APPROVED
6/10/2021
Brad Brophy
City Traffic Engineer

North Elsinore Business Park

TRAFFIC ANALYSIS

CITY OF LAKE ELSINORE

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CA MUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CMP	Congestion Management Program
EAP	Existing Plus Ambient Growth Plus Project
EAPC	Existing Plus Ambient Growth Plus Project Plus Cumulative
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
PHF	Peak Hour Factor
Project	North Elsinore Business Park
RCTC	Riverside County Transportation Commission
RTA	Riverside Transport Authority
SR	State Route
TA	Traffic Impact Analysis
TIF	Transportation Impact Fee
TUMF	Transportation Uniform Mitigation Fee
v/c	Volume to Capacity
WRCOG	Western Riverside Council of Governments

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1 INTRODUCTION

This report presents the results of the traffic analysis (TA) for the proposed North Elsinore Business Park development ("Project"), which is located north of Riverside Drive (SR-74), east of Collier Avenue, and west of El Toro Road in the City of Lake Elsinore, as shown on Exhibit 1-1.

The purpose of this TA is to evaluate the potential traffic and circulation system deficiencies that may result from the development of the proposed Project, and to recommend improvements to resolve identified deficiencies and to achieve acceptable circulation system operational conditions in accordance with the City's General Plan. As directed by City of Lake Elsinore staff, this traffic study has been prepared in accordance with the City of Lake Elsinore Traffic Impact Analysis Preparation Guide, and consultation with City staff during the scoping process. (1) (2) The approved Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TA.

1.1 SUMMARY OF FINDINGS

The Project is to construct the following improvements as design features in conjunction with development of the site:

- According to the City of Lake Elsinore General Plan, Collier Avenue is currently built out to its ultimate roadway half-section. As such, there are no additional roadway improvement recommendations. However, curb and gutter, sidewalk, and landscaping improvements are recommended to accommodate site access along the Project's frontage for Driveways 1, 2, and 3, consistent with the City's standards.
- Project to construct El Toro Road to its ultimate half-section width as a Local Street (60-foot right-of-way) in compliance with the circulation recommendations found in the City of Lake Elsinore's General Plan.

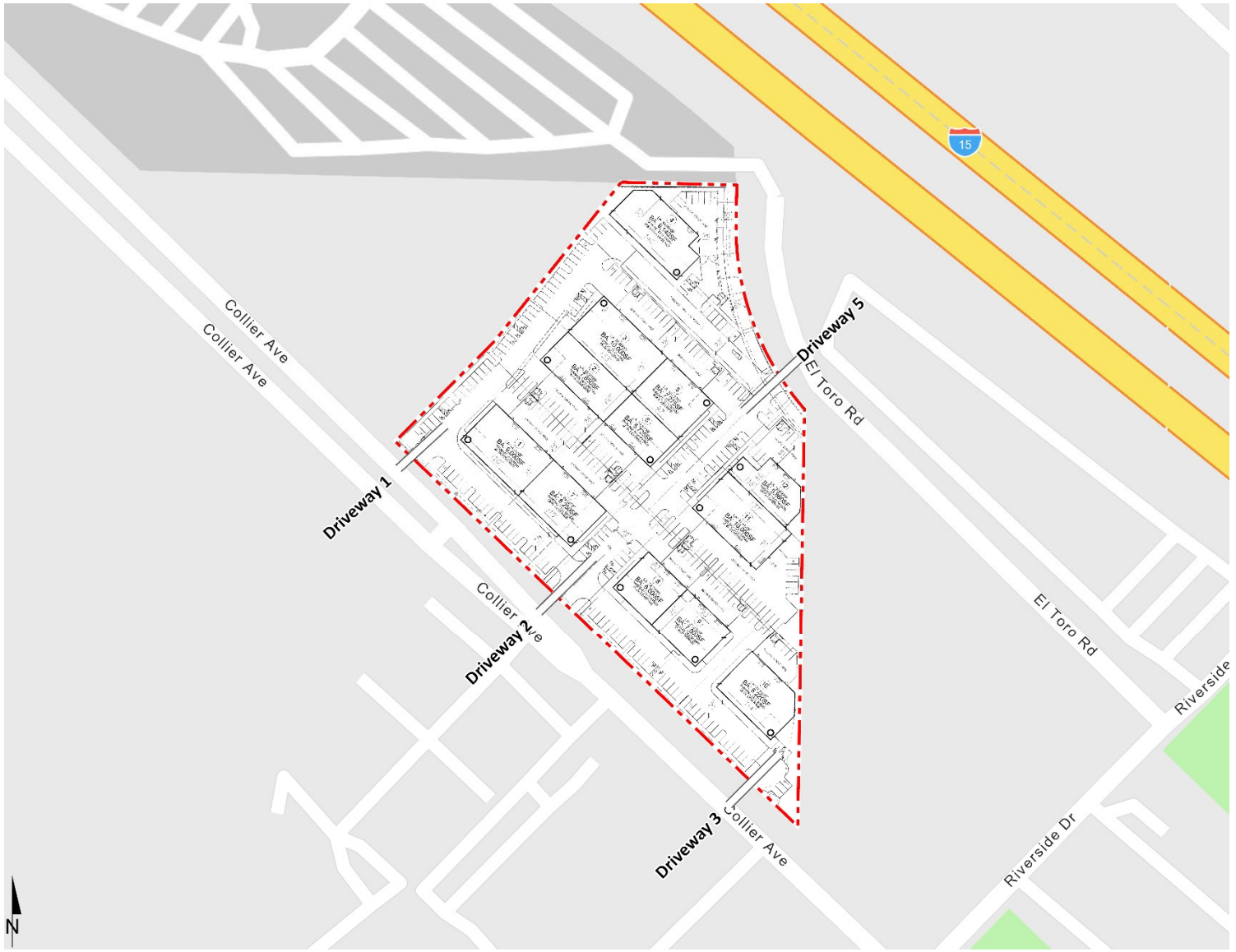
Additional details and intersection lane geometrics are provided in Section 1.6 *Recommendations* of this report.

1.2 PROJECT OVERVIEW

The Project is to consist of the development of 93,255 square feet of general light industrial use within 12 Buildings (see Exhibit 1-1). Note that all buildings are proposed to accommodate ground level, roll-up garage doors (no dock-high doors). For purposes of the traffic analysis, it is anticipated that the Project will be developed in a single phase with an anticipated Opening Year of 2022.

Driveway 1 and Driveway 3 on Collier Avenue are proposed for right-in/right-out access only while Driveway 2 on Collier Avenue is proposed to allow for right-in/right-out/left-in access only. All driveways on El Toro Road are proposed to allow for full access. Regional access to the Project site is available from Riverside Drive (SR-74)/Ortega Highway (SR-74) and the I-15 Freeway.

EXHIBIT 1-1: PRELIMINARY SITE PLAN



It should be noted, the site plan has been updated since this report was produced. Driveway 4 along El Toro Road has been removed. The traffic volumes at Driveway 4 would redistribute to Driveway 5. However, the change in traffic volumes is not anticipated to affect Riverside Drive & El Toro Road and only a nominal change in volumes is anticipated at Driveway 5. As such, the analysis has not been updated based on the latest site plan.

Trips generated by the Project's proposed land uses have been estimated based on the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017) for General Light Industrial (ITE Land Use Code 110). (3) The proposed Project is anticipated to generate a total of 464 actual trip-ends per day with 65 AM peak hour trips and 58 PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.3 ANALYSIS SCENARIOS

For the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2020) Conditions (Baseline)
- Existing plus Ambient Growth plus Project (2022) Conditions
- Existing plus Ambient Growth plus Project plus Cumulative (2022) Conditions

1.3.1 EXISTING (2020) CONDITIONS

Information for Existing (2020) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. Traffic counts collected in November 2020 and historic traffic counts have been utilized in order to establish a pre-COVID baseline. A detailed discussion of the adjustments made to each intersection can be found in Section 3.5 *Existing Traffic Counts* of this report. Traffic counts were collected based on vehicle classification and heavy trucks were accounted for in the peak hour operations analysis as a percentage of total traffic.

1.3.2 EXISTING PLUS AMBIENT GROWTH PLUS PROJECT (2022) CONDITIONS

The EAP (2022) conditions analysis determines the traffic deficiencies based on a comparison of the EAP (2022) traffic conditions to Existing (2020) traffic conditions. To account for background traffic growth, an ambient growth factor from Existing (2020) conditions of 4.04% is included for EAP (2022) traffic conditions. The EAP analysis is intended to identify "Opening Year" deficiencies associated with the development of the proposed Project based on the expected background growth within the study area.

1.3.3 EXISTING PLUS AMBIENT GROWTH PLUS PROJECT PLUS CUMULATIVE (2022) CONDITIONS

The EAPC (2022) traffic conditions analysis determines the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth factor of 4.04% from Existing conditions are included for EAPC (2022) traffic conditions.

1.4 STUDY AREA

To ensure that this TA satisfies the City of Lake Elsinore's traffic study requirements, Urban Crossroads, Inc. prepared a traffic study scoping package for review by City staff prior to the preparation of this report. The Agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology and is included in Appendix 1.1.

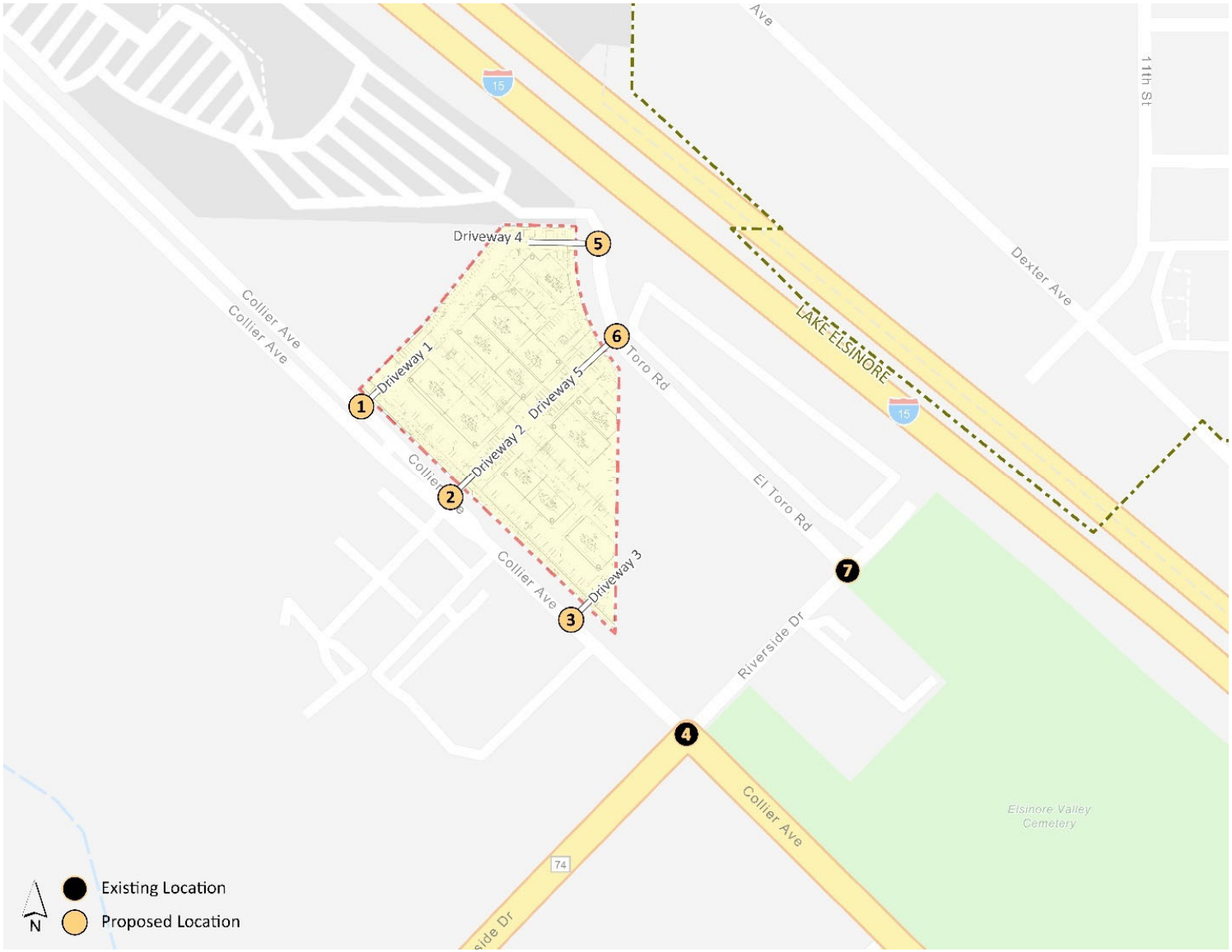
The following 7 study area intersections shown on Exhibit 1-3 and listed in Table 1-1 were selected for this TA based on consultation with City of Lake Elsinore staff and have generally been selected based on the "50 peak hour trip" criterion. The "50 peak hour trip" criterion is consistent with the methodology employed by the City of Lake Elsinore and County of Riverside, and generally represents a minimum number of trips at which a typical intersection would have the potential to be affected by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential study area.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction	CMP?
1	Driveway 1 & Collier Av. – Future Intersection	Lake Elsinore	No
2	Driveway 2 & Collier Av. – Future Intersection	Lake Elsinore	No
3	Driveway 3 & Collier Av. – Future Intersection	Lake Elsinore	No
4	Riverside Dr. (SR-74) & Collier Av. (SR-74)	Lake Elsinore, Caltrans	No
5	Driveway 4 & El Toro Rd. – Future Intersection	Lake Elsinore	No
6	Driveway 5 & El Toro Rd. – Future Intersection	Lake Elsinore	No
7	Riverside Dr. & El Toro Rd.	Lake Elsinore	No

The intent of a Congestion Management Program (CMP) is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. The County of Riverside CMP became effective with the passage of Proposition 111 in 1990 and updated most recently updated in 2011. The Riverside County Transportation Commission (RCTC) adopted the 2011 CMP for the County of Riverside in December 2011. (4) None of the study area intersections are identified as CMP facilities in the Riverside County CMP.

