	4,785	280	4,505	515	5,020	670	4,350	140	4,490	675	3,815	550	4,365	0	4,365	0	4,365	220	4,145	180	4,325	290	4,035	165	4,200	95	4,105	305	4,410	50	4,360	225	4,585	135	4,450	350	4,800	120	4,680	90	4,770	855	3,915	290
	Daily	48,405	3,170	45,235	6,195	51,430	8,865	42,565	1,190	43,755	9,910	33,845	5,905	39,750	0	39,750	0	39,750	3,140	36,610	1,485	38,095	5,120	32,975	1,260	34,235	1,320	32,915	2,310	35,225	560	34,665	2,015	36,680	720	35,960	2,110	38,070	1,040	37,030	725	37,755	5,590	32,165	2,780
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC	AM Peak	2,910	140	2,770	320	3,090	680	2,410	70	2,480	880	1,600	285	1,885	0	1,885	0	1,885	500	1,385	20	1,405	490	915	35	950	50	900	50	950	35	915	10	925	100	825	115	940	50	890	20	910	90	820	50
	PM Peak	4,515	190	4,325	470	4,795	885	3,910	150	4,060	750	3,310	355	3,665	0	3,665	0	3,665	485	3,180	40	3,220	650	2,570	25	2,595	40	2,555	270	2,825	20	2,805	180	2,985	120	2,865	355	3,220	145	3,075	25	3,100	360	2,740	60
	Daily	46,265	2,520	43,745	4,975	48,720	10,050	38,670	1,110	39,780	11,345	28,435	3,590	32,025	0	32,025	0	32,025	5,185	26,840	1,510	28,350	6,075	22,275	170	22,445	195	22,250	1,965	24,215	415	23,800	670	24,470	1,320	23,150	3,240	26,390	1,010	25,380	200	25,580	2,680	22,900	800
PARTIAL FREEWAY ALTERNATIVE	AM Peak	2,450	140	2,310	315	2,625	685	1,940	55	1,995	990	1,005	200	1,205																															
	PM Peak	3,550	210	3,340	380	3,720	880	2,840	85	2,925	1,010	1,915	95	2,010																															
	Daily	39,860	2,350	37,510	4,835	42,345	9,975	32,370	1,045	33,415	13,930	19,485	3,390	22,875																															



High Desert Corridor			OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	3,835	245	3,590	430	4,020	575	3,445	130	3,575	550	3,025	475	3,500	0	3,500	0	3,500	200	3,300	155	3,455	255	3,200	145	3,345	80	3,265	265	3,530	45	3,485	100	3,585	120	3,465	255	3,720	115	3,605	80	3,685	800	2,885	175
	PM Peak	4,540	355	4,185	405	4,590	860	3,730	120	3,850	745	3,105	485	3,590	0	3,590	0	3,590	365	3,225	115	3,340	515	2,825	175	3,000	125	2,875	140	3,015	55	2,960	50	3,010	30	2,980	165	3,145	100	3,045	65	3,110	400	2,710	265
	Daily	51,575	3,085	48,490	5,800	54,290	9,390	44,900	1,265	46,165	9,330	36,835	5,605	42,440	0	42,440	0	42,440	3,245	39,195	1,445	40,640	4,925	35,715	1,335	37,050	1,585	35,465	2,190	37,655	570	37,085	920	38,005	990	37,015	2,245	39,260	1,120	38,140	650	38,790	6,980	31,810	2,815
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC	AM Peak	3,500	240	3,260	405	3,665	530	3,135	120	3,255	620	2,635	385	3,020	0	3,020	0	3,020	365	2,655	20	2,675	400	2,275	180	2,455	40	2,415	20	2,435	20	2,415	50	2,465	165	2,300	280	2,580	100	2,480	105	2,585	510	2,075	110
	PM Peak	4,320	315	4,005	460	4,465	850	3,615	115	3,730	780	2,950	430	3,380	0	3,380	0	3,380	425	2,955	20	2,975	710	2,265	85	2,350	135	2,215	15	2,230	40	2,190	15	2,205	95	2,110	200	2,310	80	2,230	85	2,315	315	2,000	150
	Daily	47,985	2,990	44,995	5,355	50,350	9,485	40,865	1,200	42,065	10,435	31,630	4,225	35,855	0	35,855	0	35,855	5,240	30,615	200	30,815	7,075	23,740	1,350	25,090	1,860	23,230	135	23,365	410	22,955	400	23,355	1,005	22,350	2,505	24,855	620	24,235	655	24,890	3,795	21,095	1,040
PARTIAL FREEWAY ALTERNATIVE	AM Peak	2,920	270	2,650	255	2,905	760	2,145	50	2,195	815	1,380	70	1,450																															
	PM Peak	3,880	335	3,545	405	3,950	1,045	2,905	55	2,960	1,215	1,745	120	1,865																															
	Daily	43,525	3,350	40,175	4,320	44,495	11,005	33,490	660	34,150	13,035	21,115	1,230	22,345																															

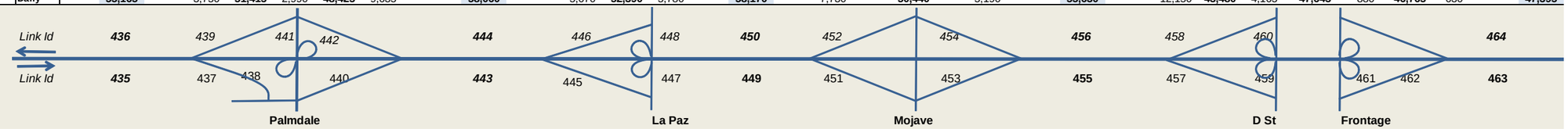
			ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF			
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	1,725	250	1,475	60	1,535	115	1,420	410	1,830	385	1,445	725	2,170	535	1,635	275	1,910	275	1,635	385	2,020	215	1,805	125	1,930	695	205	1,440	565	130	1,005	220	785	70	855	175	680	70	750	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE)
	PM Peak	4,205	320	3,885	100	3,985	215	3,770	580	4,350	800	3,550	1,185	4,735	1,020	3,715	185	3,900	495	3,405	300	3,705	380	3,325	195	3,520	960	165	2,725	630	155	2,250	130	2,120	100	2,220	365	1,855	120	1,975	PM Peak		
	Daily	34,945	2,810	32,135	200	32,335	2,340	29,995	5,650	35,645	7,175	28,470	13,000	41,470	9,400	32,070	1,645	33,715	5,255	28,460	5,440	33,900	4,415	29,485	1,925	31,410	13,825	1,440	19,025	9,815	1,635	10,845	2,320	8,525	495	9,020	1,800	7,220	855	8,075	Daily		
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC	AM Peak	870	135	735	20	755	30	725	205	930	30	900	775	1,675	230	1,445	190	1,635	195	1,440	375	1,815	265	1,550	120	1,670	675	200	1,195	390	125	930	200	730	60	790	170	620	70	690	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC	
	PM Peak	2,800	320	2,480	50	2,530	80	2,450	515	2,965	370	2,595	1,345	3,940	1,110	2,830	145	2,975	415	2,560	300	2,860	370	2,490	180	2,670	925	130	1,875	595	140	1,420	100	1,320	50	1,370	210	1,160	80	1,240	PM Peak		
	Daily	23,700	2,405	21,295	185	21,480	375	21,105	2,895	24,000	1,910	22,090	14,800	36,890	9,295	27,595	1,680	29,275	5,300	23,975	5,150	29,125	4,845	24,280	1,105	25,385	10,765	1,345	15,965	7,605	1,220	9,580	1,700	7,880	640	8,520	1,885	6,635	750	7,385	Daily		
PARTIAL FREEWAY ALTERNATIVE	AM Peak													1,200	215	985	280	1,265	335	930	345	1,275	355	920	100	1,020	410	235	845	335	150	660	205	455	65	520	165	355	75	430	AM Peak	PARTIAL FREEWAY ALTERNATIVE	
	PM Peak													2,250	860	1,390	200	1,590	485	1,105	225	1,330	425	905	175	1,080	530	270	820	435	200	585	120	465	75	540	255	285	90	375	PM Peak		
	Daily													26,950	8,075	18,875	2,045	20,920	4,700	16,220	4,670	20,890	4,950	15,940	1,080	17,020	6,590	2,585	13,015	6,655	1,220	7,580	1,850	5,730	675	6,405	1,790	4,615	895	5,510	Daily		



			OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON			
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	3,060	290	2,770	90	2,860	205	2,655	600	3,255	715	2,540	1,095	3,635	955	2,680	150	2,830	470	2,360	205	2,565	300	2,265	170	2,435	575	150	2,010	720	80	1,370	610	80	1,290	145	1,435	245	1,190	110	1,300	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE)	
	PM Peak	2,975	310	2,665	65	2,730	160	2,570	435	3,005	490	2,515	850	3,365	670	2,695	370	3,065	280	2,785	555	3,340	290	3,050	155	3,205	635	125	2,695	1,220	230	1,705	855	275	1,430	100	1,530	275	1,255	95	1,350	PM Peak		
	Daily	34,625	3,355	31,270	225	31,495	2,080	29,415	5,480	34,895	7,095	27,800	12,660	40,460	8,780	31,680	1,880	33,560	4,095	29,465	4,655	34,120	4,450	29,670	2,010	31,680	8,530	1,650	24,800	16,425	1,750	10,125	8,715	1,255	8,870	400	9,270	2,865	6,405	1,035	7,440	Daily		
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC	AM Peak	2,185	245	1,940	15	1,955	45	1,910	320	2,230	120	2,110	1,040	3,150	805	2,345	165	2,510	490	2,020	185	2,205	335	1,870	150	2,020	525	140	1,635	540	85	1,180		70	1,110	30	1,140	165	975	105	1,080	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC	
	PM Peak	2,150	230	1,920	25	1,945	30	1,915	205	2,120	85	2,035	825	2,860	570	2,290	385	2,675	280	2,395	520	2,915	255	2,660	125	2,785	550	110	2,345	1,165	265	1,445		250	1,195	70	1,265	195	1,070	95	1,165	PM Peak		
	Daily	22,135	2,190	19,945	125	20,070	395	19,675	3,845	23,520	415	23,105	12,955	36,060	8,665	27,395	1,995	29,390	3,995	25,395	4,455	29,850	4,220	25,630	1,800	27,430	8,365	1,500	20,565	13,895	1,645	8,315		1,100	7,215	340	7,555	1,115	6,440	920	7,360	Daily		
PARTIAL FREEWAY ALTERNATIVE	AM Peak													2,050	715	1,335	65	1,400	435	965	145	1,110	280	830	150	980	350	125	755	425	70	400		50	350	45	395	120	275	115	390	AM Peak	PARTIAL FREEWAY ALTERNATIVE	
	PM Peak													1,720	515	1,205	375	1,580	230	1,350	495	1,845	230	1,615	125	1,740	480	110	1,370	755	220	835		210	625	130	755	155	600	95	695	PM Peak		
	Daily													26,565	7,920	18,645	2,540	21,185	3,690	17,495	4,230	21,725	3,950	17,775	1,800	19,575	7,815	1,400	13,160	7,135	1,610	7,635		1,080	6,555	380	6,935	1,050	5,885	1,015	6,900	Daily		

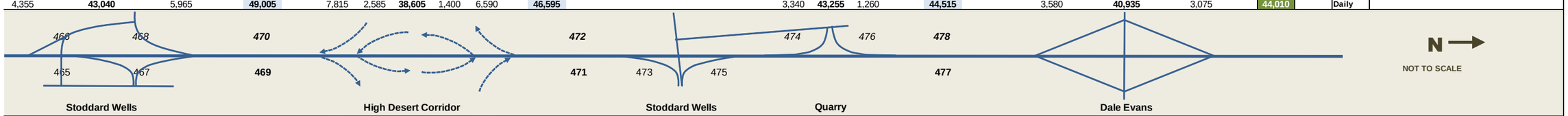
Table 3-14. Year 2020 I-15 Mainline Link and Ramp Forecast Traffic Volumes

I-15 Southbound			ON		ON		OFF		ON		ON		ON		OFF		ON		OFF		ON		OFF		
NO BUILD SCENARIO (SCAG LAND USE)	AM Peak	4,385	225	4,160	140	4,020	450	4,470	375	4,095	335	4,430	560	3,870	200	4,070	795	3,275	190	3,465	45	3,420	20	3,440
	PM Peak	3,865	310	3,555	190	3,365	680	4,045	545	3,500	400	3,900	530	3,370	330	3,700	990	2,710	205	2,915	40	2,875	35	2,910
	Daily	56,690	3,850	52,840	2,760	50,080	9,450	59,530	7,105	52,425	5,505	57,930	7,830	50,100	4,660	54,760	12,085	42,675	3,000	45,675	880	44,795	555	45,350
FULL BUILD SCENARIO (SCAG LAND USE	AM Peak	4,415	230	4,185	155	4,030	520	4,550	380	4,170	370	4,540	595	3,945	255	4,200	840	3,360	200	3,560	50	3,510	30	3,540
	PM Peak	4,055	310	3,745	205	3,540	735	4,275	550	3,725	405	4,130	590	3,540	380	3,920	1,020	2,900	235	3,135	45	3,090	40	3,130
	Daily	57,620	3,990	53,630	2,875	50,755	9,980	60,735	7,220	53,515	5,690	59,205	8,080	51,125	4,715	55,840	12,490	43,350	3,460	46,810	905	45,905	620	46,525
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	AM Peak	4,100	245	3,855	160	3,695	490	4,185	370	3,815	385	4,200	620	3,580	220	3,800	645	3,155	245	3,400	50	3,350	30	3,380
	PM Peak	3,755	300	3,455	180	3,275	720	3,995	535	3,460	395	3,855	580	3,275	365	3,640	975	2,665	220	2,885	45	2,840	40	2,880
	Daily	55,780	3,760	52,020	2,940	49,080	9,500	58,580	5,680	52,900	5,720	58,620	7,945	50,675	4,700	55,375	12,150	43,225	3,565	46,790	900	45,890	600	46,490
PARTIAL FREEWAY ALTERNATIVE	AM Peak	4,000	235	3,765	165	3,600	500	4,100	350	3,750	390	4,140	590	3,550	230	3,780	645	3,135	280	3,415	50	3,365	30	3,395
	PM Peak	3,695	290	3,405	190	3,215	735	3,950	540	3,410	405	3,815	575	3,240	370	3,610	975	2,635	255	2,890	45	2,845	40	2,885
	Daily	55,165	3,750	51,415	2,990	48,425	9,635	58,060	5,670	52,390	5,780	58,170	7,730	50,440	5,190	55,630	12,150	43,480	4,165	47,645	880	46,765	630	47,395



I-15 Northbound			OFF		ON		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		
NO BUILD SCENARIO (SCAG LAND USE)	AM Peak	2,830	435	2,395	305	2,700	335	3,035	495	2,540	325	2,865	445	2,420	385	2,805	895	1,910	260	2,170	35	2,135	40	2,175
	PM Peak	4,670	515	4,155	375	4,530	410	4,940	540	4,400	495	4,895	480	4,415	375	4,790	920	3,870	310	4,180	30	4,150	30	4,180
	Daily	54,830	6,530	48,300	4,875	53,175	5,540	58,715	7,560	51,155	5,960	57,115	6,985	50,130	3,920	54,050	13,130	40,920	3,685	44,605	900	43,705	540	44,245
FULL BUILD SCENARIO (SCAG LAND USE	AM Peak	2,795	445	2,350	335	2,685	375	3,060	515	2,545	360	2,905	475	2,430	405	2,835	935	1,900	270	2,170	35	2,135	40	2,175
	PM Peak	5,205	550	4,655	380	5,035	450	5,485	560	4,925	515	5,440	560	4,880	380	5,260	955	4,305	325	4,630	40	4,590	45	4,635
	Daily	56,500	6,700	49,800	4,960	54,760	5,615	60,375	7,660	52,715	6,160	58,875	7,220	51,655	4,325	55,980	13,560	42,420	3,830	46,250	1,000	45,250	675	45,925
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	AM Peak	2,725	435	2,290	325	2,615	320	2,935	485	2,450	355	2,805	480	2,325	385	2,710	885	1,825	260	2,085	35	2,050	35	2,085
	PM Peak	5,315	545	4,770	360	5,130	300	5,430	575	4,855	500	5,355	595	4,760	370	5,130	925	4,205	280	4,485	40	4,445	40	4,485
	Daily	57,480	6,230	51,250	5,170	56,420	5,440	61,860	7,770	54,090	6,115	60,205	6,905	53,300	4,530	57,830	11,555	46,275	3,815	50,090	990	49,100	655	49,755
PARTIAL FREEWAY ALTERNATIVE	AM Peak	2,610	440	2,170	330	2,500	300	2,800	500	2,300	330	2,630	460	2,170	400	2,570	870	1,700	265	1,965	35	1,930	35	1,965
	PM Peak	5,225	510	4,715	360	5,075	335	5,410	595	4,815	480	5,295	605	4,690	360	5,050	940	4,110	295	4,405	40	4,365	40	4,405
	Daily	58,225	6,390	51,835	5,050	56,885	5,505	62,390	7,475	54,915	6,005	60,920	7,025	53,895	4,460	58,355	11,470	46,885	3,820	50,705	995	49,710	650	50,360

ON		OFF		HDC EB to I-15 SB	HDC WB to I-15 SB		I-15 SB to HDC EB	I-15 SB to HDC WB		ON		OFF		ON		OFF			I-15 Southbound
445	2,995	475	3,470	0	0	3,470	0	0	3,470	135	3,335	115	3,450	145	3,305	180	3,485	AM Peak	NO BUILD SCENARIO (SCAG LAND USE)
390	2,520	255	2,775	0	0	2,775	0	0	2,775	330	2,445	130	2,575	190	2,385	305	2,690	PM Peak	
4,460	40,890	5,135	46,025	0	0	46,025	0	0	46,025	2,985	43,040	1,380	44,420	2,280	42,140	2,660	44,800	Daily	
465	3,075	480	3,555	3,090	575	205	2,775	150	695	3,620	155	3,465	125	3,590	260	3,330	230	3,560	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE
425	2,705	260	2,965	2,465	635	165	2,165	125	960	3,250	345	2,905	130	3,035	375	2,660	385	3,045	PM Peak	
4,735	41,790	5,255	47,045	39,585	8,530	1,440	37,075	1,650	13,825	52,550	3,160	49,390	1,320	50,710	3,640	47,070	3,180	50,250	Daily
415	2,965	515	3,480		525	200	2,755	140	675	3,570	125	3,445	110	3,555	240	3,315	225	3,540	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE)
360	2,520	280	2,800		550	130	2,120	110	925	3,155	225	2,930	130	3,060	390	2,670	370	3,040	PM Peak	WITH TOLL ALTERNATIVE ALONG HDC
4,465	42,025	5,590	47,615		8,365	1,345	37,905	1,500	10,765	50,170	3,185	46,985	1,300	48,285	3,555	44,730	3,065	47,795	Daily	FROM 90th STREET TO U.S. 395
400	2,995	545	3,540		350	235	2,955	125	410	3,490	135	3,355	120	3,475	250	3,225	215	3,440	AM Peak	PARTIAL FREEWAY ALTERNATIVE
345	2,540	320	2,860		480	270	2,110	110	530	2,750	245	2,505	110	2,615	360	2,255	360	2,615	PM Peak	
4,355	43,040	5,965	49,005		7,815	2,585	38,605	1,400	6,590	46,595	3,340	43,255	1,260	44,515	3,580	40,935	3,075	44,010	Daily	



OFF		ON		I-15 NB to HDC EB	I-15 NB to HDC WB		HDC EB to I-15 NB	HDC WB to I-15 NB		OFF		ON		OFF		ON			I-15 Northbound
320	1,855	245	2,100	0	0	2,100	0	0	2,100	185	1,915	115	2,030	155	1,875	220	2,095	AM Peak	NO BUILD SCENARIO (SCAG LAND USE)
315	3,865	560	4,425	0	0	4,425	0	0	4,425	100	4,325	210	4,535	170	4,365	195	4,560	PM Peak	
4,050	40,195	6,010	46,205	0	0	46,205	0	0	46,205	2,020	44,185	1,880	46,065	1,570	44,495	2,875	47,370	Daily	
400	1,775	275	2,050	80	565	1,405	720	130	2,255	200	2,055	120	2,175	260	1,915	295	2,210	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE
495	4,140	595	4,735	230	630	3,875	1,220	155	5,250	185	5,065	220	5,285	280	5,005	330	5,335	PM Peak	
5,120	40,805	6,230	47,035	1,750	9,815	35,470	16,425	1,635	53,530	2,550	50,980	1,920	52,900	2,860	50,040	3,670	53,710	Daily	
375	1,710	215	1,925	85	390	1,450	540	125	2,115	195	1,920	110	2,030	255	1,775	300	2,075	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE)
450	4,035	430	4,465	265	595	3,605	1,165	140	4,910	190	4,720	135	4,855	270	4,585	305	4,890	PM Peak	WITH TOLL ALTERNATIVE ALONG HDC
5,305	44,450	2,380	46,830	1,645	7,605	37,580	13,895	1,220	52,695	2,470	50,225	2,050	52,275	2,750	49,525	3,630	53,155	Daily	FROM 90th STREET TO U.S. 395
360	1,605	230	1,835	70	335	1,430	425	150	2,005	180	1,825	115	1,940	240	1,700	285	1,985	AM Peak	PARTIAL FREEWAY ALTERNATIVE
470	3,935	470	4,405	220	435	3,750	755	200	4,705	160	4,545	140	4,685	260	4,425	315	4,740	PM Peak	
5,470	44,890	2,460	47,350	1,610	6,655	39,085	7,135	1,220	47,440	2,030	45,410	2,180	47,590	2,610	44,980	3,640	48,620	Daily	

External truck trips, trips with a trip end outside of the SCAG region, were developed from estimated incoming and outgoing commodity flows. The internal ending points of those trips are allocated to TAZs within the SCAG region. Truck trips internal to the region are estimated from shipping and receiving daily truck trip generation rates corresponding to the number of employees in various employment sectors in each zone, and in certain cases, with the number of households in each zone. Special truck activity trip tables were developed for special truck trip generators, such as ports and airports. Truck specific time period factors, derived from California Weigh in Motion truck data, were applied to allocate daily truck activity into the four model time periods (AM peak, midday, PM peak, and night). Trucks are converted into passenger car equivalents during the assignment phase. The trip assignment process simultaneously loads both heavy-duty trucks and light- and medium-duty autos/trucks, so that all vehicle types are accounted for in the traffic stream.

Link level traffic volumes are forecast by the SCAG model for all vehicle types, including trucks. Truck volumes utilizing freeway mainline lanes and ramps have been extracted from the comprehensive array of network traffic volumes and are reported in Table 3-15. This table presents a sample of truck and total volumes for the 2040 High Desert Corridor new freeway/expressway build alternative. Truck volumes by time period for all highway network scenarios are reported in Volume IV of this report.

A summary comparison of truck volumes by route and alternative is provided as Table 3-16. The table indicates daily traffic volumes by mode utilizing the six network roadways which cross an imaginary "screenline" drawn along the Los Angeles/San Bernardino County line. Table 3-16 is a companion to Table 3-6, which reports total vehicle (all modes) volumes by time period. The location of the screenline and names of the roadways were previously illustrated on Figure 3-18.

Table 3-16 indicates that by 2040, the High Desert Corridor will carry approximately 114,000 vehicles across the imaginary screenline, as reported earlier. Of this volume, approximately 12,600 vehicles will be trucks, equal to 11 percent.

3.8 Vehicle Miles Traveled

To provide input to calculations of air quality impacts, highway network utilization has been measured based on an arbitrary system of one-mile square grids covering the High Desert Corridor study area. Figure 3-23 illustrates the one square mile grids defined for measuring highway network utilization. These one-mile square grids number 606 in total. For each grid, the following information has been tallied by facility type and model time period for each network scenario.

- Auto vehicle miles traveled
- Truck vehicle miles traveled
- Auto vehicle hours traveled
- Truck vehicle hours traveled
- Average speed

Table 3-17 provides a sample of a small portion of the network utilization data tallied for each of the 606 one-mile square grids. A CD containing the complete grid table of data for all network alternatives is provided as an attachment to Volume IV of this report.

Table 3-15. High Desert Corridor Build Alternative Freeway Segment and Ramp Daily Truck Volumes *(1 of 5)*

		YEAR 2020				YEAR 2040			
LINK_ID	LINK_ID_NAME	TOTAL_VOL	LTK_VOL	MTK_VOL	HTL_VOL	TOTAL_VOL	LTK_VOL	MTK_VOL	HTL_VOL
1	EB ON FROM SR14 NB	21786	423	870	2889	26967	479	960	3276
2	EB ON FROM SR14 SB	31789	126	585	1726	45749	114	491	1528
3	WB OFF TO SR138 SB	20052	430	903	2986	25019	481	973	3304
4	WB OFF TO SR14 NB	28353	96	444	1398	40262	96	409	1278
5	EB ML - SR14 & 10TH	53575	549	1455	4616	72715	593	1451	4804
6	WB ML - SR14 & 10TH	48405	525	1346	4384	65281	577	1383	4581
7	EB OFF RAMP AT 10TH	3083	15	43	103	4226	15	45	105
8	WB ON-RAMP AT 10TH	2171	13	39	105	3047	14	43	115
9	EB ON-RAMP AT 10TH	5798	90	103	240	7586	86	97	213
10	WB OFF-RAMP AT 1OTH	5836	90	100	216	7096	82	90	188
11	EB ML - 10TH & 20TH	56289	625	1515	4753	76076	664	1503	4912
12	WB ML - 10TH & 20TH	52070	602	1408	4495	69330	645	1430	4654
13	EB OFF-RAMP AT 20TH	10390	66	169	100	12403	69	179	120
14	WB ON-RAMP AT 20TH	9866	65	175	120	11834	68	186	155
15	EB ON-RAMP AT 20TH	1264	11	12	17	1849	12	13	19
16	WB OFF-RMAP AT 20TH	1163	9	10	12	1931	10	12	17
17	EB ML - 20TH & 50TH	47163	569	1358	4670	65522	606	1336	4811
18	WB ML - 20TH & 50TH	43367	546	1243	4387	59426	586	1255	4517
19	EB OFF-RAMP AT 50TH	9329	73	112	256	12147	73	112	205
20	WB ON-RAMP AT 50TH	9910	77	121	275	12574	79	133	269
21	EB ON-RAMP AT 50TH	6605	79	139	126	7713	69	135	139
22	WB OFF-RAMP AT 50TH	5905	70	128	101	6837	64	126	121
23	EB ML - 50TH & 90TH	44439	576	1385	4540	61088	602	1359	4744
24	WB ML - 50TH & 90TH	39362	540	1250	4212	53689	571	1249	4369
25	EB OFF-RAMP AT 90TH	3243	11	10	8	4187	9	10	8
26	WB ON-RAMP AT 90TH	3142	10	10	7	4741	10	11	7
27	EB ON-RAMP AT 90TH	1443	21	16	25	2137	14	14	27
28	WB OFF-RAMP AT 90TH	1483	21	16	23	2603	17	16	32
29	EB ML - 90TH & LONGVIEW	42638	586	1391	4557	59038	607	1363	4763
30	WB ML - 90TH & LONGVIEW	37702	550	1256	4228	51551	579	1255	4394
31	EB OFF-RAMP AT LONGVIEW	6423	40	89	201	5577	26	35	43
32	WB ON-RAMP AT LONGVIIEW	5118	28	38	51	4933	24	27	22
33	EB ON-RAMP AT LONGVIIEW	1331	7	7	6	1908	6	6	6
34	WB OFF-RAMP AT LONGVIEW	1257	7	6	5	1703	6	5	6
35	EB ML - LONGVIEW & 170TH	37546	554	1308	4361	55369	587	1334	4727
36	WB ML - LONGVIW & 170TH	33841	529	1224	4183	48321	562	1233	4378
37	EB OFF-RAMP AT 170TH	3582	31	113	335	2573	13	37	157
38	WB ON-RAMP AT 170TH	2317	19	51	164	1228	8	12	50
39	EB ON-RAMP AT 170TH	2189	7	6	1	2782	7	6	1
40	WB OFF-RAMP AT 170TH	2310	7	6	2	2935	7	6	2
41	EB ML - 170TH & LARGO VISTA	36154	530	1200	4028	55577	581	1303	4571
42	WB ML - 170TH & LARGO VISTA	33834	517	1180	4021	50028	561	1226	4330
43	EB OFF-RAMP AT LARGO VISTA	570	3	2	1	712	3	2	1
44	WB ON-RAMP AT LARGO VISTA	578	3	2	1	663	3	2	1
45	EB ON-RAMP AT LARGO VISTA	918	2	1	1	1237	7	4	4
46	WB OFF-RAMP AT LARGO VISTA	2016	4	2	2	2790	10	5	7
47	EB ML - LARGO VISTA & 240TH	36501	529	1199	4028	56102	585	1305	4575
48	WB ML - LARGO VISTA & 240TH	35272	519	1180	4022	52155	568	1230	4336
49	EB OFF-RAMP AT 240TH	0	0	0	0	108	1	1	2
50	WB ON-RAMP AT 240TH	119	1	2	3	910	8	6	8
51	EB ON-RAMP AT 240TH	2244	9	4	3	3366	18	10	10
52	WB OFF-RAMP AT 240TH	2009	6	3	2	3143	13	7	8
53	EB ML - 240TH & OASIS	38745	537	1204	4031	59360	601	1314	4582
54	WB ML - 240TH & OASIS	37161	524	1182	4020	54388	574	1232	4336
55	EB OFF-RAMP AT OASIS	0	0	0	0	1738	10	10	18
56	WB OFF-RAMP AT OASIS	0	0	0	0	1757	10	10	18
57	EB ON-RAMP AT OASIS	0	0	0	0	0	0	0	0
58	WB OFF-RAMP AT OASIS	0	0	0	0	0	0	0	0

Table 3-15. High Desert Corridor Build Alternative Freeway Segment and Ramp Daily Truck Volumes *(2 of 5)*

		YEAR 2020				YEAR 2040			
LINK_ID	LINK_ID_NAME	TOTAL_VOL	LTK_VOL	MTK_VOL	HTL_VOL	TOTAL_VOL	LTK_VOL	MTK_VOL	HTL_VOL
59	EB ML - OASIS & SHEEP CREEK	38745	537	1204	4031	57622	592	1303	4564
60	WB ML - OASIS & SHEEP CREEK	37161	524	1182	4020	52631	564	1222	4318
61	EB OFF-RAMP AT SHEEP CREEK	6978	42	115	304	8877	41	97	286
62	WB ON-RAMP AT SHEEP CREEK	4587	22	31	58	5610	18	34	88
63	EB ON-RAMP AT SHEEP CREEK	2816	14	20	46	3784	23	27	90
64	WB OFF-RAMP AT SHEEP CREEK	2778	14	21	48	3024	10	17	47
65	EB ML - SHEEP CREEK & CAUGHLIN	34583	509	1109	3773	52529	573	1234	4369
66	WB ML - SHEEP CREEK & CAUGHLIN	35352	516	1171	4010	50045	556	1205	4277
67	EB OFF-RAMP AT CAUGHLIN	3353	25	29	57	8546	50	74	133
68	WB ON-RAMP AT CAUGHLIN	2810	26	32	63	8480	50	70	175
69	EB ON-RAMP AT CAUGHLIN	0	0	0	0	335	2	1	0
70	WB OFF-RAMP AT CAUGHLIN	0	0	0	0	624	3	2	0
71	EB ML - CAUGHLIN & KOALA	31231	484	1079	3715	44318	525	1161	4236
72	WB ML - CAUGHLIN & KOALA	32542	489	1139	3947	42189	509	1137	4102
73	EB OFF-RAMP AT KOALA	2081	27	27	51	2623	24	28	66
74	WB ON-RAMP AT KOALA	2339	32	37	79	3261	25	28	73
75	EB ON-RAMP AT KOALA	5481	26	39	54	8321	18	22	27
76	WB OFF-RAMP AT KOALA	5747	24	35	42	8736	17	19	16
77	EB ML - KOALA & US395	34630	482	1092	3718	50016	518	1155	4197
78	WB ML - KOALA & US395	35950	481	1136	3910	47664	501	1127	4046
79	EB OFF-RAMP AT US395	7094	60	99	189	7693	43	60	101
80	WB ON-RAMP ATA US395	7074	53	95	201	7435	54	66	145
81	EB ON-RAMP AT US395	12661	63	47	505	16354	33	30	1514
82	WB OFF-RAMP AT US395	13999	64	48	532	17593	35	34	1569
83	EB ML - US395 & W.PHANTOM	40197	486	1039	4034	58677	509	1125	5609
84	WB ML - US395 & W.PHANTOM	42875	492	1089	4240	57822	482	1095	5470
85	EB OFF-RAMP AT W.PHANTOM	8780	244	124	513	15678	250	133	2277
86	WB ON-RAMP AT W.PHANTOM	9399	239	123	506	16569	234	129	2221
87	EB ON-RAMP AT W.PHANTOM	1878	266	119	162	2351	69	47	110
88	WB OFF-RAMP AT W.PHANTOM	1643	262	117	96	1744	68	38	21
89	EB ML - W.PHANTOM & E.PHANTOM	33294	507	1035	3682	45350	328	1038	3442
90	WB ML - W. PHANTOM & E.PHANTOM	35119	515	1083	3830	42998	316	1004	3271
91	EB OFF-RAMP AT E.PHANTOM	8093	148	119	271	9619	87	103	315
92	WB ON-RAMP AT E.PHANTOM	9256	79	100	322	8917	53	79	345
93	EM ON-RAMP AT E.PHANTOM	4653	20	30	937	8653	7	8	4145
94	WB OFF-RAMP AT E.PHANTOM	4239	22	36	1049	8743	6	7	4236
95	EB ML - E.PHANTOM & NATIONAL TRAILS HWY	29854	380	946	4348	44383	247	943	7273
96	WB ML - E.PHANTOM & NATIONAL TRAILS HWY	30102	458	1019	4557	42825	269	932	7161
97	EB OFF-RAMP AT NATIONAL TRAILS HWY	8459	51	52	132	7111	28	26	31
98	WB ON-RMAP AT NATIONAL TRAILS HWY	8416	170	110	174	7136	30	28	32
99	EB ON-RAMP AT NATIONAL TRAILS HWY	0	0	0	0	0	0	0	0
100	WB OFF-RAMP AT NATIONAL TRAILS HWY	0	0	0	0	0	0	0	0
101	EB ML - NATIONAL TRAILS HWY& I-15	21396	329	893	4215	37272	219	916	7242
102	WB ML - NATIONAL TRAILS HWY& I-15	21686	288	909	4383	35689	239	904	7129
103	EB OFF TO SB I-15	1228	137	79	132	0	0	0	0
104	EB OFF TO NB I-15	14025	129	754	3791	23085	144	805	6810
105	WB ON FROM NB I-15	1675	99	63	140	294	36	20	4
106	WB ON FROM SB I-15	13223	131	790	3951	19682	136	804	6793
107	EB ON FROM NB I-15	2570	28	41	280	2466	19	26	82
108	EB ON FROM SB I-15	0	0	0	0	0	0	0	0
109	WB OFF TO SB I-15	3137	36	49	363	2585	20	27	81
110	WB OFF TO NB I-15	0	0	0	0	0	0	0	0
111	EB ML - I-15 & CHOCO	8712	91	101	572	16653	93	137	513
112	WB ML - I-15 & CHOCO	9925	94	105	655	18297	86	106	414
113	EB OFF-RAMP AT CHOCO	0	0	0	0	2354	10	9	12
114	WB ON-RAMP AT CHOCO	0	0	0	0	2565	11	11	21
115	EB ON-RAMP AT CHOCO	923	4	4	1	431	2	2	2
116	WB OFF-RAMP AT CHOCO	919	5	4	1	778	3	3	3

