

5.14 TRANSPORTATION AND TRAFFIC

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for implementation of the Spring Trails project to result in transportation and traffic impacts in the City of San Bernardino and its sphere of influence at opening year 2013 and cumulative conditions in 2035.

The analysis in this section is based in part on the following technical report(s):

- *Spring Trails Traffic Impact Analysis*, Kunzman Associates, Inc., May 27, 2011.

A complete copy of this study is included in the Technical Appendices to this Draft EIR (Volume II, Appendix K).

5.14.1 Environmental Setting

Traffic Analysis Methodology

Kunzman Associates conducted a traffic analysis to quantify existing and future traffic conditions. The analysis considers the weekday AM and PM peak hours of traffic. The traffic analysis was conducted based on 329 total residential units, not 307 units as proposed in this project, because previous development plans for the Spring Trails project had included 329 units. The analysis of 329 units is being used in this section of the DEIR to maintain consistency with the technical study prepared for the project. Using this analysis projects a more conservative estimate of future traffic conditions than would an analysis based on 307 units. Actual impacts would be slightly less due to the reduction in units. The following traffic conditions were analyzed:

- Existing Conditions (Year 2011)
- Existing Plus Project Conditions (Year 2011)
- Project Opening Year Conditions (Year 2013)
- Horizon Year Conditions (Year 2035)

Opening year and horizon year average daily traffic (ADT) volumes were calculated using the growth increment approach of the East Valley Traffic Model (EVTM) Year 2000 and Year 2035 average daily traffic volume forecasts. The incremental growth in ADT was factored to reflect growth between existing year 2011 and horizon year 2035. For this purpose, linear growth between the Year 2000 base condition and the forecast Year 2035 condition was assumed. Since the increment between Year 2011 and Year 2035 is 24 years of the 35 year time frame, a factor of 0.69 (i.e., 24/35) was used.

The level of service (LOS) evaluation was based on the 2000 Highway Capacity Manual (HCM), with the definition of an intersection deficiency based on the City of San Bernardino General Plan. Table 5.14-1 has the definitions for intersection LOS as found in the HCM. The City of San Bernardino defines the acceptable level of intersection service as LOS D or better.



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Table 5.14-1
Intersection Level of Service

<i>LOS</i>	<i>Interpretation</i>	<i>Volume to Capacity Ratio</i>
A	No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	0.00–0.60
B	Represents stable operation. An occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel somewhat restricted within platoons of vehicles.	0.61–0.70
C	Stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasional drivers may have to wait through more than one red signal intersection, and backups may develop behind turning vehicles.	0.71–0.80
D	Encompasses a zone of increasing restriction approaching instability. Delays to approaching vehicles may be substantial during short peaks with the peak period, but enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.	0.81–0.90
E	Represents the most vehicles that any particular intersection approach can accommodate. At capacity ($V/C = 1.00$), there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).	0.90–1.00
F	Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration; hence, volumes carried are not predictable. V/C values are highly variable because full utilization of the approach may be prevented by outside conditions.	> 1.00

Source: Highway Capacity Manual 2000.

Existing Roadway Network

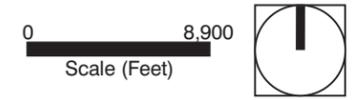
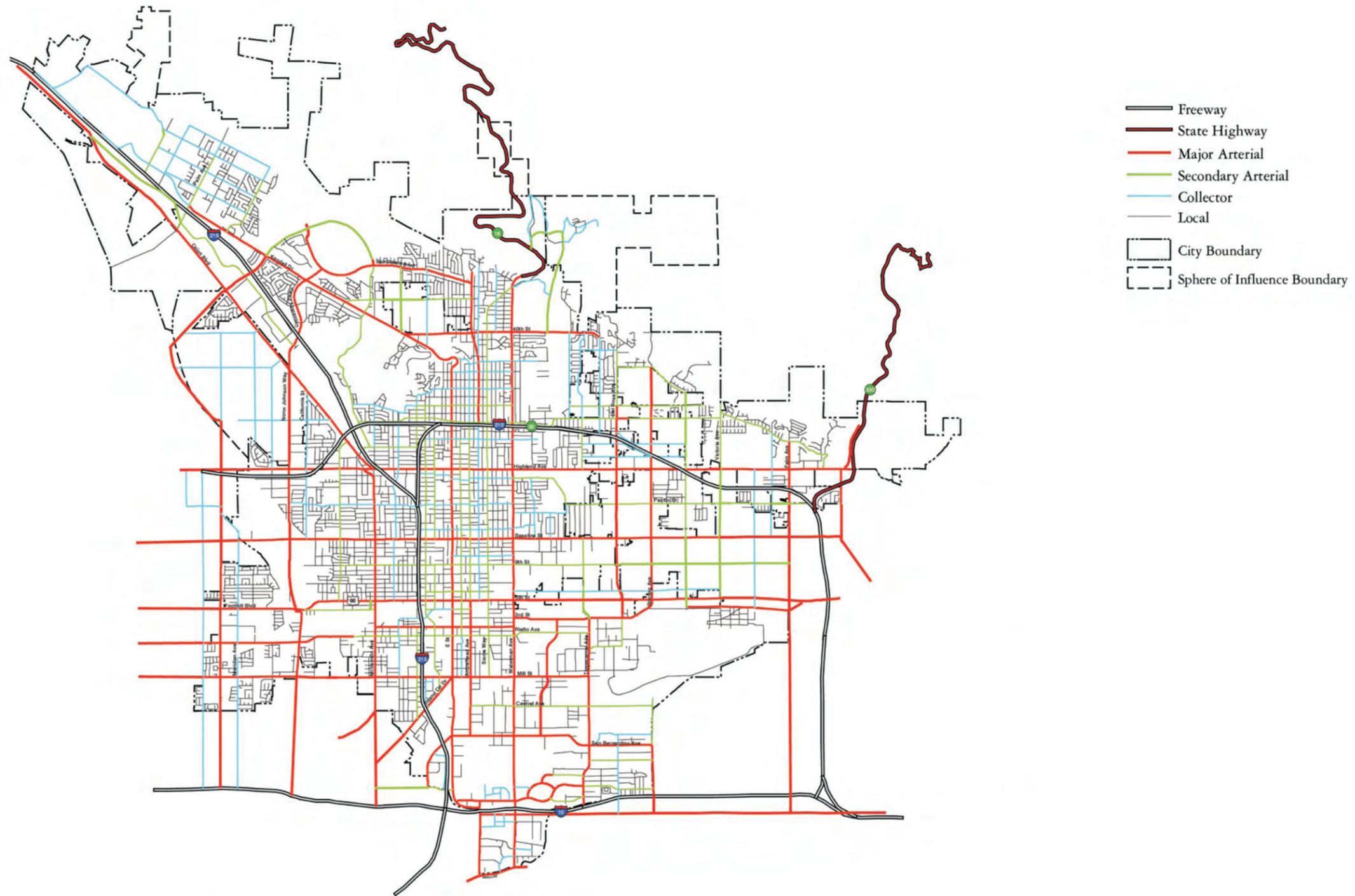
Regional access to the project site is provided by Interstate 215 (I-215) and Interstate 15 (I-15). Local access is provided by various roadways in the vicinity of the site. The east–west roadways that would be most affected by the project include the Primary Access Road, Meyers Road, Belmont Avenue, Irvington Avenue, Frontage Road, and Kendall Drive. North–south roadways expected to provide local access include Secondary Access Road, Little League Drive, Magnolia Avenue, and Palm Avenue. The City’s roadway network is shown in Figure 5.14-1, *City of San Bernardino Circulation Plan*. The project area is depicted in Figure 5.14-2, *Traffic Analysis Study Area*. Detailed travel lanes and intersection configurations for this study area are shown in Figure 5.14-3, *Existing Roadways and Intersection Controls*.

Roadway Classification

The City of San Bernardino General Plan defines city roadways in Chapter 6 of the General Plan, Circulation (pages 6-5 and 6-6).

- **Major Arterials** can accommodate six or eight travel lanes and may have raised medians. These facilities carry high traffic volumes and are the primary thoroughfares linking San Bernardino with adjacent cities and the regional highway system. Driveway access to these roadways is typically limited to provide efficient high volume traffic flow.
- **Secondary Arterials** are typically four-lane streets, providing two lanes in each direction. These highways carry traffic along the perimeters of major developments, provide support to major arterials, and are also through streets enabling traffic to travel uninterrupted for longer distances through the City.

City of San Bernardino Circulation Plan



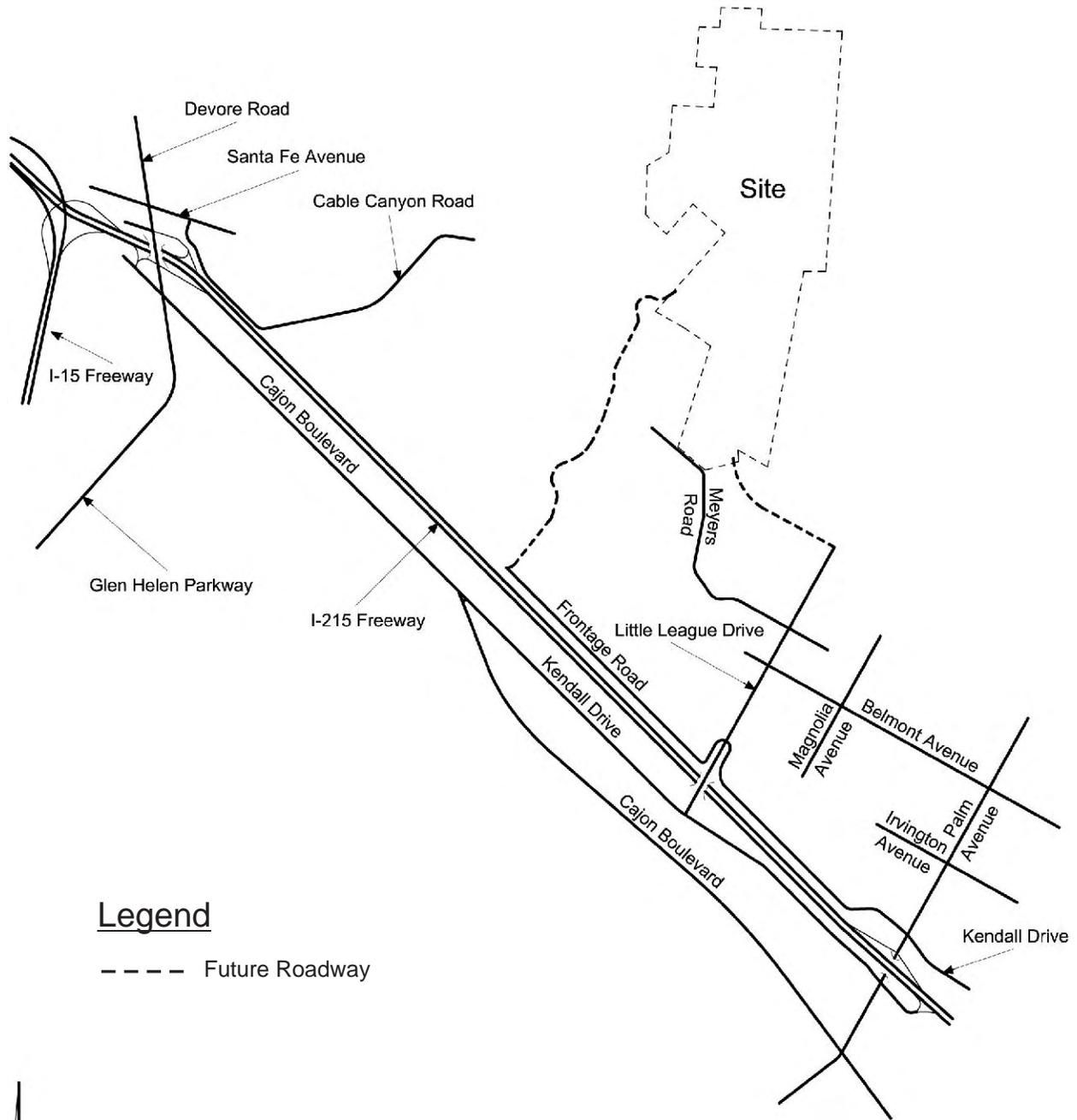
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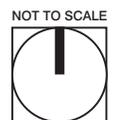
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Traffic Analysis Study Area



