

PERRIS AIRPORT LOGISTICS CENTER (DPR22-00005; CUP 23- 05107)

TRAFFIC ANALYSIS AND VMT ANALYSIS

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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
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
CTR	Commute Trip Reduction
DIF	Development Impact Fee
E+P	Existing Plus Project
EAC	Existing plus Ambient plus Cumulative
EAPC	Existing plus Ambient plus Project plus Cumulative
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
OD	Origin/Destination
OPR	Governor’s Office of Planning and Research
PCE	Passenger Car Equivalent
PHF	Peak Hour Factor
Project	Perris Airport Logistics Center
RCTC	Riverside County Transportation Commission
RIVCOM	Riverside County Transportation Model
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategies
SCAG	Southern California Association of Governments
SED	Socio-Economic Data
SF	Square Foot
TA	Traffic Analysis
TAZ	Traffic Analysis Zone
TDM	Transportation Demand Management
TUMF	Transportation Uniform Mitigation Fee
VMT	Vehicle Miles Traveled
vphgpl	Vehicles per Hour Green per Lane
WRCOG	Western Riverside Council of Governments

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1 INTRODUCTION

This report presents the results of the Traffic Analysis (TA) for Perris Airport Logistics Center (“Project”), which is located on the southeast corner of Goetz Road and Ellis Avenue in the City of Perris, as shown on Exhibit 1-1. The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and where necessary recommend improvements to achieve acceptable operations consistent with General Plan level of service goals and policies. This traffic study has been prepared in accordance with the City of Perris’ Transportation Impact Analysis Guidelines for CEQA (California Environmental Quality Act) (May 2020), and consultation with City of Perris staff during the traffic study scoping process. (1) The Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TA.