Table 3-15. High Desert Corridor Build Alternative Freeway Segment and Ramp Daily Truck Volumes *(3 of 5)*

		YEAR 2020				YEAR 2040			
LINK_ID	LINK_ID_NAME	TOTAL_VOL	LTK_VOL	MTK_VOL	HTL_VOL	TOTAL_VOL	LTK_VOL	MTK_VOL	HTL_VOL
117	EB ML - CHOCO & DALE EVANS	9636	95	105	574	14731	86	130	503
118	WB ML - CHOCO & DALE EVANS	10844	99	109	656	16510	78	98	396
119	EB OFF-RAMP AT DALE EVANS	2862	28	32	365	1653	11	10	74
120	WB ON-RAMP AT DALE EVANS	2912	31	37	460	2801	16	14	96
121	EB ON-RAMP AT DALE EVANS	1035	5	7	6	1451	6	8	6
122	WB OFF-RAMP AT DALE EVANS	900	5	7	6	1038	5	6	5
123	EB EXPWY- DALE EVANS & WAALEW	7809	72	80	215	14529	81	127	435
124	EB EXPWY - WAALEW & CAHUILLA	5270	45	48	143	11015	54	96	364
125	EB EXPWY - CAHUILLA & JOSHUA	4470	43	47	147	9794	51	95	369
126	EB EXPWY - JOSHUA & STANDING ROCK	2830	34	35	128	7662	41	83	352
127	EB EXPWY - STANDING ROCSK & SR18	3598	40	42	137	8689	47	90	361
128	EB EXPWY - SR18 & NASQUILLY	5366	50	57	152	9251	51	96	369
129	EB EXPWY - NASQUILLY & BEAR VALLEY	7084	88	95	205	9627	53	100	374
123	WB EXPWY- DALE EVANS & WAALEW	8832	72	79	202	14747	67	90	304
124	WB EXPWY - WAALEW & CAHUILLA	6380	45	48	136	11432	41	60	240
125	WB EXPWY - CAHUILLA & JOSHUA	5683	43	47	140	10561	40	60	247
126	WB EXPWY - JOSHUA & STANDING ROCK	3997	32	34	121	7575	32	49	222
127	WB EXPWY - STANDING ROCSK & SR18	4713	38	41	128	8737	39	57	231
128	WB EXPWY - SR18 & NASQUILLY	6661	48	56	144	9696	43	63	239
129	WB EXPWY - NASQUILLY & BEAR VALLEY	8454	89	96	203	10180	46	68	245
201	NB ML SR14 LOV - S. OF PEAR BLOSSOM	55112	814	1871	5874	80245	887	2014	6410
202	NB ML SR14 HOV - S. OF PEAR BLOSSOM	26727	0	0	0	25953	0	0	0
203	SB ML SR14 HOV - S. OF PEAR BLOSSOM	25147	0	0	0	24266	0	0	0
204	SB ML SR14 LOV - S. OF PEAR BLOSSOM	53623	802	1885	5844	77789	870	2019	6323
205	NB SR14 OFF-RAMP AT PEAR BLOSSOM	19990	100	151	398	23847	95	136	345
206	SB SR14 ON-RAMP AT PEAR BLOSSOM	19740	97	163	420	23505	85	138	366
207	NB SR14 ON-RAMP AT PEAR BLOSSOM	3705	25	92	215	4415	20	75	169
208	SB SR14 OFF-RAMP AT PEAR BLOSSOM	2614	15	39	94	3304	14	34	81
209	NB SR14 ML LOV - N. OF PEAR BLOSSO	43828	739	1812	5691	65357	812	1953	6234
210	NB ML SR14 HOV - N.OF PEAR BLOSSOM	21726	0	0	0	21409	0	0	0
211	SB SR14 ML HOV - N. OF PEAR BLOSSOM	18512	0	0	0	18178	0	0	0
212	SB SR14 ML LOV - N. OF PEAR BLOSSOM	43132	720	1761	5518	63676	798	1915	6038
213	NB SR14 OFF-RAMP AT S AVE	6421	18	32	82	10476	20	34	85
214	SB SR14 ON-RAMP AT S AVE	6748	21	38	98	12159	27	50	115
215	NB SR14 ON-RAMP AT S AVE	4107	15	16	17	6830	18	19	19
216	SB SR14 OFF-RAMP AT S AVE	4590	15	17	19	7499	18	20	22
217	NB SR14 ML LOV- N. OR S AVENUE	44521	736	1796	5626	66432	810	1938	6167
218	NB SR14 ML HOV - N.OF S AVE	18718	0	0	0	16688	0	0	0
219	SB SR14 ML HOV - N.OF S AVE	17403	0	0	0	14561	0	0	0
220	SB SR14 ML LOV - N. OF S AVE	42083	715	1740	5438	62632	789	1885	5945
221	NB SR14 OFF-RAMP AT PALMDALE AVE	8785	35	95	230	13783	41	115	301
222	NB SR14 LOOP ON-RAMP AT PALMDALE AV	2088	10	11	19	3524	10	11	20
223	SB SR14 ON-RAMP AT PALMDALE AVE	4616	16	36	57	5905	14	32	51
224	NB SR14 ON-RAMP AT PALMDALE AVE	3750	9	17	7	5495	10	18	8
225	SB SR14 LOOP ON-RAMP AT PALMDALE AV	2608	10	30	62	5319	15	47	113
226	SB SR14 OFF-RAMP AT PALMDALE AVE	6089	21	38	72	9849	23	35	59
227	NB SR14 ML LOV - N, OF PALMDALE AVE	57351	720	1729	5423	62854	789	1853	5894
228	NB SR14 ML HOV - N, OF PALMDALE AVE	2943	0	0	0	15501	0	0	0
229	SB SR14 ML HOV - N, OF PALMDALE AVE	1848	0	0	0	13857	0	0	0
230	SB SR14 ML LOV - N, OF PALMDALE AVE	36450	281	809	2406	36942	302	868	2537
231	NB SR14 ML LOV - N, OF SR138 HDC	63918	393	1302	3932	76149	406	1302	3896
232	NB SR14 ML HOV - N, OF SR138 HDC	2943	0	0	0	15501	0	0	0
233	SB SR14 ML HOV - N, OF SR138 HDC	1848	0	0	0	13857	0	0	0
234	SB SR14 ML LOV - N, OF SR138 HDC	68239	407	1393	4132	82691	416	1359	4065
235	NB SR14 OFF-RAMP AT 10TH ST	12611	48	85	153	16443	48	82	142
237	SB SR14 ON-RAMP AT 10TH ST	17100	72	134	320	21067	66	122	270
238	NB SR14 ON-RAMP AT 10TH ST	6266	14	32	13	10302	14	32	13
239	SB SR14 OFF-RAMP AT 10TH ST	6627	16	37	16	11786	15	37	16
240	NB SR14 ML LOV- N. OF 10TH ST	60516	359	1249	3792	68653	371	1252	3766
241	NB SR14 ML HOV- N. OF 10TH ST	0	0	0	0	16856	0	0	0

Table 3-15. High Desert Corridor Build Alternative Freeway Segment and Ramp Daily Truck Volumes *(4 of 5)*

LINK_ID	LINK_ID_NAME	YEAR 2020				YEAR 2040			
		TOTAL_VOL	LTK_VOL	MTK_VOL	HTL_VOL	TOTAL_VOL	LTK_VOL	MTK_VOL	HTL_VOL
242	SB SR14 ML HOV- N. OF 10TH ST	0	0	0	0	17486	0	0	0
243	SB SR14 ML LOV- N. OF 10TH ST	59614	351	1296	3828	69782	364	1275	3811
244	NB SR14 OFF-RAMP AT N AVE	2905	10	18	29	4991	12	25	49
245	NB SR14 LOOP ON-RAMP AT N AVE	1430	3	5	1	2057	4	5	2
246	SB SR14 ON-RAMP AT N AVE	3112	11	19	29	4808	12	21	35
247	NB SR14 ON-RAMP AT N AVE	1475	4	10	6	2070	4	11	7
248	SB SR14 LOOP ON-RAMP AT N AVE	0	0	0	0	1	0	0	0
249	SB SR14 OFF-RAMP AT N AVE	2252	6	9	3	3064	6	10	5
250	NB SR14 ML LOV - N. OF N AVE	60515	357	1246	3770	65168	367	1243	3726
251	NB SR14 ML HOV - N. OF N AVE	0	0	0	0	19477	0	0	0
252	SB SR14 ML HOV - N. OF N AVE	0	0	0	0	19701	0	0	0
253	SB SR14 ML LOV - N. OF N AVE	58754	347	1286	3802	65822	358	1263	3781
254	NB SR14 OFF-RAMP AT M AVE	6035	24	45	135	9313	25	51	151
255	NB SR14 LOOP ON-RAMP AT M AVE	670	1	3	4	977	1	3	4
256	SB SR14 ON-RAMP AT M AVE	2479	7	11	24	3617	6	10	21
257	NB SR14 ON-RAMP AT M AVE	1815	2	7	10	2653	2	6	8
258	SB SR14 LOOP ON-RAMP AT M AVE	872	5	10	23	3288	13	24	63
259	SB SR14 OFF-RAMP AT M AVE	2146	3	9	14	3078	3	8	13
260	NB SR14 ML LOV - N. OF M AVE	56966	336	1211	3649	60363	345	1201	3586
261	NB SR14 ML HOV - N. OF M AVE	0	0	0	0	18599	0	0	0
262	SB SR14 ML HOV - N. OF M AVE	0	0	0	0	18184	0	0	0
263	SB SR14 ML LOV - N. OF M AVE	57549	338	1274	3770	63512	342	1238	3710
264	NB SR14 OFF-RAMP AT L AVE	11273	52	105	222	15975	55	109	235
265	NB SR14 LOOP ON-RAMP AT L AVE	0	0	0	0	0	0	0	0
266	SB SR14 ON-RAMP AT L AVE	10268	41	77	105	13726	39	73	104
267	NB SR14 ON-RAMP AT L AVE	2598	4	8	9	3366	3	7	8
268	SB SR14 LOOP ON-RAMP AT L AVE	6898	34	84	287	10861	39	96	308
269	SB SR14 OFF-RAMP AT L AVE	1955	2	5	6	2357	2	5	5
270	NB SR14 ML LOV - N. OF L AVE	48290	288	1115	3436	49958	294	1099	3359
271	NB SR14 ML HOV - N. OF L AVE	0	0	0	0	16395	0	0	0
272	SB SR14 ML HOV - N. OF L AVE	0	0	0	0	13718	0	0	0
273	SB SR14 ML LOV - N. OF L AVE	42338	265	1118	3384	45748	266	1073	3304
274	NB SR14 OFF-RAMP AT K AVE	16299	59	149	436	22244	63	152	428
275	NB SR14 LOOP ON-RAMP AT K AVE	1029	3	7	11	1565	3	9	13
276	SB SR14 ON-RAMP AT K AVE	0	0	0	0	0	0	0	0
277	NB SR14 ON-RAMP AT K AVE	1183	2	5	5	1760	2	5	5
278	SB SR14 LOOP ON-RAMP AT K AVE	6870	21	57	141	10170	24	61	153
279	SB SR14 OFF-RAMP AT K AVE	2418	6	14	20	2847	6	13	17
280	NB SR14 ML LOV - N. OF K AVE	34203	233	977	3016	34131	236	960	2948
281	NB SR14 ML HOV - N. OF K AVE	0	0	0	0	13304	0	0	0
282	SB SR14 ML HOV - N. OF K AVE	0	0	0	0	8898	0	0	0
283	SB SR14 ML LOV - N. OF K AVE	37887	249	1075	3263	43244	248	1025	3167
284	NB SR14 OFF-RAMP AT 20TH ST	8140	25	66	107	12059	25	67	110
285	SB SR14 ON-RAMP AT J AVE	7514	22	61	92	10860	22	61	91
286	NB SR14 ON-RAMP AT J AVE	4646	11	12	4	5965	12	13	4
287	SB SR14 OFF-RAMP AT J AVE	3442	4	7	3	4306	4	6	3
288	NB SR14 ML - N. OF J AVE	30709	220	923	2913	41341	223	906	2842
289	SB SR14 ML - N. OF J AVE	33815	231	1021	3174	45588	229	971	3080
401	NB I-15 ML - N. OF CALIENTE RD	112083	1446	3946	15209	140566	1413	3839	14643
402	SB I-15 ML - N. OF CLAIENTE RD	103254	1463	3954	15305	107858	1375	3811	14776
403	NB I-15 OFF-RAMP AT RANCHERO RD	14889	89	127	178	29436	151	228	353
404	SB I-15 ON-RAMP AT RANCHERO RD	13725	79	105	119	10844	81	111	106
405	NB I-15 ON-RAMP AT RANCHERO RD	535	4	7	16	2654	8	16	39
406	SB I-15 OFF-RAMP AT RANCHERO RD	465	2	2	1	2501	3	2	1
407	NB I-15 ML - N. OF RANCHERO RD	97729	1361	3825	15047	113784	1269	3627	14329
408	SB I-15 ML - N. OF RANCHERO RD	89994	1386	3851	15187	99515	1296	3702	14671
409	NB I-15 OFF-RAMP TO US395	23443	150	418	1567	26179	117	312	1160
410	SB I-15 ON-RAMP FROM US395	20408	155	440	1613	21844	125	357	1302
411	NB I-15 ML N. OF US395	74285	1212	3408	13480	87605	1152	3315	13169
412	SB I-15 ML N. OF US395	69585	1231	3411	13574	77671	1171	3345	13369

Table 3-15. High Desert Corridor Build Alternative Freeway Segment and Ramp Daily Truck Volumes *(5 of 5)*

LINK_ID	LINK_ID_NAME	YEAR 2020				YEAR 2040			
		TOTAL_VOL	LTK_VOL	MTK_VOL	HTL_VOL	TOTAL_VOL	LTK_VOL	MTK_VOL	HTL_VOL
413	NB I-15 ON-RAMP AT JOSHUA ST	2380	9	5	2	5708	15	26	63
414	SB I-15 OFF-RAMP AT JOSHUA ST	2539	9	5	2	4057	8	5	2
415	NB I-15 ML N. OF JOSHUA ST	76665	1221	3413	13481	93313	1167	3342	13232
416	SB I-15 ML N. OF JOSHUA ST	72125	1240	3416	13576	81728	1179	3350	13371
417	NB I-15 OFF-RAMP AT MAIN ST	13549	167	287	396	18570	183	289	478
418	NB I-15 LOOP ON-RAMP AT MAIN ST	678	2	3	1	825	2	3	1
419	NB I-15 ON-RAMP AT MAIN ST	5903	20	26	7	6414	20	42	57
420	SB I-15 ML LOOP ON-RAMP AT MAIN ST	10725	147	238	314	12689	152	233	313
421	SB I-15 OFF-RAMP AT MAIN ST	7368	25	32	8	8196	20	27	8
422	NB I-15 ML N. OF MAIN ST	69697	1075	3154	13093	81981	1007	3098	12812
423	SB I-15 ML N. OF MAIN ST	68768	1118	3210	13269	77235	1047	3144	13066
424	NB I-15 OFF-RAMP AT BEAR VALLEY	12080	118	167	299	16826	116	203	345
425	SB I-15 ON-RAMP AT BEAR VALLEY	4267	43	70	77	6548	46	82	101
426	NB I-15 ON-RAMP AT BEAR VALLEY	4783	18	24	7	5513	15	21	6
427	SB I-15 LOOP ON-RAMP AT BEAR VALLEY	10266	105	146	273	8671	69	118	226
428	SN -15 OFF-RAMP AT BEAR VALLEY	3763	13	19	7	5824	14	21	7
429	NB I-15 ML N. OF BEAR VALLEY	62400	975	3012	12801	70668	906	2916	12473
430	SB I-15 ML N. BEAR VALLEY	57998	983	3014	12926	67839	947	2966	12746
431	NB I-15 OFF-RAMP AS NASQUALLI RD	0	0	0	0	9290	239	219	886
432	SB I-15 ON-RAMP AT NASQUALLI RD	0	0	0	0	9750	153	176	587
433	NB I-15 ON-RAMP AT NASQUALLI RD	0	0	0	0	6307	22	29	9
434	SB I-15 OFF-RAMP AT NASQUALLI RD	0	0	0	0	5653	18	25	11
435	NB I-15 ML N. OF NASQUALLI RD	58700	867	2845	11838	67684	689	2725	11596
436	SB I-15 ML N. OF NASQUALLI RD	54936	842	2854	12118	63742	811	2815	12169
437	NB I-15 OFF-RAMP AT PEAR BLOSSOM	6696	50	85	155	7359	45	80	144
438	NB I-15 LOOP ON-RAMP AT PEAR BLOSSO	0	0	0	0	0	0	0	0
439	SB I-15 ON-RAMP AT PEAR BLOSSOM	394	5	12	52	76	1	2	7
440	NB I-15 ON-RAMP AT PEAR BLOSSOM	4514	19	29	25	6489	18	31	27
441	SB I-15 LOOP ON-RAMP AT PEAR BLOSSOM	3076	28	47	87	2913	21	42	83
442	SB I-15 OFF-RAMP AT PEAR BLOSSOM	2979	10	17	14	4121	10	18	15
443	NB I-15 ML N. OF PEAR BLOSSOM	56518	835	2788	11708	66814	661	2676	11479
444	SB I-15 ML N. OF PEAR BLOSSOM	54445	820	2812	11994	64875	800	2788	12094
445	NB I-15 OFF-RAMP AT LAPAZ DR	761	14	14	41	7	0	0	0
446	SB I-15 ON-RAMP AT LAPAZ DR	0	0	0	0	0	0	0	0
447	NB I-15 ON-RAMP AT LAPAZ DR	582	2	5	3	652	2	5	3
448	SB I-15 OFF-RAMP AT LAPAZ DR	1924	6	10	9	1947	4	8	6
449	NB I-15 ML - N. OF LAPAZ DR	56339	824	2779	11670	67459	663	2681	11482
450	SB I-15 ML - N. OF LAPAZ DR	56369	826	2822	12003	66821	804	2796	12100
451	NB I-15 OFF-RAMP AT MOJAVE DR	9218	80	124	277	15868	125	198	2445
452	SB I-15 ON-RAMP AT MOJAVE DR	10777	145	189	549	18552	285	303	2898
453	NB I-15 ON-RAMP AT MOJAVE DR	1323	4	7	12	1458	3	6	9
454	SB I-15 OFF-RAMP AT MOJAVE DR	716	3	7	12	1011	3	7	12
455	NB I-15 ML - N. OF MOJAVE DR	48444	747	2662	11406	53050	542	2489	9046
456	SB I-15 ML - N. OF MOJAVE DR	46308	684	2640	11466	49281	521	2500	9214
457	NB I-15 OFF-RAMP AT SR18	3161	24	33	54	4275	22	31	51
458	SB I-15 ON-RAMP AT SR18	5189	39	53	73	4559	26	34	53
459	NB I15 ON-RAMP AT SR18	817	5	8	6	50	0	1	1
460	SB I-15 OFF-RAMP AT SR18	2458	10	18	217	361	1	3	3
461	NB I-15 OFF-RAMP AT E STREET	0	0	0	0	0	0	0	0
462	NB I-15 ON-RAMP AT E STREET	557	2	4	78	334	1	3	2
463	NB I-15 ML - N. OF SR18	46657	729	2641	11436	49159	522	2461	8998
464	SB I-15 ML - N. OF SR18	43577	655	2605	11610	45083	497	2469	9164
465	NB I-15 OFF-RAMP AT STODDARD WELLS	5143	153	110	127	4447	25	40	49
466	SB I-15 ON-RAMP AT STODDARD WELLS	4733	35	48	58	4661	26	40	50
467	NB I-15 ON-RAMP AT STODDARD WELLS	927	4	7	336	2707	8	19	427
468	SB I-15 OFF-RAMP AT STODDARD WELLS	738	3	7	217	2789	8	21	432
469	NB I-15 ML - N. OF STODDARD WELLS	42441	579	2538	11645	47419	505	2441	9376
470	SB I-15 ML - N. OF STODDARD WELLS	39582	623	2563	11769	43211	479	2450	9545
471	NB I-15 ML - N. OF HDC FWY	52221	581	3188	15015	67744	595	3200	16101
472	SB I-15 ML - N. OF HDC FWY	48439	580	3224	15225	60309	595	3227	16257
473	NB I-15 OFF-RAMP AT APPLEVLY /STODD	1451	17	23	163	5933	34	48	478
474	SB I-15 ON-RAMP AT VICTORVILLE QUAR	1059	9	12	78	4873	27	40	462
475	NB I-15 ON-RAMP AT APPLE VLY /STODD	1361	5	9	6	1889	5	9	9
476	SB I-15 OFF-RAMP AT VICTORVILLE QUA	1318	5	9	6	1795	5	8	6
477	NB I-15 ML - N. OF VICTORVILLE QUAR	52130	570	3174	14858	63700	566	3161	15631
478	SB I-15 ML - N. OF VICTORVILLE QUAR	48698	576	3221	15153	57231	572	3194	15801

Table 3-16. Year 2040 High Desert Corridor Screenline Volumes—Daily Truck Volumes

LOCATION	AUTOMOBILE		LIGHT DUTY TRUCKS		MEDIUM DUTY TRUCKS		HEAVY DUTY TRUCKS		DAILY	
	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
YEAR 2040 NO-BUILD ALTERNATIVE										
East Avenue G	8,803	7,536	39	40	254	256	952	964	10,048	8,796
El Mirage Road	15,864	15,243	178	178	190	165	671	562	16,903	16,148
High Desert Corridor	—	—	—	—	—	—	—	—	—	—
233rd Street East/SR 18	8,891	7,271	115	140	423	472	1,277	1,437	10,706	9,320
SR 138	21,507	21,620	114	112	195	180	713	659	22,529	22,571
Angeles Crest Highway	9,096	6,993	35	24	52	39	148	108	9,331	7,164
Total	**64,161**	**58,663**	**481**	**494**	**1,114**	**1,112**	**3,761**	**3,730**	**69,517**	**63,999**
YEAR 2040 BUILD ALTERNATIVE										
East Avenue G	2,189	1,506	5	8	44	49	133	155	2,371	1,718
El Mirage Road	912	1,642	1	8	1	6	2	8	916	1,664
High Desert Corridor	52,863	48,246	601	574	1,314	1,232	4,582	4,336	59,360	54,388
233rd Street East/SR 18	1,821	2,539	11	13	9	11	19	16	1,860	2,579
SR 138	17,942	17,715	88	79	142	108	585	447	18,757	18,349
Angeles Crest Highway	4,856	4,057	15	12	14	16	29	37	4,914	4,122
Total	**80,583**	**75,705**	**721**	**694**	**1,524**	**1,422**	**5,350**	**4,999**	**88,178**	**82,820**
YEAR 2040 BUILD ALTERNATIVE—ALTERNATE ALIGNMENT										
East Avenue G	2,210	1,564	5	8	45	51	136	162	2,396	1,785
El Mirage Road	1,050	1,760	1	8	2	7	2	8	1,055	1,783
High Desert Corridor	52,784	48,319	601	569	1,309	1,228	4,558	4,302	59,252	54,418
233rd Street East/SR 18	1,715	2,467	10	12	8	10	11	12	1,744	2,501
SR 138	17,956	17,568	89	79	143	108	589	445	18,777	18,200
Angeles Crest Highway	4,879	4,067	16	12	15	16	30	37	4,940	4,132
Total	**80,594**	**75,745**	**722**	**688**	**1,522**	**1,420**	**5,326**	**4,966**	**88,164**	**82,819**
YEAR 2040 BUILD WITH TOLLS ALTERNATIVE										
East Avenue G	4,072	3,041	22	20	135	117	406	384	4,635	3,562
El Mirage Road	6,174	5,598	21	24	20	23	36	48	6,251	5,693
High Desert Corridor	35,958	33,537	436	411	930	930	3,123	3,084	40,447	37,962
233rd Street East/SR 18	4,220	5,340	32	46	39	44	192	204	4,483	5,634
SR 138	20,345	21,685	99	95	190	150	713	583	21,347	22,513
Angeles Crest Highway	7,430	4,790	55	18	77	20	218	44	7,780	4,872
Total	**78,199**	**73,991**	**665**	**614**	**1,391**	**1,284**	**4,688**	**4,347**	**84,943**	**80,236**
YEAR 2040 TRANSPORTATION SYSTEMS MANAGEMENT ALTERNATIVE										
East Avenue G	7,901	7,000	38	39	237	245	874	916	9,050	8,200
El Mirage Road	15,230	14,418	194	193	171	163	657	613	16,252	15,387
High Desert Corridor	—	—	—	—	—	—	—	—	—	—
233rd Street East/SR 18	12,420	10,134	149	162	524	557	1,621	1,720	14,714	12,573
SR 138	20,933	21,391	112	105	233	178	816	647	22,094	22,321
Angeles Crest Highway	7,759	7,053	33	23	41	36	105	95	7,938	7,207
Total	**64,243**	**59,996**	**526**	**522**	**1,206**	**1,179**	**4,073**	**3,991**	**70,048**	**65,688**

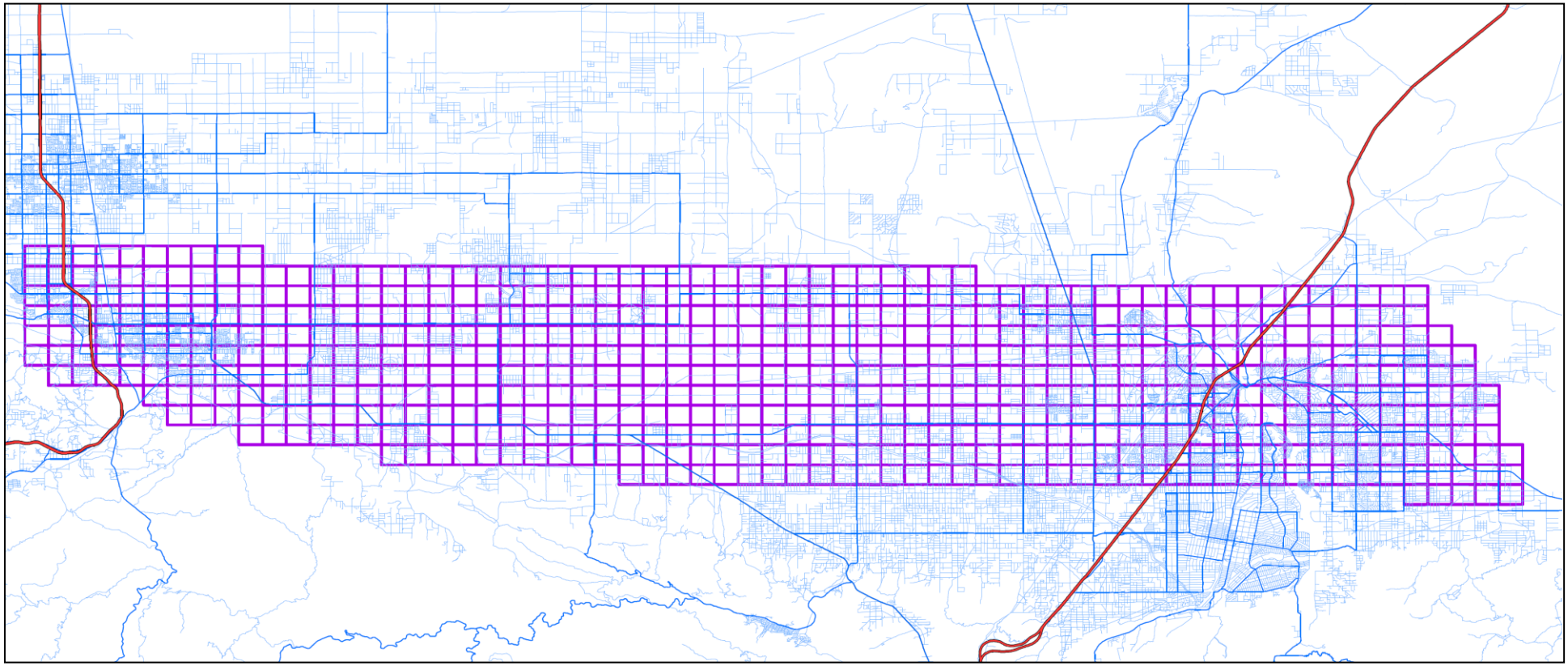


Figure 3-23: High Desert Corridor Grids for Highway Utilization Statistics

Table 3-17. High Desert Corridor Highway Utilization by Grid

2038_BLUE_ALIGNMENT_GRID_TABLE

GRID_ID	FACILITY_NAME	GRID_SUM	AUTO_VOL_AM	TRUCK_VOL_AM	TOTAL_VOL_AM	AUTO_VMT_AM	TRUCK_VMT_AM	TOTAL_VMT_AM	AUTO_VHT_AM	TRUCK_VHT_AM	TOTAL_VHT_AM
28	FREEWAYS		21754.23	4213.35	25967.58	15825.43	3065.06	18890.49	279.81	54.19	334.00
28	HOV FACILITIES		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	EXPRESSWAY/PARKWAY		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	PRINCIPAL ARTERIALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	MINOR ARTERIALS		45605.61	532.38	46137.99	11776.77	137.48	11914.25	348.98	4.07	353.05
28	MAJOR COLLECTORS		249.25	3.24	252.49	126.37	1.64	128.01	3.70	0.05	3.75
28	MINOR COLLECTORS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	FREEWAY RAMPS		4442.64	117.46	4560.10	1210.36	32.00	1242.36	44.28	1.17	45.45
28	TRUCK LANES ONLY		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	CENTROIDS CONNECTORS		3103.68	39.41	3143.08	1472.83	18.70	1491.53	58.91	0.75	59.66
28	TOTAL - ALL LINKS	28	75155.41	4905.83	80061.25	31603.68	2062.96	33666.64	747.14	48.77	795.91
29	FREEWAYS		17778.14	4073.94	21852.07	6600.47	1512.52	8112.99	114.89	26.33	141.22
29	HOV FACILITIES		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	EXPRESSWAY/PARKWAY		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	PRINCIPAL ARTERIALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	MINOR ARTERIALS		54914.89	691.10	55605.99	15374.91	193.49	15568.40	459.48	5.78	465.26
29	MAJOR COLLECTORS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	MINOR COLLECTORS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	FREEWAY RAMPS		4508.25	104.37	4612.62	1470.30	34.04	1504.34	46.87	1.08	47.95
29	TRUCK LANES ONLY		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	CENTROIDS CONNECTORS		31[illegible]	[illegible].10	[illegible].15	[illegible]45	[illegible].33	1564.78	62.18	0.41	62.59
29	TOTAL - ALL LINKS	29	80[illegible]	[illegible]50	[illegible].84	2[illegible].25	[illegible]34.27	26750.52	675.90	41.12	717.03
30	FREEWAYS		[illegible]	[illegible]00	[illegible].00	[illegible].00	0.00	0.00	0.00	0.00	0.00
30	HOV FACILITIES		[illegible]00	[illegible]	[illegible].00	[illegible]00	0.00	0.00	0.00	0.00	0.00
30	EXPRESSWAY/PARKWAY		[illegible]	[illegible]	[illegible].00	[illegible]	[illegible].00	0.00	0.00	0.00	0.00
30	PRINCIPAL ARTERIALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	MINOR ARTERIALS		29919.95	424.79	30344.74	13108.97	186.12	13295.08	347.77	4.94	352.71
30	MAJOR COLLECTORS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	MINOR COLLECTORS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	FREEWAY RAMPS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	TRUCK LANES ONLY		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	CENTROIDS CONNECTORS		1519.12	15.03	1534.16	1001.44	9.91	1011.35	40.06	0.40	40.45
30	TOTAL - ALL LINKS	30	31439.07	439.83	31878.90	14109.05	197.36	14306.43	387.74	5.42	393.17
31	FREEWAYS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	HOV FACILITIES		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	EXPRESSWAY/PARKWAY		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	PRINCIPAL ARTERIALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	MINOR ARTERIALS		21934.35	347.44	22281.79	9040.31	143.20	9183.51	238.46	3.78	242.24
31	MAJOR COLLECTORS		3441.93	27.76	3469.69	853.95	6.89	860.84	26.76	0.22	26.97
31	MINOR COLLECTORS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	FREEWAY RAMPS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	TRUCK LANES ONLY		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	CENTROIDS CONNECTORS		1002.39	13.41	1015.80	819.36	10.96	830.32	32.77	0.44	33.21
31	TOTAL - ALL LINKS	31	26378.67	388.62	26767.28	10716.79	157.88	10874.67	298.04	4.39	302.43
32	FREEWAYS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	HOV FACILITIES		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	EXPRESSWAY/PARKWAY		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	PRINCIPAL ARTERIALS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	MINOR ARTERIALS		22895.91	305.48	23201.39	7822.95	104.38	7927.32	206.77	2.76	209.52
32	MAJOR COLLECTORS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	MINOR COLLECTORS		1127.39	18.20	1145.59	1196.17	19.31	1215.48	37.53	0.61	38.13
32	FREEWAY RAMPS		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	TRUCK LANES ONLY		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	CENTROIDS CONNECTORS		1387.74	16.47	1404.21	1158.33	13.75	1172.08	46.33	0.55	46.88
32	TOTAL - ALL LINKS	32	25411.03	340.16	25751.19	10178.63	136.25	10314.88	290.65	3.89	294.54

SAMPLE

3.9 Intersection Turning Movement Forecast Volumes

Traffic volume forecasts were prepared for the study area intersections illustrated on Figure 3-24. The SCAG 2008 Regional Travel Forecast Model was used to create the forecasts for the design year (2040+) and the opening year (2020+) of the High Desert Corridor new freeway.

Volume IV of this report reports the intersection turning movement traffic volumes assigned to the highway network by the SCAG model. These volumes have been post-processed to enhance accuracy.