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----- Future Roadway

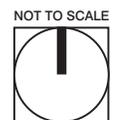
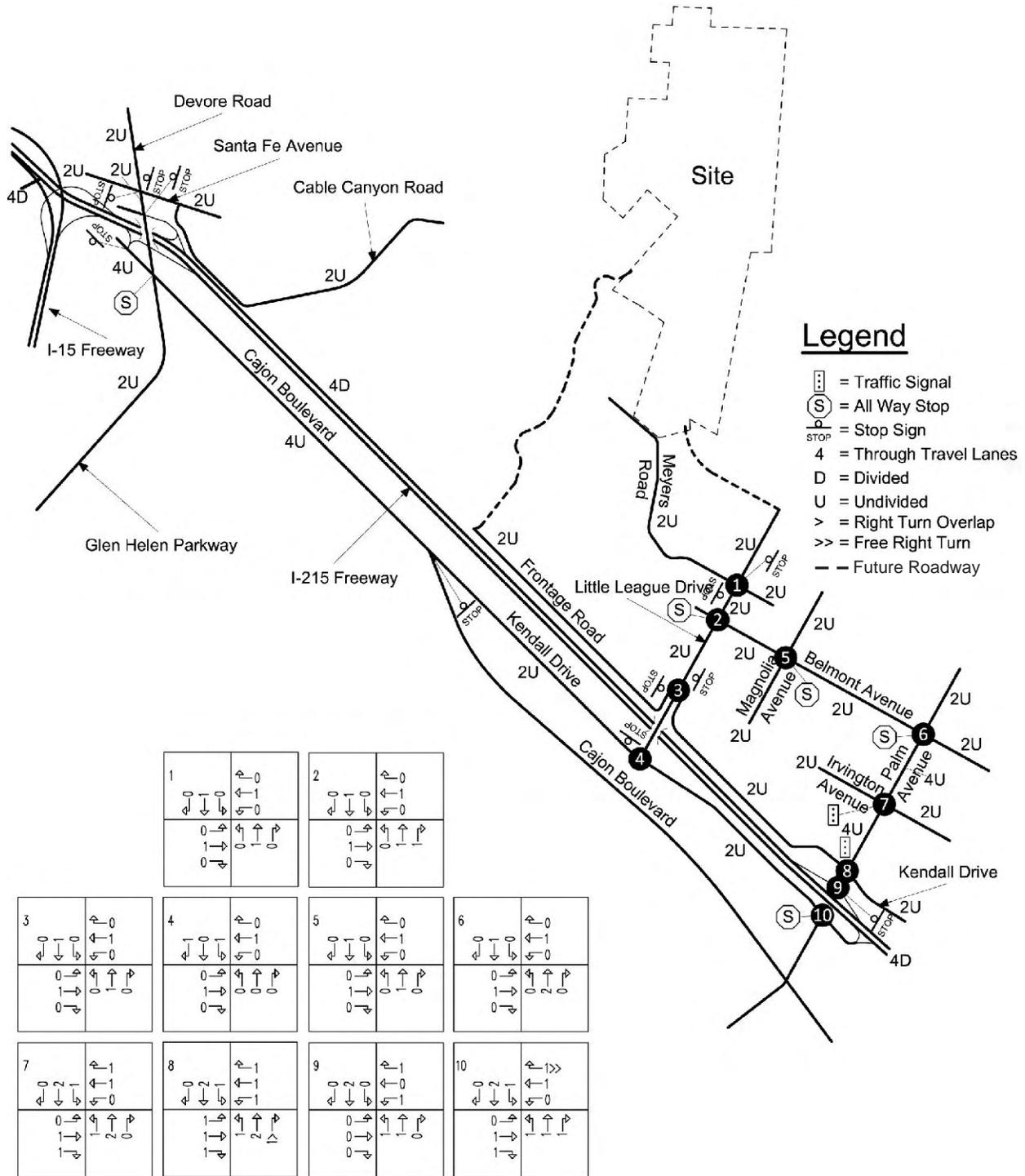


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Existing Roadways and Intersection Controls



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- **Collector Streets** are typically two-lane streets that connect the local streets with the secondary arterials allowing local traffic to access the regional transportation facilities.
- **Local Streets** are typically two-lane streets that are designed to serve neighborhoods within residential areas. There are several variations on local streets depending on location, length of the street, and type of land use (San Bernardino 2005a).

Public and Alternative Transportation

The City of San Bernardino supports public and alternative transportation options in addition to vehicle travel. There are two main forms of public transportation, the Omnitrans bus service and a Metrolink station that connects the City with regional train stations. The nearest bus stop to the project site is an Omnitrans stop at Palm Avenue and Ohio Street, over two miles walking distance from the project site. Bus service from this stop connects passengers to the main Metrolink Station near the intersection of West Third Street and North K Street in San Bernardino.

Alternative transportation is supported by a series of multipurpose and Class I through Class III bicycle lanes throughout the City. Class I bikeways are dedicated travel ways for bicyclists, usually used around bodies of water, in utility easements, within college campuses, or within or between parks. Class II bikeways are rights-of-way assigned for bicyclists along roadways (i.e., bike lanes). Class III bikeways are shared facilities where bicycles are allowed as secondary uses, usually on roadways or pedestrian pathways. The bicycle and trail network is shown in Figure 5.14-4, *Multipurpose Trails and Bicycle Routes*. The nearest dedicated alternative transportation route to the project site is the Foothills Trail, which traverses northern San Bernardino and down Magnolia Avenue, approximately two miles from the project site.

Existing Traffic Conditions

Existing Roadway Daily Traffic Volumes

Existing average daily traffic volumes on freeways were obtained from the 2009 Traffic Volumes on California State Highways from the California Department of Transportation (Caltrans) and factored from peak hour counts. Existing average daily traffic volumes on streets were factored from peak hour counts taken in October 2008 by Kunzman Associates. Based on discussions with the City of San Bernardino staff and information in a previous traffic study, it is projected that a nominal increase in traffic has occurred in the study area from 2008 to 2011. Existing average daily traffic volumes for freeways and streets are shown in Figure 5.14-5, *Existing Average Daily Traffic Volumes*.

The roadway segment currently carrying the highest ADT within the study area is the segment of I-15 north of the I-215/I-15 interchange (154,000 ADT within the project study area).

Existing Peak Hour Traffic Volumes

Existing intersection traffic conditions were established through morning and evening peak hour traffic counts taken in October 2008 by Kunzman Associates. Counts were taken during the two-hour periods from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. Traffic counts for some intersections were taken on a Thursday prior to the Columbus Day holiday weekend; however, since Columbus Day is on a Monday, traffic counts would not be substantially different because of the holiday.



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Existing Intersection Traffic Level of Service Analysis

The existing delay and LOS for intersections in the vicinity of the project are shown in Table 5.14-2. The study area intersections currently operate at an acceptable level LOS of D or better during the peak hours for existing traffic conditions.

**Table 5.14-2
Existing Intersection Delay and Level of Service**

Intersection	Traffic Control	Peak Hour Delay in Seconds (LOS)	
		Morning	Evening
Little League Drive (NS) at:			
Meyers Road (EW)	CSS	12.0-B	9.3-A
Belmont Avenue (EW)	AWS	8.9-A	7.4-A
Frontage Road (EW)	CSS	12.2-B	8.9-A
Kendall Drive (EW)	CSS	9.7-A	9.6-A
Magnolia Avenue (NS) at:			
Belmont Avenue (EW)	AWS	7.6-A	7.1-A
Palm Avenue (NS) at:			
Belmont Avenue (EW)	AWS	9.8-A	9.2-A
Irvington Avenue (EW)	TS	14.5-B	15.4-B
Kendall Drive (EW)	TS	31.3-C	31.2-C
I-215 Freeway NB Ramps (EW)	CSS	29.2-D	29.9-D
I-215 Freeway SB Ramps (EW)	AWS	34.8-D	14.2-B

Source: Kunzman Associates 2009.

CSS = cross-street stop; AWS = all-way stop; TS = traffic signal; NS = north-south; EW = east-west; NB = northbound; SB = southbound

Existing Freeway Segment Level of Service

The proposed project would contribute traffic to both the I-215 and I-15 freeways. The segment of I-215 analyzed for Spring Trails is the segment between Palm Avenue and I-15. This section of I-215 currently operates at a level of service of B to C for AM and PM peak hours (SANBAG 2003). The section of I-15 analyzed for Spring Trails is the section between Sierra Avenue and I-215, which also currently operates at an LOS of B or C during AM and PM peak hours (SANBAG 2003).