EXHIBIT 1-2: LOCATION MAP



1.5 ANALYSIS FINDINGS

This section provides a summary of analysis results for EAP (2022) and EAPC (2022) traffic conditions. A summary of level of service (LOS) results for all analysis scenarios is presented in Table 1-2.

1.5.1 EXISTING (2020) CONDITIONS

All study area intersections are currently operating at an acceptable LOS during the peak hours under Existing (2020) traffic conditions.

1.5.2 EAP (2022) CONDITIONS

All study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours under EAP (2022) traffic conditions.

1.5.3 EAPC (2022) CONDITIONS

All study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours under EAPC (2022) traffic conditions.

TABLE 1-2: SUMMARY OF DEFICIENT INTERSECTIONS BY ANALYSIS SCENARIO

		Existing		EAP (2022)		EAPC (2022)	
	Intersection	AM	PM	AM	PM	AM	PM
1	Driveway 1 & Collier Av.	N/A	N/A	●	●	●	●
2	Driveway 2 & Collier Av.	N/A	N/A	●	●	●	●
3	Driveway 3 & Collier Av.	N/A	N/A	●	●	●	●
4	Riverside Dr. (SR-74) & Collier Av. (SR-74	●	●	●	●	●	●
5	Driveway 4 & El Toro Rd.	N/A	N/A	●	●	●	●
6	Driveway 5 & El Toro Rd.	N/A	N/A	●	●	●	●
7	Riverside Dr. & El Toro Rd.	●	●	●	●	●	●

Legend
A - D = ●
E = ●
F = ●

1.6 RECOMMENDATIONS

The following recommendations are based on the improvements needed to accommodate site access. The site adjacent recommendations are shown on Exhibit 1-4.

Recommendation 1 – ***Driveway 1 & Collier Avenue (#1)*** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the southbound approach and construct a right turn lane (Project Driveway).

Recommendation 2 – ***Driveway 2 & Collier Avenue (#2)*** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the southbound approach and construct a right turn lane (Project Driveway).
- Project to modify the existing median and construct an eastbound left turn lane with a minimum of 100-feet of storage.

Recommendation 3 – ***Driveway 3 & Collier Avenue (#3)*** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the southbound approach and construct a right turn lane (Project Driveway).

Recommendation 4 – ***Driveway 5 & El Toro Road (#6)*** – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the northbound approach and construct a shared left-right turn lane (Project Driveway).

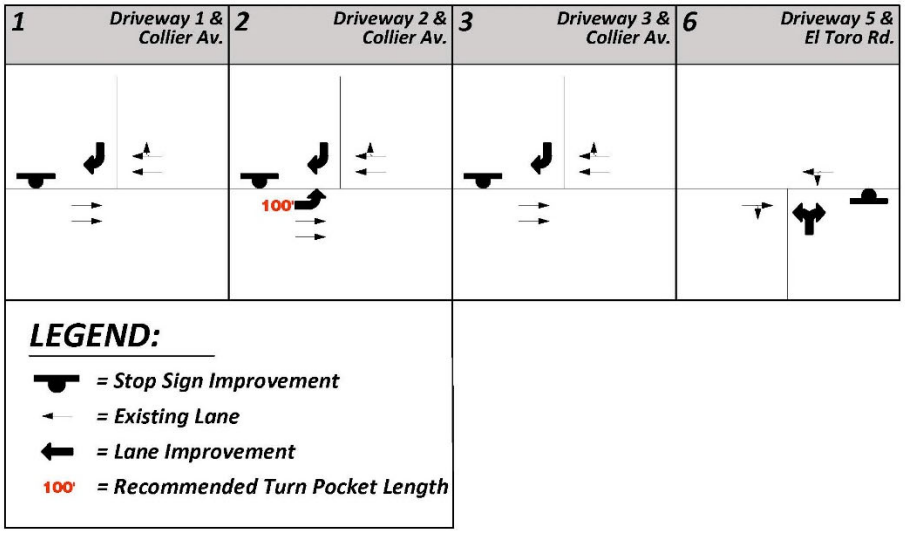
Recommendation 5 – **Collier Avenue** is an east-west oriented roadway located on the Project's southern boundary. According to the City of Lake Elsinore General Plan, Collier Avenue is currently built out to its ultimate roadway half-section. As such, there are no additional roadway improvement recommendations. However, curb and gutter, sidewalk, and landscaping improvements are recommended to accommodate site access along the Project's frontage for Driveways 1, 2, and 3, consistent with the City's standards.

Recommendation 6 – **El Toro Road** is an east-west oriented roadway located on the Project's northern boundary. Project to construct El Toro Road to its ultimate half-section width as a Local Street (60-foot right-of-way) in compliance with the circulation recommendations found in the City of Lake Elsinore's General Plan.

On-site traffic signing and striping should be implemented agreeable with the provisions of the California Manual on Uniform Traffic Control Devices (CA MUTCD) and in conjunction with detailed construction plans for the Project site.

Sight distance at each project access point should be reviewed with respect to standard California Department of Transportation (Caltrans) and City of Lake Elsinore sight distance standards at the time of preparation of final grading, landscape and street improvement plans.

EXHIBIT 1-3: SITE ADJACENT ROADWAY AND SITE ACCESS RECOMMENDATIONS



2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with City of Lake Elsinore traffic study guidelines.

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The Highway Capacity Manual (HCM), 6th Edition, methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (5) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Lake Elsinore requires signalized intersection operations analysis based on the methodology described in the HCM. (5) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1. Study area intersections have been evaluated using the Synchro (Version 10) analysis software package.

Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B	F
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C	F
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D	F
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E	F
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F	F

Source: HCM (6th Edition)

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g. PHF = [Hourly Volume] / [4 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all near-term analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (5)

California Department of Transportation (Caltrans)

Per the Caltrans Evaluating Transportation Impacts of State Highway System Projects, the traffic modeling and signal timing optimization software package Synchro (Version 10) has also been utilized to analyze signalized intersections under Caltrans' jurisdiction, which include intersections along Riverside Drive (SR-74). (2)

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Lake Elsinore requires the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (5) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay Per Vehicle (Seconds)	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Little or no delays.	0 to 10.00	A	F
Short traffic delays.	10.01 to 15.00	B	F
Average traffic delays.	15.01 to 25.00	C	F
Long traffic delays.	25.01 to 35.00	D	F
Very long traffic delays.	35.01 to 50.00	E	F
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F	F

Source: HCM (6th Edition)

At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. Per the HCM, the highest delay for any individual movement on the minor street is reported for side-street stop-controlled intersections. For all-way stop controlled intersections, LOS is computed for the intersection as a whole and the average intersection delay is reported (similar to signalized intersections).

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by the Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices *(CA MUTCD)*. (6)

The signal warrant criteria for Existing conditions are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The Caltrans CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (6) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing study area intersections for all analysis scenarios. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics (e.g. located in communities with populations of less than 10,000 persons or with adjacent major streets operating above 40 miles per hour). For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection.

Traffic signal warrant analyses were performed for the following unsignalized study area intersection shown in Table 2-3:

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

ID	Intersection Location	Jurisdiction
5	Driveway 4 & El Toro Rd.	Lake Elsinore
6	Driveway 5 & El Toro Rd.	Lake Elsinore
7	Riverside Dr. & El Toro Rd.	Lake Elsinore

Although unsignalized, traffic signal warrants have not been evaluated for Driveways 1, 2, and 3 along Collier Avenue since the driveways are proposed for restricted access. The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *EAP (2022) Traffic Conditions* and Section 6 *EAPC (2022) Traffic Conditions* of this report.

It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 MINIMUM ACCEPTABLE LOS

The City of Lake Elsinore has established LOS D as the minimum level of service for its intersections. Therefore, any intersection operating at LOS E or F will be considered deficient for the purposes of this analysis.

2.5 DEFICIENCY CRITERIA

Below are the traffic deficiency criteria:

- When existing traffic conditions exceed the General Plan target LOS (e.g., LOS D or better).
- When project traffic, added to existing traffic, will deteriorate the LOS to below the target LOS, and deficiencies cannot be improved through project conditions of approval.
- When cumulative traffic exceeds the target LOS, and deficiencies cannot be improved through the Western Riverside Council of Government (WRCOG) Transportation Uniform Mitigation Fee (TUMF) network (or other funding mechanism), project conditions of approval, or other implementation mechanism.

3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Lake Elsinore General Plan Circulation Network, and a review of existing peak hour intersection operations and traffic signal warrant analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with City of Lake Elsinore staff (Appendix 1.1), the study area includes a total of 7 intersections as shown previously on Exhibit 1-3. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF LAKE ELSINORE GENERAL PLAN CIRCULATION ELEMENT

As noted previously, the Project site is located within the City of Lake Elsinore. The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified in the City of Lake Elsinore General Plan Circulation Element, are described subsequently. Exhibit 3-2 shows the City of Lake Elsinore General Plan Circulation Element, and Exhibit 3-3 illustrates the City of Lake Elsinore General Plan roadway cross-sections.

Study area roadways that are classified as an Urban Arterial are identified as having six lanes of travel. The following study area roadways within the City of Lake Elsinore are classified as an Urban Arterial:

- Collier Avenue (SR-74), east of Riverside Drive
- Riverside Drive (SR-74)

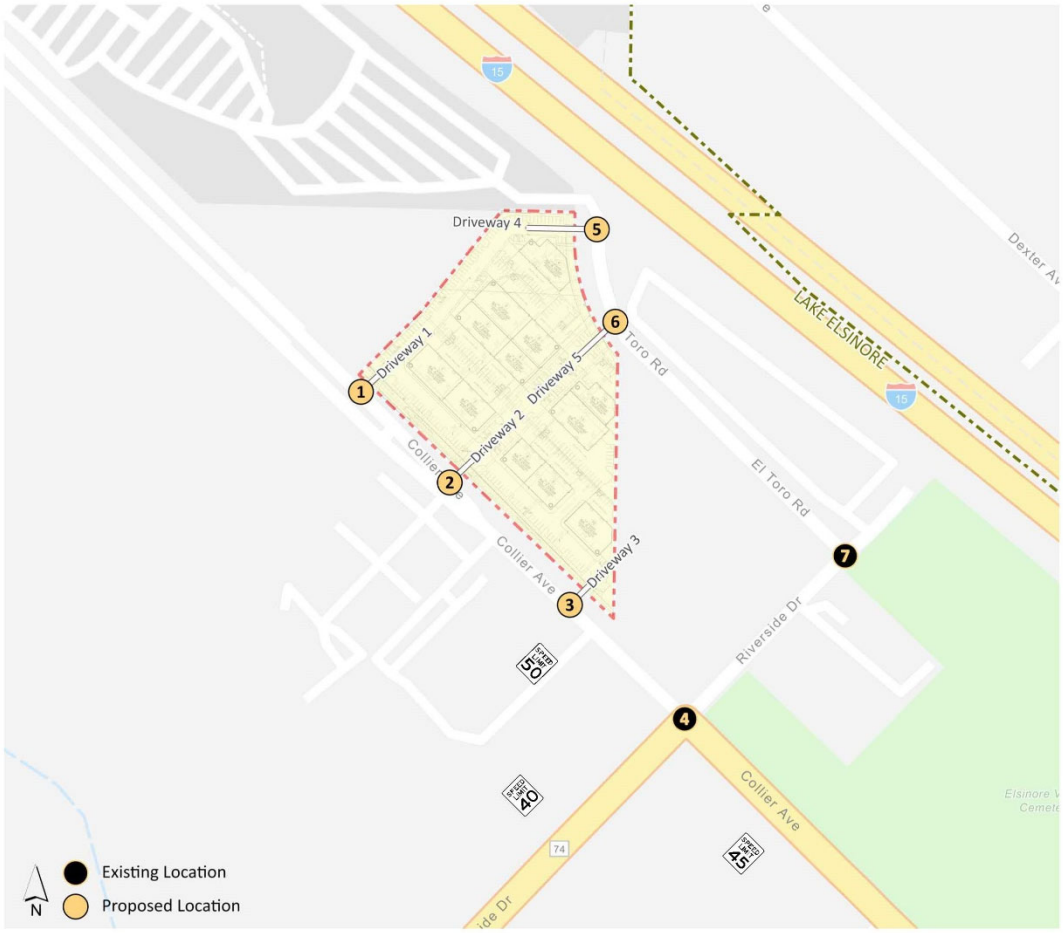
Study area roadways that are classified as a Major Highway are identified as having four lanes of travel. The following study area roadways within the City of Lake Elsinore are classified as a Major Highway:

- Collier Avenue, west of Riverside Drive

3.3 BICYCLE AND PEDESTRIAN FACILITIES

The City of Lake Elsinore Area Trails System is shown on Exhibit 3-4 while the City of Lake Elsinore Bikeway Plan is shown on Exhibit 3-5. There is an existing Lake Elsinore Lake, River, Levee Regional Trail that runs parallel to Collier Avenue in the vicinity of the study area. There is a proposed Class II bike path along Collier Avenue and Riverside Drive (SR-74). Existing pedestrian facilities within the study area are shown on Exhibit 3-6.

EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS



1 Driveway 1 & Collier Av.	2 Driveway 2 & Collier Av.	3 Driveway 3 & Collier Av.	4 SR-74 / Riverside Dr. & Collier Av.	5 Driveway 4 & El Toro Rd.
Future Intersection	Future Intersection	Future Intersection	2U / 4D / 3D / 2U RTO	Future Intersection

6 Driveway 5 & El Toro Rd.	7 Riverside Dr. & El Toro Rd.
Future Intersection	2U / 2U / 2U

LEGEND:

- = Traffic Signal
- = Stop Sign
- RTO = Right Turn Overlap
- 4 = Number of Lanes
- D = Divided
- U = Undivided
- SPEED LIMIT 25 = Speed Limit (MPH)

EXHIBIT 3-2: CITY OF LAKE ELSINORE GENERAL PLAN CIRCULATION ELEMENT

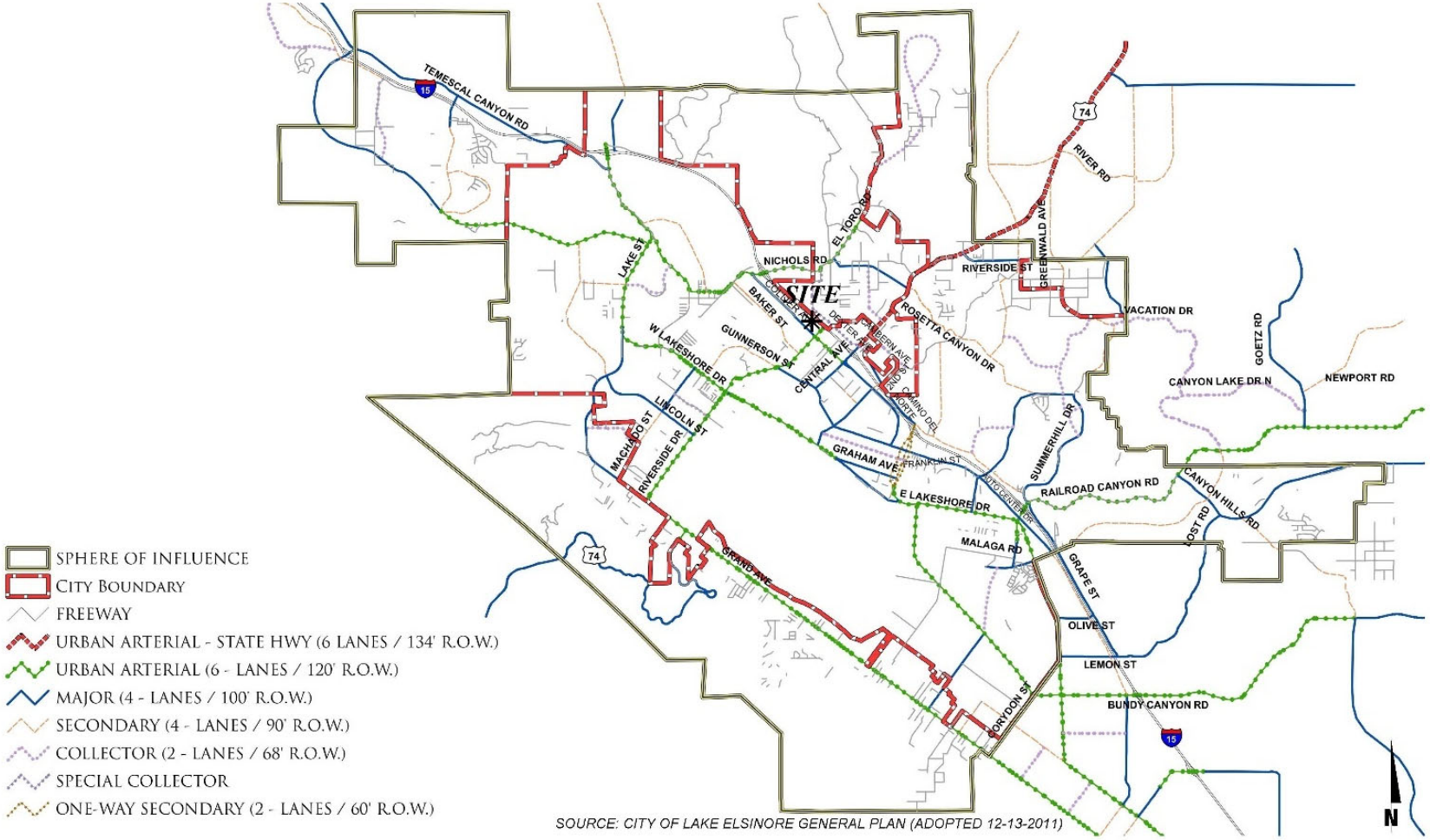
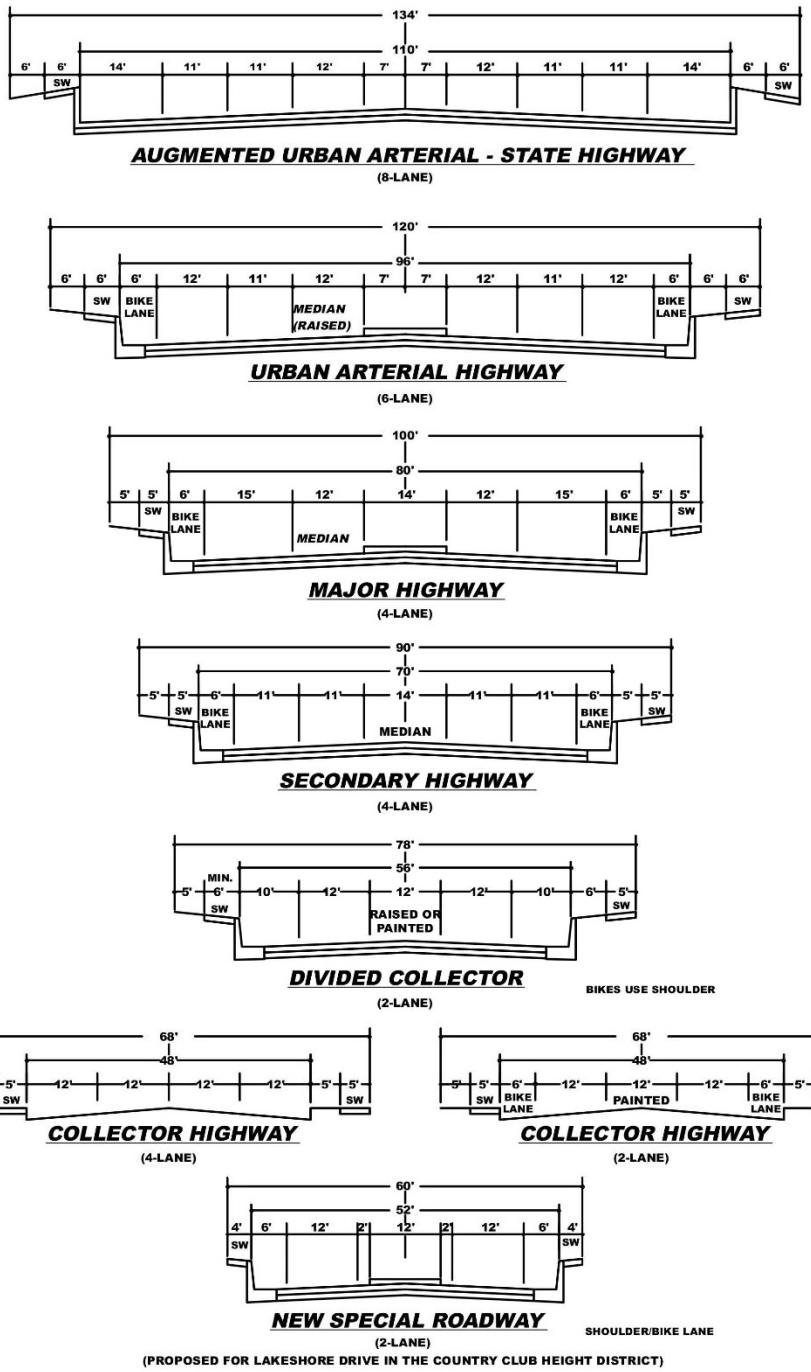


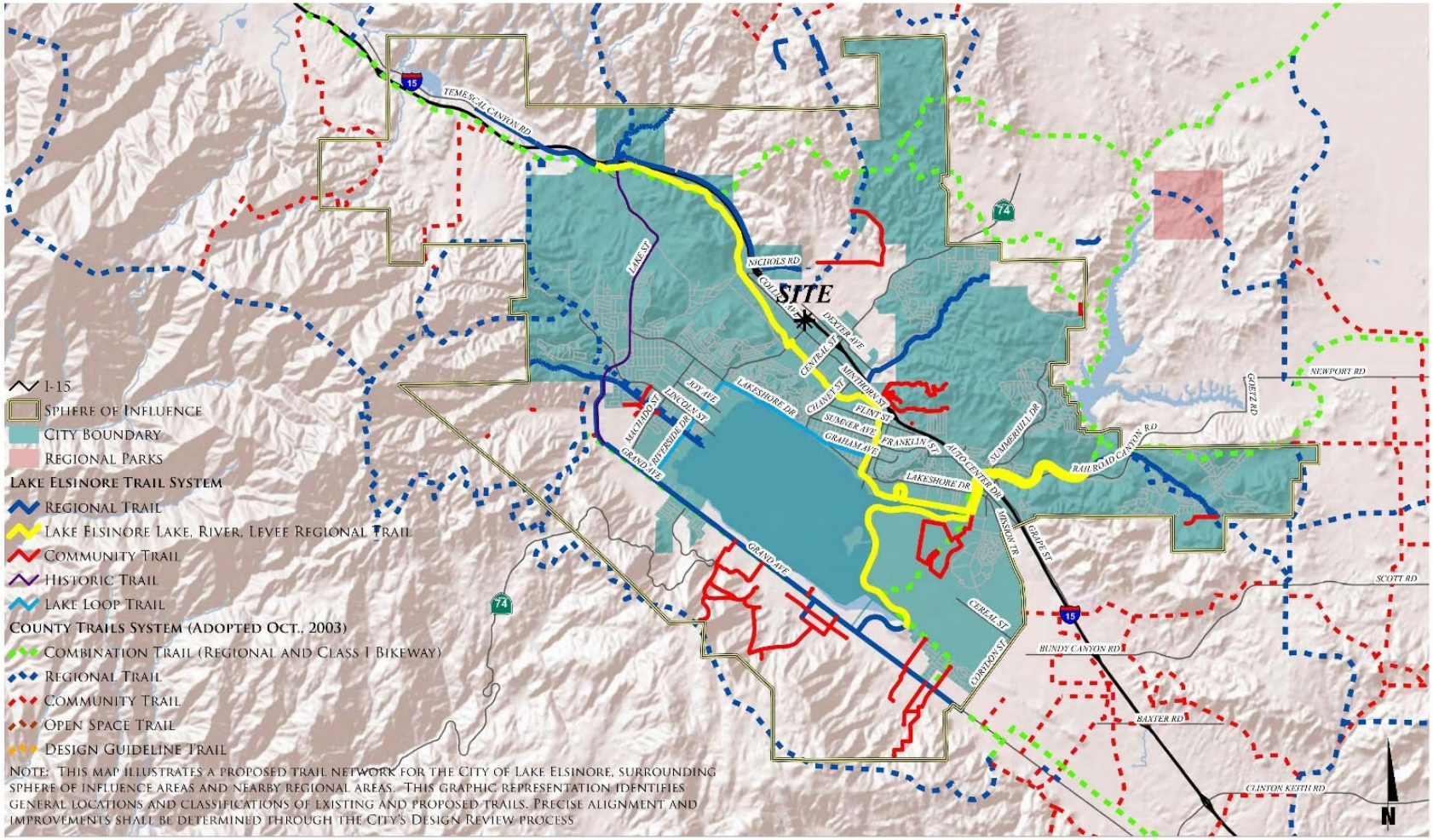
EXHIBIT 3-3: CITY OF LAKE ELSINORE GENERAL PLAN ROADWAY CROSS-SECTIONS



* BIKE LANES ARE NOT MANDATORY UNLESS SHOWN ON THE BIKEWAY CIRCULATION ELEMENT PLAN
PRECISE SIDEWALK LOCATION SUBJECT TO CITY ENGINEER APPROVAL
NOTE: CHECK THE DISTRICT PLAN OF YOUR AREA FOR ANY REQUIRED SPECIAL ROADWAY CROSS-SECTION, ESPECIALLY THE LAKE EDGE AND COUNTRY CLUB HEIGHTS DISTRICT PLANS.
STRIPPING OF COLLECTOR HIGHWAY AS DIRECTED BY CITY ENGINEER.