Peak period forecasts have been factored to reflect single AM and PM 60-minute time slices (peak hour). The AM peak period traffic assignments cover three morning hours from 6:00 to 9:00 a.m. These three-hour forecasts were factored by 0.35 to arrive at the AM peak hour. The PM peak period traffic assignments cover a four-hour period from 3:00 to 7:00 p.m. These four-hour forecasts were factored by 0.27 to yield the PM peak hour forecast.

Volumes III and IV of this report contains nine sets of intersection turning movement forecasts covering five network alternatives for 2040 and four network alternatives for 2020. Each set of tables consists of two tables, with one table reporting AM peak hour volumes and the second table providing PM peak hour volumes.

Volume V of this report contains six sets of intersection turning movement forecasts (three network alternatives for 2040 and three network alternatives for 2020). These sets of forecasts pertain to intersections numbered 1 through 45, which lie east of 51st Street East in Palmdale; intersections numbered 130 through 133, which are associated with the I-15/Stoddard Wells Road interchange in Victorville; the intersection of SR 18 and Bear Valley Road east of Apple Valley, which is numbered 163; and the future intersection of the I-15 westside frontage road with the I-15 southbound on-ramp, located south of Stoddard Wells Road, which is numbered 175. These intersections are affected by access refinements in Palmdale and Victor Valley.

3.10 Comparison of Build versus No-build Travel Times

The build alternatives will construct a new freeway/expressway, or in the case of the transportation systems management alternative, portions of a new freeway/expressway between SR 14 in Los Angeles County and SR 18 in San Bernardino County. This facility will provide motorists with a potentially higher speed route choice, which in turn will lower travel times.

Figure 3-25 illustrates the minimum time path (route choice) selected by the SCAG travel forecast model to travel between an arbitrary point in Lancaster and Apple Valley under no-build conditions. As recorded on the graphic, the route selected (SR 14, SR 138 and SR 18) is 70.61 miles in length. During the morning (AM) peak period, the model computes the congested travel time to be 123.16 minutes, increasing to 127.16 minutes during the afternoon (PM) peak period. During nighttime hours, when the route is uncongested, the travel time is estimated to be 91.30 minutes for this 70.61-mile journey.

Figure 3-26 illustrates the minimum time path for the same journey, following SR 14, the High Desert Corridor new freeway, and the realigned SR 18 expressway. The origin and destination locations are the same for both comparisons. This route is slightly shorter in length at 67.01 miles, as reported on the graphic. Travel times are 77.38 minutes, 74.99 minutes, and 63.52 minutes during the AM, PM, and nighttime periods, respectively.

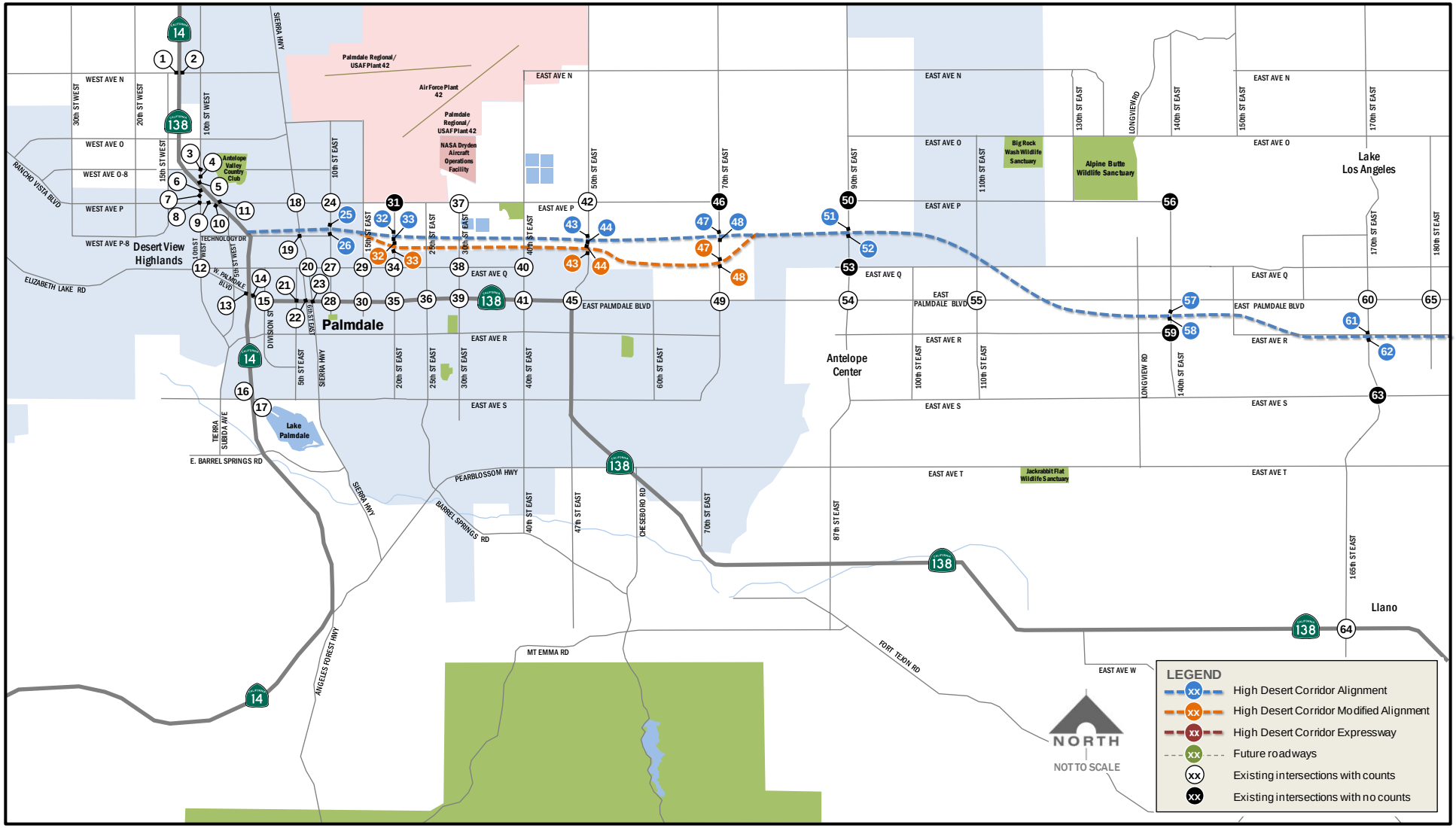


Figure 3-24: Locations of Build Alternative Study Intersections *(1 of 3)*

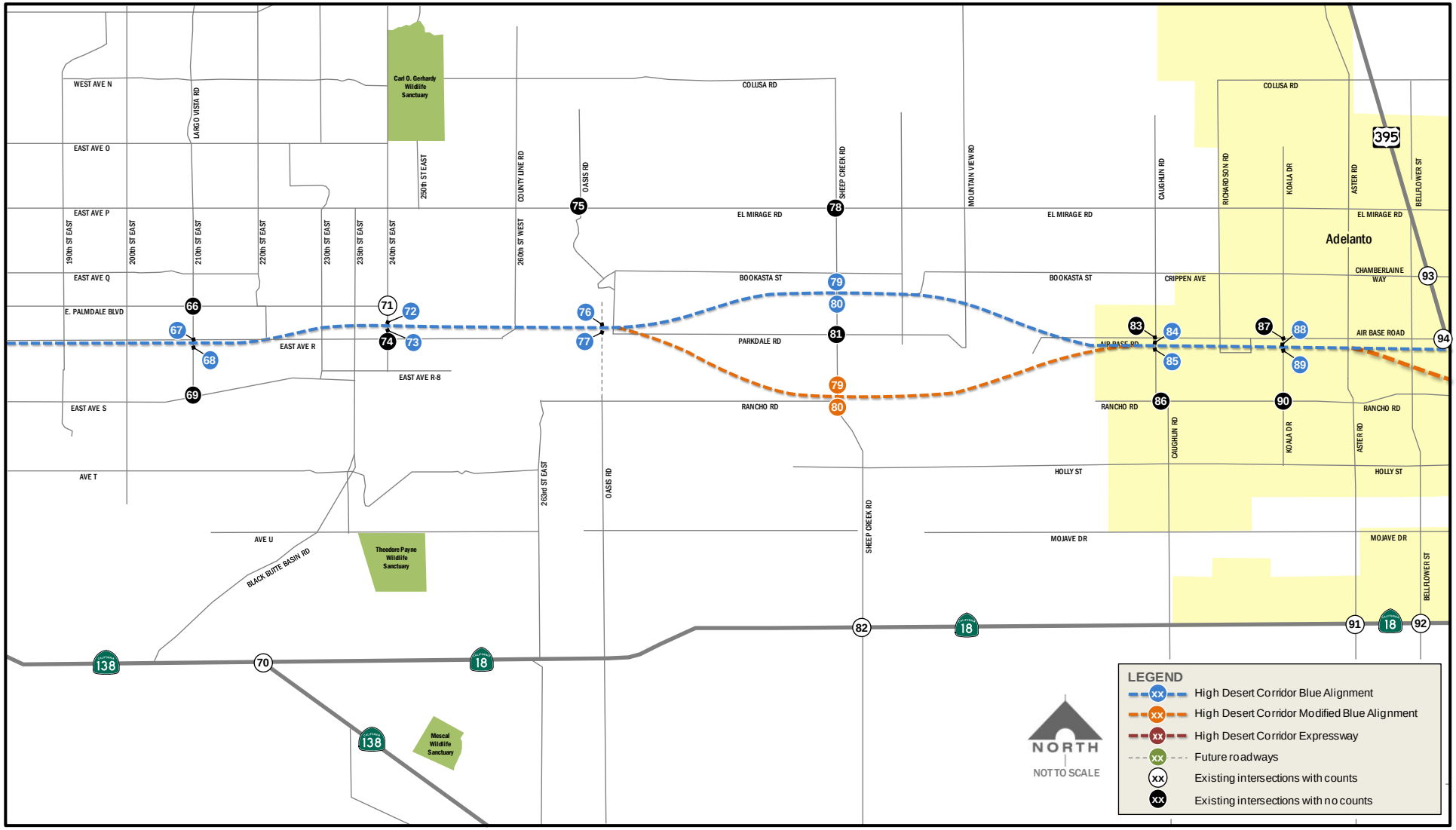


Figure 3-24: Locations of Build Alternative Study Intersections *(2 of 3)*

Figure 3-24: Locations of Build Alternative Study Intersections *(3 of 3)*

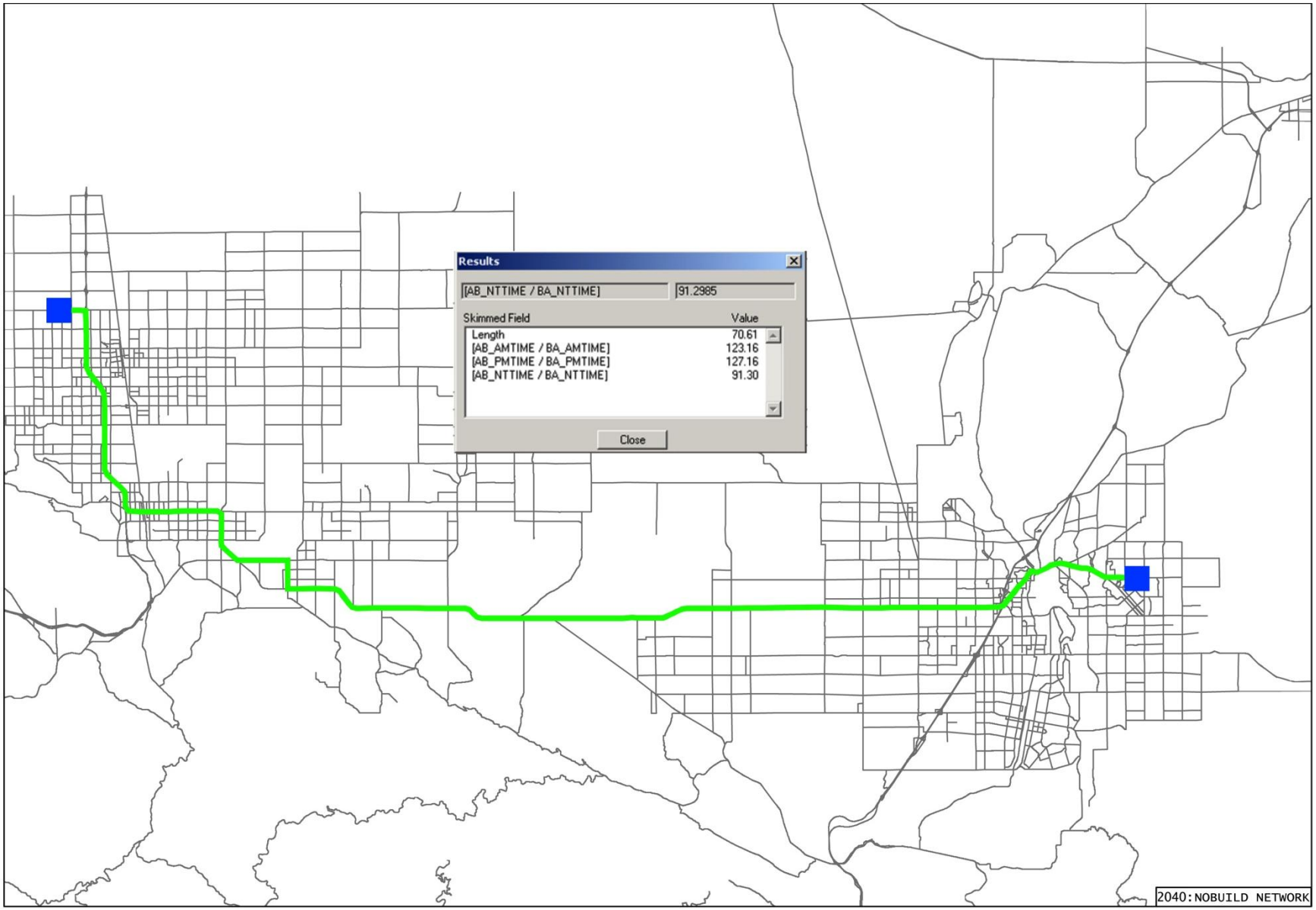


Figure 3-25: Minimum Time Path between Lancaster and Apple Valley under No-Build Conditions

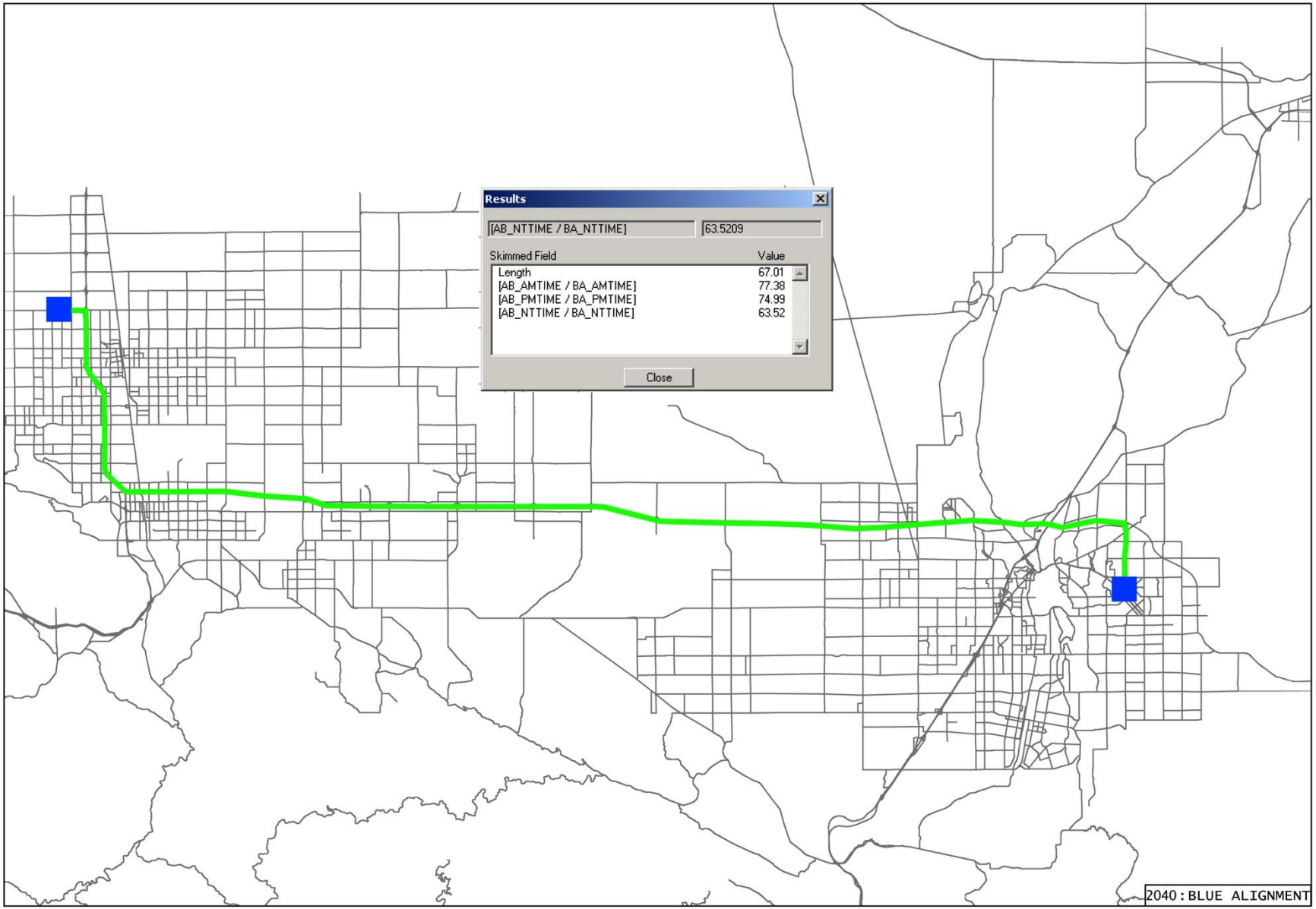


Figure 3-26: Minimum Time Path between Lancaster and Apple Valley using the High Desert Corridor Alignment

Figure 3-27 illustrates the transportation systems management alternative travel route and travel times. The route follows SR 14, the new High Desert Corridor freeway/expressway, a new 125th Street connection to SR 138, SR 138, and SR 18 along its current alignment. The SCAG model computes this 70.95-mile journey to take 110.10 minutes during the AM peak period, 109.72 minutes during the PM peak period, and 80.46 minutes during uncongested nighttime hours.

3.11 Comparison of Build versus No-Build System-wide Traffic Performance

As discussed in section 3.4, the build alternatives allow more vehicles to travel between SR 14 and I-15 compared with the no-build alternative; meaning that vehicles traverse fewer miles on heavily congested freeways such as I-210 and on arterial streets, and more miles on the High Desert Corridor. Under the no-build alternative, traffic cascades across the highway network seeking available capacity; hence, traffic volume impacts are regional in addition to the study area.

To provide a regional comparison of the High Desert Corridor freeway build versus no-build traffic-related impacts, Parsons calculated regional benefits using the SCAG 2008 RTP and STEAM 2.0, a system-wide analysis tool.

The Federal Highway Administration introduced the first version of the Surface Transportation Efficiency Analysis Model (STEAM) in 1997. STEAM was the first Federal Highway Administration impact analysis product to use input directly from the four-step travel demand modeling process for detailed, system wide analysis of alternative transportation investments. STEAM 2.0 was released in 2000 to expand the scope of the program to address environmental justice measures.

"Like STEAM, STEAM 2.0 is based on the principles of economic analysis, and allows development of monetized impact estimates for a wide range of transportation and investments and policies, including major capital projects, pricing and travel demand management. Impact measures are monetized to the extent feasible, but quantitative estimates of natural resources usage (i.e., energy consumption) and environmental impacts (i.e., emissions) are also provided. Net monetary benefits (or costs) of alternatives can then be used to evaluate trade-offs against non-monetizable benefits, including sustainability and community livability."[33]

An important feature of STEAM 2.0 is that the software program post processes the traffic assignment volumes generated from conventional four-step travel forecasting models. The purpose of this feature is to compute benefits based on more accurate highway travel speeds, and to provide the Federal Highway Administration with a more consistent basis of comparison between urban areas.

The STEAM 2.0 speed models account for delays due to incidents, using data on the frequency, severity, and duration of incidents. Incidents account for a large share of total travel delays due to congestion, especially on freeways. The models also account for peak spreading that occurs when facilities become more congested. The traffic temporal distributions used in developing the models were based on data collected from 579 urban automatic traffic recorders across the nation. Separate temporal distributions were developed for freeways and arterials with low, moderate, and high ratios of average daily traffic to capacity. The models further account for day-to-day variations in traffic. The relationship between delays due to congestion and traffic volumes are highly non-linear in nature, especially when the ratio of demand volume to capacity is close to 1.0. Lastly, the STEAM 2.0 speed models account for the decrease in highway capacity that occurs after demand volumes exceed capacity. The 1994 Highway Capacity

[33] *Surface Transportation Efficiency Analysis Model (STEAM 2.0): User Manual*, Cambridge Systematics, Inc., December 2000

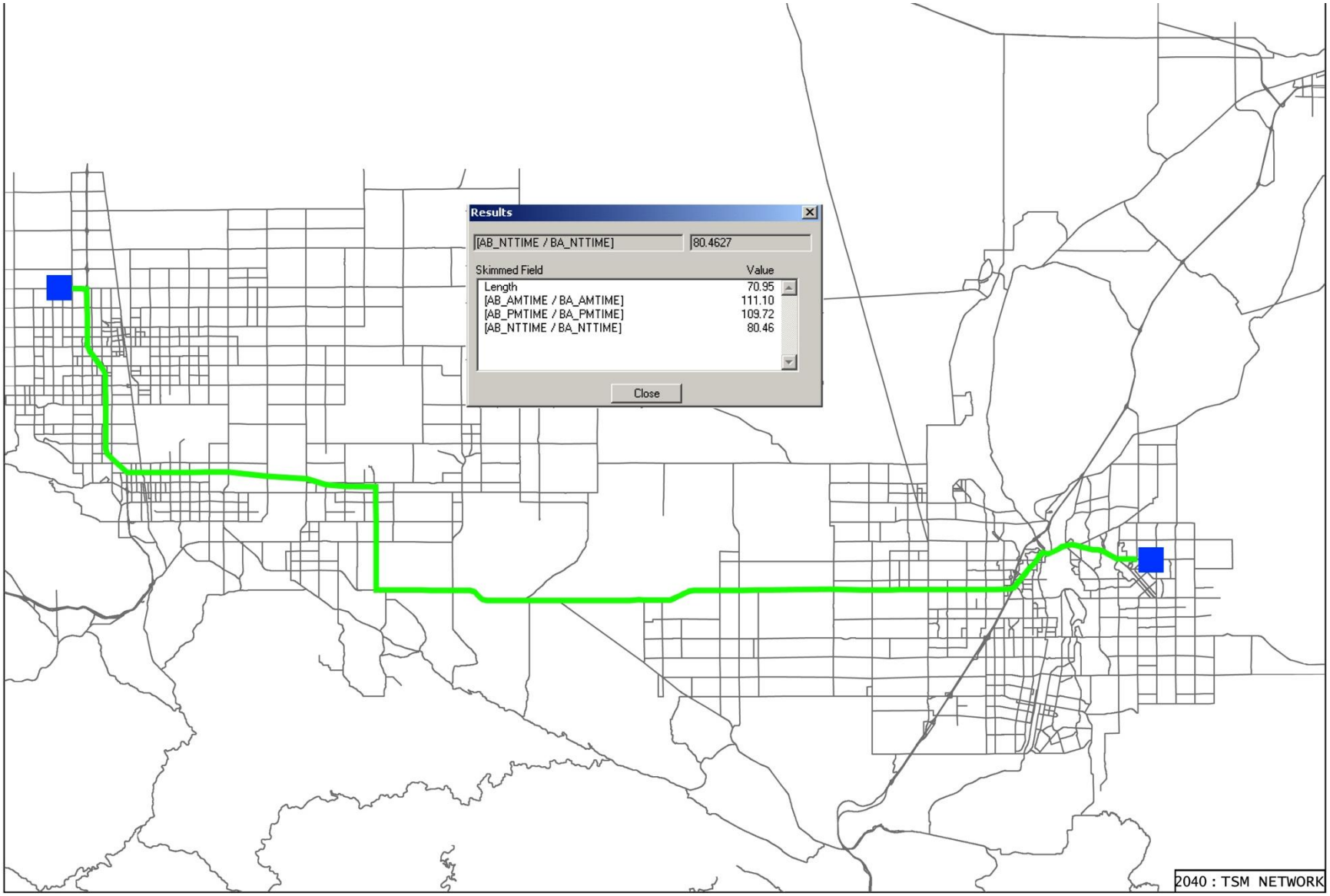


Figure 3-27: Minimum Time Path between Lancaster and Apple Valley with the Transportation System Management Alternative

Manual notes that observations of freeway queue departure rates range from 1,500 to 2,000 passenger cars per hour per lane. In contrast, freeway capacities for 12-foot lanes with no lateral obstructions are 2,200 to 2,300 passenger cars per hour per lane. Not accounting for the fact that queue departure rates are generally lower than freeway capacities can result in a large understatement of the delays due to queuing.[34]

Table 3-18 reports measures of effectiveness computed with STEAM 2.0, based on travel demand forecast input from the SCAG Regional Transportation Model reflecting the revised Palmdale access alternatives (see Section 3.14). Monetized benefits and costs are reported in Chapter 5 along with assumptions used in the STEAM 2.0 computations. STEAM 2.0 model output is reported in Volume IV of this report.

3.12 Sensitivity Test Freeway and Ramp Peak Hour and Daily Traffic Volumes

As reported in sections 3.2.3 and 3.3, sensitivity tests were conducted to identify potential design or right-of-way requirements to accommodate traffic volumes generated by alternative land use assumptions or background highway network assumptions. Insofar as land use, the sensitivity analysis addressed locally generated population and employment forecasts for Antelope Valley and Victor Valley. These forecasts additionally reflected the development of an Antelope Valley Inland Port, adjacent to the Palmdale Regional Airport, and 60 percent buildout of the Desert Gateway Specific Plan area in Victorville.

Insofar as background highway assumptions, the sensitivity test examined the implication of the proposed improvement of SR 138 to a six-lane expressway between I-5 and SR 14.

Daily, morning and afternoon peak hour forecasts were prepared for 2035 (2040) network and land use scenarios. Tables 3-19, 3-20, and 3-21 present year 2040 traffic volumes for SR 14, High Desert Corridor freeway/expressway, and I-15, respectively. Three sets of data are presented on each table—all for the full build scenario, as follows:

- SCAG land use
- Local land use
- SCAG land use with SR 138 six-lane expressway.

The implications of the two sensitivity test scenarios insofar as traffic lane or design requirements are addressed in Chapter 4 of this document.

3.13 High Speed Rail Feeder Service Traffic Volume Forecasts

Section 3.1.1 of this document describes "User Defined Modifications" to the SCAG Regional Transportation Model. The text indicates that a privately funded passenger rail project, known as the XpressWest high speed train service, is assumed as a background condition for each of the alternatives addressed by this *High Desert Corridor Traffic Study*. This service would operate non-stop between a station located in northern Victorville, near I-15 and Dale Evans Parkway, and a station located in Las Vegas adjacent to the Las Vegas Resort Corridor.

[34] *Ibid*

Table 3-18. STEAM 2.0 Measures of Effectiveness *(Revised Palmdale Access Alternatives)*

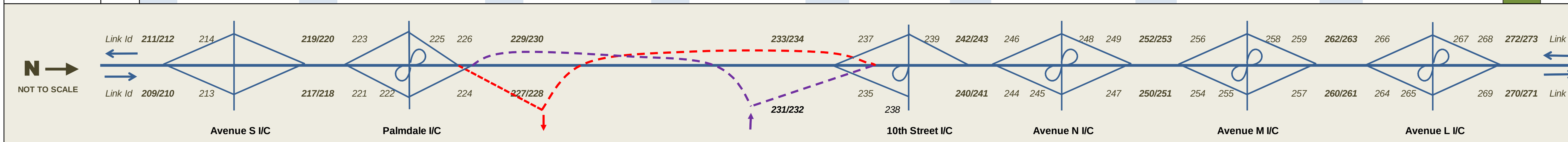
YEAR 2040	NO-BUILD	HIGH DESERT CORRIDOR FREEWAY/EXPRESSWAY BUILD ALTERNATIVE	HIGH DESERT CORRIDOR NEW FREEWAY WITH TOLLS ALTERNATIVE
1. Travel Demand			
VMT (million VMT/year)	181,947.3	182,710.0	182,762.2
Travel time (million person hours/year)	9,575.9	9,559.2	9,560.1
2. Tons of Emissions (tons/year)			
VMT related emissions			
HC	138,222	138,270	138,309
CO	179,452	179,693	179,740
NO_X	18,764	18,822	18,830
PM_{10}	9,704	9,744	9,747
Cold start emissions			
3. Greenhouse Gas Emissions			
Btu energy consumption (100 billion Btu/year)	11,907.3	11,919.3	11,924.6
CO_2 emissions (1,000 tons/year)	92,877.1	92,970.6	93,011.6
4. Accidents			
Fatalities	1,332.2	1,335.7	1,336.0
Injuries	79,771.0	79,584.7	79,591.3
Property damage only	136,518.7	136,411.3	136,428.3
A5. Fuel consumption			
Gallons (1,000 gallons/year)	9,421,972	9,431,575	9,435,729
YEAR 2020	**NO-BUILD**	**HIGH DESERT CORRIDOR FREEWAY/EXPRESSWAY BUILD ALTERNATIVE**	**HIGH DESERT CORRIDOR NEW FREEWAY WITH TOLLS ALTERNATIVE**
1. Travel Demand			
VMT (million VMT/year)	158,846.0	159,286.8	159,399.4
Travel time (million person hours/year)	7,571.5	7,563.5	7,565.5
2. Tons of Emissions (tons/year)			
VMT related emissions			
HC	114,875	114,915	114,986
CO	498,729	499,385	499,720
NO_X	58,631	58,803	58,851
PM_{10}	8,481	8,504	8,510
Cold start emissions			
3. Greenhouse Gas Emissions			
Btu energy consumption (100 billion Btu/year)	9,817.6	9,830.5	9,837.6
CO_2 emissions (1,000 tons/year)	76,577.4	76,677.6	76,733.2
4. Accidents			
Fatalities	1,149.7	1,150.8	1,152.5
Injuries	68,592.7	68,186.8	68,391.0
Property damage only	118,054.2	117,589.3	117,871.5
5. Fuel consumption			
Gallons (1,000 gallons/year)	7,555,550	7,765,696	7,771,312

Notes:

HC Hydrocarbon
CO Carbon monoxide
NO_X Nitrogen oxide
PM_{10} Fine particulate matter
Btu British thermal units
CO_2 Carbon dioxide

Table 3-19. Year 2040 SR 14 Mainline Link and Ramp Forecast Traffic Volumes—Sensitivity Test

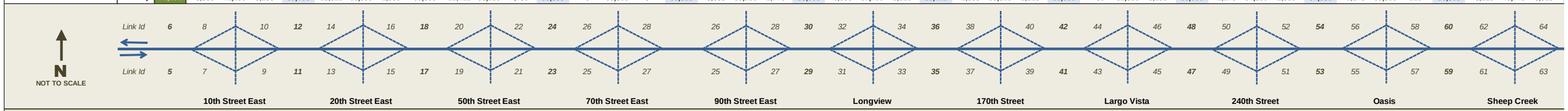
State Route 14 Southbound			ON		OFF		ON	ON		OFF		ON		OFF		ON	OFF		ON	ON		OFF		ON	ON		OFF		ON	ON		OFF		
FULL BUILD SCENARIO (SCAG LAND USE)												From HDC WB to SR 14 SB		To HDC EB from SR 14 SB																				
	Mix-flow	5,688				4,735					4,365				5,865			5,280					5,140					5,280					4,030	Mix-flow
	HOV	1,967				1,715					1,455				1,955			1,695					1,720					1,630					1,210	HOV
	AM Peak	**7,655**	1,590	**6,065**	385	**6,450**	680	665	**5,105**	715	**5,820**	1,570	**4,250**	3,570	**7,820**	1,620	775	**6,975**	370	65	**6,540**	320	**6,860**	225	50	**6,585**	325	**6,910**	1,145	800	**4,965**	275	**5,240**	**AM Peak**
	Mix-flow	3,602				3,695					4,099				5,040			5,245					5,210					4,980					3,550	Mix-flow
	HOV	983				1,115					1,366				1,680			1,590					1,660					1,495					1,130	HOV
	PM Peak	**4,585**	675	**3,910**	900	**4,810**	275	260	**4,275**	1,190	**5,465**	1,995	**3,470**	3,250	**6,720**	1,055	1,170	**6,835**	365	120	**6,350**	520	**6,870**	280	290	**6,300**	175	**6,475**	1,095	845	**4,535**	145	**4,680**	**PM Peak**
	Mix-flow	64,871				59,860					57,671				70,905			66,680					64,000					62,785					45,375	Mix-flow
	HOV	18,199				18,150					19,224				23,635			19,805					19,885					18,150					13,605	HOV
	Daily	**83,070**	12,560	**70,510**	7,500	**78,010**	5,905	5,415	**66,690**	10,205	**76,895**	24,145	**52,750**	41,790	**94,540**	19,845	11,790	**86,485**	4,490	1,175	**80,820**	3,065	**83,885**	3,545	2,440	**77,900**	3,035	**80,935**	13,560	10,805	**56,570**	2,410	**58,980**	**Daily**
STATE ROUTE 138 (INTERSTATE 5 TO STATE ROUTE 14) EXPRESSWAY SENSITIVITY ANALYSIS												From HDC WB to SR 14 SB		To HDC EB from SR 14 SB																				
	Mix-flow	5,695				4,865					4,345				6,845			6,250					5,780					5,820					4,720	Mix-flow
	HOV	1,990				1,580					1,445				1,975			1,635					1,945					1,895					1,445	HOV
	AM Peak	**7,685**	1,630	**6,055**	390	**6,445**	705	685	**5,055**	735	**5,790**	1,710	**4,080**	4,740	**8,820**	1,640	705	**7,885**	370	60	**7,455**	270	**7,725**	290	70	**7,365**	350	**7,715**	1,205	615	**5,895**	270	**6,165**	**AM Peak**
	Mix-flow	3,410				3,380					3,580				5,840			6,020					5,640					5,365					4,000	Mix-flow
	HOV	985				1,055					1,330				1,695			1,530					1,840					1,680					1,290	HOV
	PM Peak	**4,395**	795	**3,600**	835	**4,435**	275	220	**3,940**	970	**4,910**	1,665	**3,245**	4,290	**7,535**	1,050	1,065	**7,550**	385	125	**7,040**	440	**7,480**	265	345	**6,870**	175	**7,045**	1,145	755	**5,145**	145	**5,290**	**PM Peak**
	Mix-flow	65,140				59,505					55,585				77,445			74,165					68,855					66,765					50,155	Mix-flow
	HOV	17,790				17,455					19,195				23,525			18,580					21,255					19,835					15,115	HOV
	Daily	**82,930**	13,300	**69,630**	7,330	**76,960**	6,200	5,340	**65,420**	9,360	**74,780**	23,730	**51,050**	49,920	**100,970**	19,695	11,470	**92,745**	4,575	1,170	**87,000**	3,110	**90,110**	3,670	2,950	**83,490**	3,110	**86,600**	13,965	9,770	**62,865**	2,405	**65,270**	**Daily**
LAND USE SENSITIVITY ANALYSIS												From HDC WB to SR 14 SB		To HDC EB from SR 14 SB																				
	Mix-flow	5,005				4,765					4,230				8,010			6,990					6,505					6,530					5,420	Mix-flow
	HOV	1,435				1,120					1,430				1,430			1,810					2,190					2,170					1,690	HOV
	AM Peak	**6,440**	1,030	**5,410**	475	**5,885**	525	445	**4,915**	745	**5,660**	1,550	**4,110**	5,330	**9,440**	1,650	1,010	**8,800**	450	50	**8,300**	395	**8,695**	495	30	**8,170**	530	**8,700**	1,365	460	**6,875**	235	**7,110**	**AM Peak**
	Mix-flow	3,980				4,685					4,525				7,125			6,100					5,415					5,330					3,770	Mix-flow
	HOV	1,155				1,095					1,210				1,210			1,540					1,740					1,635					1,250	HOV
	PM Peak	**5,135**	595	**4,540**	1,240	**5,780**	610	355	**4,815**	920	**5,735**	1,945	**3,790**	4,545	**8,335**	1,955	1,260	**7,640**	420	495	**6,725**	430	**7,155**	295	190	**6,670**	295	**6,965**	1,125	890	**4,950**	70	**5,020**	**PM Peak**
	Mix-flow	56,860				59,985					58,375				90,425			76,010					71,225					70,835					52,785	Mix-flow
	HOV	16,220				14,115					14,785				14,785			19,215					21,880					20,905					16,075	HOV
	Daily	**73,080**	8,975	**64,105**	9,995	**74,100**	6,550	4,730	**62,820**	10,340	**73,160**	24,535	**48,625**	56,585	**105,210**	25,690	15,705	**95,225**	4,835	1,900	**88,490**	4,615	**93,105**	4,235	2,095	**86,775**	4,965	**91,740**	14,465	10,190	**67,085**	1,775	**68,860**	**Daily**