Applicable Plans and Regulations

City of San Bernardino General Plan (2005)

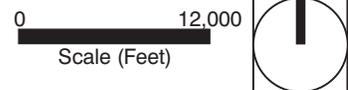
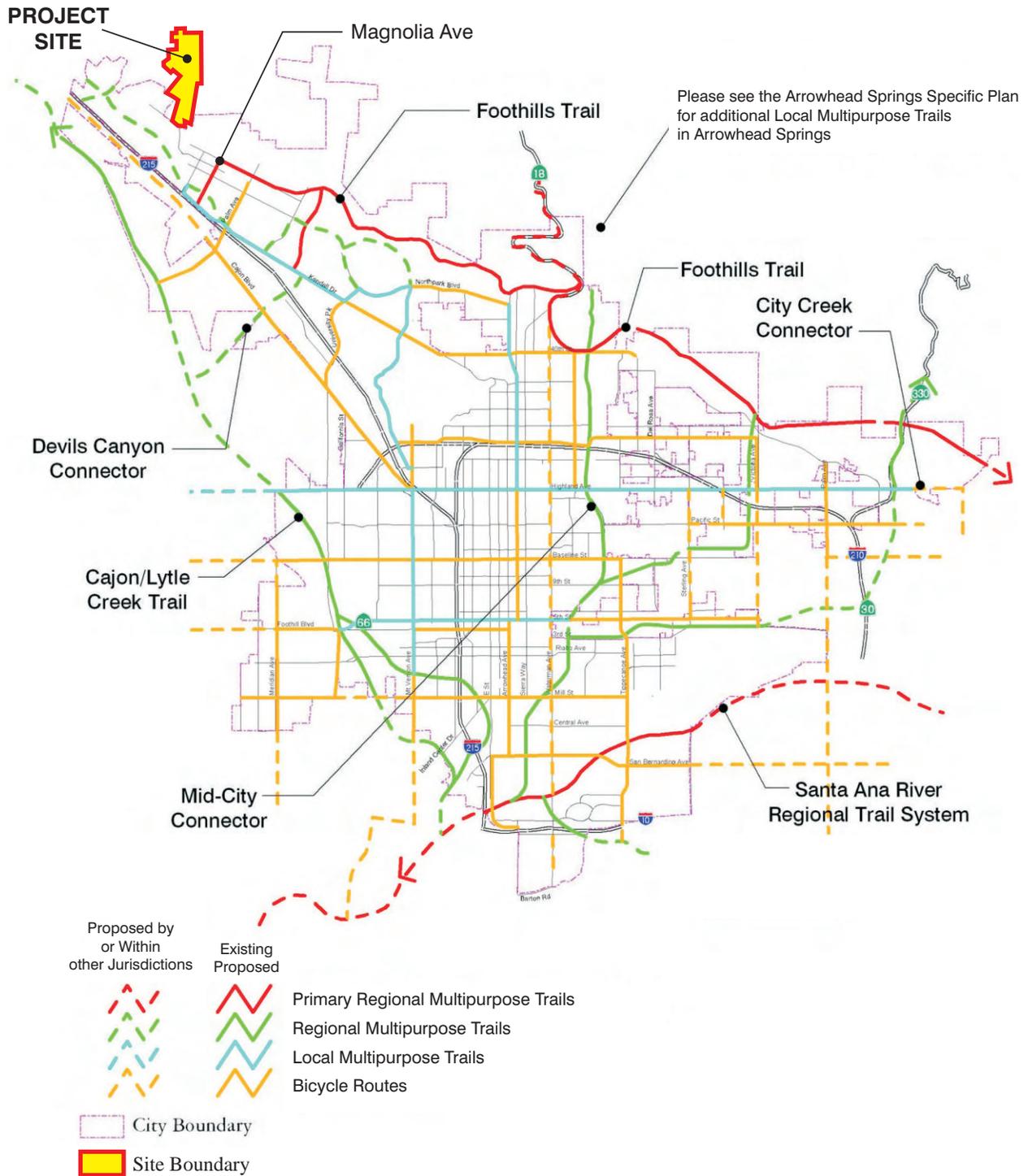
The 2005 San Bernardino General Plan identifies goals and policies regarding the service and safety standards for the roadway network in San Bernardino. These policies are meant to be guidelines for development and do not serve any regulatory purpose.

Goal 6.2: Maintain efficient traffic operations on City streets.

Policy 6.2.1 Maintain a peak hour level of service D or better at street intersections.

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Multipurpose Trails and Bicycle Routes



Source: San Bernardino General Plan

Spring Trails Draft EIR

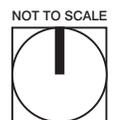
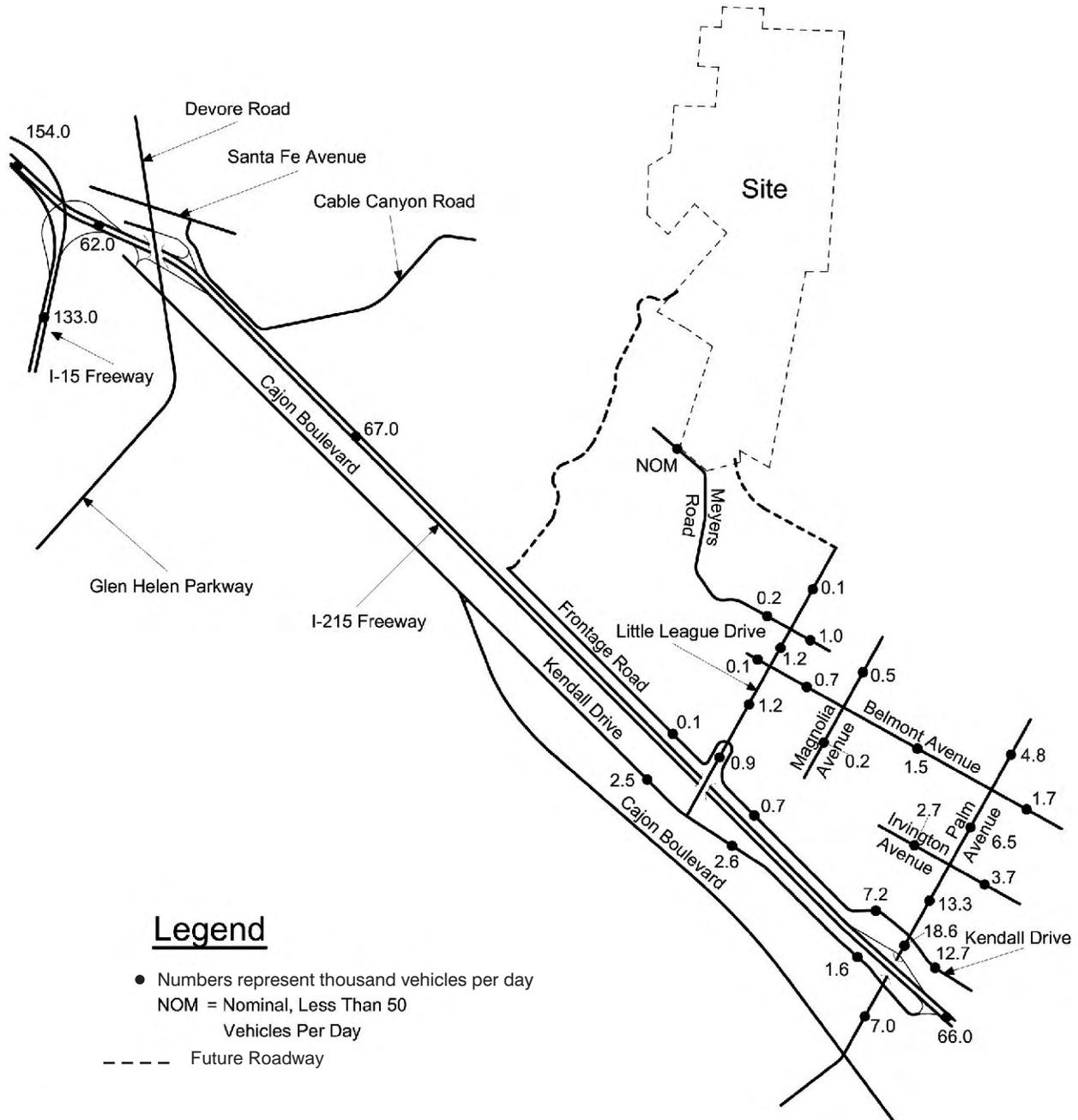
The Planning Center • Figure 5.14-4

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Existing Average Daily Traffic Volumes



Source: Kunzman Associates Inc.

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- Policy 6.2.2 Design each roadway with sufficient capacity to accommodate anticipated traffic based on intensity of projected and planned land use in the City and the region while maintaining a peak hour level of service (LOS) “C” or better.
- Policy 6.2.3 Keep traffic in balance with roadway capacity by requiring traffic studies to identify local roadway and intersection improvements necessary to mitigate the traffic impacts of new developments and land use changes.
- Policy 6.2.4 Review the functioning of the street system as part of the Capital Improvement Program to identify problems and address them in a timely manner.
- Policy 6.2.5 Design roadways, monitor traffic flow, and employ traffic control measures (e.g. signalization, access control, exclusive right and left turn-turn lanes, lane striping, and signage) to ensure City streets and roads continue to function safely within our Level of Service standards.
- Policy 6.2.6 Improve intersection operations by modifying signal timing at intersections and coordinating with other signals, as appropriate.
- Policy 6.2.7 Install new signals as warranted.

Goal 6.3: Provide for a safe circulation system.

- Policy 6.3.1 Promote the principle that streets have multiple uses and users, and protect the safety of all users.
- Policy 6.3.2 Discourage high speeds and through traffic on local streets through traffic control devise such as signage, speed bumps, etc. as acceptable by the local neighborhood.
- Policy 6.3.3 Require that all City streets be constructed in accordance with the Circulation Plan and the standards established by the Development Services Director.
- Policy 6.3.4 Require appropriate right-of-way dedications of all new developments to facilitate construction of roadways shown on the Circulation Plan.
- Policy 6.3.5 Limit direct access from adjacent private properties to arterials to maintain an efficient and desirable quality of traffic flow.
- Policy 6.3.6 Locate new development and their access points in such a way that traffic is not encouraged to utilize local residential streets and alleys.
- Policy 6.3.7 Require that adequate access be provided to all developments in the City including secondary access to facilitate emergency access and egress.



The General Plan also identifies intersections and roadway segments that are operating at unacceptable levels of service. There are no intersections near the project site identified in the San Bernardino General Plan that are currently operating with an unacceptable LOS.

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San Bernardino County Congestion Management Plan (2003)

The San Bernardino County Congestion Management Plan (CMP), developed and administered by the San Bernardino Association of Governments (SANBAG), requires that a traffic impact analysis (TIA) be completed for any project that would generate 250 two-way peak hour trips or more. The TIA must include all freeway links with 100 or more peak hour two-way project trips, other CMP roadways with 80 or more peak hour two-way project trips, and any other “key intersections” as identified by the CMP within the study area. The study area depends on the magnitude of the project and does not need to extend beyond five miles. The CMP roadway system includes all state highways and principal arterials, as defined in the CMP. Key intersections are also identified in the CMP; they may be intersections of two or more key roadways or any intersection that has an LOS of D or worse. I-215 and I-15 are the only roadways within the project area that are identified in the CMP.

The existing intersections identified in the CMP are:

- I-215 freeway (northbound) and Palm Avenue
- I-215 freeway (southbound) and Palm Avenue

5.14.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project could:

- T-1 Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio (v/c) on roads, or congestion at intersections).
- T-2 Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways.

The following standard applies for local intersections:

- Minimum acceptable peak hour intersection LOS of D (City of San Bernardino General Plan)

The following standard applies for freeway segments:

- Minimum acceptable peak hour LOS for freeways is E to be maintained.
- For levels of service at E and worse: if the LOS is currently F, there is no significant impact; if the LOS drops from E to F, the impact would be significant (Caltrans/SANBAG agreement).

- T-3 Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- T-4 Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- T-5 Result in inadequate emergency access.

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- T-6 Result in inadequate parking capacity.
- T-7 Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

The Initial Study, included as Appendix A, substantiates that impacts associated with the following thresholds would be less than significant: T-3 and T-6

These impacts will not be addressed in the following analysis.

5.14.3 Environmental Impacts

The Spring Trails project assumes that the Southern California Edison (SCE) overhead electric lines that traverse the western portion of the site will be located underground. In the event that the overhead electric lines cannot be located underground, an alternative plan accommodating the lines above ground, as shown in Chapter 3, *Project Description*, Figure 3-3A, *Alternative (Overhead Electric Lines) Development Plan*, is proposed for the project site. The alternative plan for Spring Trails is the same as the preferred plan except for the treatment of the land beneath the aboveground electric lines and the number of residential lots. The alternative plan contains 304 single-family detached units compared to 307 units proposed in the preferred development plan. Impacts to transportation and traffic associated with implementation of the preferred development plan and the alternative development plan are addressed in this section.