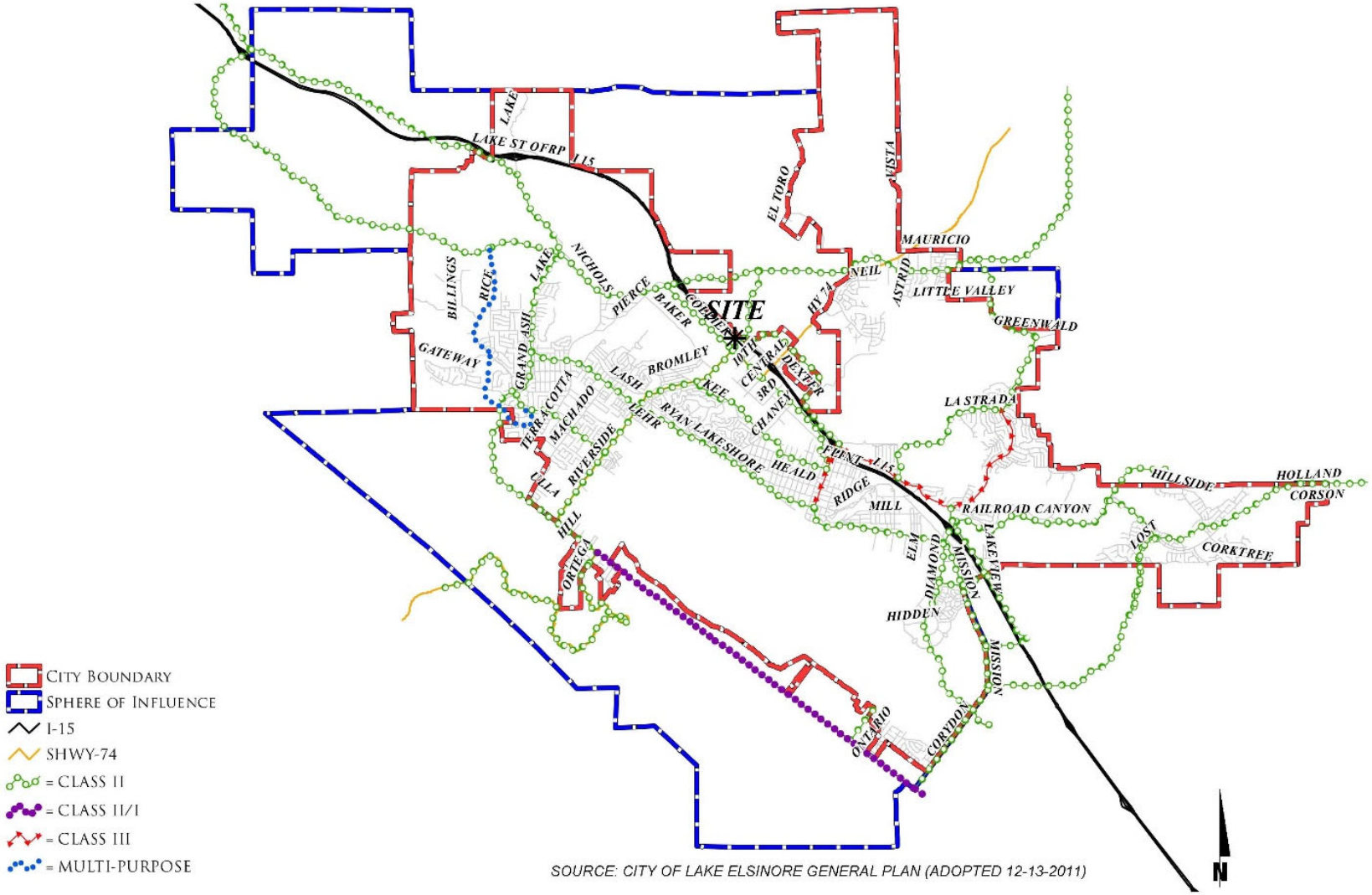
SOURCE: CITY OF LAKE ELSINORE GENERAL PLAN (ADOPTED 12-13-2011)

EXHIBIT 3-4: CITY OF LAKE ELSINORE AREA TRAILS SYSTEM



SOURCE: CITY OF LAKE ELSINORE GENERAL PLAN (ADOPTED 12-13-2011)

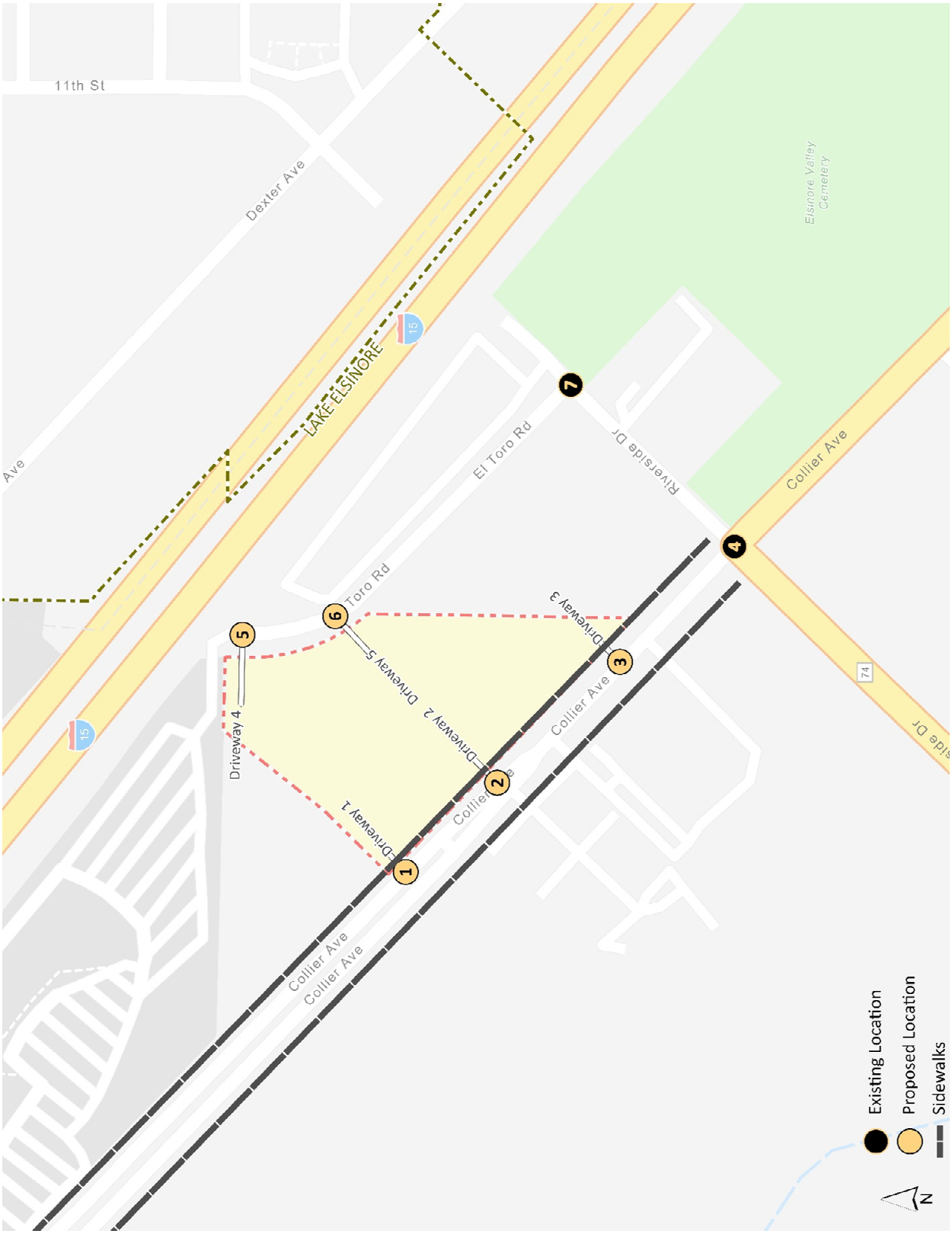
EXHIBIT 3-5: CITY OF LAKE ELSINORE BIKEWAY PLAN



SOURCE: CITY OF LAKE ELSINORE GENERAL PLAN (ADOPTED 12-13-2011)

URBAN CROSSROADS

EXHIBIT 3-6: EXISTING PEDESTRIAN AND BICYCLE FACILITIES



3.4 TRANSIT SERVICE

The Riverside Transit Authority (RTA) currently serves the City of Lake Elsinore. Transit service is reviewed and updated by RTA periodically to address ridership, budget, and community demand needs. RTA Route 8 runs along Riverside Drive (SR-74) and Collier Avenue while RTA Routes 9 and 205/206 run along Collier Avenue only. These routes could likely serve the Project in the future. Existing transit routes in the vicinity of the study area are illustrated on Exhibit 3-7. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. As such, it is recommended that the applicant work in conjunction with RTA to potentially provide additional bus service to the site.

3.5 EXISTING (2020) TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in 2018 and 2020. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

Due to the currently ongoing COVID-19 pandemic, schools and businesses within the study area were closed or operating at less than full capacity at the time this study was prepared. As such, historic (2018) traffic counts were utilized in conjunction with a 2.0% per year growth rate (compounded annually) to reflect adjusted 2020 conditions. The 2018 weekday AM and weekday PM peak hour count data are representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules.