State Route 14 Northbo			OFF		ON		OFF	ON		ON		OFF						ON		OFF	ON		OFF	ON		OFF		OFF	ON		ON		OFF	ON		ON		
FULL BUILD SCENARIO (SCAG LAND USE)												SR 14 NB to HDC EB	Total Con. Volume	SR 14 SB to HDC EB		From HDC WB to SR 14 SB	Total Con. Volume	From HDC WB to SR 14 NB																				
	Mix-flow	2,130				2,565					2,900											3,700					3,835					3,645					2,940	Mix-flow
	HOV	695				775					900											1,100					1,165					1,110					945	HOV
	AM Peak	**2,825**	200	**2,625**	715	**3,340**	420	355	**3,275**	525	**3,800**	1,385	**4,955**	3,570	**2,415**	1,570	**3,755**	2,185	**4,600**	715	915	**4,800**	310	340	**4,830**	170	**5,000**	350	35	**4,685**	70	**4,755**	985	0	**3,770**	115	**3,885**	**AM Peak**
	Mix-flow	7,080				6,350					5,810											6,375					6,190					5,710					5,065	Mix-flow
	HOV	2,410				2,090					2,020											2,030					2,070					1,890					1,580	HOV
	PM Peak	**9,490**	1,590	**7,900**	540	**8,440**	1,435	225	**7,230**	600	**7,830**	2,580	**5,830**	3,250	**5,250**	1,995	**5,790**	3,795	**9,045**	1,300	660	**8,405**	555	210	**8,060**	200	**8,260**	1,085	75	**7,250**	350	**7,600**	1,365	0	**6,235**	410	**6,645**	**PM Peak**
	Mix-flow	64,105				61,725					59,320								65,558			63,580					62,880					59,035					49,130	Mix-flow
	HOV	21,445				19,735					18,735								21,853			19,510					19,920					18,745					16,255	HOV
	Daily	**85,550**	10,920	**74,630**	6,830	**81,460**	13,450	3,945	**71,955**	6,100	**78,055**	27,075	**68,865**	41,790	**50,980**	24,145	**60,575**	36,430	**87,410**	14,955	10,635	**83,090**	4,995	2,565	**80,660**	2,140	**82,800**	8,680	980	**75,100**	2,680	**77,780**	15,785	0	**61,995**	3,390	**65,385**	**Daily**
STATE ROUTE 138 (INTERSTATE 5 TO STATE ROUTE 14) EXPRESSWAY SENSITIVITY ANALYSIS												SR 14 NB to HDC EB	Total Con. Volume	SR 14 SB to HDC EB		From HDC WB to SR 14 SB	Total Con. Volume	From HDC WB to SR 14 NB																				
	Mix-flow	2,105				2,680					2,850											4,330					4,305					4,075					3,395	Mix-flow
	HOV	670				630					785											1,050					1,225					1,200					1,040	HOV
	AM Peak	**2,775**	185	**2,590**	720	**3,310**	450	285	**3,145**	490	**3,635**	1,200	**5,940**	4,740	**2,435**	1,710	**4,425**	2,715	**5,150**	700	930	**5,380**	300	290	**5,370**	160	**5,530**	360	35	**5,205**	70	**5,275**	955	0	**4,320**	115	**4,435**	**AM Peak**
	Mix-flow	7,040				6,690					5,830											7,720					7,140					6,570					6,170	Mix-flow
	HOV	2,390				1,705					1,830											2,025					2,405					2,230					1,880	HOV
	PM Peak	**9,430**	1,580	**7,850**	545	**8,395**	1,565	170	**7,000**	660	**7,660**	2,615	**6,905**	4,290	**5,045**	1,665	**7,305**	5,640	**10,685**	1,585	645	**9,745**	555	165	**9,355**	190	**9,545**	1,145	65	**8,465**	335	**8,800**	1,125	0	**7,675**	375	**8,050**	**PM Peak**
	Mix-flow	65,245				66,222					61,555											73,445					70,135					65,610					56,165	Mix-flow
	HOV	20,960				16,303					16,140											18,050					21,155					20,325					18,140	HOV
	Daily	**86,205**	10,650	**75,555**	6,970	**82,525**	14,240	3,115	**71,400**	6,295	**77,695**	26,460	**76,380**	49,920	**51,235**	23,730	**69,800**	46,070	**97,305**	16,175	10,365	**91,495**	4,955	2,695	**89,235**	2,055	**91,290**	8,925	940	**83,305**	2,630	**85,935**	14,830	0	**71,105**	3,200	**74,305**	**Daily**
LAND USE SENSITIVITY ANALYSIS												SR 14 NB to HDC EB	Total Con. Volume	SR 14 SB to HDC EB		From HDC WB to SR 14 SB	Total Con. Volume	From HDC WB to SR 14 NB																				
	Mix-flow	3,040				3,615					3,430											4,250					3,965					3,810					3,145	Mix-flow
	HOV	945				840					850											985					1,090					1,090					930	HOV
	AM Peak	**3,985**	390	**3,595**	860	**4,455**	875	220	**3,800**	480	**4,280**	1,350	**6,680**	5,330	**2,930**	1,550	**4,430**	2,880	**5,810**	1,455	880	**5,235**	655	270	**4,850**	205	**5,055**	325	35	**4,765**	135	**4,900**	875	0	**4,025**	50	**4,075**	**AM Peak**
	Mix-flow	5,500				5,965					5,640											8,325					7,545					7,010					6,475	Mix-flow
	HOV	1,820				1,490					1,820											2,180					2,640					2,455					2,055	HOV
	PM Peak	**7,320**	905	**6,415**	1,040	**7,455**	1,170	230	**6,515**	945	**7,460**	2,510	**7,055**	4,545	**4,950**	1,945	**7,820**	5,875	**10,825**	1,340	1,020	**10,505**	950	110	**9,665**	520	**10,185**	1,360	70	**8,895**	570	**9,465**	1,250	0	**8,215**	315	**8,530**	**PM Peak**
	Mix-flow	56,935				62,410					59,745											74,715					70,340					68,460					58,105	Mix-flow
	HOV	18,410				15,340					15,950											18,440					21,675					21,240					18,740	HOV
	Daily	**75,345**	7,615	**67,730**	10,020	**77,750**	13,210	3,335	**67,875**	7,820	**75,695**	26,570	**83,155**	56,585	**49,125**	24,535	**75,130**	50,595	**99,720**	19,705	13,140	**93,155**	9,010	2,670	**86,815**	5,200	**92,015**	8,085	870	**84,800**	4,900	**89,700**	15,200	0	**74,500**	2,345	**76,845**	**Daily**

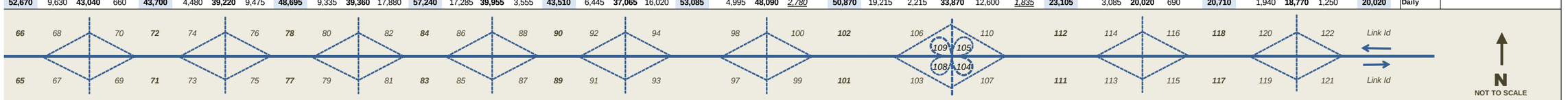
Table 3-20. Year 2040 High Desert Corridor Mainline Link and Ramp Forecast Traffic Volumes—Sensitivity Test

High Desert Corridor Westbound			ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF	
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	3,755	370	3,385	545	3,930	845	3,085	300	3,385	995	2,390	525	2,915	0	2,915	0	2,915	445	2,470	230	2,700	540	2,160	160	2,320	180	2,140	180	2,320	60	2,260	65	2,325	25	2,300	175	2,475	80	2,395	80	2,475	140	2,335	290
	PM Peak	5,790	305	5,485	650	6,135	750	5,385	355	5,740	815	4,925	720	5,645	0	5,645	0	5,645	375	5,270	365	5,635	325	5,310	245	5,555	125	5,430	365	5,795	55	5,740	375	6,115	245	5,870	525	6,395	205	6,190	160	6,350	1,070	5,280	360
	Daily	60,575	2,750	57,825	8,925	66,750	10,465	56,285	2,650	58,935	12,175	46,760	7,935	54,695	0	54,695	0	54,695	4,735	49,960	2,645	52,605	4,995	47,610	1,890	49,500	2,235	47,265	2,955	50,220	665	49,555	2,795	52,350	990	51,360	3,170	54,530	1,760	52,770	900	53,670	7,815	45,855	3,285
STATE ROUTE 138 (INTERSTATE 5 TO STATE ROUTE 14) EXPRESSWAY SENSITIVITY ANALYSIS	AM Peak	4,425	430	3,995	490	4,485	900	3,585	295	3,880	1,120	2,760	430	3,190	0	3,190	0	3,190	490	2,700	180	2,880	610	2,270	140	2,410	195	2,215	160	2,375	60	2,315	60	2,375	40	2,335	155	2,490	85	2,405	85	2,490	135	2,355	285
	PM Peak	7,305	395	6,910	620	7,530	800	6,730	250	6,980	955	6,025	580	6,605	0	6,605	0	6,605	455	6,150	280	6,430	555	5,875	210	6,085	165	5,920	340	6,260	70	6,190	305	6,495	300	6,195	495	6,690	295	6,395	150	6,545	1,180	5,365	345
	Daily	69,800	3,375	66,425	8,140	74,565	10,985	63,580	2,320	65,900	13,000	52,900	7,125	60,025	0	60,025	0	60,025	5,525	54,500	2,495	56,995	5,970	51,025	1,775	52,800	2,750	50,050	2,860	52,910	700	52,210	2,700	54,910	1,035	53,875	3,030	56,905	1,840	55,065	880	55,945	8,290	47,655	3,110
LAND USE SENSITIVITY ANLYSIS	AM Peak	4,430	375	4,055	570	4,625	905	3,720	350	4,070	1,265	2,805	685	3,490	0	3,490	0	3,490	690	2,800	215	3,015	650	2,365	170	2,535	235	2,300	185	2,485	70	2,415	55	2,470	50	2,420	160	2,580	95	2,485	90	2,575	320	2,255	400
	PM Peak	7,820	415	7,405	655	8,060	1,080	6,980	280	7,260	1,005	6,255	355	6,610	0	6,610	0	6,610	380	6,230	435	6,665	560	6,105	265	6,370	280	6,090	330	6,420	55	6,365	270	6,635	275	6,360	410	6,770	210	6,560	155	6,715	1,315	5,400	300
	Daily	75,130	3,880	71,250	9,155	80,405	13,810	66,595	2,960	69,555	16,420	53,135	7,730	60,865	0	60,865	0	60,865	5,635	55,230	2,770	58,000	6,600	51,400	2,010	53,410	2,585	50,825	2,825	53,650	760	52,890	3,100	55,990	1,140	54,850	2,980	57,830	1,875	55,955	910	56,865	8,120	48,745	3,925



High Desert Corridor Eastbound			OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON	
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	4,955	275	4,680	595	5,275	665	4,610	285	4,895	700	4,195	640	4,835	0	4,835	0	4,835	235	4,600	225	4,825	310	4,515	215	4,730	100	4,630	320	4,950	50	4,900	170	5,070	180	4,890	400	5,290	175	5,115	150	5,265	870	4,395	295
	PM Peak	5,830	425	5,405	600	6,005	1,125	4,880	370	5,250	1,120	4,130	590	4,720	0	4,720	0	4,720	470	4,250	300	4,550	575	3,975	260	4,235	195	4,040	250	4,290	65	4,225	80	4,305	40	4,265	225	4,490	125	4,365	100	4,465	515	3,950	370
	Daily	68,865	4,230	64,635	8,215	72,850	11,520	61,330	3,280	64,610	11,995	52,615	7,940	60,555	0	60,555	0	60,555	4,150	56,405	2,155	58,560	5,455	53,105	1,920	55,025	2,520	52,505	2,785	55,290	705	54,585	1,245	55,830	1,110	54,720	3,370	58,090	1,740	56,350	1,000	57,350	8,995	48,355	3,785
STATE ROUTE 138 (INTERSTATE 5 TO STATE ROUTE 14) EXPRESSWAY SENSITIVITY ANALYSIS	AM Peak	5,940	300	5,640	530	6,170	740	5,430	245	5,675	695	4,980	405	5,385	0	5,385	0	5,385	230	5,155	240	5,395	390	5,005	195	5,200	120	5,080	305	5,385	40	5,345	160	5,505	280	5,225	320	5,545	275	5,270	125	5,395	990	4,405	300
	PM Peak	6,905	485	6,420	615	7,035	1,195	5,840	285	6,125	1,130	4,995	455	5,450	0	5,450	0	5,450	485	4,965	160	5,125	645	4,480	205	4,685	180	4,505	170	4,675	65	4,610	65	4,675	140	4,535	190	4,725	140	4,585	80	4,665	750	3,915	360
	Daily	76,380	4,890	71,490	7,515	79,005	12,265	66,740	2,830	69,570	12,125	57,445	6,710	64,155	0	64,155	0	64,155	4,150	60,005	2,325	62,330	6,100	56,230	1,695	57,925	2,730	55,195	2,750	57,945	670	57,275	1,150	58,425	1,295	57,130	2,700	59,830	1,910	57,920	800	58,720	9,335	49,385	3,720
LAND USE SENSITIVITY ANALYSIS	AM Peak	6,680	365	6,315	480	6,795	980	5,815	250	6,065	965	5,100	325	5,425	0	5,425	0	5,425	230	5,195	275	5,470	435	5,035	200	5,235	155	5,080	310	5,390	50	5,340	185	5,525	270	5,255	395	5,650	285	5,365	135	5,500	1,000	4,500	330
	PM Peak	7,055	405	6,650	630	7,280	1,320	5,960	375	6,335	1,375	4,960	690	5,650	0	5,650	0	5,650	715	4,935	230	5,165	810	4,355	225	4,580	140	4,440	160	4,600	80	4,520	85	4,605	160	4,445	305	4,750	145	4,605	90	4,695	705	3,990	455
	Daily	83,155	5,145	78,010	9,095	87,105	13,140	73,965	3,275	77,240	16,245	60,995	7,280	68,275	0	68,275	0	68,275	5,690	62,585	2,630	65,215	7,430	57,785	1,865	59,650	3,475	56,175	2,725	58,900	795	58,105	1,270	59,375	1,410	57,965	3,665	61,630	1,905	59,725	900	60,625	10,300	50,325	4,610

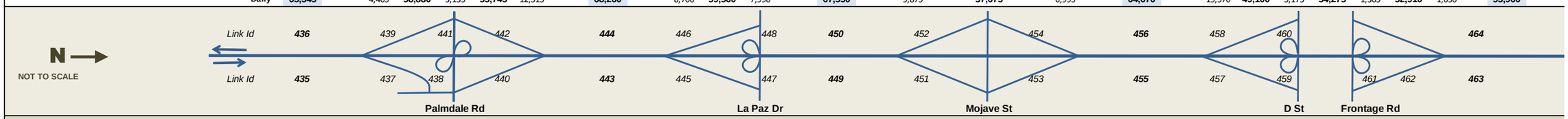
	ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF			
	2,625	560	2,065	100	2,165	150	2,015	485	2,500	595	1,905	950	2,855	785	2,070	745	2,815	315	2,500	1,405	3,905	390	3,515	230	3,745	1,270	165	2,640	1,080	170	1,730	335	1,395	105	1,500	220	1,280	130	1,410	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE)
	5,640	810	4,830	170	5,000	370	4,630	1,110	5,740	910	4,830	1,405	6,235	1,555	4,680	355	5,035	635	4,400	740	5,140	465	4,675	290	4,965	1,455	200	3,710	870	210	3,050	235	2,815	15	2,830	505	2,325	200	2,525	PM Peak	
	49,140	8,655	40,485	615	41,100	3,305	37,795	8,265	46,060	9,325	36,735	19,085	55,820	17,250	38,570	3,895	42,465	6,410	36,055	16,525	52,580	4,870	47,710	2,790	50,500	18,700	2,090	33,890	13,395	1,950	22,445	2,955	19,490	780	20,270	1,875	18,395	1,155	19,550	Daily	
	2,640	555	2,085	95	2,180	155	2,025	480	2,505	590	1,915	960	2,875	800	2,075	730	2,805	325	2,480	1,440	3,920	370	3,550	225	3,775	1,265	170	2,680	1,100	160	1,740	330	1,410	100	1,510	225	1,285	150	1,435	AM Peak	STATE ROUTE 138 (INTERSTATE 5 TO STATE ROUTE 14) EXPRESSWAY SENSITIVITY ANALYSIS
	5,710	850	4,860	185	5,045	390	4,655	1,095	5,750	900	4,850	1,395	6,245	1,550	4,695	350	5,045	625	4,420	755	5,175	460	4,715	285	5,000	1,440	210	3,770	895	200	3,075	225	2,850	25	2,875	500	2,375	225	2,600	PM Peak	
	50,765	9,295	41,470	635	42,105	3,415	38,690	8,090	46,780	9,300	37,480	18,990	56,470	16,755	39,715	3,780	43,495	6,460	37,035	16,000	53,035	4,850	48,185	2,775	50,960	18,550	2,100	34,510	13,500	1,800	22,810	3,050	19,760	700	20,460	1,900	18,560	1,200	19,760	Daily	
	2,655	735	1,920	90	2,010	165	1,845	540	2,385	555	1,830	975	2,805	725	2,080	760	2,840	330	2,510	1,460	3,970	390	3,580	220	3,800	1,295	170	2,675	1,105	155	1,725	340	1,385	110	1,495	230	1,265	165	1,430	AM Peak	LAND USE SENSITIVITY ANALYSIS
	5,700	910	4,790	170	4,960	395	4,565	1,225	5,790	890	4,900	1,490	6,390	1,665	4,725	340	5,065	640	4,425	750	5,175	495	4,680	295	4,975	1,390	195	3,780	880	195	3,095	265	2,830	35	2,865	515	2,350	210	2,560	PM Peak	
	52,670	9,630	43,040	660	43,700	4,480	39,220	9,475	48,695	9,335	39,360	17,880	57,240	17,285	39,955	3,555	43,510	6,445	37,065	16,020	53,085	4,995	48,090	2,780	50,870	19,215	2,215	33,870	12,600	1,835	23,105	3,085	20,020	690	20,710	1,940	18,770	1,250	20,020	Daily	



	OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON			
	4,690	780	3,910	145	4,055	380	3,675	1,020	4,695	820	3,875	1,375	5,250	1,435	3,815	335	4,150	625	3,525	625	4,150	380	3,770	275	4,045	985	200	3,260	1,135	170	2,295	150	2,145	50	2,195	475	1,720	170	1,890	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE)
	4,320	790	3,530	105	3,635	190	3,445	575	4,020	660	3,360	1,145	4,505	920	3,585	775	4,360	395	3,965	1,330	5,295	475	4,820	250	5,070	1,140	260	4,190	2,005	315	2,500	365	2,135	125	2,260	310	1,950	145	2,095	PM Peak	
	52,140	8,725	43,415	335	43,750	2,590	41,160	8,325	49,485	10,645	38,840	18,385	57,225	16,575	40,650	3,470	44,120	5,975	38,145	16,990	55,135	5,055	50,080	2,650	52,730	12,610	2,400	42,520	23,085	2,470	21,905	2,545	19,360	430	19,790	1,630	18,160	1,720	19,880	Daily	
	4,705	775	3,930	140	4,070	420	3,650	1,090	4,740	800	3,940	1,330	5,270	1,430	3,840	320	4,160	655	3,505	695	4,200	360	3,840	260	4,100	1,000	200	3,300	1,155	175	2,320	160	2,160	55	2,215	470	1,745	155	1,900	AM Peak	STATE ROUTE 138 (INTERSTATE 5 TO STATE ROUTE 14) EXPRESSWAY SENSITIVITY ANALYSIS
	4,275	745	3,530	125	3,655	195	3,460	575	4,035	555	3,480	1,080	4,560	940	3,620	760	4,380	435	3,945	1,405	5,350	490	4,860	225	5,085	1,150	260	4,195	2,000	325	2,520	355	2,165	120	2,285	300	1,985	120	2,105	PM Peak	
	53,105	8,955	44,150	310	44,460	3,010	41,450	8,540	49,990	10,680	39,310	17,865	57,175	16,435	40,740	3,395	44,135	6,140	37,995	16,985	54,980	4,990	49,990	2,585	52,575	12,510	2,400	42,465	23,070	2,500	21,895	2,555	19,340	435	19,775	1,580	18,195	1,695	19,890	Daily	
	4,830	865	3,965	130	4,095	530	3,565	1,230	4,795	630	4,165	1,415	5,580	1,500	4,080	275	4,355	750	3,605	525	4,130	455	3,675	270	3,945	990	200	3,155	1,150	145	2,150	145	2,005	70	2,075	490	1,585	220	1,805	AM Peak	LAND USE SENSITIVITY ANALYSIS
	4,445	880	3,565	110	3,675	215	3,460	555	4,015	600	3,415	1,015	4,430	890	3,540	710	4,250	475	3,775	1,360	5,135	515	4,620	240	4,860	1,030	260	4,090	1,970	285	2,405	350	2,055	200	2,255	350	1,905	110	2,015	PM Peak	
	54,935	9,135	45,800	365	46,165	3,625	42,540	9,160	51,700	9,210	42,490	17,000	59,490	16,460	43,030	3,660	46,690	7,100	39,590	17,420	57,010	6,825	50,185	2,600	52,785	12,550	2,400	42,635	23,510	2,400	21,525	2,335	19,190	840	20,030	1,825	18,205	1,590	19,795	Daily	

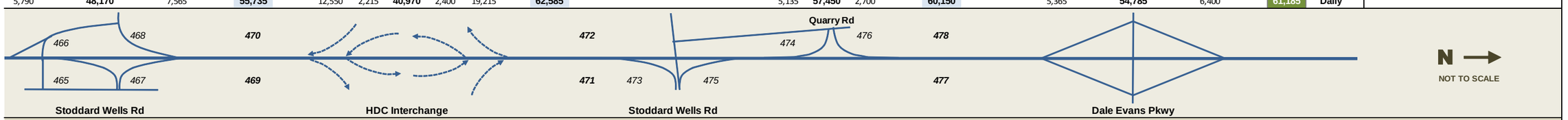
Table 3-21. Year 2040 I-15 Mainline Link and Ramp Forecast Traffic Volumes—Sensitivity Test

I-15 Southbound			ON		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF	
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	4,870	310	4,560	225	4,335	855	5,190	435	4,755	455	5,210	725	4,485	375	4,860	925	3,935	345	4,280	65	4,215	45	4,260
	PM Peak	4,320	335	3,985	240	3,745	995	4,740	580	4,160	475	4,635	680	3,955	495	4,450	1,210	3,240	315	3,555	55	3,500	60	3,560
	Daily	63,495	4,505	58,990	3,160	55,830	12,595	68,425	8,625	59,800	7,945	67,745	9,550	58,195	6,690	64,885	15,310	49,575	5,080	54,655	1,165	53,490	975	54,465
STATE ROUTE 138 (INTERSTATE 5 TO STATE ROUTE 14) EXPRESSWAY SENSITIVITY ANALYSIS	AM Peak	4,865	315	4,550	210	4,340	860	5,200	430	4,770	450	5,220	715	4,505	380	4,885	940	3,945	350	4,295	60	4,235	45	4,280
	PM Peak	4,290	340	3,950	225	3,725	975	4,700	590	4,110	470	4,580	690	3,890	490	4,380	1,190	3,190	325	3,515	50	3,465	60	3,525
	Daily	63,460	4,490	58,970	3,170	55,800	12,500	68,300	8,610	59,690	7,950	67,640	9,530	58,110	6,685	64,795	15,300	49,495	5,110	54,605	1,160	53,445	990	54,435
LAND USE SENSITIVITY ANALYSIS	AM Peak	4,890	300	4,590	205	4,385	805	5,190	405	4,785	470	5,255	745	4,510	370	4,880	960	3,920	355	4,275	50	4,225	50	4,275
	PM Peak	4,340	305	4,035	210	3,825	955	4,780	595	4,185	480	4,665	695	3,970	485	4,455	1,180	3,275	330	3,605	50	3,555	75	3,630
	Daily	63,345	4,465	58,880	3,135	55,745	12,515	68,260	8,700	59,560	7,990	67,550	9,875	57,675	6,995	64,670	15,570	49,100	5,175	54,275	1,365	52,910	1,050	53,960



I-15 Northbound			OFF		ON		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON	
FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	3,690	475	3,215	385	3,600	450	4,050	560	3,490	425	3,915	605	3,310	450	3,760	1,185	2,575	290	2,865	50	2,815	50	2,865
	PM Peak	6,000	650	5,350	405	5,755	505	6,260	620	5,640	565	6,205	790	5,415	390	5,805	1,095	4,710	370	5,080	70	5,010	55	5,065
	Daily	68,495	7,670	60,825	5,975	66,800	6,365	73,165	8,450	64,715	7,400	72,115	9,505	62,610	5,820	68,430	15,410	53,020	4,800	57,820	1,180	56,640	1,080	57,720
STATE ROUTE 138 (INTERSTATE 5 TO STATE ROUTE 14) EXPRESSWAY SENSITIVITY ANALYSIS	AM Peak	3,660	470	3,190	370	3,560	460	4,020	575	3,445	400	3,845	595	3,250	435	3,685	1,200	2,485	300	2,785	55	2,730	65	2,795
	PM Peak	5,945	660	5,285	415	5,700	520	6,220	630	5,590	570	6,160	785	5,375	395	5,770	1,100	4,670	385	5,055	60	4,995	60	5,055
	Daily	68,410	7,675	60,735	5,960	66,695	6,355	73,050	8,420	64,630	7,415	72,045	9,500	62,545	5,800	68,345	15,605	52,740	4,825	57,565	1,150	56,415	1,100	57,515
LAND USE SENSITIVITY ANALYSIS	AM Peak	3,860	480	3,380	380	3,760	470	4,230	590	3,640	410	4,050	580	3,470	410	3,880	1,240	2,640	320	2,960	50	2,910	55	2,965
	PM Peak	6,040	655	5,385	400	5,785	565	6,350	645	5,705	580	6,285	805	5,480	380	5,860	1,195	4,665	400	5,065	60	5,005	60	5,065
	Daily	68,750	7,650	61,100	5,980	67,080	6,345	73,425	8,585	64,840	7,660	72,500	9,660	62,840	5,860	68,700	15,840	52,860	4,840	57,700	1,140	56,560	1,050	57,610

ON		OFF		HDC EB to I-15 SB	HDC WB to I-15 SB		I-15 SB to HDC EB	I-15 SB to HDC WB		ON		OFF		ON		OFF			I-15 Southbound
550	3,710	680	4,390	985	165	3,240	200	1,270	4,710	270	4,440	220	4,660	400	4,260	415	4,675	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE)
530	3,030	515	3,545	1,140	200	2,205	260	1,455	3,920	360	3,560	275	3,835	455	3,380	520	3,900	PM Peak	
5,760	48,705	7,510	56,215	12,610	2,090	41,515	2,400	18,700	62,615	5,255	57,360	2,990	60,350	5,370	54,980	6,100	61,080	Daily	
540	3,740	700	4,440	1,000	170	3,270	200	1,265	4,735	250	4,485	210	4,695	425	4,270	420	4,690	AM Peak	STATE ROUTE 138 (INTERSTATE 5 TO STATE ROUTE 14) EXPRESSWAY SENSITIVITY ANALYSIS
525	3,000	505	3,505	1,150	210	2,145	260	1,440	3,845	340	3,505	270	3,775	440	3,335	535	3,870	PM Peak	
5,750	48,685	7,480	56,165	12,510	2,100	41,555	2,400	18,550	62,505	5,200	57,305	2,960	60,265	5,325	54,940	6,050	60,990	Daily	
545	3,730	695	4,425	990	170	3,265	200	1,295	4,760	255	4,505	195	4,700	430	4,270	430	4,700	AM Peak	LAND USE SENSITIVITY ANALYSIS
555	3,075	530	3,605	1,030	195	2,380	260	1,390	4,030	330	3,700	205	3,905	460	3,445	550	3,995	PM Peak	
5,790	48,170	7,565	55,735	12,550	2,215	40,970	2,400	19,215	62,585	5,135	57,450	2,700	60,150	5,365	54,785	6,400	61,185	Daily	



OFF		ON		I-15 NB to HDC EB	I-15 NB to HDC WB		HDC EB to I-15 NB	HDC WB to I-15 NB		OFF		ON		OFF		ON			I-15 Northbound
495	2,370	440	2,810	170	1,080	1,560	1,135	170	2,865	245	2,620	260	2,880	430	2,450	440	2,890	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE)
620	4,445	710	5,155	315	870	3,970	2,005	210	6,185	265	5,920	240	6,160	425	5,735	455	6,190	PM Peak	
6,145	51,575	7,555	59,130	2,470	13,395	43,265	23,085	1,950	68,300	5,585	62,715	3,070	65,785	5,550	60,235	5,990	66,225	Daily	
500	2,295	380	2,675	175	1,100	1,400	1,155	160	2,715	230	2,485	250	2,735	420	2,315	450	2,765	AM Peak	STATE ROUTE 138 (INTERSTATE 5 TO STATE ROUTE 14) EXPRESSWAY SENSITIVITY ANALYSIS
605	4,450	700	5,150	325	895	3,930	2,000	200	6,130	250	5,880	260	6,140	410	5,730	470	6,200	PM Peak	
6,125	51,390	7,500	58,890	2,500	13,500	42,890	23,070	1,800	67,760	5,450	62,310	2,980	65,290	5,540	59,750	6,000	65,750	Daily	
480	2,485	335	2,820	145	1,105	1,570	1,150	155	2,875	290	2,585	270	2,855	445	2,410	460	2,870	AM Peak	LAND USE SENSITIVITY ANALYSIS
630	4,435	730	5,165	285	880	4,000	1,970	195	6,165	235	5,930	250	6,180	465	5,715	495	6,210	PM Peak	
6,185	51,425	7,520	58,945	2,400	12,600	43,945	23,510	1,835	69,290	5,805	63,485	3,000	66,485	5,610	60,875	6,120	66,995	Daily	

Two of the alternatives proposed for the High Desert Corridor would provide high speed rail feeder service between Palmdale and Victorville. For the purpose of this traffic study, it is assumed that XpressWest high speed train service would be extended to the west from Victorville to Palmdale, utilizing, to a great extent, right-of-way assembled for the High Desert corridor highway facility.

Figure 3-28 illustrates the general alignment of the XpressWest high speed train service and the potential extension to Palmdale. The route is approximately 180 miles in length between Las Vegas and the station in Victorville, and 54 miles in length between Victorville and Palmdale. The end-of-the-line station in Palmdale is assumed to be located near the Palmdale Transportation Center.

Given this expanded service, the hours of operation are assumed to run between 6:00 a.m. and 12:00 midnight, consistent with the evolving detailed planning for the system.[35] Train frequencies will be 20 to 60 minutes, depending on the time of day/demand, and service will operate 365 days per year. Trains consisting of 10 cars are assumed having a capacity of 675 passengers per train. Electric multiple unit propulsion technology is assumed, providing a top speed of 150 miles per hour. Actual speeds would be less through curves, on grades, and approaching and departing stations. A typical one-way trip would require 80 minutes of travel time between Victorville and Las Vegas. 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. The round trip equipment cycle time is therefore 120 minutes, including layover, or 4 hours for a round trip.