The proposal also includes the annexation of an adjacent 26.4-acre area consisting of six parcels owned by various property owners, with four of the lots occupied. A land use proposal has not been submitted for this 26.4-acre area and it is not owned or otherwise under the control of the applicant. For these reasons, no development is expected to occur on these parcels. The annexation would not contribute to additional future impacts related to transportation and traffic.



Project Trip Generation and Distribution

Table 5.14-3 shows the projected ADT and morning and evening peak hour trips for the proposed project.

Table 5.14-3		
Project Trip Generation		
<i>Time Period</i>	<i>Trips Generated per DU</i>	<i>Trips Generated by 329 DU</i>
Morning Peak Hour		
Inbound	0.19	63
Outbound	0.56	184
Total	0.75	247
Evening Peak Hour		
Inbound	0.64	211
Outbound	0.37	122
Total	1.01	333
Average Daily Trips (ADT)		
Daily	9.57	3,149

Source: Kunzman Associates 2009.
DU = dwelling units

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Trip generation is determined by multiplying an appropriate trip generation rate by the quantity of land use. Trip generation rates assume that energy costs, the availability of roadway capacity, the availability of vehicles to drive, and our lifestyles remain similar to what we know today. For the proposed project, trip generation was determined for daily traffic, morning peak hour inbound and outbound traffic, and evening peak hour inbound and outbound traffic for the proposed land use based on the rates provided by the Institute of Transportation Engineers in *Trip Generation* (8th edition).

During the AM peak hour, the project would generate about 247 trips, and during the PM peak hour, it would generate about 333 trips. To determine trip distribution, the East Valley Traffic Model was used to evaluate the regional distribution of project traffic. A select zone analysis with socioeconomic data inputs was used to determine the distribution of trips for the project (see Figure 5.14-6, *Project Trip Distribution*). Based on the identified traffic generation and distribution, project average daily traffic volumes have been calculated and are shown in Figure 5.14-7, *Project Average Daily Trip Volumes*. The proposed single-family residential development would generate about 3,149 total ADT.

The average daily trip volumes for existing plus project traffic conditions are shown in Figure 5.14-8, *Year 2011 Average Daily Trip Volume (with Project)*. The average daily trip volumes for years 2013 and 2035 without and with the project for the study area are depicted in Figures 5.14-9 through 5.14-12. The project would increase daily traffic volumes mainly on Little League Drive, Belmont Avenue, Palm Avenue, and the frontage road, as depicted in these figures. The roadway segment (nonfreeway) with the highest ADT would be the section of Palm Avenue between I-215 and the frontage road (21,000 ADT in 2013 with project, 19,300 ADT in 2013 without project, 28,200 ADT in 2035 with project, and 26,500 ADT in 2035 without project).

Future Level of Service

The average daily traffic volume forecasts were determined using the growth increment approach on the East Valley Traffic Model year 2000 and year 2035. The incremental growth in average daily traffic has been factored to reflect the forecast growth between 2011 and 2035 conditions. The opening year (2013) traffic volumes were interpolated from the year 2035 traffic volumes based upon a proportion of the future growth increment. Project traffic volumes were then added to the year 2035 East Valley Traffic Model volumes.

Table 5.14-4 shows projected LOS for the project area for existing year (2011) with the project and years 2013 and 2035 with and without the project.

Under both existing plus project conditions (year 2011) and future conditions (years 2013 and 2035) with and without the project, study intersections would operate at acceptable levels of service (LOS D or better), with the exception of the Palm Avenue/I-215 ramp intersections in both the north and south directions and the intersection of Palm Avenue at Kendall Drive.

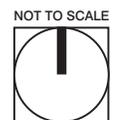
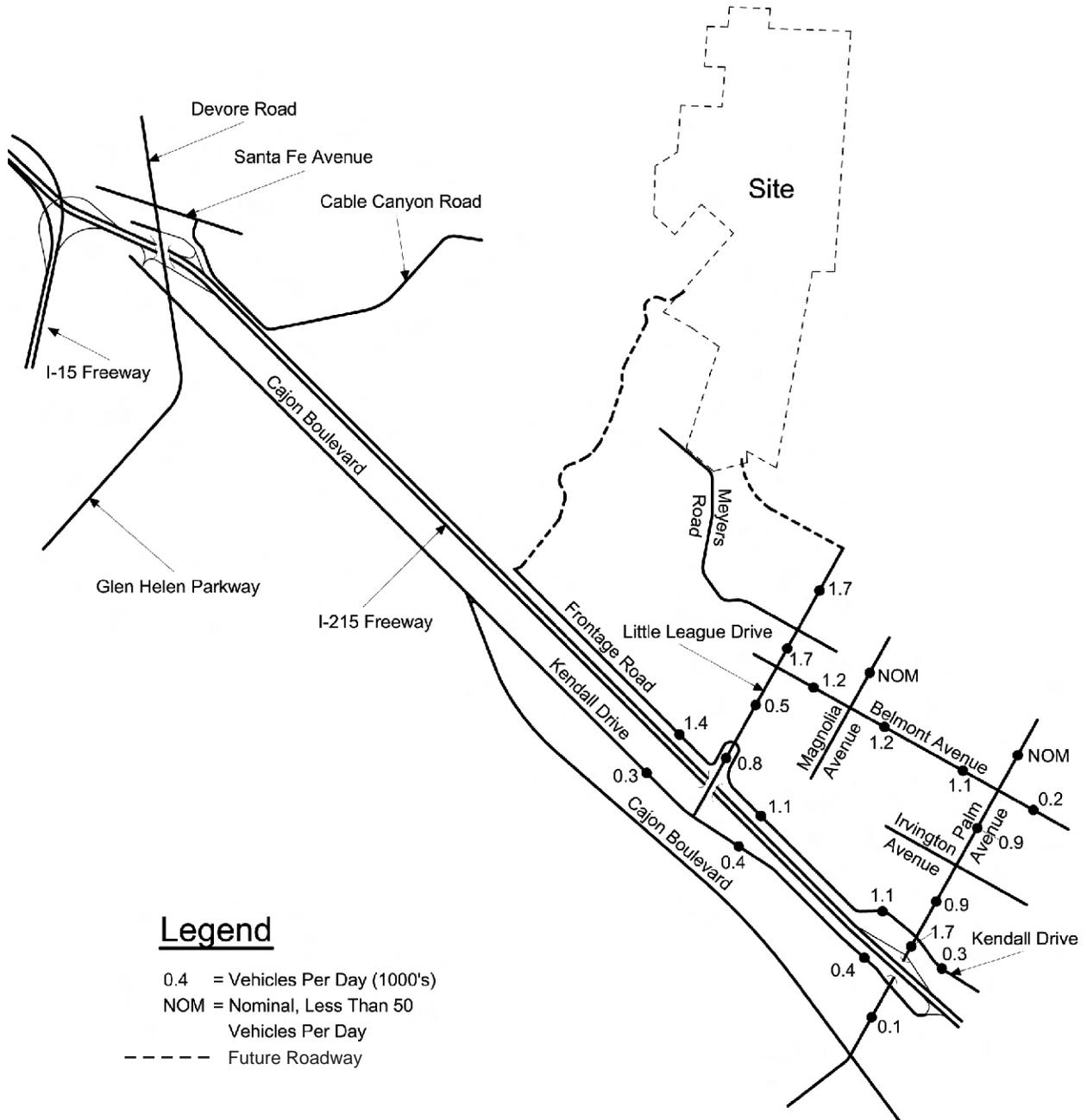
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Project Average Daily Trip Volumes



Source: Kunzman Associates Inc.

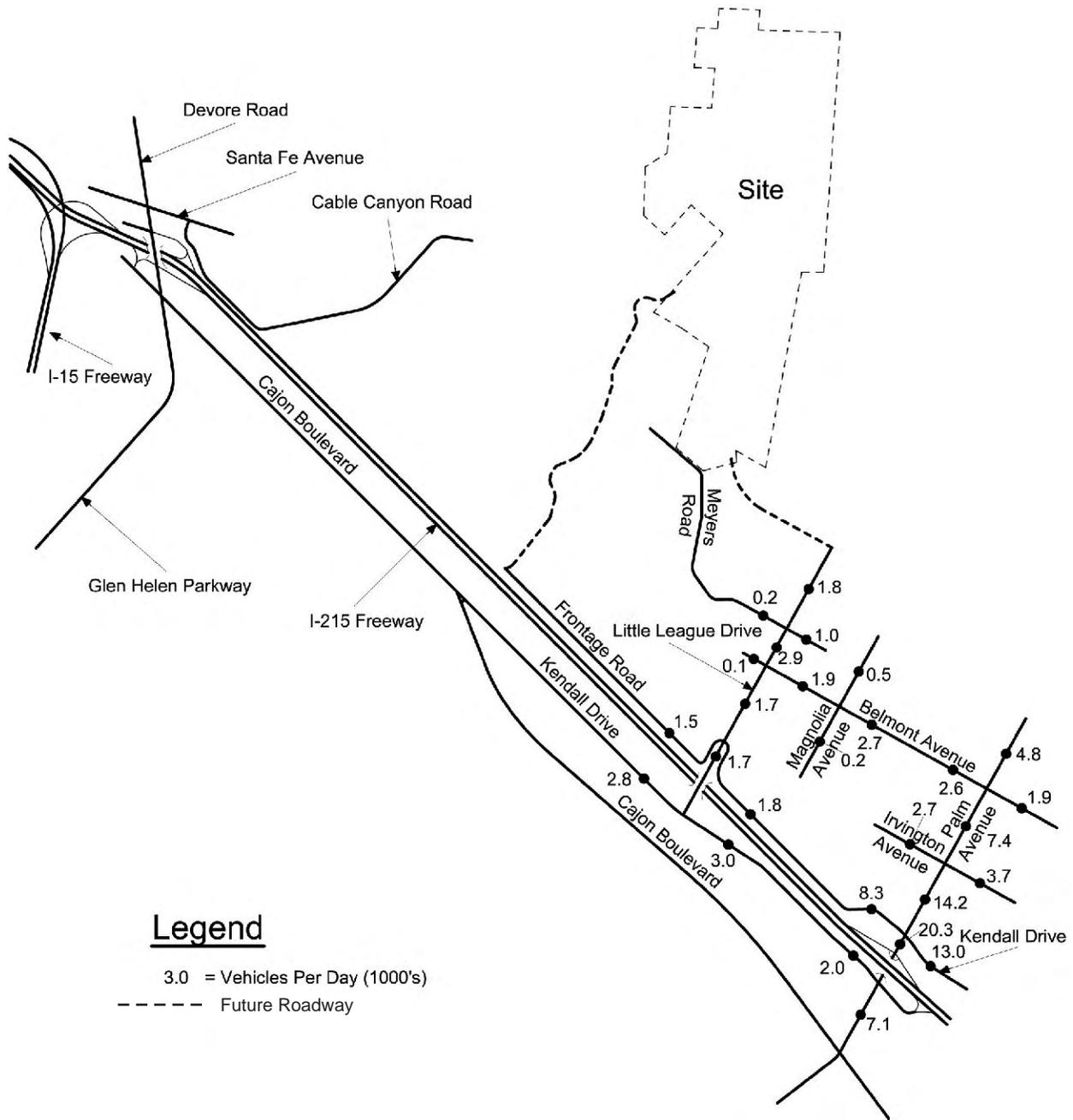
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*Year 2011 Average Daily Trip Volumes
(with Project)*



Source: Kunzman Associates Inc.