Historic traffic count data was not readily available for the intersection of Riverside Drive & El Toro Road. As such, 2020 traffic counts have been collected at this intersection. Traffic counts have also been collected at the adjacent intersection of Riverside Drive & Collier Avenue in order to compare and develop an adjustment factor based on historic 2018 traffic count data to the recently collected 2020 traffic count data. This adjustment factor has been applied to the traffic count data at the intersection of Riverside Drive & El Toro Road to reflect non-COVID traffic conditions. Where applicable, traffic volumes have been flow conserved in order to not have any loss of vehicles. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

Existing weekday Average Daily Traffic (ADT) volumes are shown on Exhibit 3-8. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 13.72 = Leg Volume

EXHIBIT 3-7: EXISTING TRANSIT ROUTES

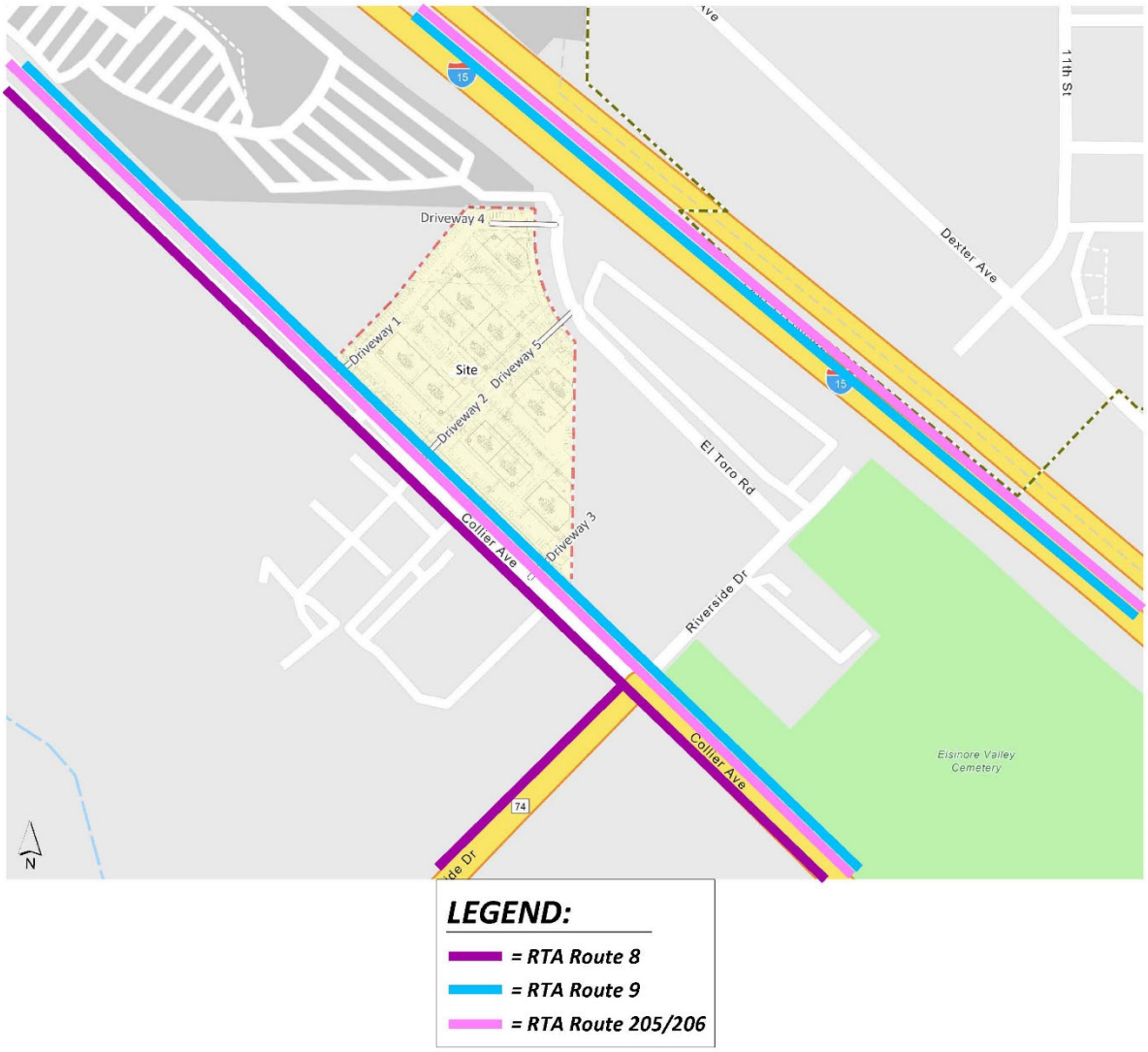


EXHIBIT 3-8: EXISTING (2020) TRAFFIC VOLUMES (IN PCE)

1 Dwy. 1 & Collier Av.	2 Dwy. 2 & Collier Av.	3 Dwy. 3 & Collier Av.	4 Riverside Dr. (SR-74) & Collier Av.	5 Dwy. 4 & El Toro Rd.
Future Intersection	Future Intersection	Future Intersection	1,100 3(7) 1(18) 6(21) 47(3) 56(186) 4(101) 8,700 29,200 12(20) 76(234) 647(884) 83(103) 10(11) 837(782) 26,069	Future Intersection

6 Dwy. 5 & El Toro Rd.	7 Riverside Dr. & El Toro Rd.
Future Intersection	450 13(18) 0(2) 13(14) Nominal 500

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 7.29 percent. As such, the above equation utilizing a factor of 13.72 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 7.29 percent (i.e., 1/0.0729 = 13.72) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes are also shown on Exhibit 3-8.

3.6 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1, which indicates that all the study area intersections are currently operating at an acceptable LOS during the peak hours under Existing (2020) traffic conditions. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2020) CONDITIONS

#	Intersection	Traffic Control[1]	Delay (secs.) AM	Delay (secs.) PM	Level of Service AM	Level of Service PM
1	Driveway 1 & Collier Av.		Future Intersection			
2	Driveway 2 & Collier Av.		Future Intersection			
3	Driveway 3 & Collier Av.		Future Intersection			
4	Riverside Dr. (SR-74) & Collier Av. (SR-74)	TS	20.2	24.6	C	C
5	Driveway 4 & El Toro Rd.		Future Intersection			
6	Driveway 5 & El Toro Rd.		Future Intersection			
7	Riverside Dr. & El Toro Rd.	CSS	0.0	7.3	A	A

[1] CSS = Cross-street Stop; TS = Traffic Signal

3.7 EXISTING (2020) TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. There are no existing unsignalized study area intersections that currently meet a traffic signal warrant for Existing conditions (see Appendix 3.3).

3.8 DEFICIENCIES AND IMPROVEMENTS

As shown in Table 3-1, the study area intersections are currently operating at an acceptable LOS during the peak hours under Existing (2020) traffic conditions. As such, no improvements have been identified.

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4 PROJECTED FUTURE TRAFFIC

The Project is to consist of the development of 93,255 square feet of general light industrial use within 12 Buildings (see Exhibit 1-1). Note that all buildings are proposed to accommodate ground level garage doors (no dock-high doors). For purposes of the traffic analysis it is anticipated that the Project will be developed in a single phase with an anticipated Opening Year of 2022.

Driveway 1 and Driveway 3 on Collier Avenue are proposed for right-in/right-out access only while Driveway 2 on Collier Avenue is proposed to allow for right-in/right-out/left-in access only. All driveways on El Toro Road are proposed to allow for full access. Regional access to the Project site is available from Riverside Drive (SR-74)/Ortega Highway (SR-74) and the I-15 Freeway.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

Trip generation rates used to estimate Project traffic are shown in Table 4-1. The trip generation rates used for this analysis are based upon information collected by the ITE as provided in their Trip Generation Manual, 10th Edition, 2017. (3) The trip generation rate is based upon data collected by ITE for General Light Industrial (ITE Land Use Code 110) and the truck percentages identified in the ITE Trip Generation Handbook (3rd Edition, 2017). (3) As shown in Table 4-2, the proposed Project is anticipated to generate a total of 464 actual trip-ends per day, with 65 AM peak hour trips and 58 PM peak hour trips. For the purposes of the operations analysis, the PCE trip generation shown in Table 4-2 has been utilized.

4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern of passenger cars is heavily influenced by the geographical location of the site, the location of surrounding land uses, and the proximity to the regional freeway system. Given these differences between passenger cars and trucks, separate trip distributions were generated for both passenger cars and truck trips. Exhibit 4-1 illustrates the truck trip distribution patterns while Exhibits 4-2 illustrates the passenger car trip distribution patterns. The Project trip distribution pattern was reviewed by the City of Lake Elsinore as part of the traffic study scoping process (see Appendix 1.1).

4.3 MODAL SPLIT

The potential for Project trips to be reduced by the use of public transit, walking or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes.

TABLE 4-1: TRIP GENERATION RATES

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Actual Vehicles:									
General Light Industrial[3]	TSF	110	0.616	0.084	0.700	0.082	0.548	0.630	4.960
Passenger Cars:			0.598	0.081	0.679	0.080	0.537	0.617	4.563
2-Axle Trucks:			0.003	0.000	0.004	0.000	0.002	0.002	0.066
3-Axle Trucks:			0.004	0.001	0.004	0.000	0.002	0.003	0.082
4+-Axle Trucks:			0.012	0.002	0.013	0.001	0.007	0.008	0.248
Passenger Car Equivalent (PCE):[4]									
General Light Industrial[3]	TSF	110	0.616	0.084	0.700	0.082	0.548	0.630	4.960
Passenger Cars:			0.598	0.081	0.679	0.080	0.537	0.617	4.563
2-Axle Trucks:			0.005	0.001	0.005	0.000	0.003	0.003	0.099
3-Axle Trucks:			0.008	0.001	0.009	0.001	0.005	0.005	0.164
4+-Axle Trucks:			0.035	0.005	0.039	0.003	0.021	0.024	0.745

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Tenth Edition (2017).

[2] TSF = thousand square feet

[3] Vehicle Mix Source: ITE Trip Generation Handbook Supplement (2020), Appendix C.
Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.
Normalized % - Without Cold Storage: 16.7% 2-Axle trucks, 20.7% 3-Axle trucks, 62.6% 4-Axle trucks.

[4] PCE factors: 2-axle = 1.5; 3-axle = 2.0; 4+-axle = 3.0.

TABLE 4-2: PROJECT TRIP GENERATION SUMMARY

Land Use	Quantity	Units[1]	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Project Trip Generation Summary (Actual Vehicles):									
General Light Industrial	93.255	TSF							
Passenger Cars:			56	8	64	7	50	57	426
2-axle Trucks:			*0*	*0*	*0*	*0*	*0*	*0*	*6*
3-axle Trucks:			*0*	*0*	*0*	*0*	*0*	*0*	*8*
4+-axle Trucks:			*1*	*0*	*1*	*0*	*1*	*1*	*24*
Total Truck Trips:			1	0	1	0	1	1	38
Total Trips (Actual Vehicles)[2]			**57**	**8**	**65**	**7**	**51**	**58**	**464**
Project Trip Generation Summary (PCE):									
General Light Industrial	93.255	TSF							
Passenger Cars:			56	8	64	7	50	57	426
2-axle Trucks:			*0*	*0*	*0*	*0*	*0*	*0*	*10*
3-axle Trucks:			*1*	*0*	*1*	*0*	*0*	*0*	*16*
4+-axle Trucks:			*3*	*0*	*3*	*0*	*2*	*2*	*70*
Total Truck Trips:			4	0	4	0	2	2	96
Total Trips (PCE)[2]			**60**	**8**	**68**	**7**	**52**	**59**	**522**

[1] TSF = thousand square feet

[2] Total Trips = Passenger Cars + Truck Trips.

4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project only ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-3.