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.[36] 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 3-22 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 3-22. 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: Infraconsult LLC, December 2012

[35] *DesertXpress Operations Plan Review*, Wilbur Smith Associates, April 21, 2008
[36] *Public–Private Partnership Feasibility Study; High Desert Multipurpose Corridor*, Infraconsult LLC, December 2012

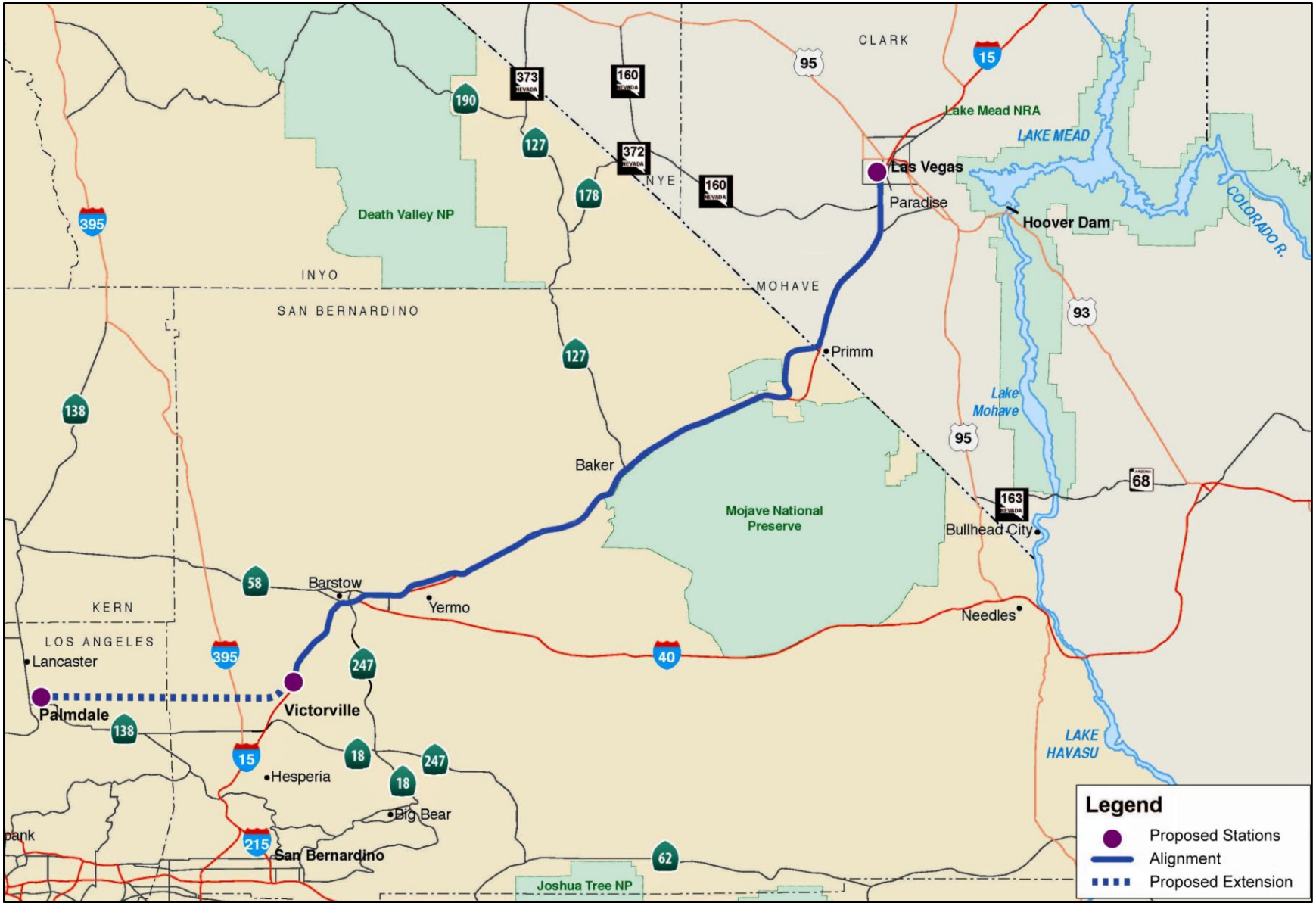


Figure 3-28: XpressWest High Speed Rail Project Location

The Infraconsult report details the methodology used to forecast ridership for the Palmdale to Victorville and Victorville to Las Vegas segments of the potential high speed rail service. 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, is assumed for the purpose of the High Desert Corridor Traffic Study. Day by day traffic data collected at the California/Nevada border, by direction was subsequently used by Parsons to distribute passengers by day of the week and direction. Table 3-23 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 High Desert Corridor 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 High Desert Corridor.

Approximately 81.2 percent of the ridership will be diverted from the auto mode. The average auto occupancy is assumed to be 2.0 based on Las Vegas Convention and Visitors Authority research data specific to Southern California visitors.[37]

Table 3-23. Daily Distribution of Palmdale to Victorville High Speed Rail Ridership

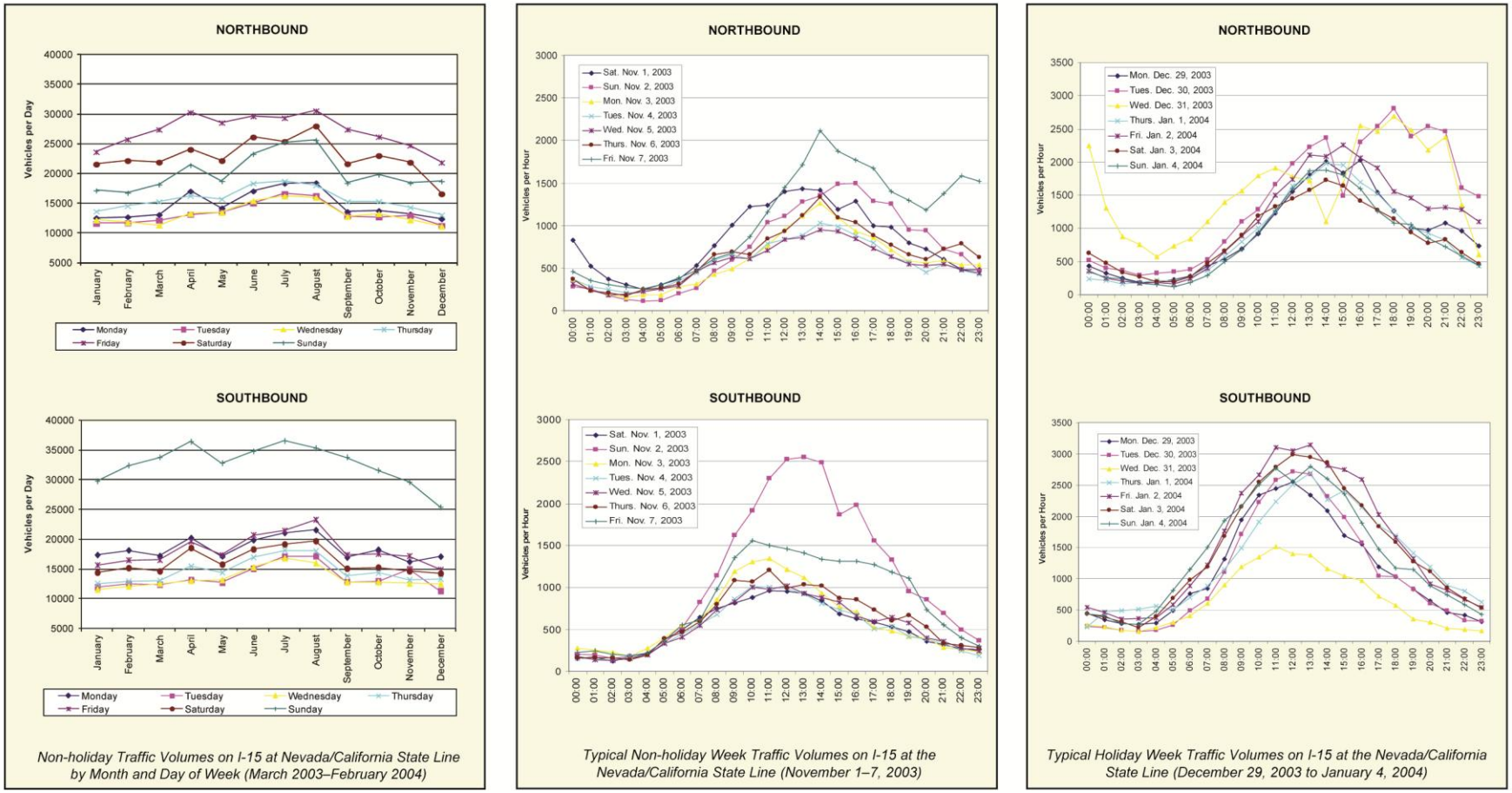
DAY	2020		2040	
	NORTH/EAST BOUND	SOUTH/WEST BOUND	NORTH/EAST BOUND	SOUTH/WEST BOUND
Monday	6,329	8,355	8,417	11,111
Tuesday	5,886	5,933	7,826	7,891
Wednesday	6,134	5,844	8,156	7,770
Thursday	7,076	6,423	9,410	8,543
Friday	11,541	7,933	15,352	10,549
Saturday	10,099	7,381	13,430	9,817
Sunday	8,743	13,939	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

Source: Parsons, 2014
Note: Reflects two-seat ride from Los Angeles to Las Vegas.

Approximately 5.3 percent of the rail passenger ridership is forecast to be diverted from intercity bus. The average bus occupancy is assumed to be 40 passengers per vehicle. 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.

Peak hour diverted vehicle volumes were derived based on the diurnal (hourly) distribution of vehicle trips at the California border for holiday and non-holiday days of the week. The diurnal distribution of traffic is reported on Figure 3-29. While these day-by-day, hour-by-hour traffic volumes were collected from March 2003 to February 2004, traffic volumes in 2013 are essentially the same (9 percent higher) as recorded in 2003/2004.

[37] *Las Vegas Visitor Profile, Calendar Year 2013,* Southern California and International Visitors Version, GLS Research



Non-holiday Traffic Volumes on I-15 at Nevada/California State Line by Month and Day of Week (March 2003–February 2004)

Typical Non-holiday Week Traffic Volumes on I-15 at the Nevada/California State Line (November 1–7, 2003)

Typical Holiday Week Traffic Volumes on I-15 at the Nevada/California State Line (December 29, 2003 to January 4, 2004)

Source: Ivanpah Valley International Airport Phase I Transportation Access Master Plan, Parsons, March 2005

Figure 3-29: Traffic Volumes on I-15 *(Year 2003–2004)*

Insofar as passengers using the Palmdale–Victorville–Las Vegas high speed rail service, a time differential of ±two hours was added or subtracted from the time of day when traffic crosses the California/Nevada border at Primm. In other words, a southbound auto traveler crossing the border during the 3:00 to 4:00 p.m. hour would arrive (by rail) in the western portion of the High Desert Corridor during the afternoon peak hour from 5:00 to 6:00 p.m. Southbound travelers crossing the border at 6:00 a.m. would arrive in the eastern portion of the High Desert Corridor, if traveling by train, at 7:30 a.m.

The resulting day-by-day and peak hour vehicle reductions on the High Desert Corridor freeway/tollway alternatives are reported on Table 3-24.

Table 3-24. Year 2040 Vehicle Reductions on High Desert Corridor Resulting from Rail Feeder Service between Palmdale and Victorville

	EASTBOUND			WESTBOUND		
	PEAK HOUR			PEAK HOUR		
DAY	AM (0700)	PM (1700)	DAILY	AM (0700)	PM (1700)	DAILY
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

Source: Parsons, 2014

Insofar as the traffic volumes arriving at the Palmdale station, passengers will arrive by one of five modes listed in Table 3-25. Rail passengers diverted from the air mode are included in this passenger/vehicle mix. Transfers to/from California high speed train (CAHST) and Metrolink service at Palmdale are not included as a conservative assumption for determining traffic impacts.

As indicated in Table 3-25, a rail passenger departing from the Palmdale station destined to Las Vegas will generate 0.495 vehicle trips inbound to the station and 0.12 vehicle trips leaving the station. A rail passenger arriving at the station from Las Vegas will generate 0.495 vehicle trips leaving the station and 0.12 vehicle trips arriving at the station. These trip generation rates pertain to passengers who do not transfer to/from Metrolink or CAHST service at Palmdale.

Table 3-25. Palmdale Station Mode of Access and Vehicle Trip Generation

MODE*	SPLIT (PERCENT)*	OCCUPANCY	VEHICLE TRIPS**	
			IN	OUT
Self drive	75	2	0.375	—
Kiss and ride	5	1	0.050	0.050
Charter bus	4	10	0.004	0.004
Shuttle	11	3	0.033	0.033
Taxi	5	1	0.025	0.025
	100		0.487	0.112
		Service vehicles/employees	0.008	0.008
		Total vehicle trips/rail passenger	0.495	0.120

*Excludes Metrolink and CAHST mode of arrival/departure.
**Rates listed for departures. Arrival rates (in versus out) are reversed.

Table 3-26 summarizes the peak hour and daily vehicle trips generated by the Palmdale train station, assuming XpressWest high speed passenger rail service.

Table 3-26. Year 2040 Palmdale Station Vehicular Trip Generation

DAY	AM PEAK (0700)		PM PEAK (1700)		DAILY	
	IN	OUT	IN	OUT	IN	OUT
Palmdale Station						
Monday	183	163	199	286	4,675	5,534
Tuesday	173	139	158	216	4,098	4,118
Wednesday	180	130	194	241	4,223	4,101
Thursday	194	138	208	243	4,831	4,554
Friday	240	137	378	355	7,534	6,004
Saturday	387	204	270	279	6,651	5,550
Sunday	233	167	374	589	6,783	8,985

Source: Parsons, 2014

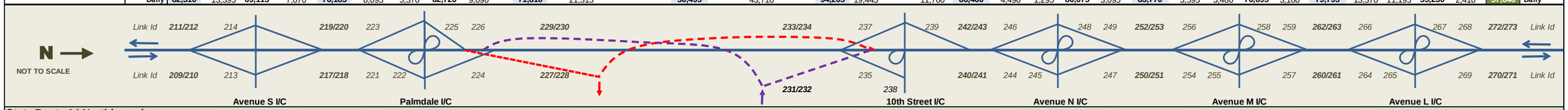
Based on the above analysis, daily, morning and afternoon peak period and peak hour forecasts were prepared for the 2020 and 2040 rail feeder network scenarios. Table 3-27 presents year 2040 traffic volumes for the SR 14 freeway mainline links and ramps, while Table 3-28 presents the same data for the proposed High Desert Corridor, and Table 3-29 presents the same data for I-15. The link and ramp volumes reported in these tables cover the focused study area addressed by this traffic report. Year 2020 traffic volume information is presented in Tables 3-30 through 3-32.

The AM peak hour, PM peak hour and average daily traffic volumes were "post-processed" to augment the direct model output with other methods to achieve reasonable levels of sensitivity. In this regard, post-processing allows the user to account for traffic model assignment validation adjustments and micro area diurnal (time of day) peak hour factors specific to individual freeway on- and off-ramps.

Truck volume information is unchanged from the data presented in section 3.7 of this report.

Table 3-27. Year 2040 SR 14 Mainline Link and Ramp Forecast Traffic Volumes for Rail Feeder Service Alternatives

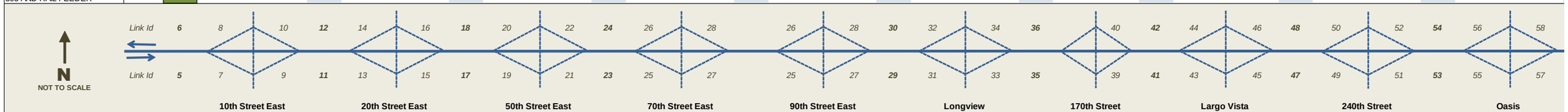
State Route 14 Southbound			ON		OFF		ON	ON		OFF		ON			OFF			ON	OFF			ON	ON		OFF			ON	ON		OFF				
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	Mix-flow	5,711				4,758					4,331	Fr HDC WB to SR-14 SB		To HDC EB fr SR 14 SB	5,865			5,280				5,140				5,280					4,030	Mix-flow
	HOV	1,967				1,715					1,444				1,955			1,695				1,720				1,630					1,210	HOV
	AM Peak	**7,678**	1,590	**6,088**	385	**6,473**	680	733	**5,060**	715	**5,775**	1,525	**4,250**	3,570	**7,820**	1,620	775	**6,975**	370	65	**6,540**	320	**6,860**	225	50	**6,585**	325	**6,910**	1,145	800	**4,965**	275	**5,240**	**AM Peak**
	Mix-flow	3,610				3,703					4,019				5,040			5,245				5,210				4,980					3,550	Mix-flow
	HOV	983				1,115					1,340				1,680			1,590				1,660				1,495					1,130	HOV
	PM Peak	**4,593**	675	**3,918**	900	**4,818**	275	375	**4,168**	1,190	**5,358**	1,888	**3,470**	3,250	**6,720**	1,055	1,170	**6,835**	365	120	**6,350**	520	**6,870**	280	290	**6,300**	175	**6,475**	1,095	845	**4,535**	145	**4,680**	**PM Peak**
	Mix-flow	64,871				59,860					57,671				70,905			66,680				64,000				62,785					45,375	Mix-flow
	HOV	18,199				18,150					19,224				23,635			19,805				19,885				18,150					13,605	HOV
	Daily	**83,070**	12,560	**70,510**	7,500	**78,010**	5,905	5,415	**66,690**	10,205	**76,895**	24,145	**52,750**	41,790	**94,540**	19,845	11,790	**86,485**	4,490	1,175	**80,820**	3,065	**83,885**	3,545	2,440	**77,900**	3,035	**80,935**	13,560	10,805	**56,570**	2,410	**58,980**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC AND RAIL FEEDER SERVICE	Mix-flow	5,691				4,868					4,369	Fr HDC WB to SR-14 SB		To HDC EB fr SR 14 SB	5,915			5,335				5,215				5,330					4,050	Mix-flow
	HOV	1,967				1,610					1,456				1,970			1,685				1,740				1,655					1,225	HOV
	AM Peak	**7,658**	1,550	**6,108**	370	**6,478**	695	723	**5,060**	765	**5,825**	1,535	**4,290**	3,595	**7,885**	1,625	760	**7,020**	350	55	**6,615**	340	**6,955**	235	75	**6,645**	340	**6,985**	1,160	820	**5,005**	270	**5,275**	**AM Peak**
	Mix-flow	3,605				3,718					4,045				5,065			5,295				5,295				5,005					3,540	Mix-flow
	HOV	983				1,095					1,348				1,730			1,580				1,665				1,505					1,145	HOV
	PM Peak	**4,588**	665	**3,923**	890	**4,813**	280	355	**4,178**	1,215	**5,393**	1,863	**3,530**	3,265	**6,795**	1,080	1,160	**6,875**	360	100	**6,415**	545	**6,960**	285	340	**6,335**	175	**6,510**	1,110	850	**4,550**	135	**4,685**	**PM Peak**
	Mix-flow	64,806				60,470					57,551				70,865			66,595				63,995				62,310					44,745	Mix-flow
	HOV	18,199				17,665					19,184				23,620			19,810				19,665				18,145					13,600	HOV
	Daily	**83,005**	12,535	**70,470**	7,665	**78,135**	5,920	5,385	**66,830**	9,905	**76,735**	24,040	**52,695**	41,790	**94,485**	19,865	11,785	**86,405**	4,610	1,200	**80,595**	3,065	**83,660**	3,635	2,655	**77,370**	3,085	**80,455**	13,575	10,910	**55,970**	2,375	**58,345**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER SERVICE	Mix-flow	5,736				4,863					4,080	Fr HDC WB to SR 14 SB		Total Con. Vol	5,840			5,270				5,265				5,270					3,940	Mix-flow
	HOV	1,967				1,550					1,305				1,955			1,695				1,660				1,575					1,185	HOV
	AM Peak	**7,703**	1,650	**6,053**	360	**6,413**	790	763	**4,860**	525	**5,385**	1,410	**3,975**	3,820	**7,795**	1,585	755	**6,965**	345	55	**6,565**	360	**6,925**	220	210	**6,495**	350	**6,845**	1,140	850	**4,855**	270	**5,125**	**AM Peak**
	Mix-flow	3,570				3,503					3,568				5,050			5,115				5,245				4,970					3,495	Mix-flow
	HOV	983				1,055					1,095				1,680			1,590				1,615				1,460					1,115	HOV
	PM Peak	**4,553**	815	**3,738**	820	**4,558**	425	555	**3,578**	1,085	**4,663**	1,788	**2,875**	3,855	**6,730**	1,135	1,110	**6,705**	240	105	**6,360**	500	**6,860**	280	325	**6,255**	175	**6,430**	1,100	860	**4,470**	140	**4,610**	**PM Peak**
	Mix-flow	64,311				60,215					54,405				70,570			66,655				64,755				62,260					44,420	Mix-flow
	HOV	18,199				15,970					17,405				23,635			19,805				19,015				17,535					13,220	HOV
	Daily	**82,510**	13,395	**69,115**	7,070	**76,185**	8,095	5,370	**62,720**	9,090	**71,810**	21,315	**50,495**	43,710	**94,205**	19,445	11,700	**86,460**	4,490	1,295	**80,675**	3,095	**83,770**	3,595	3,480	**76,695**	3,100	**79,795**	13,370	11,195	**55,230**	2,410	**57,640**	**Daily**



State Route 14 Northbound			OFF		ON		OFF	ON		ON		OFF								ON		OFF	ON		OFF	ON			OFF	ON		ON		OFF	ON		ON		
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	Mix-flow	2,130				2,565					2,867	SR-14 NB to HDC EB	Total Con. Vol	SR-14 SB to HDC EB		Fr HDC WB to SR 14 SB	Total Con. Vol	Fr HDC WB to SR 14 NB				3,714					3,849					3,659					2,954	Mix-flow
	HOV	695				775					900											1,100					1,165					1,110					945	HOV
	AM Peak	**2,825**	200	**2,625**	715	**3,340**	453	355	**3,242**	525	**3,767**	1,352	**4,922**	3,570	**2,415**	1,525	**3,710**	2,185	**4,614**	715	915	**4,814**	310	340	**4,844**	170	**5,014**	350	35	**4,699**	70	**4,769**	985	0	**3,784**	115	**3,899**	**AM Peak**
	Mix-flow	7,080				6,350					5,781											6,398					6,213					5,733					5,088	Mix-flow
	HOV	2,410				2,090					2,020											2,030					2,070					1,890					1,580	HOV
	PM Peak	**9,490**	1,590	**7,900**	540	**8,440**	1,464	225	**7,201**	600	**7,801**	2,551	**5,801**	3,250	**5,250**	1,888	**5,683**	3,795	**9,068**	1,300	660	**8,428**	555	210	**8,083**	200	**8,283**	1,085	75	**7,273**	350	**7,623**	1,365	0	**6,258**	410	**6,668**	**PM Peak**
	Mix-flow	64,105				61,725					59,320								65,558			63,580					62,880					59,035					49,130	Mix-flow
	HOV	21,445				19,735					18,735								21,853			19,510					19,920					18,745					16,255	HOV
	Daily	**85,550**	10,920	**74,630**	6,830	**81,460**	13,450	3,945	**71,955**	6,100	**78,055**	27,075	**68,865**	41,790	**50,980**	24,145	**60,575**	36,430	**87,410**	14,955	10,635	**83,090**	4,995	2,565	**80,660**	2,140	**82,800**	8,680	980	**75,100**	2,680	**77,780**	15,785	0	**61,995**	3,390	**65,385**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC AND RAIL FEEDER SERVICE	Mix-flow	2,165				2,645					2,892	SR-14 NB To HDC EB	Total Con. Vol	SR-14 SB To HDC EB		Fr HDC WB To SR 14 SB	Total Con. Vol	Fr HDC WB To SR 14 NB				3,764					3,929					3,679					2,979	Mix-flow
	HOV	690				745					895											1,065					1,135					1,115					950	HOV
	AM Peak	**2,855**	190	**2,665**	725	**3,390**	483	350	**3,257**	510	**3,767**	1,322	**4,917**	3,545	**2,445**	1,535	**3,705**	2,190	**4,629**	715	915	**4,829**	305	365	**4,889**	175	**5,064**	370	35	**4,729**	65	**4,794**	975	0	**3,819**	110	**3,929**	**AM Peak**
	Mix-flow	7,105				6,520					5,911											6,488					6,243					5,818					5,163	Mix-flow
	HOV	2,420				2,030					1,975											1,985					2,090					1,895					1,565	HOV
	PM Peak	**9,525**	1,515	**8,010**	540	**8,550**	1,479	240	**7,211**	575	**783,586**	2,546	**5,811**	3,265	**5,340**	1,863	**5,633**	3,775	**9,138**	1,330	665	**8,473**	535	205	**8,143**	190	**8,333**	1,040	75	**7,368**	345	**7,713**	1,390	0	**6,323**	405	**6,728**	**PM Peak**
	Mix-flow	64,490				62,700					59,526								65,686			63,011					62,676					58,466					48,241	Mix-flow
	HOV	21,365				19,550					18,380								21,895			19,460					19,430					18,600					16,325	HOV
	Daily	**85,855**	10,440	**75,415**	6,835	**82,250**	13,735	3,871	**72,386**	5,520	**77,906**	27,100	**68,890**	41,790	**50,806**	24,040	**60,815**	36,775	**87,581**	15,420	10,310	**82,471**	5,000	2,510	**79,981**	2,125	**82,106**	8,675	980	**74,411**	2,655	**77,066**	15,910	0	**61,156**	3,410	**64,566**	**Daily**
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER SERVICE	Mix-flow	2,100				2,670					2,857	SR-14 NB to HDC EB	Total Con. Vol	SR-14 SB to HDC EB		Fr HDC WB to SR 14 SB	Total Con. Vol	Fr HDC WB to SR 14 NB				3,989					4,019					3,789					3,089	Mix-flow
	HOV	670				625					730											945					1,135					1,095					930	HOV
	AM Peak	**2,770**	185	**2,585**	710	**3,295**	478	300	**3,117**	470	**3,587**	1,197	**5,019**	3,820	**2,390**	1,410	**3,955**	2,345	**4,749**	735	920	**4,934**	300	345	**4,979**	175	**5,154**	375	35	**4,814**	70	**4,884**	975	0	**3,909**	110	**4,019**	**AM Peak**
	Mix-flow	7,085				6,715					5,896											6,933					6,353					5,793					5,133	Mix-flow
	HOV	2,400				1,700					1,650											1,745					2,090					1,855					1,535	HOV
	PM Peak	**9,485**	1,615	**7,870**	545	**8,415**	1,499	155	**7,071**	475	**7,546**	2,326	**6,181**	3,855	**5,220**	1,988	**6,233**	4,435	**9,678**	1,665	665	**8,678**	560	140	**8,258**	185	**8,443**	1,220	75	**7,298**	350	**7,648**	1,410	0	**6,238**	430	**6,668**	**PM Peak**
	Mix-flow	64,025				64,659					60,139								68,242			68,264					64,459					60,129					49,639	Mix-flow
	HOV	20,450				15,725					14,875								22,747			16,400					19,430					18,170					16,010	HOV
	Daily	**84,475**	10,876	**73,599**	6,785	**80,384**	13,935	3,100	**69,549**	5,465	**75,014**	23,350	**67,060**	43,710	**51,664**	21,315	**60,640**	39,325	**90,989**	16,650	10,325	**84,664**	5,030	2,145	**81,779**	2,110	**83,889**	9,230	980	**75,639**	2,660	**78,299**	16,110	0	**62,189**	3,460	**65,649**	**Daily**

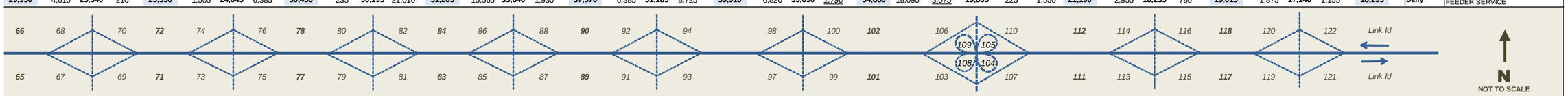
Table 3-28. Year 2040 High Desert Corridor Mainline Link and Ramp Forecast Traffic Volumes for Rail Feeder Service Alternatives

High Desert Corridor Westbound			ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	AM Peak	3,710	405	3,305	545	3,850	845	3,005	300	3,305	995	2,310	525	2,835	0	2,835	0	2,835	445	2,390	230	2,620	540	2,080	160	2,240	#	2,060	180	2,240	60	2,180	65	2,245	25	2,220	175	2,395	80	2,315	80
	PM Peak	5,683	363	5,320	650	5,970	750	5,220	355	5,575	815	4,760	720	5,480	0	5,480	0	5,480	375	5,105	365	5,470	325	5,145	245	5,390	#	5,265	365	5,630	55	5,575	375	5,950	245	5,705	525	6,230	205	6,025	160
	Daily	60,575	2,750	57,825	8,925	66,750	10,465	56,285	2,650	58,935	12,175	46,760	7,935	54,695	0	54,695	0	54,695	4,735	49,960	2,645	52,605	4,995	47,610	1,890	49,500	#	47,265	2,955	50,220	665	49,555	2,795	52,350	990	51,360	3,170	54,530	1,760	52,770	900
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC AND RAIL FEEDER SERVICE	AM Peak	3,605	385	3,320	500	3,820	830	2,990	335	3,325	905	2,420	445	2,865	155	2,710	175	2,885	420	2,465	195	2,660	525	2,135	185	2,320	#	2,135	175	2,310	55	2,255	50	2,305	40	2,265	150	2,415	0	2,415	0
	PM Peak	5,638	333	5,305	635	5,940	800	5,140	405	5,545	825	4,720	705	5,425	160	5,265	250	5,515	360	5,155	295	5,450	380	5,070	290	5,360	#	5,250	355	5,605	50	5,555	390	5,945	260	5,685	520	6,205	0	6,205	0
	Daily	60,815	2,550	58,265	8,280	66,545	10,745	55,800	2,940	58,740	11,795	46,945	7,625	54,570	1,215	53,355	1,955	55,310	4,630	50,680	2,040	52,720	5,315	47,405	2,290	49,695	#	47,270	2,850	50,120	660	49,460	2,880	52,340	970	51,370	3,150	54,520	0	54,520	0
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER	AM Peak	3,755	320	3,435	465	3,900	850	3,050	275	3,325	1,125	2,200	320	2,520	0	2,520	0	2,520	635	1,885	25	1,910	750	1,160	50	1,210	#	1,115	60	1,175	50	1,125	25	1,150	140	1,010	145	1,155	75	1,080	25
	PM Peak	6,223	353	5,870	630	6,500	1,035	5,465	320	5,785	925	4,860	395	5,255	0	5,255	0	5,255	530	4,725	50	4,775	460	4,315	30	4,345	#	4,270	315	4,585	25	4,560	330	4,890	230	4,660	550	5,210	200	5,010	30
	Daily	60,640	3,180	57,460	6,845	64,305	12,005	52,300	2,300	54,600	13,900	40,700	4,415	45,115	0	45,115	0	45,115	9,220	35,895	4,250	40,145	7,690	32,455	225	32,680	#	32,295	2,360	34,655	735	33,920	1,385	35,305	2,445	32,860	5,255	38,115	1,645	36,470	250



High Desert Corridor Eastbound			OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	AM Peak	4,922	373	4,549	595	5,144	665	4,479	285	4,764	700	4,064	640	4,704	0	4,704	0	4,704	235	4,469	225	4,694	310	4,384	215	4,599	#	4,499	320	4,819	50	4,769	170	4,939	180	4,759	400	5,159	175	4,984	150
	PM Peak	5,801	570	5,291	600	5,891	1,125	4,766	370	5,136	1,120	4,016	590	4,606	0	4,606	0	4,606	470	4,136	300	4,436	575	3,861	260	4,121	#	3,926	250	4,176	65	4,111	80	4,191	40	4,151	225	4,376	125	4,251	100
	Daily	68,865	4,230	64,635	8,215	72,850	11,520	61,330	3,280	64,610	11,995	52,615	7,940	60,555	0	60,555	0	60,555	4,150	56,405	2,155	58,560	5,455	53,105	1,920	55,025	#	52,505	2,785	55,290	705	54,585	1,245	55,830	1,110	54,720	3,370	58,090	1,740	56,350	1,000
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC AND RAIL FEEDER SERVICE	AM Peak	4,917	403	4,514	610	5,124	685	4,439	170	4,609	720	3,889	560	4,449	100	4,349	275	4,624	230	4,394	255	4,649	365	4,284	285	4,569	#	4,484	330	4,814	55	4,759	180	4,939	200	4,739	410	5,149	0	5,149	0
	PM Peak	5,811	565	5,246	645	5,891	1,190	4,701	280	4,981	1,055	3,926	520	4,446	125	4,321	265	4,586	480	4,106	340	4,446	660	3,786	370	4,156	#	3,966	265	4,231	65	4,166	75	4,241	50	4,191	240	4,431	0	4,431	0
	Daily	68,890	4,290	64,600	8,110	72,710	12,380	60,330	2,675	63,005	11,600	51,405	7,550	58,955	1,040	57,915	2,525	60,440	4,220	56,220	2,260	58,480	5,520	52,960	2,350	55,310	#	52,795	2,780	55,575	715	54,860	1,240	56,100	1,150	54,950	3,810	58,760	0	58,760	0
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER	AM Peak	5,017	388	4,629	550	5,179	705	4,474	250	4,724	775	3,949	395	4,344	0	4,344	0	4,344	525	3,819	25	3,844	625	3,219	250	3,469	#	3,419	25	3,444	25	3,419	170	3,589	400	3,189	630	3,819	170	3,649	130
	PM Peak	6,181	575	5,666	565	6,231	1,135	5,096	355	5,451	1,205	4,246	390	4,636	0	4,636	0	4,636	660	3,976	25	4,001	875	3,126	120	3,246	#	3,026	20	3,046	55	2,991	20	3,011	135	2,876	340	3,216	120	3,096	75
	Daily	67,060	4,370	62,690	7,050	69,740	11,640	58,100	3,265	61,365	13,820	47,545	4,765	52,310	0	52,310	0	52,310	6,635	45,675	255	45,930	8,870	37,060	1,995	39,055	#	36,555	140	36,695	430	36,265	800	37,065	2,640	34,425	6,770	41,195	1,640	39,555	500