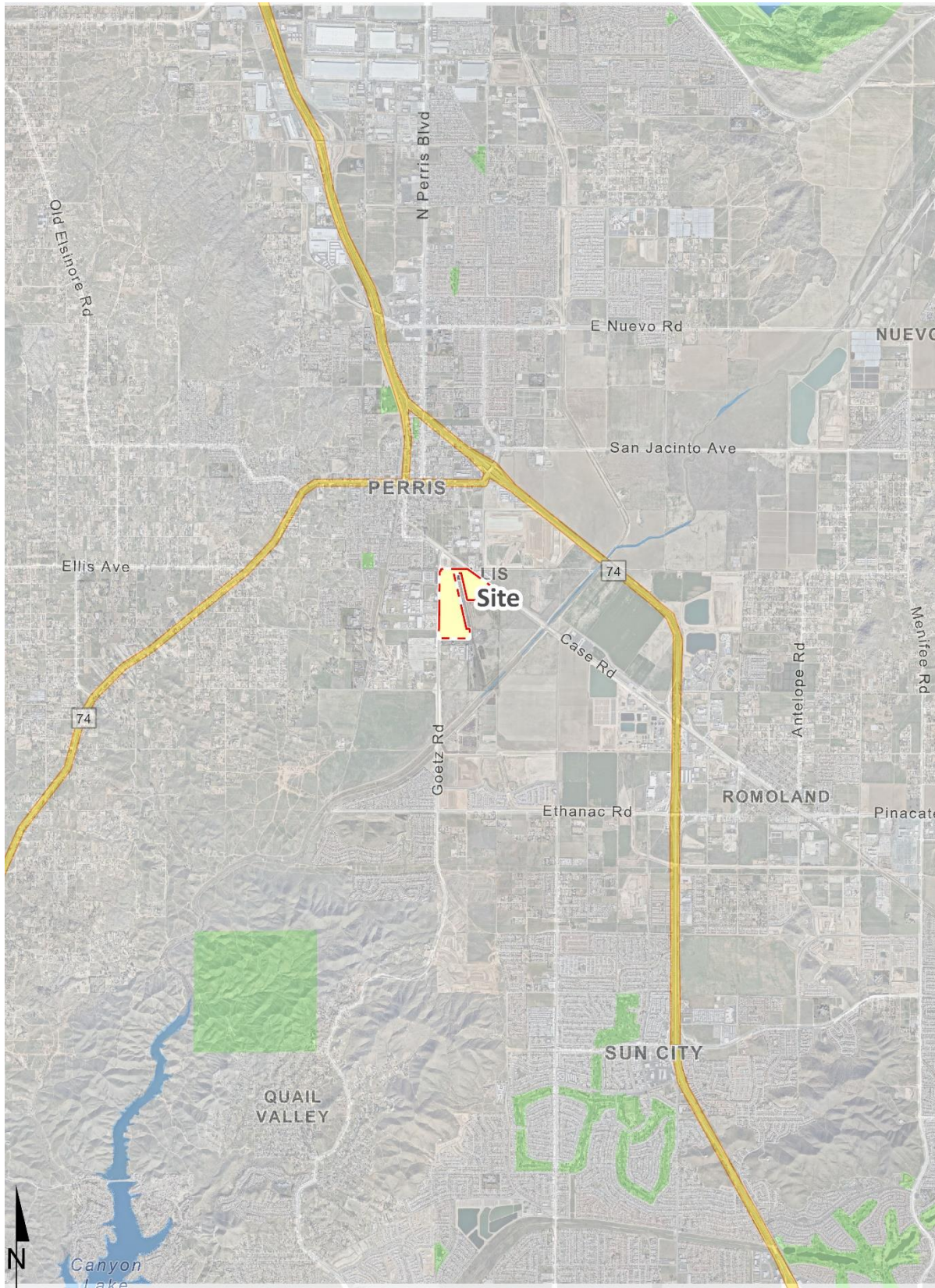
1.1 SUMMARY OF FINDINGS

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

- The proposed driveway (Driveway 1) on Goetz Road will be stop controlled with right-in/right-out access for passenger cars only.
- The proposed driveway (Driveway 2) on Goetz Road is to be a private driveway aligned with Mountain Avenue. Driveway 2 will allow for full access via a signalized intersection, only serving trucks for both Building 1 and Building 2.
- The proposed driveway (Driveway 3) on Goetz Road will be stop controlled with right-in/right-out access serving passenger cars only for Building 2.
- The proposed driveway (Driveway 4) on Ellis Avenue will be stop controlled with right-in/right-out access for trucks only for Building 1.
- The proposed driveway (Driveway 5) on Case Road will be stop controlled with full access for trucks and passenger cars to the truck/trailer lot.
- Project to construct Goetz Road at its ultimate half-section-width as an Arterial (128-foot right-of-way) from Ellis Avenue to the southern Project boundary consistent with the City’s standards.
- Project to construct Ellis Avenue at its ultimate full-section-width as an Arterial (128-foot right-of-way) from Goetz Road to Case Road consistent with the City’s standards.
- Project to construct Case Road at its ultimate half-section-width as a Secondary Arterial (94-foot right-of-way) from Ellis Avenue to the southern Project boundary consistent with the City’s standards.

Additional details and intersection lane geometrics are provided in Section 1.6 *Recommendations* of this report. The proposed Project is not anticipated to require the construction of any off-site improvements. However, the Project Applicant’s responsibility for the Project’s contributions towards deficient off-site intersections is fulfilled through fair share contribution or payment into pre-existing fee programs (if applicable) that would be assigned to the future construction of any future local/regional improvement needs. The Project Applicant would be required to pay requisite fees consistent with the City’s requirements (see Section 8 *Local and Regional Funding Mechanisms*).

EXHIBIT 1-1: LOCATION MAP



1.2 PROJECT OVERVIEW

A preliminary site plan for the proposed Project is shown on Exhibit 1-2. The Project is proposed to consist of the development of a 795,109 square foot (SF) high-cube fulfillment center warehouse building (Building 1), 71,961 SF warehouse building (Building 2), and a truck/trailer storage lot with approximately 323 spaces plus 2 auto parking stalls and 20 tractor stalls. As indicated on Exhibit 1-2, vehicular access will be provided via the following driveways:

- Driveway 1 on Goetz Road – right-in/right-out access for passenger cars only for Building 1
- Driveway 2 on Goetz Road – private new driveway assumed to align with Mountain Avenue and would allow for full access via a signalized intersection, only serving trucks for both Building 1 and Building 2
- Driveway 3 on Goetz Road – right-in/right-out access driveway serving passenger cars only for Building 2
- Driveway 4 on Ellis Avenue – right-in/right-out access for trucks only for Building 1
- Driveway 5 on Case Road – full access for trucks and passenger cars to the truck/trailer lot

Regional access to the Project site is accommodated from the I-215 Freeway via Redlands Avenue and SR-74. In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021). (2) Project is anticipated to generate 2,728 two-way trips per day with 195 AM peak hour trips and 227 PM peak hour trips (actual vehicles). The Project is anticipated to generate a total of 3,800 passenger car equivalents (PCE) two-way trips per day with 262 AM PCE peak hour trips and 292 PM PCE 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 (2023) Conditions
- Existing plus Project (E+P) Conditions – with Project improvements
- E+P Conditions – with Project Improvements+ Improvements by Others
- Existing Plus Ambient Growth Plus Cumulative (E+A+C) (2025)
- Existing Plus Ambient Growth Plus Project Plus Cumulative (E+A+P+C) (2025)

1.3.1 EXISTING (2023) CONDITIONS

Information for Existing (2023) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. Local schools were in session with in-person instruction at the time of the traffic counts. Traffic counts were conducted in May 2022 based on vehicle classification to apply PCE factors for heavy trucks (2-axles, 3-axles, and 4+-axles). A 3% growth rate is proposed to collected counts to reflect a 2023 baseline for Existing (2023) conditions. This growth rate is consistent with the ambient per year growth rate utilized by the City of Perris and is utilized by other recent studies in the City of Perris.

EXHIBIT 1-2: PRELIMINARY SITE PLAN



1.3.2 EXISING PLUS PROJECT CONDITIONS

The E+P Conditions improvements analysis determines the potential circulation system deficiencies based on a comparison of the E+P traffic conditions to Existing conditions. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. Cumulative development projects and ambient growth are not included for E+P traffic conditions.

The E+P traffic conditions have been evaluated assuming the implementation of improvements to be constructed by the Project and another E+P scenario that also includes improvements anticipated to be constructed by others. Improvements by others include those improvements that are conditioned on and are either under construction or are anticipated to be in place prior to the proposed Project's occupancy and would be completed by other developers in the immediate area.

1.3.3 EAC & EAPC (2025) CONDITIONS

The EAC and EAPC (2025) traffic conditions analysis determines the potential near-term cumulative circulation system deficiencies. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project under EAPC conditions (no other improvements to be built by others are assumed). To account for background traffic growth, an ambient growth factor from Existing (2023) conditions of 6.09% is included for both EAC and EAPC (2025) traffic conditions. This growth rate has been approved by the City of Perris during the scoping process and is consistent with other recent studies in the City of Perris.

Conservatively, this TA estimates the area ambient traffic growth and then adds traffic generated by other known or probable related projects. These related projects are at least in part already accounted for in the assumed ambient growth rates; and some of these related projects may not be implemented and operational within the 2025 Opening Year time frame assumed for the Project. The resulting traffic growth utilized in this traffic study (ambient growth factor plus traffic generated by related projects) would therefore tend to overstate rather than understate background cumulative traffic deficiencies under 2025 conditions.

1.4 STUDY AREA

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

The 22 study area intersections shown on Exhibit 1-3 and listed in Table 1-1 were selected for evaluation in this TA based on consultation with City of Perris staff. At a minimum, the study area includes intersections where the Project is anticipated to contribute 50 or more peak hour trips per the County's traffic study guidelines. (1) The "50 peak hour trip" criterion represents a minimum number of trips at which a typical intersection would have the potential to be affected by a given development proposal. The 50 peak hour trip criterion is a traffic engineering rule of thumb that is accepted and widely used within Riverside County (including the City of Perris) for estimating a potential area of influence (i.e., study area).