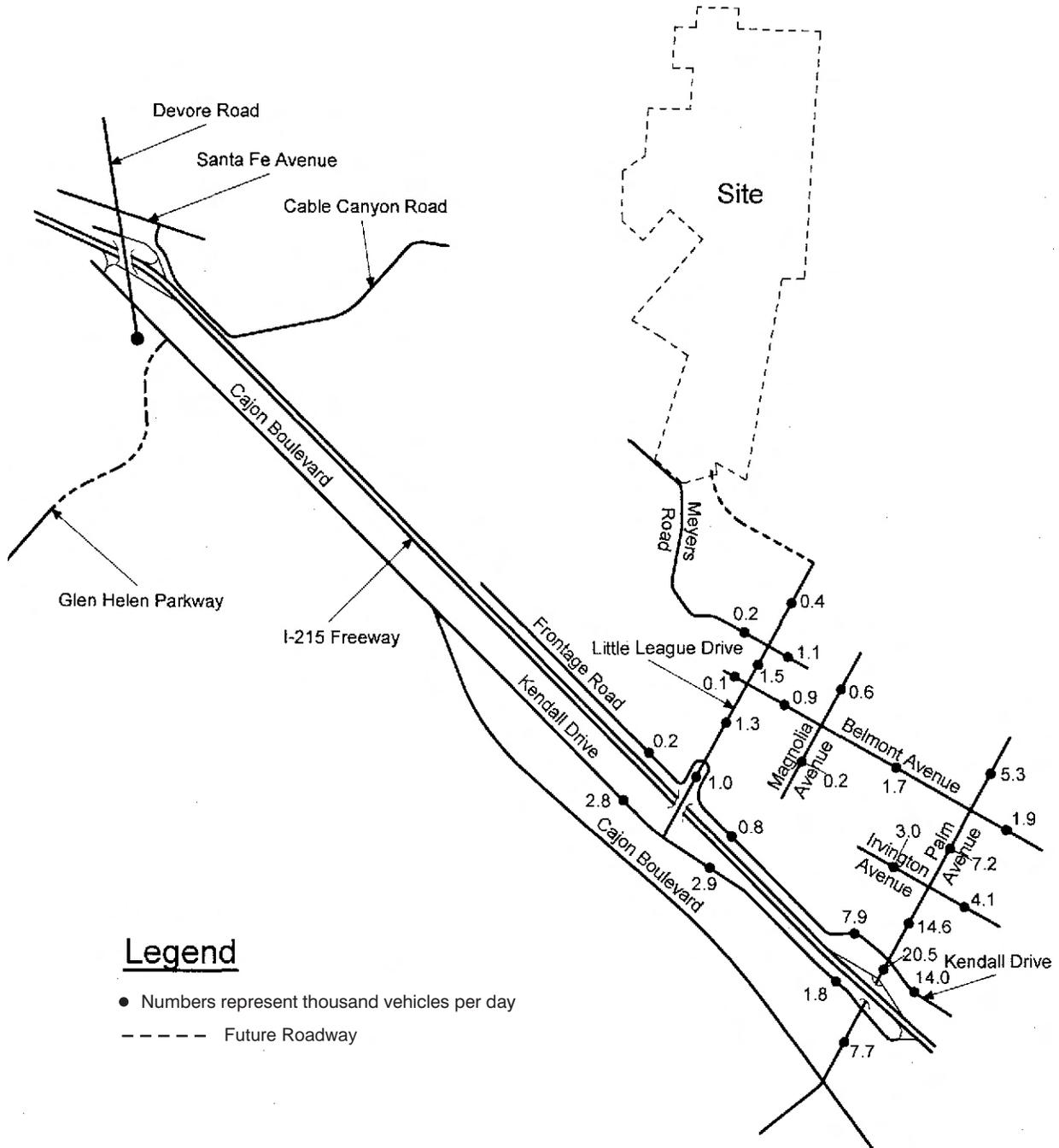
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*Year 2013 Average Daily Trip Volumes
(without Project)*



Source: Kunzman Associates Inc.

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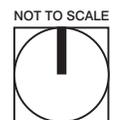
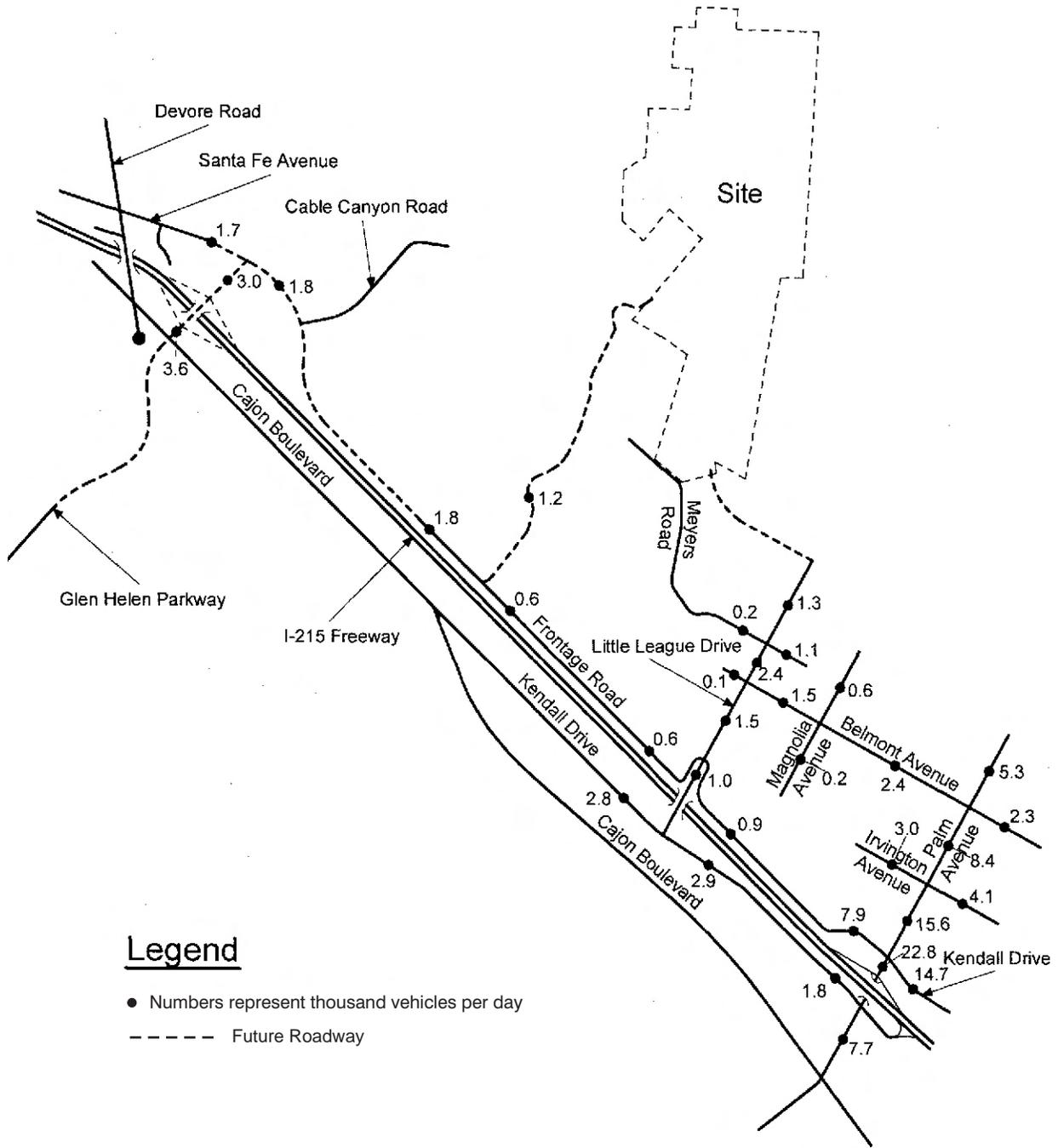
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Year 2035 Average Daily Trip Volumes
(without Project)



Source: Kunzman Associates Inc.

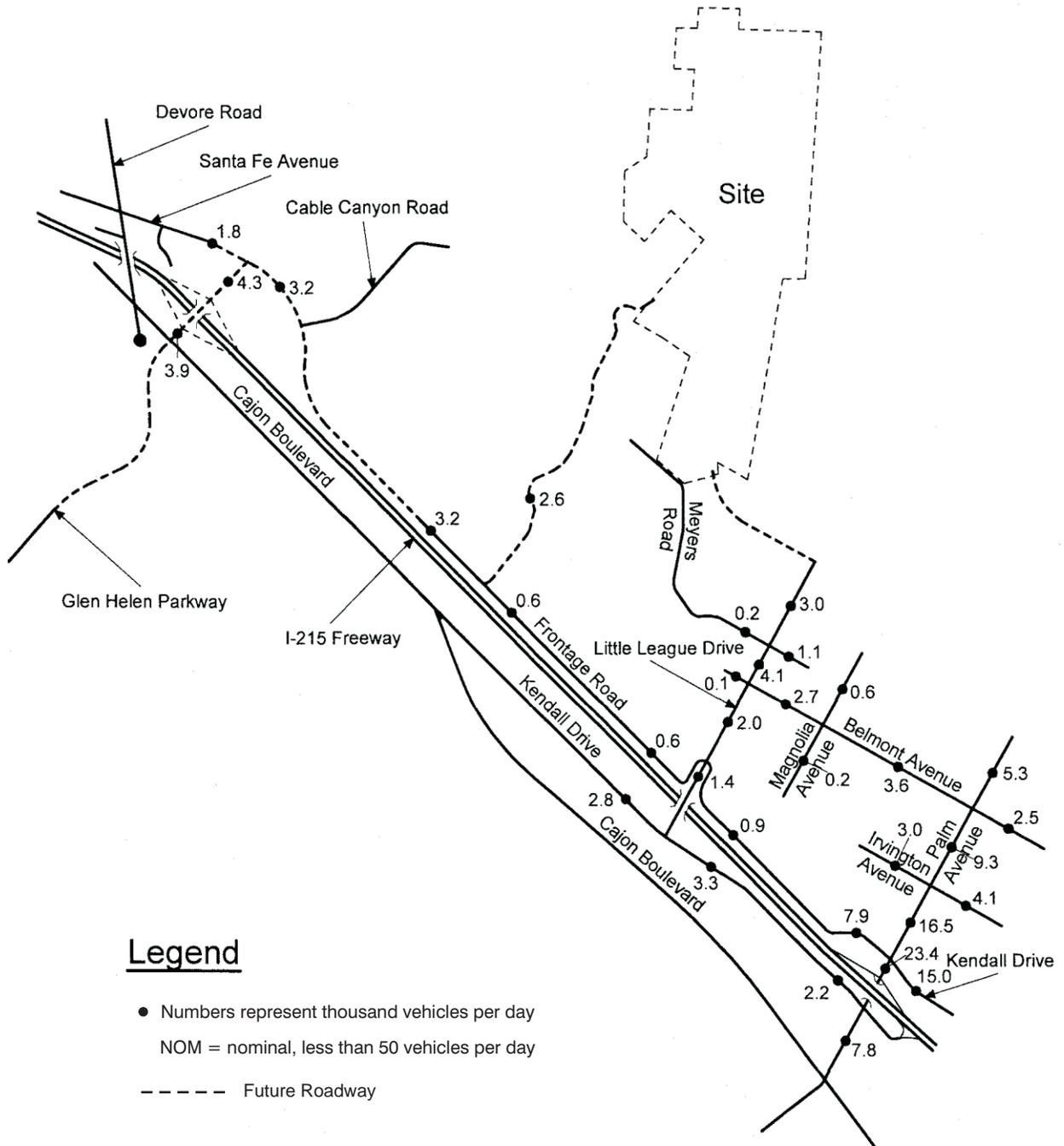
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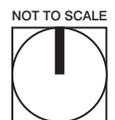
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Year 2035 Average Daily Trip Volumes
(with Project)