EXHIBIT 4-1: PROJECT (TRUCK) TRIP DISTRIBUTION

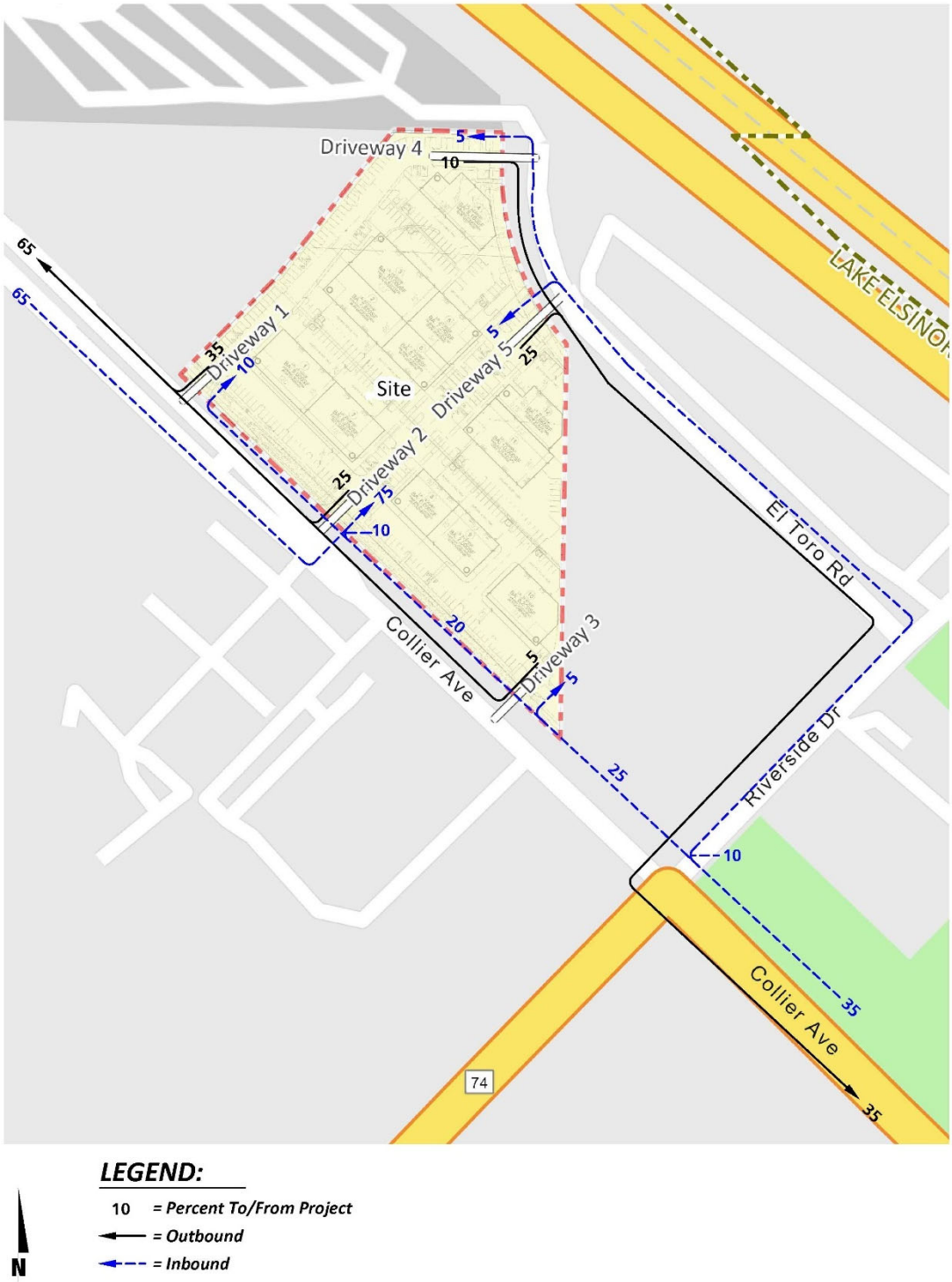


EXHIBIT 4-2: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION

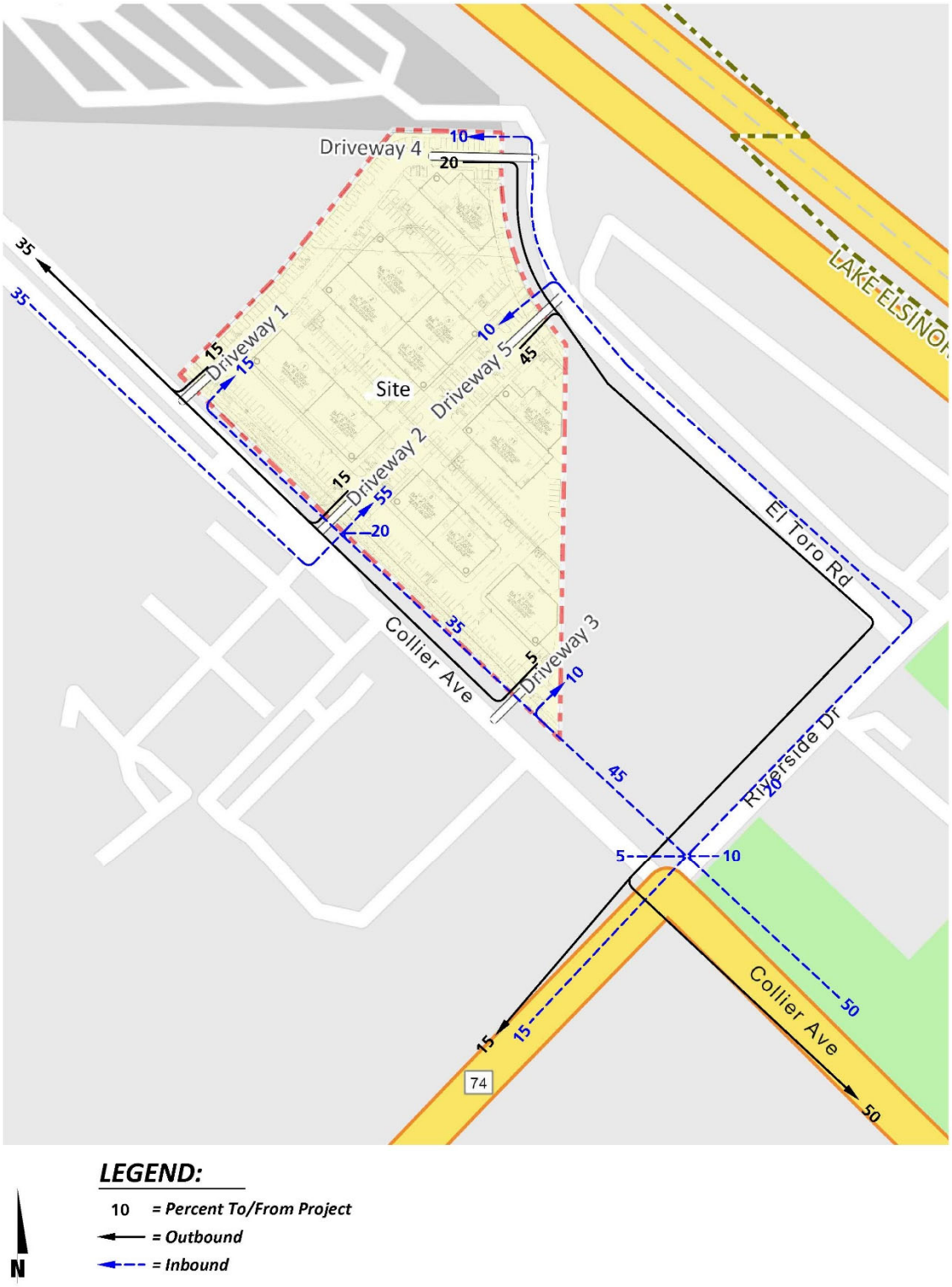
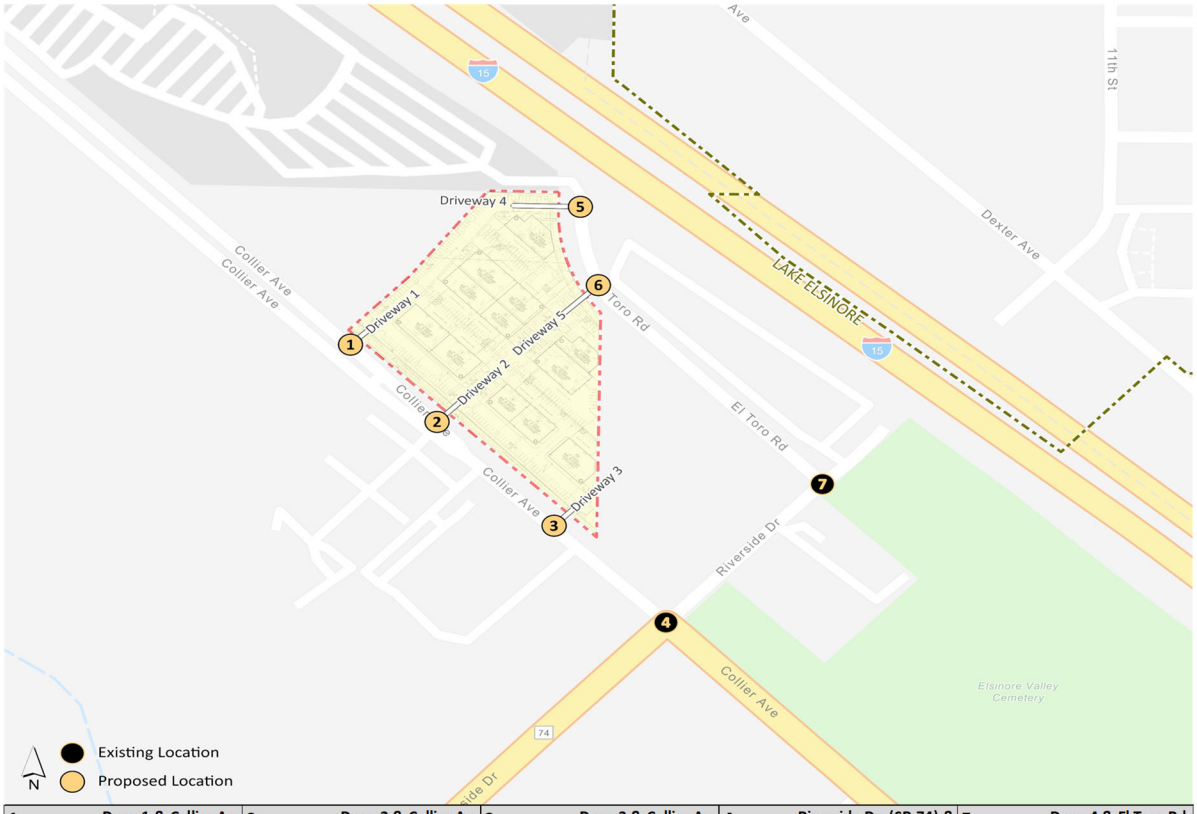


EXHIBIT 4-3: PROJECT ONLY TRAFFIC VOLUMES



1 Dwy. 1 & Collier Av.	2 Dwy. 2 & Collier Av.	3 Dwy. 3 & Collier Av.	4 Riverside Dr. (SR-74) & Collier Av.	5 Dwy. 4 & El Toro Rd.
100 / 200 1(8) 9(1) 2(11) 22(2) 200	200 / 100 1(8) 12(1) 9(4) 22(2) 200	Nominal / 100 0(3) 6(1) 20(2) 100	200 / 250 1(8) 4(26) 6(1) 23(3) 3(0) 6(1) 100 / Nominal	Nominal 6(1) 2(10) Nominal

6 Dwy. 5 & El Toro Rd.	7 Riverside Dr. & El Toro Rd.
200 6(1) 6(1) 2(10) 4(23) Nominal / 150	5(33) 12(1) 200 / 200

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth of 4.04% (2% per year compounded annually) for 2022 traffic conditions. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies. EAP (2022) and EAPC (2022) traffic volumes are provided in Section 5 and Section 6 of this report, respectively.

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Lake Elsinore. Exhibit 4-4 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown in Table 4-3. If applicable, the traffic generated by individual cumulative projects was manually added to the EAP (2022) forecasts to ensure that traffic generated by the listed cumulative development projects in Table 4-3 are reflected as part of the background traffic to calculate EAPC (2022) traffic forecasts.

For the purposes of this TA, an absorption percentage has been applied to the cumulative development traffic. It is unlikely that each cumulative development project shown on Exhibit 4-4 will be fully constructed and occupied by the year 2022. As such and consistent with other recent studies within the City of Lake Elsinore, 20% of the cumulative development traffic has been added to the EAP (2022) traffic volumes. Cumulative ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-5.