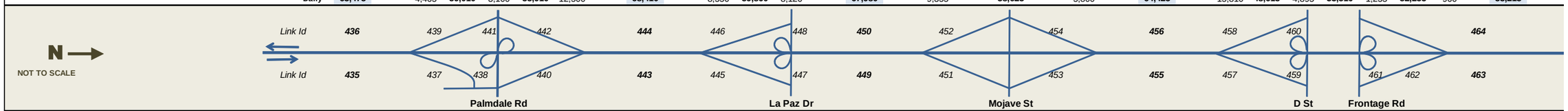
	ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF			
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	2,545	560	1,985	100	2,085	150	1,935	485	2,420	595	1,825	950	2,775	785	1,990	745	2,735	315	2,420	1,405	3,825	390	3,435	230	3,665	1,190	165	2,640	1,080	170	1,730	335	1,395	105	1,500	220	1,280	130	1,410	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE
	5,475	810	4,665	170	4,835	370	4,465	1,110	5,575	910	4,665	1,405	6,070	1,555	4,515	355	4,870	635	4,235	740	4,975	465	4,510	290	4,800	1,290	200	3,710	870	210	3,050	235	2,815	15	2,830	505	2,325	200	2,525	PM Peak	
	49,140	8,655	40,485	615	41,100	3,305	37,795	8,265	46,060	9,325	36,735	19,085	55,820	17,250	38,570	3,895	42,465	6,410	36,055	16,525	52,580	4,870	47,710	2,790	50,500	18,700	2,090	33,890	13,395	1,950	22,445	2,955	19,490	780	20,270	1,875	18,395	1,155	19,550	Daily	
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC AND RAIL FEEDER SERVICE	2,520	570	1,950	140	2,090	140	1,950	510	2,460	555	1,905	895	2,800	880	1,920	850	2,770	0	2,770	0	2,770	780	1,990	1,125	3,115	1,070	200	2,245	980	205	1,470	280	1,190	160	1,350	175	1,175	175	1,350	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC AND RAIL FEEDER SERVICE
	5,385	715	4,670	160	4,830	360	4,470	1,100	5,570	880	4,690	1,375	6,065	1,635	4,430	460	4,890	0	4,890	0	4,890	1,115	3,775	1,030	4,805	1,275	210	3,740	870	200	3,070	250	2,820	50	2,870	550	2,320	195	2,515	PM Peak	
	51,020	9,225	41,795	780	42,575	3,805	38,770	7,360	46,130	9,020	37,110	18,985	56,095	18,345	37,750	4,880	42,630	0	42,630	0	42,630	9,890	32,740	14,530	47,270	17,900	2,280	31,650	11,590	2,050	22,110	2,870	19,240	885	20,125	1,920	18,205	1,350	19,555	Daily	
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER	1,005	160	845	25	870	75	795	230	1,025	95	930	945	1,875	335	1,540	255	1,795	265	1,530	740	2,270	415	1,855	175	2,030	1,110	280	1,200	175	150	1,175	335	840	105	945	220	725	130	855	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER SERVICE
	4,085	675	3,410	55	3,465	170	3,295	990	4,285	35	4,250	1,665	5,915	1,680	4,235	170	4,405	515	3,890	495	4,385	730	3,655	150	3,805	1,235	305	2,875	410	150	2,615	235	2,380	15	2,395	505	1,890	200	2,090	PM Peak	
	29,950	4,610	25,340	210	25,550	1,505	24,045	6,385	30,430	235	30,195	21,010	51,205	15,565	35,640	1,930	37,570	6,385	31,185	8,725	39,910	6,820	33,090	1,790	34,880	18,090	3,075	19,865	225	1,550	21,190	2,955	18,235	780	19,015	1,875	17,140	1,155	18,295	Daily	



	OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON			
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	4,559	780	3,779	145	3,924	380	3,544	1,020	4,564	820	3,744	1,375	5,119	1,435	3,684	335	4,019	625	3,394	625	4,019	380	3,639	275	3,914	985	200	3,129	1,004	170	2,295	150	2,145	50	2,195	475	1,720	170	1,890	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE
	4,206	790	3,416	105	3,521	190	3,331	575	3,906	660	3,246	1,145	4,391	920	3,471	775	4,246	395	3,851	1,330	5,181	475	4,706	250	4,956	1,140	260	4,076	1,891	315	2,500	365	2,135	125	2,260	310	1,950	145	2,095	PM Peak	
	52,140	8,725	43,415	335	43,750	2,590	41,160	8,325	49,485	10,645	38,840	18,385	57,225	16,575	40,650	3,470	44,120	5,975	38,145	16,990	55,135	5,055	50,080	2,650	52,730	12,610	2,400	42,520	23,085	2,470	21,905	2,545	19,360	430	19,790	1,630	18,160	1,720	19,880	Daily	
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC AND RAIL FEEDER SERVICE	4,509	860	3,649	90	3,739	360	3,379	1,145	4,524	560	3,964	1,010	4,974	1,630	3,344	690	4,034	0	4,034	0	4,034	990	3,044	830	3,874	990	210	3,094	1,049	185	2,230	135	2,095	65	2,160	485	1,675	155	1,830	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC AND RAIL FEEDER SERVICE
	4,196	820	3,376	75	3,451	195	3,256	790	4,046	320	3,726	575	4,301	1,050	3,251	1,400	4,651	0	4,651	0	4,651	855	3,796	1,080	4,876	1,125	250	4,001	1,861	350	2,490	350	2,140	130	2,270	340	1,930	140	2,070	PM Peak	
	52,415	9,785	42,630	380	43,010	3,020	39,990	11,200	51,190	6,215	44,975	9,530	54,505	14,595	39,910	11,020	50,930	0	50,930	0	50,930	10,525	40,405	11,750	52,155	12,500	2,350	42,005	22,965	2,755	21,795	2,585	19,210	435	19,645	1,680	17,965	1,800	19,765	Daily	
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER SERVICE	2,969	505	2,464	20	2,484	100	2,384	905	3,289	150	3,139	1,585	4,724	1,360	3,364	290	3,654	640	3,014	575	3,589	390	3,199	200	3,399	755	200	2,844	969	125	2,000	145	1,855	35	1,890	375	1,515	145	1,660	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER SERVICE
	2,806	325	2,481	30	2,511	50	2,461	290	2,751	100	2,651	1,305	3,956	895	3,061	650	3,711	325	3,386	1,165	4,551	495	4,056	250	4,306	995	260	3,571	1,716	310	2,165	340	1,825	100	1,925	290	1,635	155	1,790	PM Peak	
	32,270	4,315	27,955	150	28,105	500	27,605	5,270	32,875	570	32,305	19,870	52,175	15,455	36,720	2,800	39,520	6,335	33,185	14,490	47,675	5,795	41,880	2,500	44,380	9,500	2,400	37,280	20,290	2,475	19,465	2,260	17,205	475	17,680	1,525	16,155	1,615	17,770	Daily	

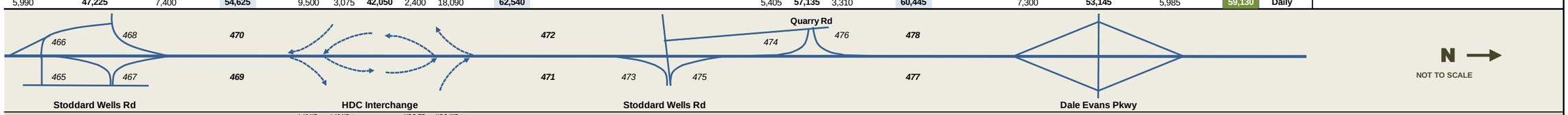
Table 3-29. Year 2040 I-15 Mainline Link and Ramp Forecast Traffic Volumes for Rail Feeder Service Alternatives

I-15 Southbound			ON		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF	
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	AM Peak	5,037	310	4,727	225	4,502	855	5,357	435	4,922	455	5,377	725	4,652	375	5,027	925	4,102	345	4,447	65	4,382	45	4,427
	PM Peak	4,638	335	4,303	240	4,063	995	5,058	580	4,478	475	4,953	680	4,273	495	4,768	1,210	3,558	315	3,873	55	3,818	60	3,878
	Daily	63,495	4,505	58,990	3,160	55,830	12,595	68,425	8,625	59,800	7,945	67,745	9,550	58,195	6,690	64,885	15,310	49,575	5,080	54,655	1,165	53,490	975	54,465
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC AND RAIL FEEDER SERVICE	AM Peak	5,032	290	4,742	235	4,507	840	5,347	420	4,927	460	5,387	690	4,697	360	5,057	950	4,107	355	4,462	55	4,407	55	4,462
	PM Peak	4,728	325	4,403	270	4,133	980	5,113	595	4,518	450	4,968	645	4,323	440	4,763	1,190	3,573	325	3,898	60	3,838	60	3,898
	Daily	61,715	4,410	57,305	3,160	54,145	12,575	66,720	8,765	57,955	7,940	65,895	9,585	56,310	6,740	63,050	15,210	47,840	5,020	52,860	1,190	51,670	950	52,620
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395 AND RAIL FEEDER SERVICE	AM Peak	5,082	300	4,782	215	4,567	800	5,367	410	4,957	430	5,387	705	4,682	355	5,037	900	4,137	305	4,442	70	4,372	40	4,412
	PM Peak	4,648	350	4,298	200	4,098	950	5,048	555	4,493	460	4,953	695	4,258	480	4,738	1,115	3,623	285	3,908	55	3,853	55	3,908
	Daily	63,475	4,465	59,010	3,100	55,910	12,500	68,410	8,550	59,860	8,120	67,980	9,355	58,625	5,800	64,425	15,810	48,615	4,895	53,510	1,255	52,255	960	53,215



I-15 Northbound			OFF		ON		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON	
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	AM Peak	3,690	475	3,215	385	3,600	450	4,050	560	3,490	425	3,915	605	3,310	450	3,760	1,185	2,575	290	2,865	50	2,815	50	2,865
	PM Peak	6,000	650	5,350	405	5,755	505	6,260	620	5,640	565	6,205	790	5,415	390	5,805	1,095	4,710	370	5,080	70	5,010	55	5,065
	Daily	68,495	7,670	60,825	5,975	66,800	6,365	73,165	8,450	64,715	7,400	72,115	9,505	62,610	5,820	68,430	15,410	53,020	4,800	57,820	1,180	56,640	1,080	57,720
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC AND RAIL FEEDER SERVICE	AM Peak	3,690	475	3,215	385	3,600	450	4,050	560	3,490	425	3,915	605	3,310	450	3,760	1,185	2,575	290	2,865	50	2,815	50	2,865
	PM Peak	6,000	650	5,350	405	5,755	505	6,260	620	5,640	565	6,205	790	5,415	390	5,805	1,095	4,710	370	5,080	70	5,010	55	5,065
	Daily	68,495	7,670	60,825	5,975	66,800	6,365	73,165	8,450	64,715	7,400	72,115	9,505	62,610	5,820	68,430	15,410	53,020	4,800	57,820	1,180	56,640	1,080	57,720
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395 AND RAIL FEEDER SERVICE	AM Peak	3,700	460	3,240	380	3,620	440	4,060	555	3,505	390	3,895	655	3,240	500	3,740	1,150	2,590	300	2,890	50	2,840	50	2,890
	PM Peak	6,025	625	5,400	400	5,800	500	6,300	580	5,720	500	6,220	680	5,540	355	5,895	1,070	4,825	305	5,130	70	5,060	55	5,115
	Daily	68,500	7,330	61,170	5,900	67,070	6,380	73,450	8,000	65,450	6,800	72,250	9,255	62,995	5,220	68,215	15,200	53,015	4,650	57,665	1,180	56,485	1,080	57,565

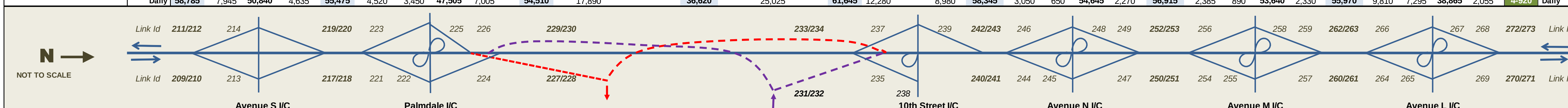
I-15 Southbound		OFF		HDC EB to I-15 SB	HDC WB to I-15 SB		I-15 SB to HDC EB	I-15 SB to HDC WB		ON		OFF		ON		OFF			
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	AM Peak	550	3,877	680	4,557	985	165	3,407	200	1,190	4,797	270	4,527	220	4,747	495	4,252	423	4,675
	PM Peak	530	3,348	515	3,863	1,140	200	2,523	260	1,290	4,073	360	3,713	275	3,988	617	3,371	529	3,900
	Daily	5,760	48,705	7,510	56,215	12,610	2,090	41,515	2,400	18,700	62,615	5,255	57,360	2,990	60,350	7,120	53,230	6,100	59,330
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC AND RAIL FEEDER SERVICE	AM Peak	475	3,987	700	4,687	990	200	3,497	210	1,070	4,777	275	4,502	190	4,692	490	4,202	428	4,630
	PM Peak	550	3,348	530	3,878	1,125	210	2,543	250	1,275	4,068	340	3,728	260	3,988	612	3,376	514	3,890
	Daily	5,560	47,060	7,890	54,950	12,500	2,280	40,170	2,350	17,900	60,420	5,380	55,040	2,885	57,925	7,100	50,825	7,925	58,750
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395 AND RAIL FEEDER SERVICE	AM Peak	595	3,817	700	4,517	755	280	3,482	200	1,110	4,792	290	4,502	185	4,687	525	4,162	393	4,555
	PM Peak	495	3,413	500	3,913	995	305	2,613	260	1,235	4,108	375	3,733	260	3,993	642	3,351	509	3,860
	Daily	5,990	47,225	7,400	54,625	9,500	3,075	42,050	2,400	18,090	62,540	5,405	57,135	3,310	60,445	7,300	53,145	5,985	59,130



I-15 Northbound		OFF		ON		I-15 NB to HDC EB	I-15 NB to HDC WB		HDC EB to I-15 NB	HDC WB to I-15 NB		OFF		ON		OFF		ON		
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	AM Peak	495	2,370	440	2,810	170	1,080	1,560	1,004	170	2,734	245	2,489	260	2,749	560	2,189	446	2,635
	PM Peak	620	4,445	710	5,155	315	870	3,970	1,891	210	6,071	265	5,806	240	6,046	566	5,480	465	5,945
	Daily	6,145	51,575	7,555	59,130	2,470	13,395	43,265	23,085	1,950	68,300	5,585	62,715	3,070	65,785	7,434	58,351	5,990	64,341
FULL BUILD SCENARIO (SCAG LAND USE) WITH REDUCED INTERCHANGES ALONG HDC AND RAIL FEEDER SERVICE	AM Peak	495	2,370	440	2,810	185	980	1,645	1,049	205	2,899	245	2,654	260	2,914	560	2,354	446	2,800
	PM Peak	620	4,445	710	5,155	350	870	3,935	1,861	200	5,996	265	5,731	240	5,971	566	5,405	465	5,870
	Daily	6,145	51,575	7,555	59,130	2,755	11,590	44,785	22,965	2,050	69,800	5,585	64,215	3,070	67,285	7,434	59,851	5,990	65,841
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395 AND RAIL FEEDER SERVICE	AM Peak	590	2,300	275	2,575	125	175	2,275	969	150	3,394	460	2,934	230	3,164	585	2,579	401	2,980
	PM Peak	680	4,435	570	5,005	310	410	4,285	1,716	150	6,151	350	5,801	220	6,021	576	5,445	480	5,925
	Daily	8,005	49,560	5,305	54,865	2,475	225	52,165	20,290	1,550	74,005	8,580	65,425	2,550	67,975	7,634	60,341	4,970	65,311

Table 3-30. Year 2020 SR 14 Mainline Link and Ramp Forecast Traffic Volumes for Rail Feeder Service Alternatives

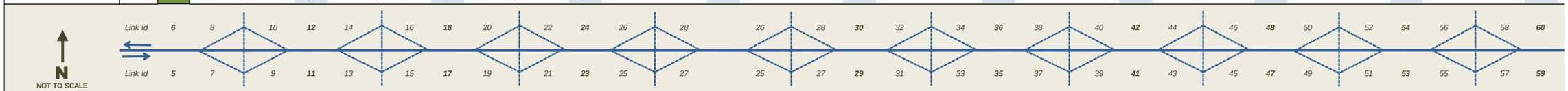
State Route 14 Southbound			ON		OFF		ON	ON		OFF		ON		OFF		ON	OFF		ON	ON		OFF		ON	ON		OFF		ON	ON		OFF		
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	Mix-flow	3,832				3,662					3,084	Fr HDC WB		To HDC EB	4,510			5,190					3,435					5,195					3,900	Mix-flow
	HOV	1,960				1,290					1,255	to SR-14 SB		fr SR 14 SB	1,340								1,720											HOV
	AM Peak	5,792	1,095	4,697	255	4,952	560	563	3,829	510	4,339	1,239	3,100	2,750	5,850	1,280	620	5,190	290	55	4,845	310	5,155	150	60	4,945	250	5,195	920	610	3,665	235	3,900	AM Peak
	Mix-flow	2,766				2,831					3,182				3,955			5,195					3,650					5,025					3,845	Mix-flow
	HOV	885				975					920				1,060								1,660											HOV
	PM Peak	3,651	400	3,251	555	3,806	235	194	3,377	725	4,102	1,509	2,595	2,420	5,015	930	1,110	5,195	225	110	4,860	450	5,310	165	245	4,900	125	5,025	845	450	3,730	115	3,845	PM Peak
	Mix-flow	44,455				42,095					42,710				49,895			62,325					41,175					60,355					45,340	Mix-flow
	HOV	16,200				15,400					13,345				15,900								19,885											HOV
	Daily	60,655	7,750	52,905	4,590	57,495	4,920	3,610	48,965	7,090	56,055	19,050	37,005	28,790	65,795	13,100	9,630	62,325	3,115	600	58,610	2,450	61,060	2,380	875	57,805	2,550	60,355	10,270	6,900	43,185	2,155	45,340	Daily
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER SERVICE	Mix-flow	3,737				3,282					2,994	Fr HDC WB		To HDC EB	4,230			4,925					4,885					4,930					3,650	Mix-flow
	HOV	1,910				1,570					1,220	to SR-14 SB		fr SR 14 SB	1,305																			HOV
	AM Peak	5,647	1,045	4,602	250	4,852	570	573	3,709	505	4,214	1,214	3,000	2,535	5,535	1,210	600	4,925	290	50	4,585	300	4,885	145	55	4,685	245	4,930	910	610	3,410	240	3,650	AM Peak
	Mix-flow	2,686				2,661					3,042				3,280			4,775					4,850					4,575					3,385	Mix-flow
	HOV	860				1,000					900				1,620																			HOV
	PM Peak	3,546	410	3,136	525	3,661	220	194	3,247	695	3,942	1,402	2,540	2,360	4,900	920	795	4,775	225	100	4,450	400	4,850	160	235	4,455	120	4,575	825	485	3,265	120	3,385	PM Peak
	Mix-flow	43,995				41,280					42,095				47,415			58,700					57,305					56,360					41,045	Mix-flow
	HOV	16,050				15,690					13,300				15,635																			HOV
	Daily	60,045	7,595	52,450	4,520	56,970	4,855	3,680	48,435	6,960	55,395	19,670	35,725	27,325	63,050	13,035	8,685	58,700	3,115	655	54,930	2,375	57,305	2,425	855	54,025	2,335	56,360	10,180	7,185	38,995	2,050	41,045	Daily
FULL BUILD SCENARIO (SCAG LAND USE) WITH PARTIAL FREEWAY ALTERNATIVE AND RAIL FEEDER SERVICE	Mix-flow	3,582				3,287					3,139	Fr HDC WB		Total	4,150			4,805					4,780					4,845					3,590	Mix-flow
	HOV	1,900				1,485					1,180	to SR 14 SB		Con. Vol	1,265																			HOV
	AM Peak	5,482	935	4,547	225	4,772	555	488	3,729	590	4,319	8,963	3,330	2,085	5,415	1,230	620	4,805	285	45	4,475	305	4,780	140	45	4,595	250	4,845	870	635	3,340	250	3,590	AM Peak
	Mix-flow	2,441				2,456					2,917				3,310			4,670					4,750					4,480					3,305	Mix-flow
	HOV	870				995					885				1,485																			HOV
	PM Peak	3,311	395	2,916	535	3,451	170	299	3,082	740	3,822	1,157	2,665	2,130	4,795	965	840	4,670	220	90	4,360	390	4,750	155	230	4,365	115	4,480	800	490	3,190	115	3,305	PM Peak
	Mix-flow	42,835				40,170					42,250				46,910			58,345					56,915					55,970					40,920	Mix-flow
	HOV	15,950				15,305					12,260				14,735																			HOV
	Daily	58,785	7,945	50,840	4,635	55,475	4,520	3,450	47,505	7,005	54,510	17,890	36,620	25,025	61,645	12,280	8,980	58,345	3,050	650	54,645	2,270	56,915	2,385	890	53,640	2,330	55,970	9,810	7,295	38,865	2,055	4-920	Daily



State Route 14 Northbound			OFF		ON		OFF	ON		ON		OFF						ON		OFF	ON		OFF	ON		ON		OFF	ON		ON		OFF	ON		ON		
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	Mix-flow	1,685				2,435					2,805	SR-14 NB	Total	SR-14 SB		Fr HDC WB	Total	Fr HDC WB				4,016					4,161					3,931					3,351	Mix-flow
	HOV	600				620					625	to HDC EB	Con. Vol	to HDC EB		to SR 14 SB	Con. Vol	to SR 14 NB																				HOV
	AM Peak	2,285	140	2,145	910	3,055	365	255	2,945	485	3,430	1,060	3,810	2,750	2,390	1,239	2,915	1,676	4,046	595	565	4,016	270	295	4,041	120	4,161	305	30	3,886	45	3,931	675	0	3,256	95	3,351	AM Peak
	Mix-flow	5,045				5,145					4,828											6,923					7,053					6,258					5,528	Mix-flow
	HOV	1,855				1,655					1,695																											HOV
	PM Peak	6,900	850	6,050	750	6,800	977	185	6,008	515	6,523	2,098	4,518	2,420	4,425	1,507	4,720	3,213	7,638	1,255	540	6,923	295	175	6,803	250	7,053	1,085	60	6,028	230	6,258	1,085	0	5,173	355	5,528	PM Peak
	Mix-flow	47,830				48,495					46,515											64,985					65,685					59,790					51,515	Mix-flow
	HOV	17,725				16,720					16,745																											HOV
	Daily	65,555	6,450	59,105	6,110	65,215	9,795	2,090	57,510	5,750	63,260	22,785	51,575	28,790	40,475	19,050	48,405	29,355	69,830	13,110	8,265	64,985	3,105	2,030	63,910	1,775	65,685	8,680	770	57,775	2,015	59,790	11,275	0	48,515	3,000	51,515	Daily
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER SERVICE	Mix-flow	1,710				2,240					2,535	SR-14 NB	Total	SR-14 SB		Fr HDC WB	Total	Fr HDC WB				3,861					4,011					3,791					3,206	Mix-flow
	HOV	590				580					620	To HDC EB	Con. Vol	To HDC EB		To SR 14 SB	Con. Vol	To SR 14 NB																				HOV
	AM Peak	2,300	140	2,160	660	2,820	360	250	2,710	445	3,155	940	3,475	2,535	2,215	1,214	2,885	1,871	3,886	600	575	3,861	255	280	3,886	125	4,011	290	25	3,746	45	3,791	680	0	3,111	95	3,206	AM Peak
	Mix-flow	5,100				4,985					4,698											6,843					6,923					6,193					5,378	Mix-flow
	HOV	1,820				1,620					1,640																											HOV
	PM Peak	6,920	835	6,085	520	6,605	952	190	5,843	495	6,338	1,938	4,298	2,360	4,400	1,402	4,450	3,048	7,448	1,120	515	6,843	300	135	6,678	245	6,923	1,010	50	5,963	230	6,193	1,130	0	5,063	315	5,378	PM Peak
	Mix-flow	47,615				47,870					47,315											64,465					64,875					59,339					50,829	Mix-flow
	HOV	17,435				16,630					15,575																											HOV
	Daily	65,050	6,630	58,420	6,080	64,500	9,285	2,075	57,290	5,600	62,890	20,660	47,985	27,325	42,230	19,670	46,265	26,595	68,825	12,585	8,225	64,465	3,040	1,860	63,285	1,590	64,875	8,171	675	57,379	1,960	59,339	11,485	0	47,854	2,975	50,829	Daily
FULL BUILD SCENARIO (SCAG LAND USE) WITH PARTIAL FREEWAY ALTERNATIVE AND RAIL FEEDER SERVICE	Mix-flow	1,555				2,025					2,325	SR-14 NB	Total	SR-14 SB		Fr HDC WB	Total	Fr HDC WB				3,581					3,731					3,526					2,966	Mix-flow
	HOV	575				600					680	to HDC EB	Con. Vol	to HDC EB		to SR 14 SB	Con. Vol	to SR 14 NB																				HOV
	AM Peak	2,130	145	1,985	640	2,625	320	260	2,565	440	3,005	810	2,895	2,085	2,195	989	2,425	1,436	3,631	620	570	3,581	245	260	3,596	135	3,731	275	25	3,481	45	3,526	655	0	2,871	95	2,966	AM Peak
	Mix-flow	5,055				4,955					4,898											6,463					6,593					5,838					5,043	Mix-flow
	HOV	1,800				1,605					1,425																											HOV
	PM Peak	6,855	855	6,000	560	6,560	907	205	5,858	475	6,373	1,728	3,858	2,130	4,635	1,157	3,485	2,328	6,933	1,010	540	6,463	280	145	6,328	265	6,593	1,030	50	5,613	225	5,838	1,120	0	4,718	325	5,043	PM Peak
	Mix-flow	47,435				48,510					48,945											62,030					62,565					57,085					49,005	Mix-flow
	HOV	17,475				15,915					13,675												.															HOV
	Daily	64,910	6,405	58,505	5,920	64,425	9,375	2,080	57,130	5,490	62,620	18,500	43,525	25,025	44,120	17,890	39,860	21,970	66,090	12,585	8,525	62,030	2,995	1,910	60,945	1,620	62,565	8,160	680	55,085	2,000	57,085	11,145	0	45,940	3,065	49,005	Daily

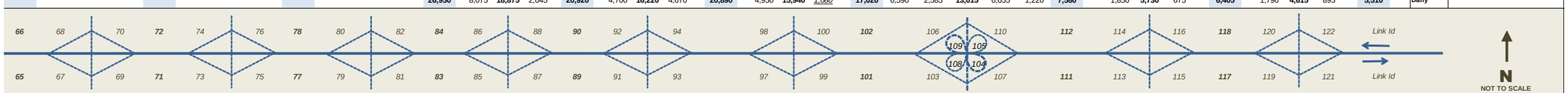
Table 3-31. Year 2020 High Desert Corridor Mainline Link and Ramp Forecast Traffic Volumes for Rail Feeder Service Alternatives

High Desert Corridor Westbound			ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF	
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	AM Peak	2,915	292	2,623	380	3,003	675	2,328	110	2,438	690	1,748	380	2,128	0	2,128	0	2,128	355	1,773	95	1,868	500	1,368	120	1,488	115	1,373	100	1,473	40	1,433	50	1,483	20	1,463	150	1,613	75	1,538	60	1,598
	PM Peak	4,720	342	4,378	515	4,893	670	4,223	140	4,363	675	3,688	550	4,238	0	4,238	0	4,238	220	4,018	180	4,198	290	3,908	165	4,073	95	3,978	305	4,283	50	4,233	225	4,458	135	4,323	350	4,673	120	4,553	90	4,643
	Daily	48,405	3,170	45,235	6,195	51,430	8,865	42,565	1,190	43,755	9,910	33,845	5,905	39,750	0	39,750	0	39,750	3,140	36,610	1,485	38,095	5,120	32,975	1,260	34,235	1,320	32,915	2,310	35,225	560	34,665	2,015	36,680	720	35,960	2,110	38,070	1,040	37,030	725	37,755
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER	AM Peak	2,885	177	2,708	320	3,028	680	2,348	70	2,418	880	1,538	285	1,823	0	1,823	0	1,823	500	1,323	20	1,343	490	853	35	888	50	838	50	888	35	853	10	863	100	763	115	878	50	828	20	848
	PM Peak	4,450	252	4,198	470	4,668	885	3,783	150	3,933	750	3,183	355	3,538	0	3,538	0	3,538	485	3,053	40	3,093	650	2,443	25	2,468	40	2,428	270	2,698	20	2,678	180	2,858	120	2,738	355	3,093	145	2,948	25	2,973
	Daily	46,265	2,520	43,745	4,975	48,720	10,050	38,670	1,110	39,780	11,345	28,435	3,590	32,025	0	32,025	0	32,025	5,185	26,840	1,510	28,350	6,075	22,275	170	22,445	195	22,250	1,965	24,215	415	23,800	670	24,470	1,320	23,150	3,240	26,390	1,010	25,380	200	25,580
FULL BUILD SCENARIO (SCAG LAND USE) WITH PARTIAL FREEWAY ALTERNATIVE AND RAIL FEEDER SERVICE	AM Peak	2,425	177	2,248	315	2,563	685	1,878	55	1,933	990	943	200	1,143																												
	PM Peak	3,485	292	3,213	380	3,593	880	2,713	85	2,798	1,010	1,788	95	1,883																												
	Daily	39,860	2,350	37,510	4,835	42,345	9,975	32,370	1,045	33,415	13,930	19,485	3,390	22,875																												



High Desert Corridor Eastbound			OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON	
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	AM Peak	3,810	321	3,489	430	3,919	575	3,344	130	3,474	550	2,924	475	3,399	0	3,399	0	3,399	200	3,199	155	3,354	255	3,099	145	3,244	80	3,164	265	3,429	45	3,384	100	3,484	120	3,364	255	3,619	115	3,504	80	3,584
	PM Peak	4,518	421	4,097	405	4,502	860	3,642	120	3,762	745	3,017	485	3,502	0	3,502	0	3,502	365	3,137	115	3,252	515	2,737	175	2,912	125	2,787	140	2,927	55	2,872	50	2,922	30	2,892	165	3,057	100	2,957	65	3,022
	Daily	51,575	3,085	48,490	5,800	54,290	9,390	44,900	1,265	46,165	9,330	36,835	5,605	42,440	0	42,440	0	42,440	3,245	39,195	1,445	40,640	4,925	35,715	1,335	37,050	1,585	35,465	2,190	37,655	570	37,085	920	38,005	990	37,015	2,245	39,260	1,120	38,140	650	38,790
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER	AM Peak	3,475	316	3,159	405	3,564	530	3,034	120	3,154	620	2,534	385	2,919	0	2,919	0	2,919	365	2,554	20	2,574	400	2,174	180	2,354	40	2,314	20	2,334	20	2,314	50	2,364	165	2,199	280	2,479	100	2,379	105	2,484
	PM Peak	4,298	381	3,917	460	4,377	850	3,527	115	3,642	780	2,862	430	3,292	0	3,292	0	3,292	425	2,867	20	2,887	710	2,177	85	2,262	135	2,127	15	2,142	40	2,102	15	2,117	95	2,022	200	2,222	80	2,142	85	2,227
	Daily	47,985	2,990	44,995	5,355	50,350	9,485	40,865	1,200	42,065	10,435	31,630	4,225	35,855	0	35,855	0	35,855	5,240	30,615	200	30,815	7,075	23,740	1,350	25,090	1,860	23,230	135	23,365	410	22,955	400	23,355	1,005	22,350	2,505	24,855	620	24,235	655	24,890
FULL BUILD SCENARIO (SCAG LAND USE) WITH PARTIAL FREEWAY ALTERNATIVE AND RAIL FEEDER SERVICE	AM Peak	2,895	346	2,549	255	2,804	760	2,044	50	2,094	815	1,279	70	1,349																												
	PM Peak	3,858	401	3,457	405	3,862	1,045	2,817	55	2,872	1,215	1,657	120	1,777																												
	Daily	43,525	3,350	40,175	4,320	44,495	11,005	33,490	660	34,150	13,035	21,115	1,230	22,345																												

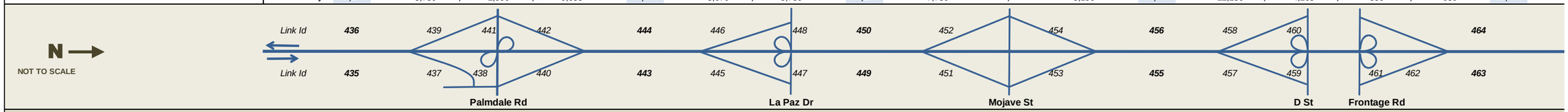
	ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF			
1,663	250	1,413	60	1,473	115	1,358	410	1,768	385	1,383	725	2,108	535	1,573	275	1,848	275	1,573	385	1,958	215	1,743	125	1,868	633	205	1,440	565	130	1,005	220	785	70	855	175	680	70	750	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE
4,078	320	3,758	100	3,858	215	3,643	580	4,223	800	3,423	1,185	4,608	1,020	3,588	185	3,773	495	3,278	300	3,578	380	3,198	195	3,393	833	165	2,725	630	155	2,250	130	2,120	100	2,220	365	1,855	120	1,975	PM Peak	
34,945	2,810	32,135	200	32,335	2,340	29,995	5,650	35,645	7,175	28,470	13,000	41,470	9,400	32,070	1,645	33,715	5,255	28,460	5,440	33,900	4,415	29,485	1,925	31,410	13,825	1,440	19,025	9,815	1,635	10,845	2,320	8,525	495	9,020	1,800	7,220	855	8,075	Daily	
808	135	673	20	693	30	663	205	868	30	838	775	1,613	230	1,383	190	1,573	195	1,378	375	1,753	265	1,488	120	1,608	613	200	1,195	390	125	930	200	730	60	790	170	620	70	690	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER SERVICE
2,673	320	2,353	50	2,403	80	2,323	515	2,838	370	2,468	1,345	3,813	1,110	2,703	145	2,848	415	2,433	300	2,733	370	2,363	180	2,543	798	130	1,875	595	140	1,420	100	1,320	50	1,370	210	1,160	80	1,240	PM Peak	
23,700	2,405	21,295	185	21,480	375	21,105	2,895	24,000	1,910	22,090	14,800	36,890	9,295	27,595	1,680	29,275	5,300	23,975	5,150	29,125	4,845	24,280	1,105	25,385	10,765	1,345	15,965	7,605	1,220	9,580	1,700	7,880	640	8,520	1,885	6,635	750	7,385	Daily	
												1,200	215	985	280	1,265	335	930	345	1,275	355	920	100	1,020	348	235	907	335	150	722	205	517	65	582	165	417	75	492	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH PARTIAL FREEWAY ALTERNATIVE AND RAIL FEEDER SERVICE
												2,250	860	1,390	200	1,590	485	1,105	225	1,330	425	905	175	1,080	403	270	947	435	200	712	120	592	75	667	255	412	90	502	PM Peak	
												26,950	8,075	18,875	2,045	20,920	4,700	16,220	4,670	20,890	4,950	15,940	1,080	17,020	6,590	2,585	13,015	6,655	1,220	7,580	1,850	5,730	675	6,405	1,790	4,615	895	5,510	Daily	



	OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON			
2,959	290	2,669	90	2,759	205	2,554	600	3,154	715	2,439	1,095	3,534	955	2,579	150	2,729	470	2,259	205	2,464	300	2,164	170	2,334	575	150	1,909	619	80	1,370	610	80	1,290	145	1,435	245	1,190	110	1,300	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE
2,887	310	2,577	65	2,642	160	2,482	435	2,917	490	2,427	850	3,277	670	2,607	370	2,977	280	2,697	555	3,252	290	2,962	155	3,117	635	125	2,607	1,132	230	1,705	855	275	1,430	100	1,530	275	1,255	95	1,350	PM Peak	
34,625	3,355	31,270	225	31,495	2,080	29,415	5,480	34,895	7,095	27,800	12,660	40,460	8,780	31,680	1,880	33,560	4,095	29,465	4,655	34,120	4,450	29,670	2,010	31,680	8,530	1,650	24,800	16,425	1,750	10,125	8,715	1,255	8,870	400	9,270	2,865	6,405	1,035	7,440	Daily	
2,084	245	1,839	15	1,854	45	1,809	320	2,129	120	2,009	1,040	3,049	805	2,244	165	2,409	490	1,919	185	2,104	335	1,769	150	1,919	525	140	1,534	439	85	1,180		70	1,110	30	1,140	165	975	105	1,080	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER SERVICE
2,062	230	1,832	25	1,857	30	1,827	205	2,032	85	1,947	825	2,772	570	2,202	385	2,587	280	2,307	520	2,827	255	2,572	125	2,697	550	110	2,257	1,077	265	1,445		250	1,195	70	1,265	195	1,070	95	1,165	PM Peak	
22,135	2,190	19,945	125	20,070	395	19,675	3,845	23,520	415	23,105	12,955	36,060	8,665	27,395	1,995	29,390	3,995	25,395	4,455	29,850	4,220	25,630	1,800	27,430	8,365	1,500	20,565	13,895	1,645	8,315		1,100	7,215	340	7,555	1,115	6,440	920	7,360	Daily	
												2,050	715	1,335	65	1,400	435	965	145	1,110	280	830	150	980	350	125	755	324	70	501		50	451	45	496	120	376	115	491	AM Peak	FULL BUILD SCENARIO (SCAG LAND USE) WITH PARTIAL FREEWAY ALTERNATIVE AND RAIL FEEDER SERVICE
												1,720	515	1,205	375	1,580	230	1,350	495	1,845	230	1,615	125	1,740	480	110	1,370	667	220	923	210	713	130	843	155	688	95	783	PM Peak	
												26,565	7,920	18,645	2,540	21,185	3,690	17,495	4,230	21,725	3,950	17,775	1,800	19,575	7,815	1,400	13,160	7,135	1,610	7,635	1,080	6,555	380	6,935	1,050	5,885	1,015	6,900	Daily	

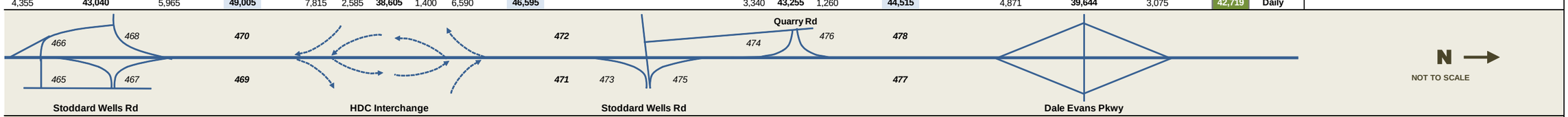
Table 3-32. Year 2020 I-15 Mainline Link and Ramp Forecast Traffic Volumes for Rail Feeder Service Alternatives

I-15 Southbound			ON		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF	
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	AM Peak	4,545	230	4,315	155	4,160	520	4,680	380	4,300	370	4,670	595	4,075	255	4,330	840	3,490	200	3,690	50	3,640	30	3,670
	PM Peak	4,300	310	3,990	205	3,785	735	4,520	550	3,970	405	4,375	590	3,785	380	4,165	1,020	3,145	235	3,380	45	3,335	40	3,375
	Daily	57,620	3,990	53,630	2,875	50,755	9,980	60,735	7,220	53,515	5,690	59,205	8,080	51,125	4,715	55,840	12,490	43,350	3,460	46,810	905	45,905	620	46,525
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER SERVICE	AM Peak	4,230	245	3,985	160	3,825	490	4,315	370	3,945	385	4,330	620	3,710	220	3,930	645	3,285	245	3,530	50	3,480	30	3,510
	PM Peak	4,000	300	3,700	180	3,520	720	4,240	535	3,705	395	4,100	580	3,520	365	3,885	975	2,910	220	3,130	45	3,085	40	3,125
	Daily	55,780	3,760	52,020	2,940	49,080	9,500	58,580	5,680	52,900	5,720	58,620	7,945	50,675	4,700	55,375	12,150	43,225	3,565	46,790	900	45,890	600	46,490
FULL BUILD SCENARIO (SCAG LAND USE) WITH PARTIAL FREEWAY ALTERNATIVE AND RAIL FEEDER SERVICE	AM Peak	4,130	235	3,895	165	3,730	500	4,230	350	3,880	390	4,270	590	3,680	230	3,910	645	3,265	280	3,545	50	3,495	30	3,525
	PM Peak	3,940	290	3,650	190	3,460	735	4,195	540	3,655	405	4,060	575	3,485	370	3,855	975	2,880	255	3,135	45	3,090	40	3,130
	Daily	55,165	3,750	51,415	2,990	48,425	9,635	58,060	5,670	52,390	5,780	58,170	7,730	50,440	5,190	55,630	12,150	43,480	4,165	47,645	880	46,765	630	47,395



I-15 Northbound			OFF		ON		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON	
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	AM Peak	2,795	445	2,350	335	2,685	375	3,060	515	2,545	360	2,905	475	2,430	405	2,835	935	1,900	270	2,170	35	2,135	40	2,175
	PM Peak	5,205	550	4,655	380	5,035	450	5,485	560	4,925	515	5,440	560	4,880	380	5,260	955	4,305	325	4,630	40	4,590	45	4,635
	Daily	56,500	6,700	49,800	4,960	54,760	5,615	60,375	7,660	52,715	6,160	58,875	7,220	51,655	4,325	55,980	13,560	42,420	3,830	46,250	1,000	45,250	675	45,925
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER SERVICE	AM Peak	2,725	435	2,290	325	2,615	320	2,935	485	2,450	355	2,805	480	2,325	385	2,710	885	1,825	260	2,085	35	2,050	35	2,085
	PM Peak	5,315	545	4,770	360	5,130	300	5,430	575	4,855	500	5,355	595	4,760	370	5,130	925	4,205	280	4,485	40	4,445	40	4,485
	Daily	57,480	6,230	51,250	5,170	56,420	5,440	61,860	7,770	54,090	6,115	60,205	6,905	53,300	4,530	57,830	11,555	46,275	3,815	50,090	990	49,100	655	49,755
FULL BUILD SCENARIO (SCAG LAND USE) WITH PARTIAL FREEWAY ALTERNATIVE AND RAIL FEEDER SERVICE	AM Peak	2,610	440	2,170	330	2,500	300	2,800	500	2,300	330	2,630	460	2,170	400	2,570	870	1,700	265	1,965	35	1,930	35	1,965
	PM Peak	5,225	510	4,715	360	5,075	335	5,410	595	4,815	480	5,295	605	4,690	360	5,050	940	4,110	295	4,405	40	4,365	40	4,405
	Daily	58,225	6,390	51,835	5,050	56,885	5,505	62,390	7,475	54,915	6,005	60,920	7,025	53,895	4,460	58,355	11,470	46,885	3,820	50,705	995	49,710	650	50,360

I-15 Southbound			ON		OFF		HDC EB to I-15 SB	HDC WB to I-15 SB		I-15 SB to HDC EB	I-15 SB to HDC WB		ON		OFF		ON		OFF			
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	AM Peak	3,560	465	3,205	480	3,685	3,090	575	205	2,905	150	633	3,688	155	3,533	125	3,658	334	3,324	236		
	PM Peak	3,045	425	2,950	260	3,210	2,465	635	165	2,410	125	833	3,368	345	3,023	130	3,153	500	2,653	392		
	Daily	48,959	4,735	41,790	5,255	47,045	39,585	8,530	1,440	37,075	1,650	13,825	52,550	3,160	49,390	1,320	50,710	4,931	45,779	3,180		
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER SERVICE	AM Peak	3,540	415	3,095	515	3,610		525	200	2,885	140	613	3,638	125	3,513	110	3,623	314	3,309	231		
	PM Peak	3,040	360	2,765	280	3,045		550	130	2,365	110	798	3,273	225	3,048	130	3,178	515	2,663	377		
	Daily	46,504	4,465	42,025	5,590	47,615		8,365	1,345	37,905	1,500	10,765	50,170	3,185	46,985	1,300	48,285	4,846	43,439	3,065		
FULL BUILD SCENARIO (SCAG LAND USE) WITH PARTIAL FREEWAY ALTERNATIVE AND RAIL FEEDER SERVICE	AM Peak	3,440	400	3,125	545	3,670		350	235	3,085	125	348	3,558	135	3,423	120	3,543	324	3,219	221		
	PM Peak	2,615	345	2,785	320	3,105		480	270	2,355	110	403	2,868	245	2,623	110	2,733	485	2,248	367		
	Daily	42,719	4,355	43,040	5,965	49,005		7,815	2,585	38,605	1,400	6,590	46,595	3,340	43,255	1,260	44,515	4,871	39,644	3,075		



I-15 Northbound			OFF		ON		I-15 NB to HDC EB	I-15 NB to HDC WB		HDC EB to I-15 NB	HDC WB to I-15 NB		OFF		ON		OFF		ON			
FULL BUILD SCENARIO (SCAG LAND USE) WITH RAIL FEEDER SERVICE	AM Peak	2,014	400	1,775	275	2,050		80	565	1,405	619	130	2,154	200	1,954	120	2,074	360	1,714	300		
	PM Peak	5,147	495	4,140	595	4,735		230	630	3,875	1,132	155	5,162	185	4,977	220	5,197	388	4,809	338		
	Daily	53,710	5,120	40,805	6,230	47,035		1,750	9,815	35,470	16,425	1,635	53,530	2,550	50,980	1,920	52,900	4,250	48,650	3,670		
FULL BUILD SCENARIO (SCAG LAND USE) WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO SR 395 AND RAIL FEEDER SERVICE	AM Peak	1,879	375	1,710	215	1,925		85	390	1,450	439	125	2,014	195	1,819	110	1,929	355	1,574	305		
	PM Peak	4,702	450	4,035	430	4,465		265	595	3,605	1,077	140	4,822	190	4,632	135	4,767	378	4,389	313		
	Daily	53,155	5,305	44,450	2,380	46,830		1,645	7,605	37,580	13,895	1,220	52,695	2,470	50,225	2,050	52,275	4,140	48,135	3,630		
FULL BUILD SCENARIO (SCAG LAND USE) WITH PARTIAL FREEWAY ALTERNATIVE AND RAIL FEEDER SERVICE	AM Peak	1,789	360	1,605	230	1,835		70	335	1,430	324	150	1,904	180	1,724	115	1,839	340	1,499	290		
	PM Peak	4,552	470	3,935	470	4,405		220	435	3,750	667	200	4,617	160	4,457	140	4,597	368	4,229	323		
	Daily	48,620	5,470	44,890	2,460	47,350		1,610	6,655	39,085	7,135	1,220	47,440	2,030	45,410	2,180	47,590	4,000	43,590	3,640		

3.14 Revised Palmdale Access Forecasts

Subsequent to the forecasts prepared for the initial definition of the alternatives, the sensitivity tests, and the inclusion of high speed rail services within the High Desert Corridor, the proposed access to Palmdale was refined. The proposed High Desert Corridor interchange at 10th Street East was eliminated. An interchange at 30th Street East was added. Ramp access at West Palmdale Boulevard to northbound SR 14 was revised, and direct access to the eastbound High Desert Corridor freeway was added. Miscellaneous Palmdale circulation system improvements were also added to the definition of the no-build and build alternatives, as itemized in Section 3.3.

As a result of these refinements, traffic patterns shifted within the portion of Palmdale lying to the west of 51st Street East. Figure 3-30 provides an indication of the shift in route choice pattern. This graphic illustrates the difference in daily traffic volumes (assigned to the highway network by the SCAG model) between the initial definition of the 2040 build alternative and the Revised Palmdale Access definition of the build alternative.

The bandwidths illustrated on Figure 3-30 indicate increases in daily traffic volumes only. Decreases in traffic volumes are numerically reported on the same graphic.

The Revised Palmdale Access forecasts were prepared using the SCAG 2008 RTP model for three 2020 network scenarios and three 2035 (2040) network scenarios as follows.

- 2020 No-build with Palmdale Circulation System Improvements
- 2020 Revised Palmdale Access Build
- 2020 Revised Palmdale Access Build with Tolls
- 2040 No-Build with Palmdale Circulation System Improvements
- 2040 Revised Palmdale Access Build
- 2040 Revised Palmdale Access Build with Tolls

Table 3-33 presents year 2040 traffic volumes for the SR 14 freeway mainline and ramps, Table 3-34 presents the same data for the proposed High Desert Corridor, and Table 3-35 presents the same data for I-15. Year 2020 traffic volume information is presented in Tables 3-36 through 3-38.

The traffic volumes are post-processed as described in Section 3.6. Freeway and ramp truck utilization data and intersection turning movement volumes are presented in Volume V for these six scenarios.

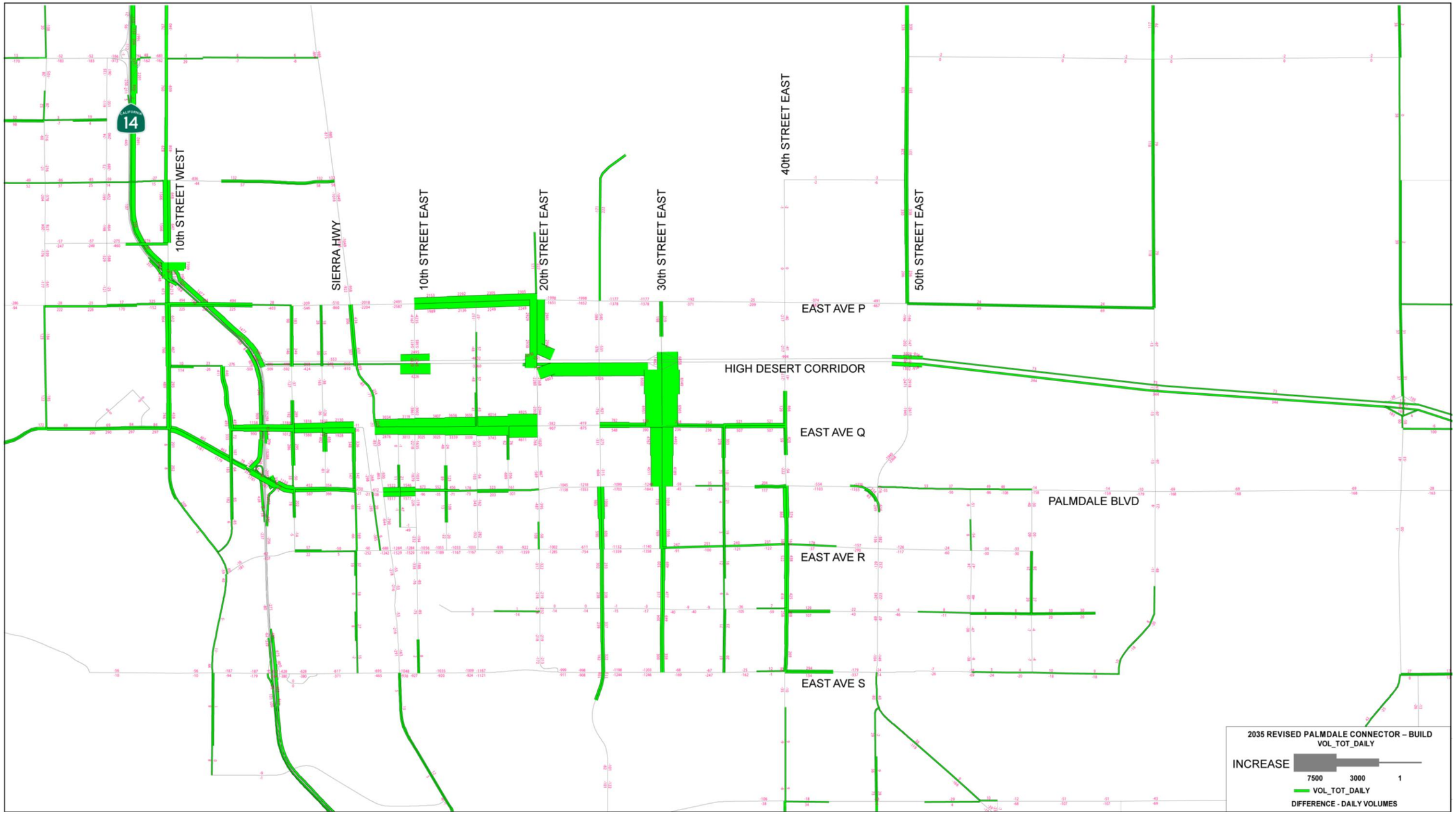
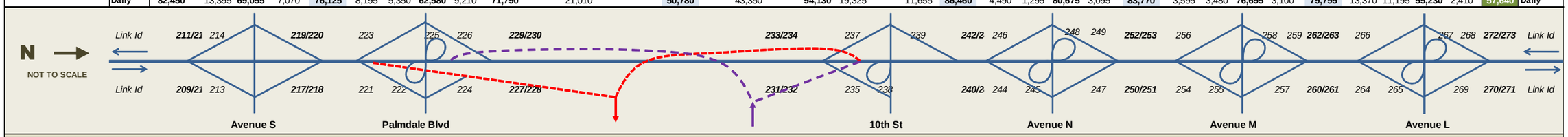


Figure 3-30: Difference in Daily Traffic Volumes between the Initial Build Alternative and the Revised Palmdale Access Build Alternative

Table 3-33. Year 2040 SR 14 Mainline and Ramp Forecast Traffic Volumes for the Revised Palmdale Access Alternative

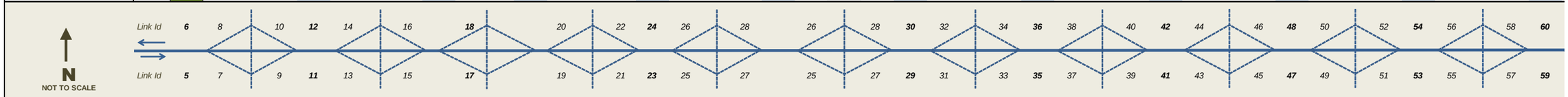
SR 14 Southbound			ON		OFF		ON	ON		OFF		ON			OFF		ON	OFF		ON	ON		OFF		ON	ON		OFF		ON	ON	OFF	OFF		
REVISED FULL BUILD SCENARIO (SCAG LAND USE)	Mix-flow	5,693				4,740					4,414	Fr HDC WB to SR-14 SB		To HDC EB fr SR 14 SB	5,810			5,280					5,140					5,280					4,030	Mix-flow
	HOV	1,967				1,715					1,471				1,955			1,695					1,720					1,630					1,210	HOV
	AM Peak	**7,660**	1,590	**6,070**	385	**6,455**	680	665	**5,110**	775	**5,885**	1,620	**4,265**	3,500	**7,765**	1,620	830	**6,975**	370	65	**6,540**	320	**6,860**	225	50	**6,585**	325	**6,910**	1,145	800	**4,965**	275	**5,240**	AM Peak
	Mix-flow	3,617				3,710					4,148				4,970			5,245					5,210					4,980					3,550	Mix-flow
	HOV	983				1,115					1,383				1,680			1,590					1,660					1,495					1,130	HOV
	PM Peak	**4,600**	675	**3,925**	900	**4,825**	275	260	**4,290**	1,240	**5,530**	2,030	**3,500**	3,150	**6,650**	1,055	1,240	**6,835**	365	120	**6,350**	520	**6,870**	280	290	**6,300**	175	**6,475**	1,095	845	**4,535**	145	**4,680**	PM Peak
	Mix-flow	64,921				59,910					58,196				70,355			66,680					64,000					62,785					45,375	Mix-flow
	HOV	18,199				18,150					19,399				23,635			19,805					19,885					18,150					13,605	HOV
	Daily	**83,120**	12,560	**70,560**	7,500	**78,060**	5,905	5,415	**66,740**	10,855	**77,595**	24,445	**53,150**	40,840	**93,990**	19,845	12,340	**86,485**	4,490	1,175	**80,820**	3,065	**83,885**	3,545	2,440	**77,900**	3,035	**80,935**	13,560	10,805	**56,570**	2,410	**58,980**	Daily
REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	Mix-flow	5,675				4,795					4,150	Fr HDC WB to SR-14 SB		To HDC EB fr SR 14 SB	5,795			5,290					5,275					5,290					3,940	Mix-flow
	HOV	1,980				1,570					1,300				1,940			1,675					1,650					1,555					1,185	HOV
	AM Peak	**7,655**	1,650	**6,005**	360	**6,365**	800	690	**4,875**	575	**5,450**	1,420	**4,030**	3,705	**7,735**	1,550	780	**6,965**	345	55	**6,565**	360	**6,925**	220	210	**6,495**	350	**6,845**	1,140	850	**4,855**	270	**5,125**	AM Peak
	Mix-flow	3,585				3,480					3,715				5,055			5,105					5,250					4,980					3,495	Mix-flow
	HOV	990				1,100					1,050				1,670			1,600					1,610					1,450					1,115	HOV
	PM Peak	**4,575**	815	**3,760**	820	**4,580**	415	450	**3,715**	1,050	**4,765**	1,840	**2,925**	3,800	**6,725**	1,120	1,100	**6,705**	240	105	**6,360**	500	**6,860**	280	325	**6,255**	175	**6,430**	1,100	860	**4,470**	140	**4,610**	PM Peak
	Mix-flow	64,230				59,725					54,420				70,505			66,660					64,770					62,295					44,420	Mix-flow
	HOV	18,220				16,400					17,370				23,625			19,800					19,000					17,500					13,220	HOV
	Daily	**82,450**	13,395	**69,055**	7,070	**76,125**	8,195	5,350	**62,580**	9,210	**71,790**	21,010	**50,780**	43,350	**94,130**	19,325	11,655	**86,460**	4,490	1,295	**80,675**	3,095	**83,770**	3,595	3,480	**76,695**	3,100	**79,795**	13,370	11,195	**55,230**	2,410	**57,640**	Daily



SR 14 Northbound			OFF		ON		OFF	ON			OFF										ON		OFF	ON			OFF	ON			OFF	ON		OFF	ON			
REVISED FULL BUILD SCENARIO (SCAG LAND USE)	Mix-flow	2,130				2,565					2,850	Palmdale to HDC EB	SR-14 NB to HDC EB	Total Con. Vol	SR-14 SB to HDC EB		Fr HDC WB to SR 14 SB	Total Con. Vol	Fr HDC WB to SR 14 NB				3,660					3,795					3,605					2,900	Mix-flow
	HOV	695				775					900													1,100					1,165					1,110					945	HOV
	AM Peak	**2,825**	200	**2,625**	715	**3,340**	445	855	**3,750**		**3,750**	385	1,385	**5,270**	3,500	**2,365**	1,620	**3,850**	2,230	**4,595**	750	915	**4,760**	310	340	**4,790**	170	**4,960**	350	35	**4,645**	70	**4,715**	985	0	**3,730**	115	**3,845**	AM Peak
	Mix-flow	7,080				6,350					5,745												6,285					6,100					5,620					4,975	Mix-flow
	HOV	2,410				2,090					2,020												2,030					2,070					1,890					1,580	HOV
	PM Peak	**9,490**	1,590	**7,900**	540	**8,440**	1,450	775	**7,765**		**7,765**	325	2,580	**6,055**	3,150	**5,185**	2,030	**5,900**	3,870	**9,055**	1,400	660	**8,315**	555	210	**7,970**	200	**8,170**	1,085	75	**7,160**	350	**7,510**	1,365	0	**6,145**	410	**6,555**	PM Peak
	Mix-flow	64,105				61,725					58,965									65,456			62,695					61,995					58,150					48,245	Mix-flow
	HOV	**21,445**				19,735					18,735									21,819			19,510					19,920					18,745					16,255	HOV
	Daily	**85,550**	10,920	**74,630**	6,830	**81,460**	13,750	9,990	**77,700**		**77,700**	4,185	27,075	**72,100**	40,840	**50,625**	24,445	**61,095**	36,650	**87,275**	15,705	10,635	**82,205**	4,995	2,565	**79,775**	2,140	**81,915**	8,680	980	**74,215**	2,680	**76,895**	15,785	0	**61,110**	3,390	**64,500**	Daily
REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	Mix-flow	2,125				2,700					2,905	Palmdale to HDC EB	SR-14 NB to HDC EB	Total Con. Vol	SR-14 SB to HDC EB		Fr HDC WB to SR 14 SB	Total Con. Vol	Fr HDC WB to SR 14 NB				3,970					4,025					3,795					3,095	Mix-flow
	HOV	675				625					720													970					1,135					1,095					930	HOV
	AM Peak	**2,800**	185	**2,615**	710	**3,325**	470	770	**3,625**		**3,625**	400	1,220	**5,325**	3,705	**2,405**	1,420	**3,715**	2,295	**4,700**	730	970	**4,940**	300	345	**4,985**	175	**5,160**	375	35	**4,820**	70	**4,890**	975	0	**3,915**	110	**4,025**	AM Peak
	Mix-flow	7,100				6,725					5,930												6,910					6,325					5,765					5,105	Mix-flow
	HOV	2,395				1,700					1,640												1,740					2,090					1,855					1,535	HOV
	PM Peak	**9,495**	1,615	**7,880**	545	**8,425**	1,510	655	**7,570**		**7,570**	330	2,350	**6,480**	3,800	**5,220**	1,840	**6,240**	4,400	**9,620**	1,650	680	**8,650**	560	140	**8,230**	185	**8,415**	1,220	75	**7,270**	350	**7,620**	1,410	0	**6,210**	430	**6,640**	PM Peak
	Mix-flow	64,055				64,650					59,760												67,770					64,315					59,985					49,495	Mix-flow
	HOV	20,410				15,725					14,870												16,750					19,430					18,170					16,010	HOV
	Daily	**84,465**	10,875	**73,590**	6,785	**80,375**	14,335	8,590	**74,630**		**74,630**	4,200	23,325	**70,875**	43,350	**51,305**	21,010	**60,320**	39,310	**90,615**	16,620	10,525	**84,520**	5,030	2,145	**81,635**	2,110	**83,745**	9,230	980	**75,495**	2,660	**78,155**	16,110	0	**62,045**	3,460	**65,505**	Daily

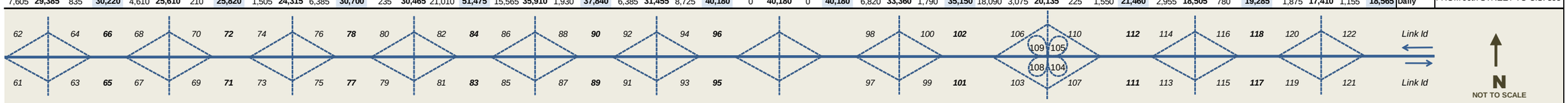
Table 3-34. Year 2040 High Desert Corridor Mainline and Ramp Forecast Traffic Volumes for the Revised Palmdale Access Alternative

High Desert Corridor Westbound			ON		OFF		ON		OFF		ON	OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF	
REVISED FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	3,850	0	3,850	0	3,850	890	2,960	375	3,335	410	450	3,375	995	2,380	525	2,905	0	2,905	0	2,905	445	2,460	230	2,690	540	2,150	160	2,310	180	2,130	180	2,310	60	2,250	65	2,315	25	2,290	175	2,465	80	2,385	80	2,465
	PM Peak	5,900	0	5,900	0	5,900	800	5,100	460	5,560	375	550	5,735	815	4,920	720	5,640	0	5,640	0	5,640	375	5,265	365	5,630	325	5,305	245	5,550	125	5,425	365	5,790	55	5,735	375	6,110	245	5,865	525	6,390	205	6,185	160	6,345
	Daily	61,095	0	61,095	0	61,095	11,570	49,525	5,850	55,375	2,260	6,790	59,905	12,175	47,730	7,935	55,665	0	55,665	0	55,665	4,735	50,930	2,645	53,575	4,995	48,580	1,890	50,470	2,235	48,235	2,955	51,190	665	50,525	2,795	53,320	990	52,330	3,170	55,500	1,760	53,740	900	54,640
REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	AM Peak	3,715	0	3,715	0	3,715	880	2,835	380	3,215	400	540	3,355	1,110	2,245	345	2,590	0	2,590	0	2,590	635	1,955	25	1,980	750	1,230	50	1,280	95	1,185	60	1,245	50	1,195	25	1,220	140	1,080	145	1,225	75	1,150	25	1,175
	PM Peak	6,240	0	6,240	0	6,240	1,075	5,165	405	5,570	350	700	5,920	890	5,030	380	5,410	0	5,410	0	5,410	530	4,880	50	4,930	460	4,470	30	4,500	75	4,425	315	4,740	25	4,715	330	5,045	230	4,815	550	5,365	200	5,165	30	5,195
	Daily	60,320	0	60,320	0	60,320	13,180	47,140	5,220	52,360	3,010	5,920	55,270	14,100	41,170	4,215	45,385	0	45,385	0	45,385	9,220	36,165	4,250	40,415	7,690	32,725	225	32,950	385	32,565	2,360	34,925	735	34,190	1,385	35,575	2,445	33,130	5,255	38,385	1,645	36,740	250	36,990



High Desert Corridor Eastbound			OFF		ON		OFF		ON		OFF	ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF	
REVISED FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	5,270	0	5,270	0	5,270	770	4,500	315	4,815	350	420	4,885	675	4,210	635	4,845	0	4,845	0	4,845	235	4,610	225	4,835	310	4,525	215	4,740	100	4,640	320	4,960	50	4,910	170	5,080	180	4,900	400	5,300	175	5,125	150	5,275
	PM Peak	6,055	0	6,055	0	6,055	1,180	4,875	485	5,360	620	550	5,290	1,155	4,135	590	4,725	0	4,725	0	4,725	470	4,255	300	4,555	575	3,980	260	4,240	195	4,045	250	4,295	65	4,230	80	4,310	40	4,270	225	4,495	125	4,370	100	4,470
	Daily	72,100	0	72,100	0	72,100	12,650	59,450	3,540	62,990	6,770	8,480	64,700	11,995	52,705	7,940	60,645	0	60,645	0	60,645	4,150	56,495	2,155	58,650	5,455	53,195	1,920	55,115	2,520	52,595	2,785	55,380	705	54,675	1,245	55,920	1,110	54,810	3,370	58,180	1,740	56,440	1,000	57,440
REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	AM Peak	5,325	0	5,325	0	5,325	800	4,525	285	4,810	415	440	4,835	750	4,085	400	4,485	0	4,485	0	4,485	525	3,960	25	3,985	625	3,360	250	3,610	50	3,560	25	3,585	25	3,560	170	3,730	400	3,330	630	3,960	170	3,790	130	3,920
	PM Peak	6,480	0	6,480	0	6,480	1,230	5,250	380	5,630	660	580	5,550	1,160	4,390	370	4,760	0	4,760	0	4,760	660	4,100	25	4,125	875	3,250	120	3,370	220	3,150	20	3,170	55	3,115	20	3,135	135	3,000	340	3,340	120	3,220	75	3,295
	Daily	70,875	0	70,875	0	70,875	13,110	57,765	3,315	61,080	7,810	8,510	61,780	13,200	48,580	4,805	53,385	0	53,385	0	53,385	6,635	46,750	255	47,005	8,870	38,135	1,995	40,130	2,500	37,630	140	37,770	430	37,340	800	38,140	2,640	35,500	6,770	42,270	1,640	40,630	500	41,130

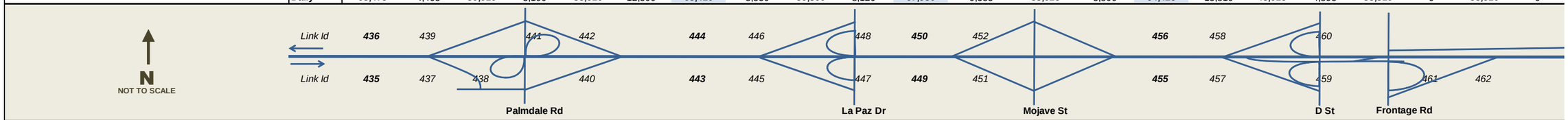
ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF			
140	2,325	290	2,615	560	2,055	100	2,155	150	2,005	485	2,490	595	1,895	950	2,845	785	2,060	745	2,805	315	2,490	1,405	3,895	0	3,895	0	3,895	390	3,505	230	3,735	1,270	165	2,630	1,080	170	1,720	335	1,385	105	1,490	220	1,270	130	1,400	AM Peak	REVISED FULL BUILD SCENARIO (SCAG LAND USE)
1,070	5,275	360	5,635	810	4,825	170	4,995	370	4,625	1,110	5,735	910	4,825	1,405	6,230	1,555	4,675	355	5,030	635	4,395	740	5,135	0	5,135	0	5,135	465	4,670	290	4,960	1,455	200	3,705	870	210	3,045	235	2,810	15	2,825	505	2,320	200	2,520	PM Peak	
7,815	46,825	3,285	50,110	8,655	41,455	615	42,070	3,305	38,765	8,265	47,030	9,325	37,705	19,085	56,790	17,250	39,540	3,895	43,435	6,410	37,025	16,525	53,550	0	53,550	0	53,550	4,870	48,680	2,790	51,470	18,700	2,090	34,860	13,395	1,950	23,415	2,955	20,460	780	21,240	1,875	19,365	1,155	20,520	Daily	
165	1,010	65	1,075	160	915	25	940	75	865	230	1,095	95	1,000	945	1,945	335	1,610	255	1,865	265	1,600	740	2,340	0	2,340	0	2,340	415	1,925	175	2,100	1,190	280	1,190	175	150	1,165	335	830	105	935	220	715	130	845	AM Peak	REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395
1,025	4,170	70	4,240	675	3,565	55	3,620	170	3,450	990	4,440	35	4,405	1,665	6,070	1,680	4,390	170	4,560	515	4,045	495	4,540	0	4,540	0	4,540	730	3,810	150	3,960	1,400	305	2,865	410	150	2,605	235	2,370	15	2,385	505	1,880	200	2,080	PM Peak	
7,605	29,385	835	30,220	4,610	25,610	210	25,820	1,505	24,315	6,385	30,700	235	30,465	21,010	51,475	15,565	35,910	1,930	37,840	6,385	31,455	8,725	40,180	0	40,180	0	40,180	6,820	33,360	1,790	35,150	18,090	3,075	20,135	225	1,550	21,460	2,955	18,505	780	19,285	1,875	17,410	1,155	18,565	Daily	



OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF			
870	4,405	295	4,700	780	3,920	145	4,065	380	3,685	1,020	4,705	820	3,885	1,375	5,260	1,435	3,825	335	4,160	625	3,535	625	4,160	0	4,160	0	4,160	380	3,780	275	4,055	985	200	3,270	1,135	170	2,305	150	2,155	50	2,205	475	1,730	170	1,900	AM Peak	REVISED FULL BUILD SCENARIO (SCAG LAND USE)
515	3,955	370	4,325	790	3,535	105	3,640	190	3,450	575	4,025	660	3,365	1,145	4,510	920	3,590	775	4,365	395	3,970	1,330	5,300	0	5,300	0	5,300	475	4,825	250	5,075	1,140	260	4,195	2,005	315	2,505	365	2,140	125	2,265	310	1,955	145	2,100	PM Peak	
8,995	48,445	3,785	52,230	8,725	43,505	335	43,840	2,590	41,250	8,325	49,575	10,645	38,930	18,385	57,315	16,575	40,740	3,470	44,210	5,975	38,235	16,990	55,225	0	55,225	0	55,225	5,055	50,170	2,650	52,820	12,610	2,400	42,610	23,085	2,470	21,995	2,545	19,450	430	19,880	1,630	18,250	1,720	19,970	Daily	
950	2,970	140	3,110	505	2,605	20	2,625	100	2,525	905	3,430	150	3,280	1,585	4,865	1,360	3,505	290	3,795	640	3,155	575	3,730	0	3,730	0	3,730	390	3,340	200	3,540	755	200	2,985	1,100	125	2,010	145	1,865	35	1,900	375	1,525	145	1,670	AM Peak	REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395
555	2,740	190	2,930	325	2,605	30	2,635	50	2,585	290	2,875	100	2,775	1,305	4,080	895	3,185	650	3,835	325	3,510	1,165	4,675	0	4,675	0	4,675	495	4,180	250	4,430	995	260	3,695	1,830	310	2,175	340	1,835	100	1,935	290	1,645	155	1,800	PM Peak	
8,970	32,160	1,185	33,345	4,315	29,030	150	29,180	500	28,680	5,270	33,950	570	33,380	19,870	53,250	15,455	37,795	2,800	40,595	6,335	34,260	14,490	48,750	0	48,750	0	48,750	5,795	42,955	2,500	45,455	9,500	2,400	38,355	20,290	2,475	20,540	2,260	18,280	475	18,755	1,525	17,230	1,615	18,845	Daily	

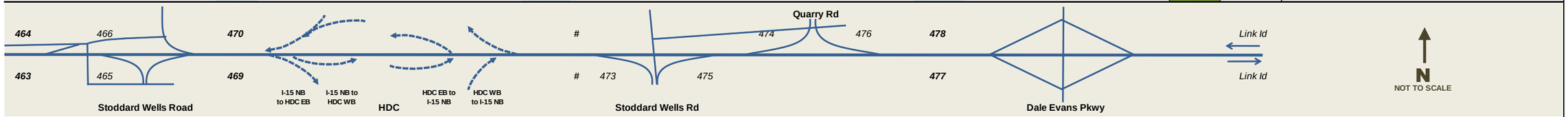
Table 3-35. Year 2040 I-15 Mainline and Ramp Forecast Traffic Volumes for the Revised Palmdale Access Alternative

			ON		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF
REVISED FULL-BUILD SCENARIO (SCAG LAND USE)	**AM Peak**	**4,870**	310	**4,560**	225	**4,335**	855	**5,190**	435	**4,755**	455	**5,210**	725	**4,485**	375	**4,860**	925	**3,935**	345	**4,280**	0	**4,280**	0
	PM Peak	**4,320**	335	**3,985**	240	**3,745**	995	**4,740**	580	**4,160**	475	**4,635**	680	**3,955**	495	**4,450**	1,210	**3,240**	315	**3,555**	0	**3,555**	0
	Daily	**63,495**	4,505	**58,990**	3,160	**55,830**	12,595	**68,425**	8,625	**59,800**	7,945	**67,745**	9,550	**58,195**	6,690	**64,885**	15,310	**49,575**	5,080	**54,655**	0	**54,655**	0
REVISED FULL-BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	**AM Peak**	**4,915**	300	**4,615**	215	**4,400**	800	**5,200**	410	**4,790**	430	**5,220**	705	**4,515**	355	**4,870**	900	**3,970**	305	**4,275**	0	**4,275**	0
	PM Peak	**4,330**	350	**3,980**	200	**3,780**	950	**4,730**	555	**4,175**	460	**4,635**	695	**3,940**	480	**4,420**	1,115	**3,305**	285	**3,590**	0	**3,590**	0
	Daily	**63,475**	4,465	**59,010**	3,100	**55,910**	12,500	**68,410**	8,550	**59,860**	8,120	**67,980**	9,355	**58,625**	5,800	**64,425**	15,810	**48,615**	4,895	**53,510**	0	**53,510**	0



			OFF		ON		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON
REVISED FULL-BUILD SCENARIO (SCAG LAND USE)	**AM Peak**	3,690	475	**3,215**	385	**3,600**	450	**4,050**	560	**3,490**	425	**3,915**	605	**3,310**	450	**3,760**	1,185	**2,575**	290	**2,865**	50	**2,815**	50
	PM Peak	6,000	650	**5,350**	405	**5,755**	505	**6,260**	620	**5,640**	565	**6,205**	790	**5,415**	390	**5,805**	1,095	**4,710**	370	**5,080**	70	**5,010**	55
	Daily	68,495	7,670	**60,825**	5,975	**66,800**	6,365	**73,165**	8,450	**64,715**	7,400	**72,115**	9,505	**62,610**	5,820	**68,430**	15,410	**53,020**	4,800	**57,820**	1,180	**56,640**	1,080
REVISED FULL-BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	**AM Peak**	3,700	460	**3,240**	380	**3,620**	440	**4,060**	555	**3,505**	390	**3,895**	655	**3,240**	500	**3,740**	1,150	**2,590**	300	**2,890**	50	**2,840**	50
	PM Peak	6,025	625	**5,400**	400	**5,800**	500	**6,300**	580	**5,720**	500	**6,220**	680	**5,540**	355	**5,895**	1,070	**4,825**	305	**5,130**	70	**5,060**	55
	Daily	68,500	7,330	**61,170**	5,900	**67,070**	6,380	**73,450**	8,000	**65,450**	6,800	**72,250**	9,255	**62,995**	5,220	**68,215**	15,200	**53,015**	4,650	**57,665**	1,180	**56,485**	1,080

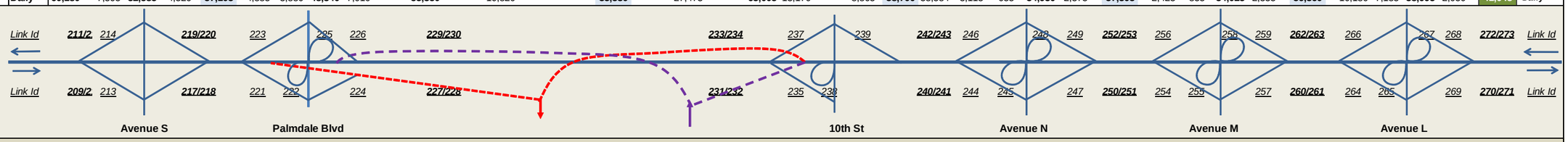
ON		OFF									ON		OFF		ON		OFF				
4,280	615	**3,665**	725	**4,390**	985	165	**3,240**	200	1,270	**4,710**	270	**4,440**	220	**4,660**	400	**4,260**	415	4,675	**AM Peak**	REVISED FULL-BUILD SCENARIO (SCAG LAND USE)
3,555	585	**2,970**	575	**3,545**	1,140	200	**2,205**	260	1,455	**3,920**	360	**3,560**	275	**3,835**	455	**3,380**	520	3,900	**PM Peak**	
54,655	6,925	**47,730**	8,485	**56,215**	12,610	2,090	**41,515**	2,400	18,700	**62,615**	5,255	**57,360**	2,990	**60,350**	5,370	**54,980**	6,100	61,080	**Daily**	
4,275	665	**3,610**	740	**4,350**	755	280	**3,315**	200	1,190	**4,705**	290	**4,415**	185	**4,600**	430	**4,170**	385	4,555	**AM Peak**	REVISED FULL-BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395
3,590	550	**3,040**	555	**3,595**	995	305	**2,295**	260	1,400	**3,955**	375	**3,580**	260	**3,840**	480	**3,360**	500	3,860	**PM Peak**	
53,510	7,245	**46,265**	8,360	**54,625**	9,500	3,075	**42,050**	2,400	18,090	**62,540**	5,405	**57,135**	3,310	**60,445**	5,550	**54,895**	5,985	60,880	**Daily**	



	OFF		ON								OFF		ON			OFF		ON			
2,865	495	**2,370**	440	**2,810**	170	1,080	**1,560**	1,135	170	**2,865**	245	**2,620**	260	**2,880**	430	**2,450**	440	**2,890**	**AM Peak**	REVISED FULL-BUILD SCENARIO (SCAG LAND USE)
5,065	620	**4,445**	710	**5,155**	315	870	**3,970**	2,005	210	**6,185**	265	**5,920**	240	**6,160**	425	**5,735**	455	**6,190**	**PM Peak**	
57,720	6,145	**51,575**	7,555	**59,130**	2,470	13,395	**43,265**	23,085	1,950	**68,300**	5,585	**62,715**	3,070	**65,785**	5,550	**60,235**	5,990	**66,225**	**Daily**	
2,890	590	**2,300**	275	**2,575**	125	175	**2,275**	1,100	150	**3,525**	460	**3,065**	230	**3,295**	455	**2,840**	395	**3,235**	**AM Peak**	REVISED FULL-BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395
5,115	680	**4,435**	570	**5,005**	310	410	**4,285**	1,830	150	**6,265**	350	**5,915**	220	**6,135**	435	**5,700**	470	**6,170**	**PM Peak**	
57,565	8,005	**49,560**	5,305	**54,865**	2,475	225	**52,165**	20,290	1,550	**74,005**	8,580	**65,425**	2,550	**67,975**	5,750	**62,225**	4,970	**67,195**	**Daily**	

Table 3-36. Year 2020 SR 14 Mainline and Ramp Forecast Traffic Volumes for the Revised Palmdale Access Alternative

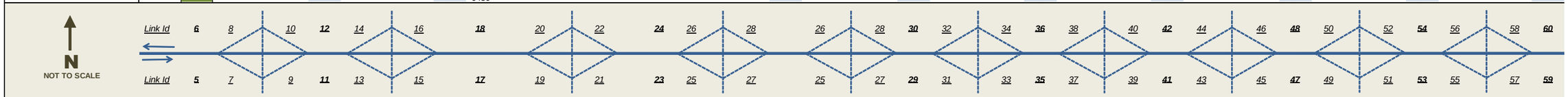
SR 14 Southbound			ON		OFF		ON	ON		OFF			ON			OFF		ON	OFF			ON	ON		OFF			ON	ON		OFF				
REVISED FULL BUILD SCENARIO (SCAG LAND USE)	Mix-flow	3,720				3,265					3,030	HDC WB to SR 14 SB		HDC EB from SR 14 SB	4,230				4,925						4,885					4,930					3,650	Mix-flow
	HOV	1,910				1,570					1,220				1,305																					HOV
	AM Peak	**5,630**	1,045	**4,585**	250	**4,835**	570	520	**3,745**	505	**4,250**	1,250	**3,000**	2,535	**5,535**	1,210	600	**4,925**	4,842	290	50	**4,585**	300	**4,885**	145	55	**4,685**	245	**4,930**	910	610	**3,410**	240	**3,650**	**AM Peak**
	Mix-flow	2,680				2,655					3,125				3,280				4,775						4,850					4,575					3,385	Mix-flow
	HOV	860				1,000					900				1,620																					HOV
	PM Peak	**3,540**	410	**3,130**	525	**3,655**	220	105	**3,330**	695	**4,025**	1,485	**2,540**	2,360	**4,900**	920	795	**4,775**	4,586	225	100	**4,450**	400	**4,850**	160	235	**4,455**	120	**4,575**	825	485	**3,265**	120	**3,385**	**PM Peak**
	Mix-flow	43,995				41,280					42,095				47,415				58,700						57,305					56,360					41,045	Mix-flow
	HOV	16,050				15,690					13,300				15,635																					HOV
	Daily	**60,045**	7,595	**52,450**	4,520	**56,970**	4,855	3,680	**48,435**	6,960	**55,395**	19,670	**35,725**	27,325	**63,050**	13,035	8,685	**58,700**	58,584	3,115	655	**54,930**	2,375	**57,305**	2,425	855	**54,025**	2,335	**56,360**	10,180	7,185	**38,995**	2,050	**41,045**	**Daily**
REVISED FULL BUILD SCENARI WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	Mix-flow	3,755				3,320					3,010	HDC WB to SR 14 SB		HDC EB from SR 14 SB	4,210				4,925						4,885					4,930					3,650	Mix-flow
	HOV	1,910				1,550					1,250				1,355																					HOV
	AM Peak	**5,665**	1,045	**4,620**	250	**4,870**	585	585	**3,700**	560	**4,260**	1,280	**2,980**	2,585	**5,565**	1,270	630	**4,925**	4,842	290	50	**4,585**	300	**4,885**	145	55	**4,685**	245	**4,930**	910	610	**3,410**	240	**3,650**	**AM Peak**
	Mix-flow	2,690				2,645					3,065				3,335				4,775						4,850					4,575					3,385	Mix-flow
	HOV	860				1,020					960				1,600																					HOV
	PM Peak	**3,550**	410	**3,140**	525	**3,665**	230	150	**3,285**	740	**4,025**	1,505	**2,520**	2,415	**4,935**	990	830	**4,775**	4,586	225	100	**4,450**	400	**4,850**	160	235	**4,455**	120	**4,575**	825	485	**3,265**	120	**3,385**	**PM Peak**
	Mix-flow	44,130				41,405					41,850				47,165				58,700						57,305					56,360					41,045	Mix-flow
	HOV	16,050				15,700					13,500				15,840																					HOV
	Daily	**60,180**	7,595	**52,585**	4,520	**57,105**	4,885	3,880	**48,340**	7,010	**55,350**	19,820	**35,530**	27,475	**63,005**	13,170	8,865	**58,700**	58,584	3,115	655	**54,930**	2,375	**57,305**	2,425	855	**54,025**	2,335	**56,360**	10,180	7,185	**38,995**	2,050	**41,045**	**Daily**



SR 14 Northbound			OFF		ON		OFF	ON			OFF									ON		OFF	ON				OFF	ON		ON		OFF	ON		ON			
REVISED FULL BUILD SCENARIO (SCAG LAND USE)	Mix-flow	1,710				2,240					2,560	SR-14 NB to HDC EB	Total Con. Vol	SR-14 SB to HDC EB		HDC WB to SR 14 SB	Total Con. Vol	HDC WB to SR 14 NB				3,850					4,000					3,780					3,195	Mix-flow
	HOV	590				580		To SR 14		To HDC	620																											HOV
	AM Peak	**2,300**	140	**2,160**	660	**2,820**	335	250	**2,735**	445	**3,180**	965	**3,500**	2,535	**2,215**	1,250	**2,910**	1,660	**3,875**	600	575	**3,850**		255	280	**3,875**	125	**4,000**	290	25	**3,735**	45	**3,780**	680	0	**3,100**	95	**3,195**	**AM Peak**
	Mix-flow	5,100				4,985					4,720											6,825					6,905					6,175					5,360	Mix-flow
	HOV	1,820				1,620					1,640																											HOV
	PM Peak	**6,920**	835	**6,085**	520	**6,605**	930	190	**5,865**	495	**6,360**	1,960	**4,320**	2,360	**4,400**	1,485	**4,515**	3,030	**7,430**	1,120	515	**6,825**		300	135	**6,660**	245	**6,905**	1,010	50	**5,945**	230	**6,175**	1,130	0	**5,045**	315	**5,360**	**PM Peak**
	Mix-flow	47,615				47,870					47,315								68,825			64,465					64,875					59,339					50,829	Mix-flow
	HOV	17,435				16,630					15,575																											HOV
	Daily	**65,050**	6,630	**58,420**	6,080	**64,500**	9,285	2,075	**57,290**	5,600	**62,890**	20,660	**47,985**	27,325	**42,230**	19,670	**46,265**	26,595	**68,825**	12,585	8,225	**64,465**		3,040	1,860	**63,285**	1,590	**64,875**	8,171	675	**57,379**	1,960	**59,339**	11,485	0	**47,854**	2,975	**50,829**	**Daily**
REVISED FULL BUILD SCENARI WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	Mix-flow	1,710				2,240					2,760	SR 14 NB to HDC EB	Total Con. Vol	SR 14 SB to HDC EB		HDC WB to SR 14 SB	Total Con. Vol	HDC WB to SR 14 NB				4,125					4,275					4,055					3,470	Mix-flow
	HOV	590				580		To SR 14		To HDC	690																											HOV
	AM Peak	**2,300**	140	**2,160**	660	**2,820**	350	680	**3,150**	300	**3,450**	965	**3,850**	2,585	**2,485**	1,280	**3,115**	1,835	**4,320**	780	585	**4,125**		255	280	**4,150**	125	**4,275**	290	25	**4,010**	45	**4,055**	680	0	**3,375**	95	**3,470**	**AM Peak**
	Mix-flow	5,100				4,985					4,915											7,090					7,170					6,440					5,625	Mix-flow
	HOV	1,820				1,620					1,660																											HOV
	PM Peak	**6,920**	835	**6,085**	520	**6,605**	950	675	**6,330**	245	**6,575**	1,960	**4,620**	2,415	**4,615**	1,505	**4,560**	3,055	**7,670**	1,135	555	**7,090**		300	135	**6,925**	245	**7,170**	1,010	50	**6,210**	230	**6,440**	1,130	0	**5,310**	315	**5,625**	**PM Peak**
	Mix-flow	47,615				47,870					51,185								72,990			68,830					69,240					63,704					55,194	Mix-flow
	HOV	17,435				16,630					15,680																											HOV
	Daily	**65,050**	6,630	**58,420**	6,080	**64,500**	9,350	7,425	**62,575**	4,290	**66,865**	20,660	**52,425**	27,475	**46,205**	19,820	**46,605**	26,785	**72,990**	12,685	8,525	**68,830**		3,040	1,860	**67,650**	1,590	**69,240**	8,171	675	**61,744**	1,960	**63,704**	11,485	0	**52,219**	2,975	**55,194**	**Daily**

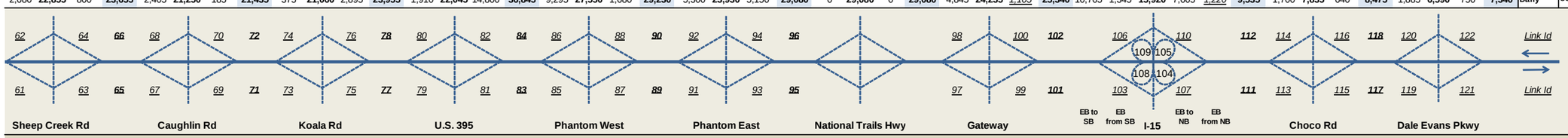
Table 3-37. Year 2020 High Desert Corridor Mainline and Ramp Forecast Traffic Volumes for the Revised Palmdale Access Alternative

High Desert Corridor Westbound			ON		OFF		ON		OFF				ON		OFF			ON		OFF			ON		OFF			ON		OFF			ON		OFF			ON		OFF			ON		OFF	
REVISED FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	2,960	0	2,960	0	2,960	645	2,315	320	2,635	450	325	2,510	665	1,845	335	2,180	0	2,180	0	2,180	355	1,825	95	1,920	500	1,420	120	1,540	115	1,425	100	1,525	40	1,485	50	1,535	20	1,515	150	1,665	75	1,590	60	1,650
	PM Peak	4,800	0	4,800	0	4,800	610	4,190	440	4,630	480	275	4,425	650	3,775	575	4,350	0	4,350	0	4,350	220	4,130	180	4,310	290	4,020	165	4,185	95	4,090	305	4,395	50	4,345	225	4,570	135	4,435	350	4,785	120	4,665	90	4,755
	Daily	48,255	0	48,255	0	48,255	7,555	40,700	4,250	44,950	5830	4,230	43,350	9,100	34,250	5,200	39,450	0	39,450	0	39,450	3,140	36,310	1,485	37,795	5,120	32,675	1,260	33,935	1,320	32,615	2,310	34,925	560	34,365	2,015	36,380	720	35,660	2,110	37,770	1,040	36,730	725	37,455
REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	AM Peak	3,115	0	3,115	0	3,115	715	2,400	225	2,625	500	350	2,475	885	1,590	300	1,890	0	1,890	0	1,890	500	1,390	20	1,410	490	920	35	955	50	905	50	955	35	920	10	930	100	830	115	945	50	895	20	915
	PM Peak	4,560	0	4,560	0	4,560	750	3,810	280	4,090	530	400	3,960	700	3,260	395	3,655	0	3,655	0	3,655	485	3,170	40	3,210	650	2,560	25	2,585	40	2,545	270	2,815	20	2,795	180	2,975	120	2,855	355	3,210	145	3,065	25	3,090
	Daily	46,605	0	46,605	0	46,605	10,250	36,355	1,510	37,865	6480	6,925	38,310	10,325	27,985	3,995	31,980	0	31,980	0	31,980	5,185	26,795	1,510	28,305	6,075	22,230	170	22,400	195	22,205	1,965	24,170	415	23,755	670	24,425	1,320	23,105	3,240	26,345	1,010	25,335	200	25,535



High Desert Corridor Eastbound			OFF		ON		OFF		ON		30th OFF	30th ON	OFF	50th OFF	ON	50th ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON	
REVISED FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	4,110	0	4,110	0	4,110	590	3,520	330	3,850	440	190	3,600	550	3,050	460	3,510	0	3,510	0	3,510	200	3,310	155	3,465	255	3,210	145	3,355	80	3,275	265	3,540	45	3,495	100	3,595	120	3,475	255	3,730	115	3,615	80	3,695
	PM Peak	4,995	0	4,995	0	4,995	900	4,095	330	4,425	710	225	3,940	820	3,120	465	3,585	0	3,585	0	3,585	365	3,220	115	3,335	515	2,820	175	2,995	125	2,870	140	3,010	55	2,955	50	3,005	30	2,975	165	3,140	100	3,040	65	3,105
	Daily	59,010	0	59,010	0	59,010	10,090	48,920	2,572	51,492	7875	2,810	46,427	9,330	37,097	5,605	42,702	0	42,702	0	42,702	3,245	39,457	1,445	40,902	4,925	35,977	1,335	37,312	1,585	35,727	2,190	37,917	570	37,347	920	38,267	990	37,277	2,245	39,522	1,120	38,402	650	39,052
REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	AM Peak	3,850	0	3,850	0	3,850	580	3,270	145	3,415	415	265	3,265	630	2,635	390	3,025	0	3,025	0	3,025	365	2,660	20	2,680	400	2,280	180	2,460	40	2,420	20	2,440	20	2,420	50	2,470	165	2,305	280	2,585	100	2,485	105	2,590
	PM Peak	4,620	0	4,620	0	4,620	875	3,745	300	4,045	690	365	3,720	800	2,920	455	3,375	0	3,375	0	3,375	425	2,950	20	2,970	710	2,260	85	2,345	135	2,210	15	2,225	40	2,185	15	2,200	95	2,105	200	2,305	80	2,225	85	2,310
	Daily	52,425	0	52,425	0	52,425	9,660	42,765	3,480	46,245	9860	5,460	41,845	10,435	31,410	4,225	35,635	0	35,635	0	35,635	5,240	30,395	200	30,595	7,075	23,520	1,350	24,870	1,860	23,010	135	23,145	410	22,735	400	23,135	1,005	22,130	2,505	24,635	620	24,015	655	24,670

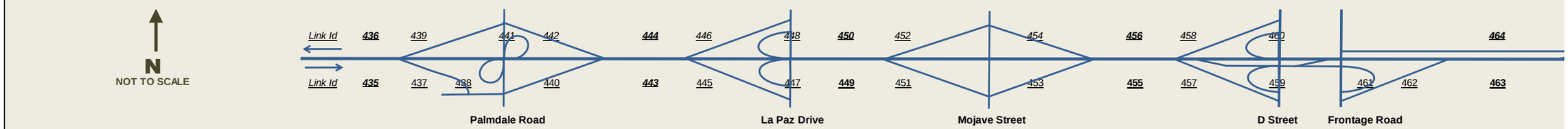
ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF			
135	1,515	200	1,715	250	1,465	60	1,525	115	1,410	410	1,820	385	1,435	725	2,160	535	1,625	275	1,900	275	1,625	385	2,010	0	2,010	0	2,010	215	1,795	125	1,920	695	205	1,430	565	130	995	220	775	70	845	175	670	70	740	AM Peak	REVISED FULL BUILD SCENARIO (SCAG LAND USE)
855	3,900	290	4,190	320	3,870	100	3,970	215	3,755	580	4,335	800	3,535	1,185	4,720	1,020	3,700	185	3,885	495	3,390	300	3,690	0	3,690	0	3,690	380	3,310	195	3,505	960	165	2,710	630	155	2,235	130	2,105	100	2,205	365	1,840	120	1,960	PM Peak	
5,590	31,865	2,780	34,645	2,810	31,835	200	32,035	2,340	29,695	5,650	35,345	7,175	28,170	13,000	41,170	9,400	31,770	1,645	33,415	5,255	28,160	5,440	33,600	0	33,600	0	33,600	4,415	29,185	1,925	31,110	13,825	1,440	18,725	9,815	1,635	10,545	2,320	8,225	495	8,720	1,800	6,920	855	7,775	Daily	
90	825	50	875	135	740	20	760	30	730	205	935	30	905	775	1,680	230	1,450	190	1,640	195	1,445	375	1,820	0	1,820	0	1,820	265	1,555	120	1,675	675	200	1,200	390	125	935	200	735	60	795	170	625	70	695	AM Peak	REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395
360	2,730	60	2,790	320	2,470	50	2,520	80	2,440	515	2,955	370	2,585	1,345	3,930	1,110	2,820	145	2,965	415	2,550	300	2,850	0	2,850	0	2,850	370	2,480	180	2,660	925	130	1,865	595	140	1,410	100	1,310	50	1,360	210	1,150	80	1,230	PM Peak	
2,680	22,855	800	23,655	2,405	21,250	185	21,435	375	21,060	2,895	23,955	1,910	22,045	14,800	36,845	9,295	27,550	1,680	29,230	5,300	23,930	5,150	29,080	0	29,080	0	29,080	4,845	24,235	1,105	25,340	10,765	1,345	15,920	7,605	1,220	9,535	1,700	7,835	640	8,475	1,885	6,590	750	7,340	Daily	



OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON			
800	2,895	175	3,070	290	2,780	90	2,870	205	2,665	600	3,265	715	2,550	1,095	3,645	955	2,690	150	2,840	470	2,370	205	2,575	0	2,575	0	2,575	300	2,275	170	2,445	575	150	2,020	720	80	1,380	80	1,300	145	1,445	245	1,200	110	1,310	AM Peak	REVISED FULL BUILD SCENARIO (SCAG LAND USE)
400	2,705	265	2,970	310	2,660	65	2,725	160	2,565	435	3,000	490	2,510	850	3,360	670	2,690	370	3,060	280	2,780	555	3,335	0	3,335	0	3,335	290	3,045	155	3,200	635	125	2,690	1,220	230	1,700	275	1,425	100	1,525	275	1,250	95	1,345	PM Peak	
6,980	32,072	2,815	34,887	3,355	31,532	225	31,757	2,080	29,677	5,480	35,157	7,095	28,062	12,660	40,722	8,780	31,942	1,880	33,822	4,095	29,727	4,655	34,382	0	34,382	0	34,382	4,450	29,932	2,010	31,942	8,530	1,650	25,062	16,425	1,750	10,387	1,255	9,132	400	9,532	2,865	6,667	1,035	7,702	Daily	
510	2,080	110	2,190	245	1,945	15	1,960	45	1,915	320	2,235	120	2,115	1,040	3,155	805	2,350	165	2,515	490	2,025	185	2,210	0	2,210	0	2,210	335	1,875	150	2,025	525	140	1,640	540	85	1,185	70	1,115	30	1,145	165	980	105	1,085	AM Peak	REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395
315	1,995	150	2,145	230	1,915	25	1,940	30	1,910	205	2,115	85	2,030	825	2,855	570	2,285	385	2,670	280	2,390	520	2,910	0	2,910	0	2,910	255	2,655	125	2,780	550	110	2,340	1,165	265	1,440	250	1,190	70	1,260	195	1,065	95	1,160	PM Peak	
3,795	20,875	1,040	21,915	2,190	19,725	125	19,850	395	19,455	3,845	23,300	415	22,885	12,955	35,840	8,665	27,175	1,995	29,170	3,995	25,175	4,455	29,630	0	29,630	0	29,630	4,220	25,410	1,800	27,210	8,365	1,500	20,345	13,895	1,645	8,095	1,100	6,995	340	7,335	1,115	6,220	920	7,140	Daily	

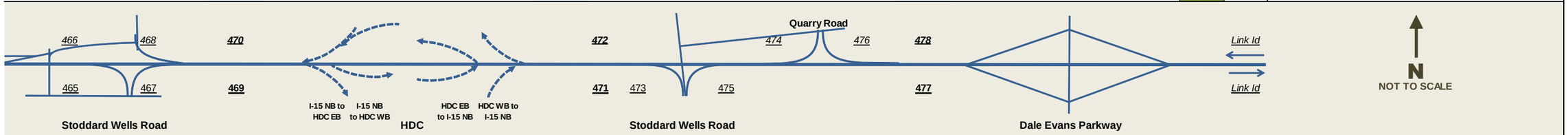
Table 3-38. Year 2020 I-15 Mainline and Ramp Forecast Traffic Volumes for the Revised Palmdale Access Alternative

I-15 Southbound			ON		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON		OFF	
REVISED FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	4,415	230	4,185	155	4,030	520	4,550	380	4,170	370	4,540	595	3,945	255	4,200	840	3,360	200	3,560	0	3,560	0	3,560
	PM Peak	4,055	310	3,745	205	3,540	735	4,275	550	3,725	405	4,130	590	3,540	380	3,920	1,020	2,900	235	3,135	0	3,135	0	3,135
	Daily	57,620	3,990	53,630	2,875	50,755	9,980	60,735	7,220	53,515	5,690	59,205	8,080	51,125	4,715	55,840	12,490	43,350	3,460	46,810	0	46,810	0	46,810
REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	AM Peak	4,100	245	3,855	160	3,695	490	4,185	370	3,815	385	4,200	620	3,580	220	3,800	645	3,155	245	3,400	0	3,400	0	3,400
	PM Peak	3,755	300	3,455	180	3,275	720	3,995	535	3,460	395	3,855	580	3,275	365	3,640	975	2,665	220	2,885	0	2,885	0	2,885
	Daily	55,780	3,760	52,020	2,940	49,080	9,500	58,580	5,680	52,900	5,720	58,620	7,945	50,675	4,700	55,375	12,150	43,225	3,565	46,790	0	46,790	0	46,790



I-15 Northbound			OFF		ON		ON		OFF		ON		OFF		ON		OFF		ON		OFF		ON	
REVISED FULL BUILD SCENARIO (SCAG LAND USE)	AM Peak	2,795	445	2,350	335	2,685	375	3,060	515	2,545	360	2,905	475	2,430	405	2,835	935	1,900	270	2,170	35	2,135	40	2,175
	PM Peak	5,205	550	4,655	380	5,035	450	5,485	560	4,925	515	5,440	560	4,880	380	5,260	955	4,305	325	4,630	40	4,590	45	4,635
	Daily	56,500	6,700	49,800	4,960	54,760	5,615	60,375	7,660	52,715	6,160	58,875	7,220	51,655	4,325	55,980	13,560	42,420	3,830	46,250	1,000	45,250	675	45,925
REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395	AM Peak	2,725	435	2,290	325	2,615	320	2,935	485	2,450	355	2,805	480	2,325	385	2,710	885	1,825	260	2,085	35	2,050	35	2,085
	PM Peak	5,315	545	4,770	360	5,130	300	5,430	575	4,855	500	5,355	595	4,760	370	5,130	925	4,205	280	4,485	40	4,445	40	4,485
	Daily	57,480	6,230	51,250	5,170	56,420	5,440	61,860	7,770	54,090	6,115	60,205	6,905	53,300	4,530	57,830	11,555	46,275	3,815	50,090	990	49,100	655	49,755

ON		OFF										ON		OFF		ON		OFF			
515	3,045	510	3,555	575	205	2,775	150	695	3,620	155	3,465	125	3,590	260	3,330	230	3,560	AM Peak	REVISED FULL BUILD SCENARIO (SCAG LAND USE)
470	2,665	300	2,965	635	165	2,165	125	960	3,250	345	2,905	130	3,035	375	2,660	385	3,045	PM Peak	
5,640	41,170	5,875	47,045	8,530	1,440	37,075	1,650	13,825	52,550	3,160	49,390	1,320	50,710	3,640	47,070	3,180	50,250	Daily	
465	2,935	545	3,480	525	200	2,755	140	675	3,570	125	3,445	110	3,555	240	3,315	225	3,540	AM Peak	REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395
405	2,480	320	2,800	550	130	2,120	110	925	3,155	225	2,930	130	3,060	390	2,670	370	3,040	PM Peak	
5,365	41,425	6,190	47,615	8,365	1,345	37,905	1,500	10,765	50,170	3,185	46,985	1,300	48,285	3,555	44,730	3,065	47,795	Daily	



OFF		ON								OFF		ON		OFF		ON			
400	1,775	275	2,050	80	565	1,405	720	130	2,255	200	2,055	120	2,175	260	1,915	295	2,210	AM Peak	REVISED FULL BUILD SCENARIO (SCAG LAND USE)
495	4,140	595	4,735	230	630	3,875	1,220	155	5,250	185	5,065	220	5,285	280	5,005	330	5,335	PM Peak	
5,120	40,805	6,230	47,035	1,750	9,815	35,470	16,425	1,635	53,530	2,550	50,980	1,920	52,900	2,860	50,040	3,670	53,710	Daily	
375	1,710	215	1,925	85	390	1,450	540	125	2,115	195	1,920	110	2,030	255	1,775	300	2,075	AM Peak	REVISED FULL BUILD SCENARIO WITH TOLL ALTERNATIVE ALONG HDC FROM 90th STREET TO U.S. 395
450	4,035	430	4,465	265	595	3,605	1,165	140	4,910	190	4,720	135	4,855	270	4,585	305	4,890	PM Peak	
5,305	44,450	2,380	46,830	1,645	7,605	37,580	13,895	1,220	52,695	2,470	50,225	2,050	52,275	2,750	49,525	3,630	53,155	Daily	