Legend

- Numbers represent thousand vehicles per day
NOM = nominal, less than 50 vehicles per day
- Future Roadway



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**Table 5.14-4
Peak Hour Level of Service**

No.	Intersection	Traffic Control	Existing Plus Project		Opening Year 2013 without Project		Opening Year 2013 with Project		Year 2035 without Project		Year 2035 with Project	
			Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour
Little League Drive (NS) at:												
1	Meyers Road (EW)	CSS	18.0-C	12.0-B	12.5-B	9.5-A	19.2-C	12.3-B	10.0-A	9.5-A	11.2-B	11.0-B
2	Belmont Avenue (EW)	AWS	11.5-B	8.3-A	9.1-A	7.4-A	11.8-B	8.4-A	7.9-A	7.4-A	8.8-A	8.0-A
3	Frontage Road (EW)	CSS	15.4-C	10.0-B	12.5-B	9.2-A	16.0-C	11.3-B	10.8-B	9.8-A	11.8-B	12.1-B
4	Kendall Drive (EW)	CSS	10.1-B	10.2-B	9.8-A	9.6-A	10.2-B	10.3-B	10.4-B	10.8-B	10.7-B	11.4-B
Magnolia Avenue (NS) at:												
5	Belmont Avenue (EW)	AWS	8.3-A	7.8-A	7.7-A	7.2-A	8.5-A	7.8-A	7.4-A	7.2-A	7.8-A	7.7-A
Palm Avenue (NS) at:												
6	Belmont Avenue (EW)	AWS	10.6-B	10.0-A	10.0-A	9.3-A	10.8-B	10.1-B	9.7-A	10.3-B	10.3-B	11.3-B
7	Irvington Avenue (EW)	TS	14.7-B	15.6-B	14.6-B	15.4-B	14.8-B	15.7-B	14.3-B	14.8-B	14.4-B	14.9-B
8	Kendall Drive (EW)	TS	32.9-C	33.7-C	32.0-C	32.4-C	33.4-C	35.2-D	40.7-D	73.0-E	41.9-D	74.2-E
9	I-215 Freeway NB Ramps (EW)	TS	34.7-D	54.2-F	33.4-D	39.3-E	40.7-E	76.2-F	144.6-F	499.5-F	181.5-F	688.5-F
10	I-215 Freeway SB Ramps (EW)	TS	45.8-E	15.4-C	38.4-E	15.2-C	50.4-F	16.6-C	130.0-F	121.5-F	149.8-F	154.0-F

Source: Kunzman Associates 2009.

CSS = cross-street stop; AWS = all-way stop; TS = traffic signal; NS = north-south; EW = east-west; NB = northbound; SB = southbound

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Construction-Related Impacts

During project construction, both construction workers and the haul trucks used to move soil would be entering and leaving the site throughout the workday, creating some impacts on traffic volume. Most of these construction-related trips would occur during nonpeak hours with the exception of 282 during the morning peak hour and 73 during the evening peak hour.

The construction of the two access roads would involve the removal of 251,000 or more net cubic yards (cy) of soil (as indicated in Table 3-3 in Chapter 3, *Project Description*). Based on an estimated 14 cy capacity per haul truck, an estimated 17,929 truck trips would be required to export soil to complete the access roads. This is estimated to occur over an approximately three-month period and, therefore, based on a six-day week, requires approximately 249 truck trips per day. The 249 truck trips per day would be equivalent to 1,494 daily passenger car equivalent trips per day, based on a truck equaling three passenger cars. The typical construction activity is anticipated to begin at 7:00 AM and end at 4:00 PM. The total number of haul truck trips occurring during the morning peak hour would be 282. No haul truck trips would occur during the evening peak hour since construction activities would end by 4:00 PM.

In general, the majority of the construction workers (approximately 50 employees plus truck drivers) are expected to arrive at the project site before the morning peak hour (i.e., prior to 7:00 AM) but they would be leaving during the evening peak hour. The number of construction worker vehicles is estimated using the average ridership of 1.135 persons per vehicle per the South Coast Air Quality Management District's *CEQA Air Quality Handbook* (1993). It is anticipated that the majority of the construction workers would remain onsite throughout the day and would not leave the site for lunch via their vehicles. When the workers leave the site at 4:00 PM, they would be contributing 73 evening peak hour trips to the local roadways. Overall, the proposed construction export phase is projected to generate approximately 1,640 daily vehicle trips, which includes both worker and truck trips. Of the total, approximately 282 truck trips would occur during the morning peak hour and 73 worker trips would occur during the evening peak hour.

Construction traffic could potentially contribute to deficiencies at the Palm Avenue/I-215 northbound and southbound ramps intersections during morning and evening peak hours (7:00 to 9:00 AM and 4:00 to 6:00 PM respectively).

Consistency with Applicable Plans

San Bernardino County CMP

Future Freeway Conditions

The I-215 I-15 freeways are identified in the county CMP. The only intersections identified in the CMP within the project study area are the intersections of Palm Avenue and the I-215 northbound ramps and Palm Avenue and the I-215 southbound ramps.

As stated in the CMP, an analysis of freeway LOS is required for all freeway segments that carry 100 or more two-way project trips in the morning or evening peak hour. The freeway peak hour volume forecasts were also developed using the peak period East Valley Traffic Model data directly. The project would contribute traffic greater than the freeway threshold of 100 two-way trips to the I-215 and I-15 freeways during the evening peak hour. The project-generated freeway trips and the corresponding future LOS for area freeway segments without roadway improvements are shown in Table 5.14-5.



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**Table 5.14-5
Freeway LOS for Morning and Evening Peak Hours**

Freeway	Segment Limits	Lanes		Capacity	Project Trips	Year 2035 without Project			Year 2035 with Project		
		Gen. Use	HOV			Trips	V/C	LOS	Trips	V/C	LOS
Year 2035 Freeway Mainline Morning Peak Hour Operation Analysis											
I-215 Freeway NB	Palm Avenue to Devore Road	2	0	4,600	63	4,200	0.91	D	4,263	0.93	D
	Devore Road to I-15 Freeway	2	0	4,600	63	3,994	0.87	D	4,057	0.88	D
I-215 Freeway SB	I-15 Freeway to Devore Road	2	0	4,600	21	6,733	1.46	F	6,754	1.47	F
	Devore Road to Palm Avenue	2	0	4,600	21	7,259	1.58	F	7,280	1.58	F
I-15 Freeway NB	Sierra Avenue to Glen Helen Parkway	4	0	9,200	21	5,893	0.64	C	5,914	0.64	C
	Glen Helen Parkway to I-215 Freeway	3	0	6,900	21	5,666	0.82	D	5,687	0.82	D
I-15 Freeway SB	I-215 Freeway to Glen Helen Parkway	3	0	6,900	61	11,147	1.62	F	11,208	1.62	F
	Glen Helen Parkway to Sierra Avenue	4	0	9,200	61	11,310	1.23	F	11,371	1.24	F
Year 2035 Freeway Mainline Evening Peak Hour Operations Analysis											
I-215 Freeway NB	Palm Avenue to Devore Road	2	0	4,600	41	7,603	1.65	F	7,644	1.66	F
	Devore Road to I-15 Freeway	2	0	4,600	41	7,446	1.62	F	7,487	1.63	F
I-215 Freeway SB	I-15 Freeway to Devore Road	2	0	4,600	72	4,651	1.01	F	4,723	1.03	F
	Devore Road to Palm Avenue	2	0	4,600	72	6,344	1.38	F	6,416	1.39	F
I-15 Freeway NB	Sierra Avenue to Glen Helen Parkway	4	0	9,200	70	13,258	1.44	F	13,328	1.45	F
	Glen Helen Parkway to I-215 Freeway	3	0	6,900	70	13,111	1.90	F	13,181	1.91	F
I-15 Freeway SB	I-215 Freeway to Glen Helen Parkway	3	0	6,900	40	6,436	0.93	E	6,476	0.94	E
	Glen Helen Parkway to Sierra Avenue	4	0	9,200	40	6,897	0.75	C	6,937	0.75	C

Source: Kunzman Associates 2009.

NB = northbound; SB = southbound; HOV = high-occupancy vehicle; V/C = volume-to-capacity ratio

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Four freeway segments are projected to operate at an unacceptable LOS for year 2035 with and without project traffic conditions during the morning peak hour:

- The I-215 freeway segment between Palm Avenue and Devore Road (southbound)
- The I-215 freeway segment between Devore Road and I-15 (southbound)
- The I-15 freeway segment between I-215 and Glen Helen Parkway (southbound)
- The I-15 freeway segment between Glen Helen Parkway and Sierra Avenue (southbound).

Six freeway segments are projected to operate at an unacceptable LOS for year 2035 with and without project traffic conditions during the evening peak hour:

- The I-215 freeway segment between Palm Avenue and Devore Road (northbound and southbound)
- The I-215 freeway segment between Devore Road and I-15 (northbound and southbound)
- The I-15 freeway segment between I-215 and Glen Helen Parkway (northbound)
- The I-15 freeway segment between Glen Helen Parkway and Sierra Avenue (northbound).

Emergency Access and Circulation

The site is susceptible to a number of hazards, such as fires, floods, and seismic activity. In addition to other medical and public emergencies, these risks create a need for adequate emergency service access. Design standards for emergency vehicle access have been incorporated into the site plan for Spring Trails. The Foothill Fire Zones Overlay District (FF District) identified by the City has requirements for emergency access and circulation. There are three zones in the FF District: A, B, and C. Portions of the Spring Trails site are located in all three zones. The provisions for emergency access incorporated into the Spring Trails site plan that would meet the FF District design standards are shown in Table 5.14-6.