EXHIBIT 4-4: CUMULATIVE DEVELOPMENT LOCATION MAP

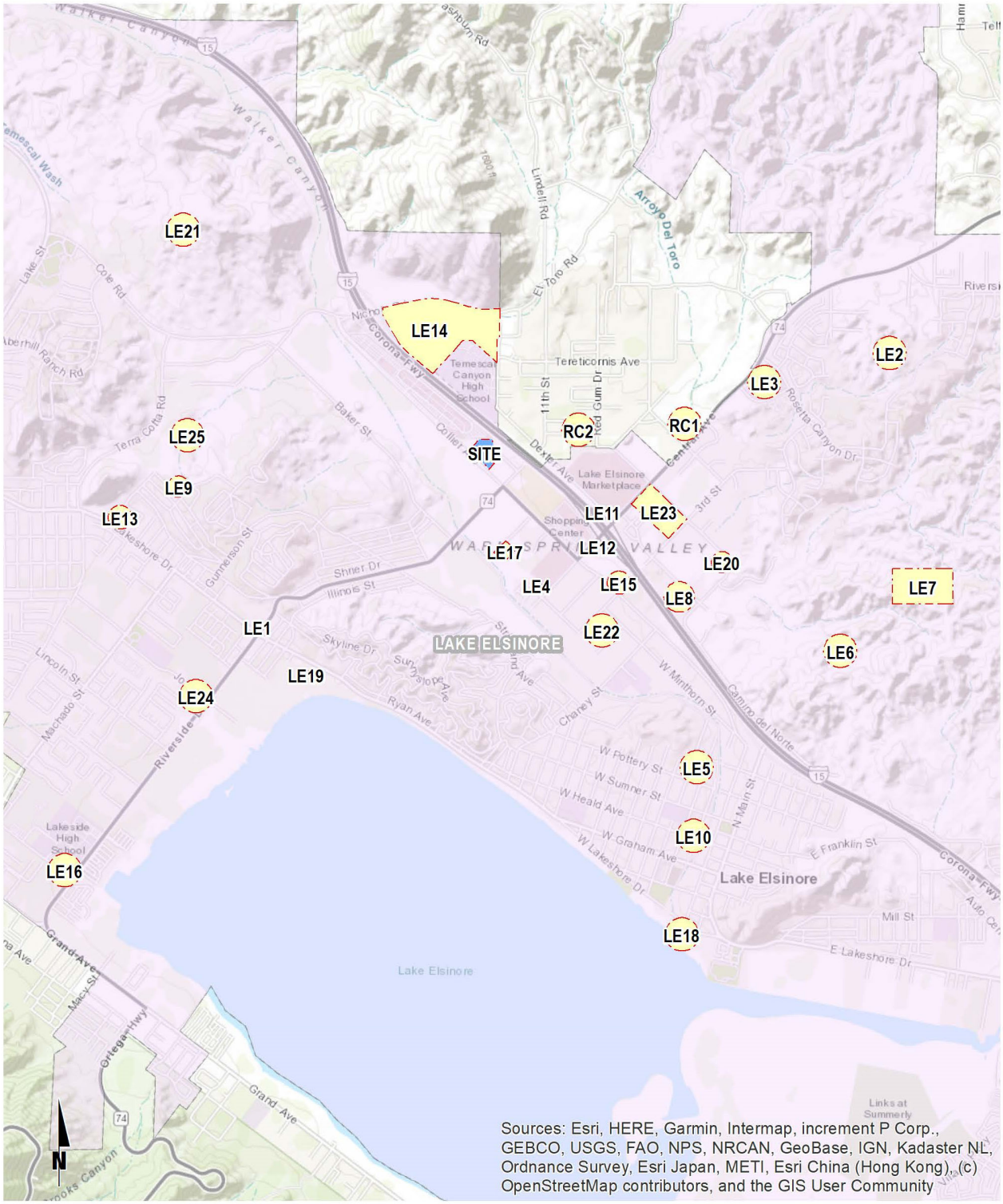
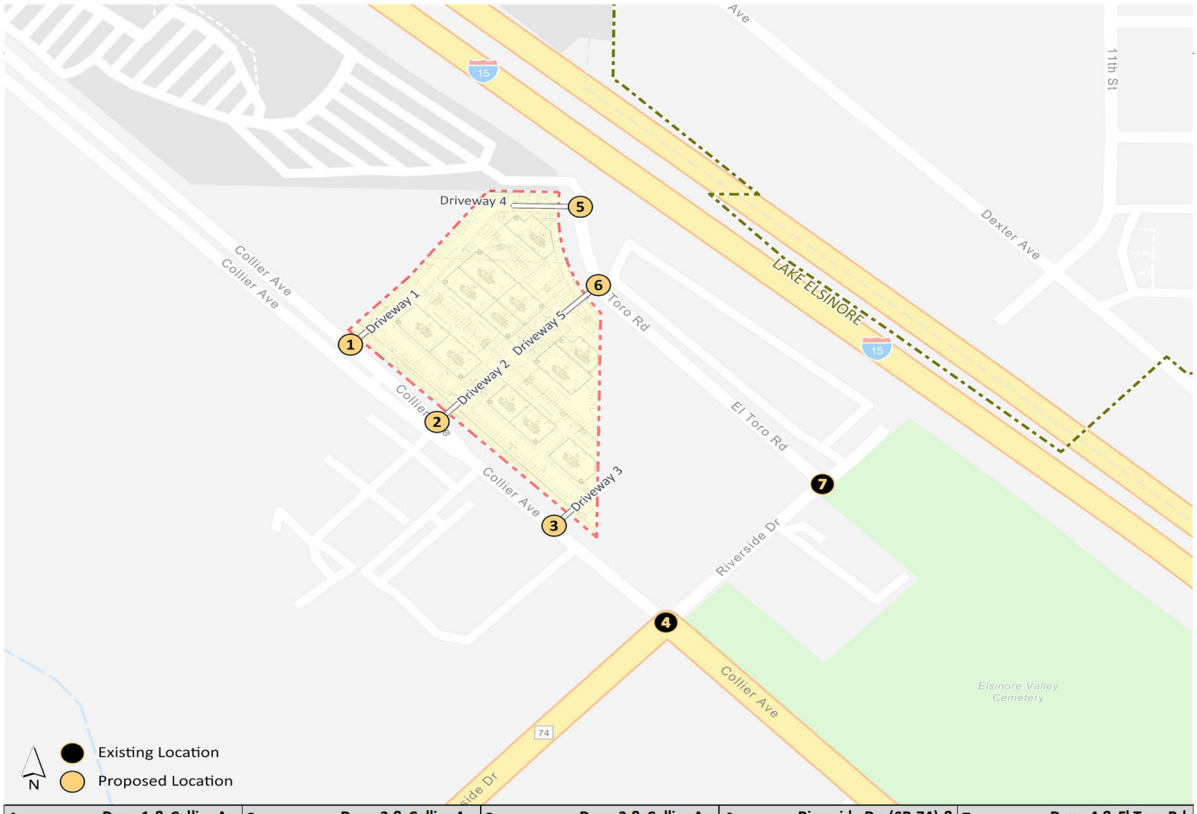


EXHIBIT 4-5: CUMULATIVE ONLY TRAFFIC VOLUMES



1 Dwy. 1 & Collier Av.	2 Dwy. 2 & Collier Av.	3 Dwy. 3 & Collier Av.	4 Riverside Dr. (SR-74) & Collier Av.	5 Dwy. 4 & El Toro Rd.
Future Intersection	Future Intersection	Future Intersection	15,250 ← 130(271) ← 301(494) 213(216) → 65(66) ↱ 348(450) ↱ 53(61) ↴ 6,300 11,644	Future Intersection

6 Dwy. 5 & El Toro Rd.	7 Riverside Dr. & El Toro Rd.
Future Intersection	

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

TABLE 4-3: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

No.	Project Name	Land Use	Quantity[1]
City of Lake Elsinore:			
LE1	Chevron Gas Station	Super Convenience Mkt./Gas Station	12 VFP
LE2	Ramsgate	Single Family Residential	1,306 DU
		Condo/Townhomes	120 DU
LE3	Trieste Residential (Tract 36624)	Single Family Residential	75 DU
LE4	Fairway Business Park	Warehouse	216.600 TSF
LE5	Ness Industrial Garage	Warehouse	12.000 TSF
LE6	Spyglass Ranch[2]	Single Family Residential	523 DU
		Condo/Townhomes	171 DU
		Shopping Center	145.00 TSF
LE7	South Shore I (Tract 31593)	Single Family Residential	521 DU
	South Shore II (Tract 36567)	Single Family Residential	400 DU
LE8	Chik-fil-a Restaurant	Fast Food w/ Drive Thru	4.800 TSF
LE9	Kassab Travel Center	Fast Food w/ Drive Thru	2.540 TSF
		Super Gas Station	18 VFP
LE10	Marina Village Condos (Tract 33820)	Condo/Townhomes	94 DU
LE11	Honda	Automobile Sales	53.400 TSF
LE12	Lake Elsinore Sports Complex	Sports Center	525.000 TSF
LE13	Lakeview Manor	Condo/Townhomes	104 DU
LE14	Nichols South	Single Family Residential	141 DU
		Park	8.3 AC
		Hotel	130 RM
		Shopping Center	29.500 TSF
LE15	Central & Collier	Shopping Center	75.000 TSF
LE16	Village at Lakeshore (TR 33267)	Condo/Townhomes	163 DU
LE17	Tige Watersports	Shopping Center	34.500 TSF
LE18	Lakeshore Town Center	Town Center	237.400 TSF
LE19	Lakeview Plaza	Shopping Center	43.000 TSF
LE20	North Peak Plaza	Hotel	97 RM
		Shopping Center	37.500 TSF
LE21	Alberhill Ridge (Tract 35001)	Single Family Residential	1,056 DU
		Apartments	345 DU
		Shopping Center	679.000 TSF
		General Office	679.000 TSF
LE22	Pennington Industrial Park	Warehouse	91.140 TSF
LE23	Lake Elsinore Walmart	Free-Standing Discount Superstore	151.397 TSF
		Specialty Retail	5.300 TSF
		Fast Food w/o Drive Thru	12.100 TSF
LE24	Circle K	Gas Station	4.500 TSF
LE25	Terracina	Single Family Residential	365 DU
County of Riverside:			
RC1	CUP190006	Discount Tire	8.192 TSF
RC2	TPM37545	Single Family Residential	4 DU

[1] TSF = Thousand Square Feet; DU = Dwelling Unit; AC = Acres; VFP = Vehicle Fueling Positions; RM = Rooms

[2] Source: Spyglass Ranch TIA (Revised), Kunzman Associates, February 2007.

5 EAP (2022) TRAFFIC CONDITIONS

This section discusses the methods used to develop EAP (2022) traffic forecasts, and the resulting intersection operations and traffic signal warrant analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAP (2022) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAP (2022) conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).

5.2 EAP (2022) TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor of 4.04% plus the addition of Project traffic. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for EAP (2022) traffic conditions are shown on Exhibit 5-1.

5.3 INTERSECTION OPERATIONS ANALYSIS

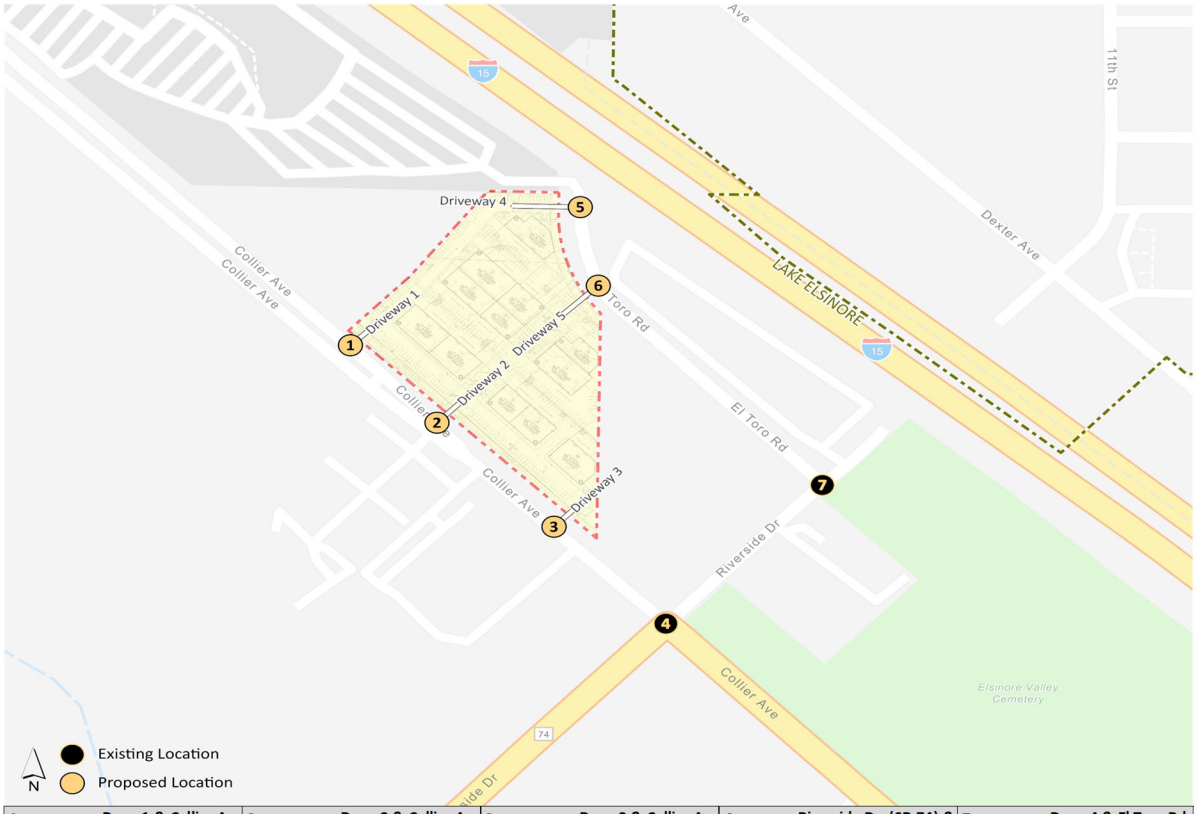
LOS calculations were conducted for the study intersections to evaluate their operations under EAP (2022) traffic conditions with the roadway and intersection geometrics consistent with Section 5.1 *Roadway Improvements*. As shown in Table 5-1, the study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours under EAP (2022) traffic conditions, consistent with Existing (2020) traffic conditions. The intersection operations analysis worksheets for EAP (2022) traffic conditions are included in Appendix 5.1.