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**Table 5.14-6
Foothill Fire Zones Emergency Access Design Standards**

Standard Number	FF District Standard	Spring Trails Compliance
1.A.	Local hillside street standards shall be used to minimize grading and erosion potential while providing adequate access for vehicles, including emergency vehicles. The right-of-way shall be 48.5 feet with 40 feet of paved width and parking on both sides and a sidewalk on 1 side. (A + B)	Cul-de-sacs with homes fronting on both sides have a right-of-way of 46 feet with parking on both sides and a paved width of 36 feet. Cul-de-sacs with homes fronting on only one side have a right-of-way of 40 feet with parking on one side and a paved width of 32 feet. All other streets have a right-of-way of 50 feet, except as noted in 1.B. below.
1.B.	Streets shall have a paved width of 32 feet with parking and sidewalk on 1 side of the street only and right-of-way of 40.5 feet, subject to review and recommendation by the Fire Chief and the City Engineer, with approval by the Commission. (A + B)	Secondary local roads have a right-of-way of 40 feet with parking and sidewalk on one side of the street and a paved width of 32 feet.
1.C.	Subdivisions shall be designed to allow emergency vehicle access to wildland areas behind structures. This is to be accomplished in either of 2 ways:	
	1. Provide a perimeter street along the entire wildland side of development or 2. Provide a fuel-modified area, a minimum of 150 feet in depth from the rear of the structure, adjacent to the subdivision and connected to the interior street by flat 12 foot minimum access ways placed no more than 350 feet apart. If designed as a gated easement, access ways may be part of a side yard. (A + B + C where abuts wildland)	Spring Trails provides a perimeter road along portions of the eastern side of the development. Spring Trails also provides a minimum 170-foot-deep fuel-modified area from the rear of structures that are adjacent to wildland areas.
1.D.	No dead-end streets are permitted. Temporary cul-de-sacs are required.	Spring Trails does not have dead-end streets.
1.E.	All permanent cul-de-sac turnarounds and curves shall be designed with a minimum radius of 40 feet to the curb face. No parking shall be allowed on the bulb of a cul-de-sac. (A + B + C)	Cul-de-sacs within Spring Trails are designed with a minimum radius of 40 feet, and no parking will be allowed on the bulb of the cul-de-sac.
1.F.	Cul-de-sacs to a maximum of 750 feet in length may be permitted with a maximum of 30 dwelling units, and to a maximum of 1,000 feet in length with a maximum of 20 dwelling units. (A + B)	The cul-de-sacs comply with this requirement. The maximum proposed cul-de-sac length is 885 feet with 9 D.U.
1.G.	Driveways to residential garages of more than 30 feet in length shall extend for a minimum distance of 20 feet from the garage, on a maximum grade of 5%. Driveways less than 30 feet in length shall have a maximum grade of 8% for a minimum distance of 20 feet from the garage. No portion of a driveway shall exceed a grade of 15%, unless approved by the Fire Chief and City Engineer. Driveways shall be designed so that the algebraic difference in grades will not cause a vehicle to drag or hang-up. (A+B+C)	Driveways greater than 30 feet in length shall have maximum grade of 10% for a minimum distance of 20 feet from the garage. Driveways less than 30 feet in length shall have a maximum grade of 12% for a minimum distance of 20 feet from the garage. Any variance would require approval from the Fire Chief and/or City Engineer.

Source: Spring Trails Specific Plan 2009.

These design standards for the FF District would be applicable for any emergency situation that requires the access of emergency vehicles. As indicated in the right column, the specific plan would have design standards that meet the requirements of the FF District, and these would allow adequate emergency access to the site. In addition, the secondary access road would have emergency access (though not general public access through the use of a gate barrier) to Meyers Road. There are no significant impacts to onsite emergency access.

Public and Alternative Transportation

Since the project site is mostly vacant, there are no bus or public transit routes running near the site. The nearest bus stop to the project site is an Omnitrans stop at Palm Avenue and Ohio Street, over two miles walking distance from the project site (Omnitrans 2009; Google Maps 2009). This is the northwesternmost stop for Route 7, which runs every hour and connects to other bus routes along its route, including Route 1, which connects to the San Bernardino Metrolink station near the intersection of 3rd Street and J Street in San Bernardino.

Magnolia Avenue is also designated as a primary multipurpose trail in the City of San Bernardino General Plan (see Figure 5.14-4, *Multipurpose Trails and Bicycle Routes*). Primary multipurpose trails accommodate hiking, equestrian, and bicycle users. Little League Drive is part of the Greenbelt Trail, which traverses the foothill region in the northern portion of the City. This trail would be about 1.5 miles walking distance from the project site (Google Maps 2009).

There are no bus routes or other public transit facilities planned for the development. Since it is a residential neighborhood, the primary users of the roads would be local residents. Walking, biking, and equestrian use would be allowed and encouraged on rights-of-way and on public trails throughout the site. Private vehicles would most likely be the most common form of transportation used onsite since the site is not in the immediate vicinity of public transit stations. If bus or other public transit service were expanded in the area of the proposed project, the proposed project would not interfere with potential routes.

Roadway Improvements

Intersection/Roadway Improvements

For opening year 2013 and horizon year 2035, roadway improvements have been identified that would eliminate deficiencies for local study area intersections. The LOS values without improvements are shown in Table 5.14-4. Improvements are recommended by year 2013 for the Palm Avenue/I-215 ramps intersections:

- Palm Avenue at I-215 northbound ramps:
 - Replace the cross-street stop with a traffic signal stop
- Palm Avenue at I-215 southbound ramps:
 - Replace the all-way stop with a traffic signal stop
 - Increase the southbound left turn approach lane from one lane to two lanes

The following improvement is identified for year 2035:

- Palm Avenue at Kendall Drive:
 - Install additional westbound left turn lane

In addition, the construction of the project access roads would include these improvements:

- Extension of Little League Drive to the project site to form the primary access road, including improvements to the existing segment of Little League Drive north of Meyers Road.
- Extension of the secondary access road from southwest corner of project site to the frontage road.



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The implementation of roadway improvements would improve project area LOS as shown in Table 5.14-7.

**Table 5.14-7
Future LOS for Project Intersections with Roadway Improvements**

No.	Intersection	Traffic Control	Opening Year 2013		Year 2035	
			Morning Peak Hour	Evening Peak Hour	Morning Peak Hour	Evening Peak Hour
Little League Drive (NS) at:						
5	Meyers Road (EW)	CSS	19.2-C	12.3-B	11.2-B	11.0-B
6	Belmont Avenue (EW)	AWS	11.8-B	8.4-A	8.8-A	8.0-A
7	Frontage Road (EW)	CSS	16.0-C	11.3-B	11.8-B	12.1-A
8	Kendall Drive (EW)	CSS	10.2-B	10.3-B	10.7-B	11.4-B
Magnolia Avenue (NS) at:						
9	Belmont Avenue (EW)	AWS	8.5-A	7.8-A	7.8-A	7.7-A
Palm Avenue (NS) at:						
10	Belmont Avenue (EW)	AWS	10.8-B	10.1-B	10.3-B	11.3-B
11	Irvington Avenue (EW)	TS	14.8-B	15.7-B	14.4-B	14.9-B
12	Kendall Drive (EW)	TS	33.4-C	35.2-D	35.9-D	47.3-D
13	I-215 Freeway NB Ramps (EW)	TS	14.7-B	18.7-B	17.2-B	42.7-D
14	I-215 Freeway SB Ramps (EW)	TS	14.2-B	14.1-B	26.0-C	28.1-C

Source: Kunzman Associates 2011.

CSS = cross-street stop; AWS = all-way stop; TS = traffic signal; NS = north-south; EW = east-west; NB = northbound; SB = southbound

Freeway Mainline Improvements

Recommended improvements to freeway segments are summarized in Table 5.14-8. The freeway segments that operate with unacceptable LOS values during the morning and/or evening peak hours before improvements for year 2035 are shown in Table 5.14-5.

Per the SANBAG/Caltrans "I-15/1-215 Devore Interchange Reconfiguration Project Study Report" (January 2009), the following freeway improvements have been proposed:¹

- I-215 (between Palm Avenue and Devore Road)
 - Add one general use lane in northbound and southbound directions
- I-215 (between Devore Road and I-15 Freeway)
 - Add one general use lane in northbound and southbound directions
- I-15 (between Glen Helen Parkway and I-215)
 - Add two general use lanes in northbound and southbound directions

¹ A portion of the funding for the SANBAG/Caltrans I-15/I-215 improvements would be from the State Highway Operations and Protection Program. The balance would be sought from other federal, state, and local funding sources, including Measure I, the half-cent sales tax for transportation improvements in San Bernardino County (SANBAG 2011).

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With improvements, the following two freeway segments would continue to operate at an unacceptable LOS for year 2035 with project traffic conditions during the morning peak hour:

- The I-215 freeway segment between Palm Avenue and Devore Road (southbound)
- The I-15 freeway segment between Glen Helen Parkway and Sierra Avenue (southbound).

With improvements, the following four freeway segments would continue to operate at an unacceptable LOS for year 2035 with project traffic conditions during the evening peak hours:

- The I-215 freeway segment between Palm Avenue and Devore Road (northbound)
- The I-215 freeway segment between Devore Road and I-15 (northbound)
- The I-15 freeway segment between I-215 and Glen Helen Parkway (northbound)
- The I-15 freeway segment between Glen Helen Parkway and Sierra Avenue (northbound).

**Table 5.14-8
Freeway LOS for Morning and Evening Peak Hours with Improvements**

Freeway	Segment Limits	Improvement (Lanes Added)		Improved			
		Gen. Use	HOV	Capacity	Trips	V/C	LOS
Year 2035 Freeway Mainline Morning Peak Hour Operations Analysis with Improvements							
I-215 Freeway NB	Palm Avenue to Devore Road	1	0	6,900	4,263	0.62	C
	Devore Road to I-15 Freeway	1	0	6,900	4,057	0.59	C
I-215 Freeway SB	I-15 Freeway to Devore Road	1	0	6,900	6,754	0.98	E
	Devore Road to Palm Avenue	1	0	6,900	7,280	1.06	F
I-15 Freeway NB	Sierra Avenue to Glen Helen Parkway	0	0	9,200	5,914	0.64	C
	Glen Helen Parkway to I-215 Freeway	2	0	11,500	5,687	0.49	B
I-15 Freeway SB	I-215 Freeway to Glen Helen Parkway	2	0	11,500	11,208	0.97	E
	Glen Helen Parkway to Sierra Avenue	0	0	9,200	11,371	1.24	F
Year 2035 Freeway Mainline Evening Peak Hour Operations Analysis with Improvements							
I-215 Freeway NB	Palm Avenue to Devore Road	1	0	6,900	7,644	1.11	F
	Devore Road to I-15 Freeway	1	0	6,900	7,487	1.09	F
I-215 Freeway SB	I-15 Freeway to Devore Road	1	0	6,900	4,723	0.68	C
	Devore Road to Palm Avenue	1	0	6,900	6,416	0.93	D
I-15 Freeway NB	Sierra Avenue to Glen Helen Parkway	0	0	9,200	13,328	1.45	F
	Glen Helen Parkway to I-215 Freeway	2	0	11,500	13,181	1.15	F
I-15 Freeway SB	I-215 Freeway to Glen Helen Parkway	2	0	11,500	6,476	0.56	C
	Glen Helen Parkway to Sierra Avenue	0	0	9,200	6,937	0.75	C

Source: Kunzman Associates 2009.

NB = northbound; SB = southbound; V/C = volume-to-capacity ratio



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Summary of Roadway Improvements and Funding

The San Bernardino Associated Governments Development Mitigation Nexus Study (2009) identifies the fair share contributions from new development for regional transportation improvements (freeway interchanges, railroad grade separations, and regional arterial highways). The Nexus Study identifies specific improvement projects and includes a cost estimate for the projects. Each jurisdiction must develop a schedule of fees or other per-unit mitigation levels that can be demonstrated to achieve the development contribution levels specified in the Nexus Study. Improvements to the Palm Avenue/I-215 ramps intersections are included in the Nexus Study. The project's contribution to these improvements is \$2,435 per dwelling unit, as established by the City of San Bernardino Regional Circulation System Fee. At this per unit cost, the total improvement cost would be \$10,929,000.

Improvements to the Palm Avenue/Kendall Drive intersection are not included in a City plan or program. If the necessary improvements to this intersection have not been completed at the time combustible materials are placed on the Spring Trails site, the project would be required to fund construction of the improvements.

I-15 and I-215 freeway mainline improvements are proposed per the SANBAG/Caltrans "I-15/1-215 Devore Interchange Reconfiguration Project Study Report." Funding for these improvements is not included in any plan or program at this time.

The project applicant would be funding 100 percent of the construction of the primary and secondary access road and improvements to the segment of Little League Drive between Meyers Road and the primary access road. Construction of the primary and secondary access roads and improvements to Little League Drive north of Meyers Road would occur prior to the placement of combustible material on the project site.

Impact Threshold Analysis

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

IMPACT 5.14-1: THE PROPOSED PROJECT WOULD GENERATE 3,149 AVERAGE DAILY TRIPS, 247 MORNING PEAK HOUR, AND 333 EVENING PEAK HOUR TRIPS TO THE PROJECT AREA, THEREBY CONTRIBUTING TO EXISTING AND FUTURE UNACCEPTABLE LEVELS OF SERVICE AT THE PALM AVENUE/I-215 RAMPS INTERSECTIONS AND AT THE PALM AVENUE/KENDALL DRIVE INTERSECTION. [THRESHOLD T-1]

Impact Analysis: The City of San Bernardino has an acceptable intersection LOS standard of D or better. All area intersections are currently operating at an acceptable LOS, as shown in Table 5.14-2. The following analysis is applicable to both the preferred development plan and the alternative (overhead electric lines) development plan.

Operational Phase

Spring Trails would include the development of 307 single-family detached houses, with the final phase of construction to be completed by year 2013. The analysis in this report quantifies the impacts of 329 single-family units, and therefore slightly overstates the actual impact anticipated for the 307-unit single-family residential development. The traffic generated by Spring Trails would increase the number of trips on local roadways and freeways, thereby worsening the LOS on these systems. The following intersections would operate at unacceptable levels of service during AM and PM peak hours:

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- I-215 northbound ramps and Palm Avenue
- I-215 southbound ramps and Palm Avenue
- Palm Avenue and Kendall Drive

Without roadway improvements, these project area intersections would have unacceptable levels of service (E or worse). However, interchange improvements to the Palm Avenue and I-215 ramps intersection are included in the SANBAG Nexus Study funded by the City of San Bernardino Regional Circulation System Fee. These improvements would improve the LOS to B during morning peak hour traffic on the northbound ramp, to D during evening peak hour traffic on the northbound ramp, and to C during both morning and evening peak hour traffic on southbound ramps. Development impact fees paid by the project applicant would contribute to the Regional Circulation System Fee.

Improvements to the Palm Avenue/Kendall Drive intersection are not included in a City plan or program. If the necessary improvements to this intersection are not in place at the time the Spring Trails project is completed, a significant impact would result.

Construction Phase

Construction traffic would contribute to deficiencies at the Palm Avenue/I-215 northbound and southbound ramps intersections during morning and evening peak hours (7:00 to 9:00 AM and 4:00 to 6:00 PM respectively), resulting in a significant impact.

IMPACT 5.14-2: PROJECT-RELATED TRIP GENERATION IN COMBINATION WITH EXISTING AND PROPOSED CUMULATIVE DEVELOPMENT WOULD RESULT IN DESIGNATED ROADS AND/OR HIGHWAYS EXCEEDING SANBAG'S CONGESTION MANAGEMENT PLAN SERVICE STANDARDS. [THRESHOLD T-2]



Impact Analysis: The traffic analysis for Spring Trails was completed in accordance with the definition of deficiency of the San Bernardino County CMP. The analysis is applicable to both the preferred development plan and the Alternative (overhead electric lines) development plan. For freeway facilities, the definition of deficiency is based on maintaining a level of service standard of LOS E or better, except where an existing LOS F is already identified. There are two roadways identified in the CMP that would be impacted by project traffic:

- I-215 freeway
- I-15 freeway

Four segments of these two freeways are expected to have an LOS of F during morning peak hours with or without the project in year 2035, and six segments are expected to have an LOS of F during evening peak hours with or without the project in year 2035 (see Table 5.14-5). All of these segments, except the northbound and southbound segments of I-15 between Sierra Avenue and Glen Helen Parkway, are included in the Caltrans improvement plans for the Devore interchange.

With improvements, four of these freeway segments would operate at acceptable levels. However, the following freeway segments would continue to operate at an unacceptable LOS for year 2035 with improvements (see Table 5.14-8):

- The I-215 freeway segment between Palm Avenue and Devore Road (northbound and southbound)
- The I-215 freeway segment between Devore Road and I-15 (northbound)

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- The I-15 freeway segment between Glen Helen Parkway and Sierra Avenue (northbound and southbound)
- The I-15 freeway segment between I-215 and Glen Helen Parkway (northbound)

Spring Trails would contribute more than 100 two-way trips during the evening peak hour to I-15 and I-215 in the project study area and would generate traffic that contributes to the unacceptable levels of service on these freeway segments. As a result these impacts are significant.

IMPACT 5.14-3: PROJECT CIRCULATION IMPROVEMENTS HAVE BEEN DESIGNED TO ADEQUATELY ADDRESS POTENTIALLY HAZARDOUS CONDITIONS (SHARP CURVES, ETC.), POTENTIAL CONFLICTING USES, AND EMERGENCY ACCESS. [THRESHOLDS T-4 AND T-5]

Impact Analysis: The proposed Spring Trails Specific Plan would involve the development of single-family residences with a local roadway network of cul-de-sac right-of-ways, a main loop road, and two access roads. These two access roads would connect the project site to the existing Meyers Road, Little League Drive, and Perrin Road. The access roads and onsite circulation would follow the design standards of the FF District that allow emergency access to the site and would not create any dangerous conditions. This analysis is applicable to both the preferred development plan and the alternative (overhead electric lines) development plan.

IMPACT 5.14-4: THE PROPOSED PROJECT PROVIDES ACCESS FOR ALTERNATIVE TRANSPORTATION. [THRESHOLD T-7]

Impact Analysis: The proposed roadway network of the Spring Trails project includes two access roads, a primary local street, a secondary local street, and two types of cul-de-sac streets. There are no planned public transit uses for the site, but residents would have indirect access to the Omnitrans bus system (approximately two miles to bus stop). The project's trail system would tie into areawide trails that would help facilitate access to public transit. It would provide trails and routes for pedestrian, bicycle, and equestrian use. This analysis is applicable to both the preferred development plan and the alternative (overhead electric lines) development plan.

5.14.4 Cumulative Impacts

The proposed project would result in both project-specific and cumulative potentially significant impacts. The local roadways would experience growth in average daily trips as a result of not only this project but other growth in the area. The analysis completed in the traffic study and used for Impacts 5.14-1 and 5.14-2 combined the future traffic generation projections for years 2013 and 2035 as determined in the East Valley Traffic Model with projected project-specific traffic generation. Recommended intersection and freeway segment improvements would improve cumulative traffic conditions based upon the East Valley Traffic Model and project-specific projections. However since some of these improvements are not funded at this time, cumulative impacts would be significant and unavoidable. This analysis of cumulative impacts is applicable to both the preferred development plan and the alternative (overhead electric lines) development plan.

5.14.5 Existing Regulations and Standard Conditions

City of San Bernardino Regional Circulation System Fee is implemented with the purpose of funding regional improvement projects, including the improvements at the I-215 northbound and southbound ramps at Palm Avenue. As required, the proposed project would pay into this fee schedule the amount of \$2,435 per dwelling unit.

5.14.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.14-3 and 5.14-4.

Without mitigation, the following impact would be **potentially significant**:

- Impact 5.14-1 During the operational phase, the proposed project would contribute to the unacceptable LOS conditions at the following intersections:
 - Palm Avenue and Kendall Drive
 - Palm Avenue and I-215 northbound ramps
 - Palm Avenue and I-215 southbound ramps

During the construction phase, the proposed project would contribute to the unacceptable LOS condition at the Kendall Drive and Palm Avenue intersection.

- Impact 5.14-2 The proposed project would contribute to unacceptable LOS conditions on CMP-identified mainline segments of the I-215 and I-15 freeways.

5.14.7 Mitigation Measures

Impact 5.14-1

- 14-1 If at the time combustible materials are placed on the project site the Palm Avenue/Kendall Drive intersection has not been improved, the project shall be responsible for funding and constructing the dual westbound left turn lane intersection improvements at Palm Avenue/Kendall Drive. All improvements to this intersection must be completed to the satisfaction of the Director of Public Works/Civil Engineering prior to issuance of occupancy permits.
- 14-2 The easterly (primary) project access road between Little League Drive and the project site shall be constructed and paved to meet the City of San Bernardino Fire Department's minimum standards prior to placement of combustible materials on the project site. The access road shall be designed and constructed to meet the City of San Bernardino Public Works/Engineering Division's design standards prior to issuance of occupancy permits. Concurrently, the segment of Little League Drive north of Meyers Road shall be improved to Public Works Department design standards.
- 14-3 The westerly (secondary) project access road shall be constructed and paved to meet the City of San Bernardino Fire Department's minimum standards prior to placement of combustible materials on the project site. The access road shall be designed and constructed to meet the City of San Bernardino Public Works/Engineering Division's design standards prior to the issuance of occupancy permits.
- 14-4 Prior to the issuance of grading permits, the project applicant shall prepare a construction traffic plan that shall be approved by the City of San Bernardino Public Works/Engineering Division. The construction traffic plan shall:



5. Environmental Analysis

TRANSPORTATION AND TRAFFIC

- Prohibit project construction traffic from using the Kendall Drive/Palm Avenue intersection during the morning peak hour (7:00 AM and 9:00 AM) and the evening peak hour (4:00 PM and 6:00 PM)
- Establish truck haul routes on the appropriate transportation facilities.
- Provide Traffic Control Plans (for detours and temporary road closures) that meet the minimum Caltrans, City, and County criteria.
- Minimize offsite road closures during the peak hours.
- Keep all construction-related traffic onsite at all times.

Impact 5.14-2

No funding program is currently available for the proposed Caltrans/SANBAG I-215 and I-15 freeway mainline improvements. No additional mitigation measures are available to reduce Impact 5.14-2.

5.14.8 Level of Significance After Mitigation

Impact 5.14-1

The City of San Bernardino Regional Circulation System Fee will reduce impacts at the following intersections:

- I-215 northbound ramps/Palm Avenue
- I-215 southbound ramps/Palm Avenue

Mitigation Measure 14-1 would reduce operational impacts to the Kendall Drive and Palm Avenue intersection.

Mitigation Measure 14-4 would reduce construction impacts to the Kendall Drive and Palm Avenue intersection.

Therefore, Impact 5.14-1 would be less than significant during both the operational and construction phases.

Impact 5.14-2

Recommended mainline improvements to I-15 and I-215 freeways are not included in a fee program at this time. As a result Impact 5.14-2 is significant and unavoidable.