TABLE 5-1: INTERSECTION ANALYSIS FOR EAP (2022) CONDITIONS

			Existing (2020)				EAP (2022)			
			Delay (secs.)		Level of Service		Delay (secs.)		Level of Service	
#	Intersection	Traffic Control[1]	AM	PM	AM	PM	AM	PM	AM	PM
1	Driveway 1 & Collier Av.	**CSS**	Future Intersection				8.8	9.5	A	A
2	Driveway 2 & Collier Av.	**CSS**	Future Intersection				8.8	9.5	A	A
3	Driveway 3 & Collier Av.	**CSS**	Future Intersection				0.0	9.4	A	A
4	Riverside Dr. (SR-74) & Collier Av. (SR-74)	TS	20.2	24.6	C	C	20.6	27.3	C	C
5	Driveway 4 & El Toro Rd.	**CSS**	Future Intersection				8.3	8.3	A	A
6	Driveway 5 & El Toro Rd.	**CSS**	Future Intersection				8.3	8.4	A	A
7	Riverside Dr. & El Toro Rd.	CSS	0.0	7.3	A	A	8.4	8.6	A	A

[1] CSS = Cross-street Stop; TS = Traffic Signal; **CSS** = Improvement

EXHIBIT 5-1: EAP (2022) TRAFFIC VOLUMES



1 Dwy. 1 & Collier Av.	2 Dwy. 2 & Collier Av.	3 Dwy. 3 & Collier Av.	4 Riverside Dr. (SR-74) & Collier Av.	5 Dwy. 4 & El Toro Rd.
100 / 9,250 1(8) ↲ ← 9(1) ← 170(370) 133(303) → 9,250	200 / 9,150 1(8) ↲ ← 12(1) ← 177(363) 22(2) ↴ 111(301) → 9,250	Nominal / 9,150 0(3) ↲ ← 6(1) ← 188(361) 111(301) → 9,150	1,350 / 30,600 3(8) ↲ 2(26) ↓ 10(48) ↳ ← 19(22) ← 102(247) ↰ 673(920) 49(3) ↴ 58(193) → 4(105) ↴ 89(108) ↰ 17(13) ↑ 870(814) ↱ 9,150 / 27,200	100 ← 0(3) ↰ 6(1) 2(10) ↱ Nominal / Nominal

6 Dwy. 5 & El Toro Rd.	7 Riverside Dr. & El Toro Rd.
250 ← 6(4) ↰ 6(1) 2(10) → 4(23) ↱ 100 / 150	450 14(19) ↓ 5(33) ↴ 12(4) ↴ 14(15) ↑ 250 / 700

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed (based on CA MUTCD) for EAP (2022) traffic conditions based on peak hour intersection turning movements volumes and daily planning level volumes. Consistent with Existing (2020) traffic conditions, there are no unsignalized intersections that are anticipated to meet a traffic signal warrant for EAP (2022) conditions (see Appendix 5.2).

5.5 DEFICIENCIES AND IMPROVEMENTS

As shown in Table 5-1, the study area intersections are anticipated to operate at an acceptable LOS during the peak hours under EAP (2022) traffic conditions. As such, no improvements have been identified.

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6 EAPC (2022) TRAFFIC CONDITIONS

This section discusses the methods used to develop EAPC (2022) traffic forecasts, and the resulting intersection operations and traffic signal warrant analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAPC (2022) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAPC (2022) conditions only (e.g., intersection and roadway improvements along the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for EAPC (2022) conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways).

6.2 EAPC (2022) TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor of 4.04% plus 20% of the traffic from pending and approved but not yet constructed known development projects in the area, in conjunction with Project traffic. The weekday ADT and weekday AM and PM peak hour volumes which can be expected for EAPC (2022) traffic conditions are shown on Exhibit 6-1.

6.3 INTERSECTION OPERATIONS ANALYSIS

LOS calculations were conducted for the study intersections to evaluate their operations under EAPC (2022) traffic conditions with the roadway and intersection geometrics consistent with Section 6.1 *Roadway Improvements*. As shown in Table 6-1, the study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours under EAPC (2022) traffic conditions, consistent with Existing (2020) traffic conditions. The intersection operations analysis worksheets for EAPC (2022) traffic conditions are included in Appendix 6.1.

TABLE 6-1: INTERSECTION ANALYSIS FOR EAPC (2022) CONDITIONS

			Delay (secs.)		Level of Service	
			AM	PM	AM	PM
1	Driveway 1 & Collier Av.	**CSS**	8.9	9.7	A	A
2	Driveway 2 & Collier Av.	**CSS**	9.0	9.7	A	A
3	Driveway 3 & Collier Av.	**CSS**	0.0	9.7	A	A
4	Riverside Dr. (SR-74) & Collier Av. (SR-74)	TS	22.6	39.9	C	D
5	Driveway 4 & El Toro Rd.	**CSS**	8.3	8.3	A	A
6	Driveway 5 & El Toro Rd.	**CSS**	8.3	8.4	A	A
7	Riverside Dr. & El Toro Rd.	CSS	8.4	8.6	A	A

[1] CSS = Cross-street Stop; TS = Traffic Signal; **CSS** = Improvement

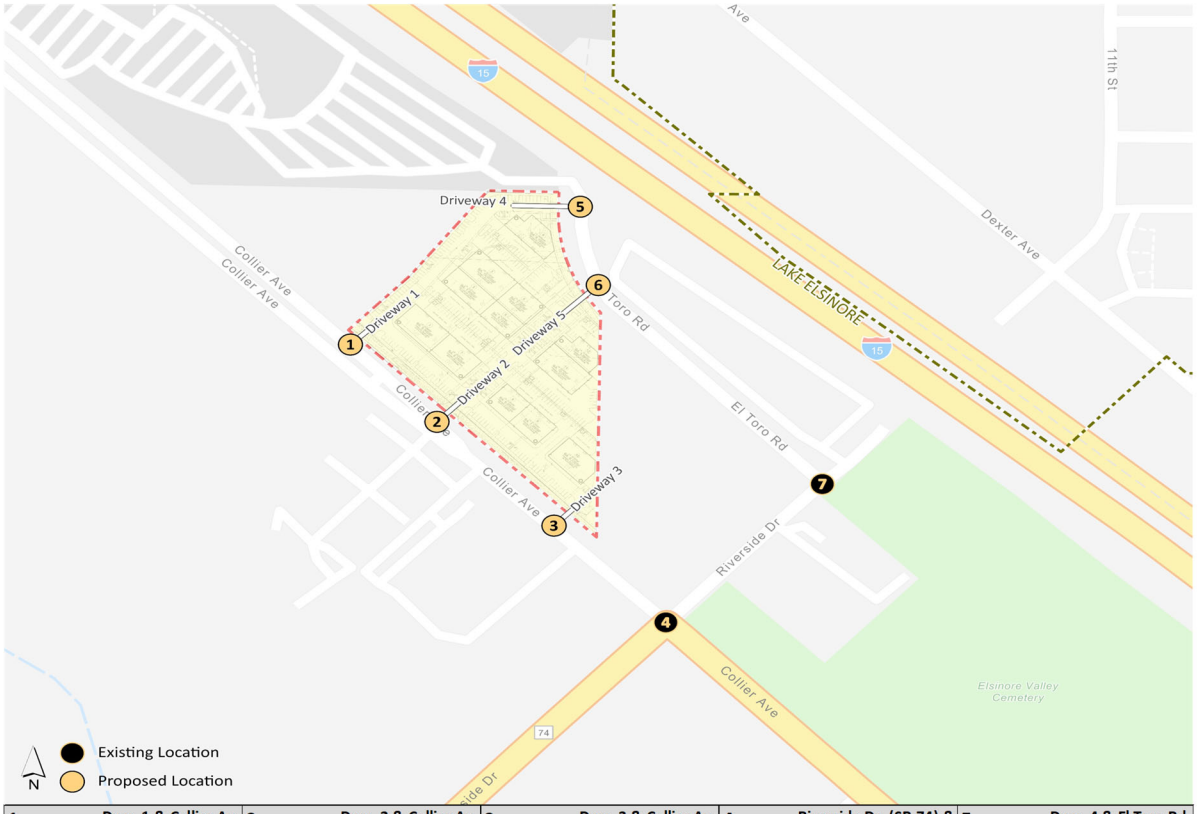
6.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed (based on CA MUTCD) for EAP (2022) traffic conditions based on peak hour intersection turning movements volumes and daily planning level volumes. Consistent with Existing (2020) traffic conditions, there are no unsignalized intersections that are anticipated to meet a traffic signal warrant for EAP (2022) conditions (see Appendix 6.2).

6.5 DEFICIENCIES AND IMPROVEMENTS

As shown in Table 6-1, the study area intersections are anticipated to operate at an acceptable LOS during the peak hours under EAPC (2022) traffic conditions. As such, no improvements have been identified.

EXHIBIT 6-1: EAPC (2022) TRAFFIC VOLUMES



1 Dwy. 1 & Collier Av.

100 | 10,500
1(8) ↰ 9(1)
↓ ← 209(438)
186(359) →
10,550

2 Dwy. 2 & Collier Av.

200 | 10,400
1(8) ↰ 12(1)
↓ ← 216(431)
22(2) ↱
164(357) →
10,500

3 Dwy. 3 & Collier Av.

Nominal | 10,450
0(3) ↰ 6(1)
↓ ← 227(429)
164(357) →
10,400

4 Riverside Dr. (SR-74) & Collier Av.

1,350 | 33,650
3(8) 2(26) 10(48)
↓ ↓ ↳ ↰ 19(22)
← 128(301)
↰ 733(1019)
49(3) ↳ ↰ ↑ ↱
101(236) → 102(121) 17(13) 940(904)
14(117) ↴
10,450 | 29,500

5 Dwy. 4 & El Toro Rd.

100
← 0(3)
↰ 6(1)
2(10) ↱
Nominal | Nominal

6 Dwy. 5 & El Toro Rd.

250
← 6(4)
↰ 6(1)
2(10) → ↱ 4(23)
100 | 150

7 Riverside Dr. & El Toro Rd.

450
14(19) ↓
5(33) ↴
12(4) ↰ ↑ 14(15)
250 | 700

##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

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7 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the City of Lake Elsinore are funded through a combination of improvements constructed by the Project, development impact fee programs or fair share contributions. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

7.1 CITY OF LAKE ELSINORE TRANSPORTATION IMPACT FEE (TIF) PROGRAM

Transportation improvements throughout the City of Lake Elsinore are funded through a combination of project improvements, fair share contributions or development impact fee programs, such as the Western Riverside Council of Governments (WRCOG) Transportation Uniform Mitigation Fee (TUMF) program or the City's Transportation Impact Fee (TIF) program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors. These fees are collected as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected vehicle trip increases.

Fees from new residential, commercial and industrial development are collected to fund local facilities. Under the City's TIF program, the City may grant to developers a credit against specific components of fees when those developers construct certain facilities and landscaped medians identified in the list of improvements funded by the TIF program.

The timing to use the TIF fees is established through periodic capital improvement programs which are overseen by the City's Engineering Department. Periodic traffic counts, review of traffic accidents, and a review of traffic trends throughout the City are also periodically performed by City staff and consultants. The City uses this data to determine the timing of the improvements listed in its facilities list. The City also uses this data to ensure that the improvements listed on the facilities list are constructed before the LOS falls below the LOS performance standards adopted by the City. In this way, the improvements are constructed before the LOS falls below the City's LOS performance thresholds. The City's TIF program establishes a timeline to fund, design, and build the improvements.

7.2 TRANSPORTATION UNIFORM MITIGATION FEE (TUMF) PROGRAM

The TUMF program is administered by the WRCOG based upon a regional Nexus Study most recently updated in 2016 to address major changes in right of way acquisition and improvement cost factors. (7) This regional program was put into place to ensure that development pays its fair share and that funding is in place for construction of facilities needed to maintain the requisite level of service and critical to mobility in the region. TUMF is a truly regional mitigation fee program and is imposed and implemented in every jurisdiction in Western Riverside County.

TUMF guidelines empower a local zone committee to prioritize and arbitrate certain projects. The Project is located in the Southwest Zone. The zone has developed a 5-year capital improvement program to prioritize public construction of certain roads. TUMF is focused on improvements necessitated by regional growth.

7.3 FAIR SHARE CONTRIBUTION

Project improvement may include a combination of fee payments to established programs, construction of specific improvements, payment of a fair share contribution toward future improvements or a combination of these approaches. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate (to be determined at the City's discretion).

When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. These fees are collected with the proceeds solely used as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with the projected population increases.

8 REFERENCES

1. **City of Lake Elsinore.** *Traffic Impact Analysis Preparation Guide.* Lake Elsinore : s.n., June 23, 2020.
2. **California Department of Transportation.** *Evaluating Transportation Impacts of State Highway System Projects.* September 2020.
3. **Institute of Transportation Engineers.** *Trip Generation Manual.* 10th Edition. 2017.
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5. **Transportation Research Board.** *Highway Capacity Manual (HCM).* 6th Edition. s.l. : National Academy of Sciences, 2016.
6. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CAMUTCD).* 2017.
7. **Western Riverside Council of Governments.** *TUMF Nexus Study, 2016 Program Update.* July 2017.

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