EXHIBIT 1-3: STUDY AREA

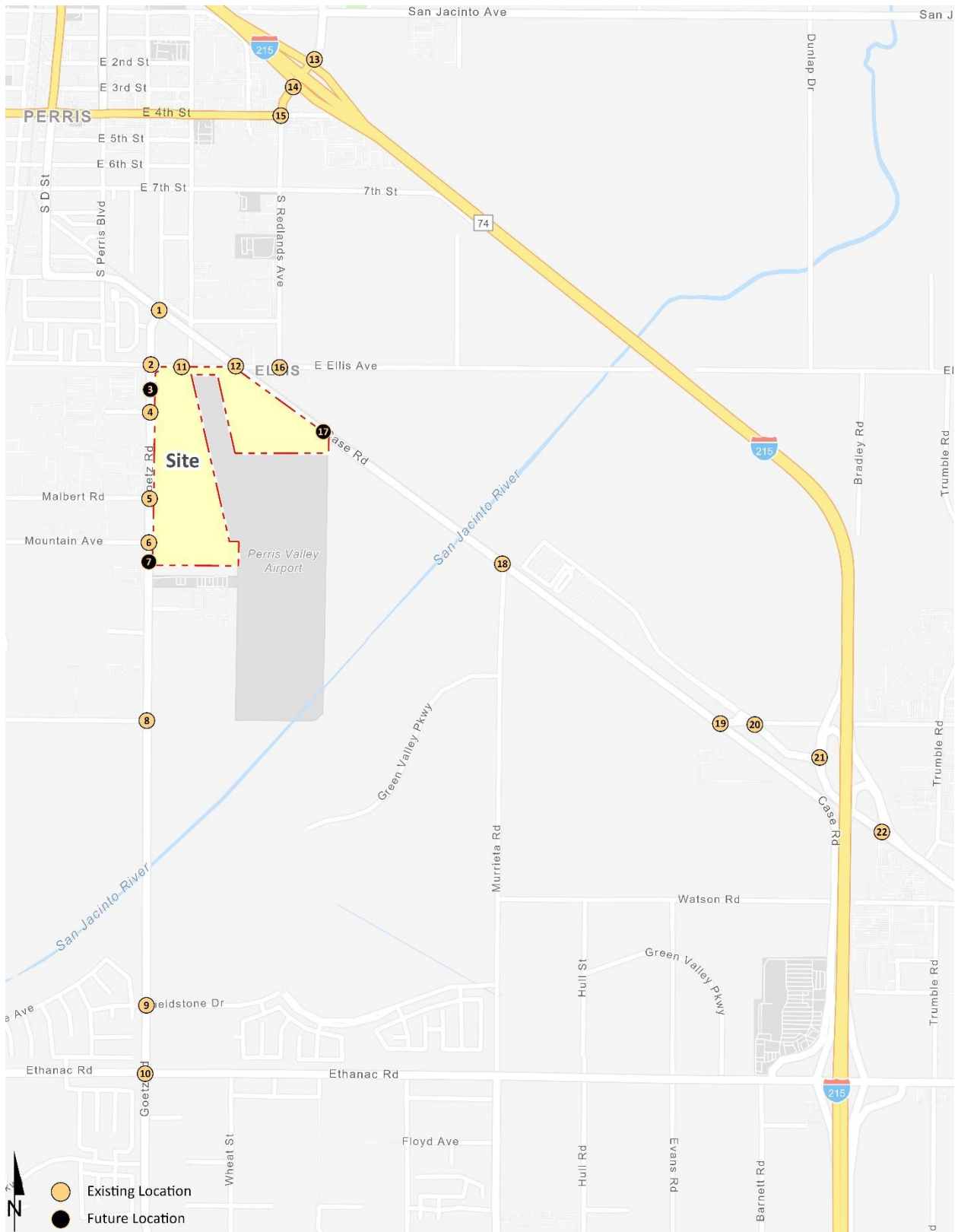


TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

#	Intersection	Jursidiction	CMP?
1	Goetz Rd. & Case Rd.	Perris	No
2	Goetz Rd. & Ellis Av.	Perris	No
3	Goetz Rd. & Driveway 1	Perris	No
4	Goetz Rd. & Cai Ct.	Perris	No
5	Goetz Rd. & Malbert St.	Perris	No
6	Goetz Rd. & Mountain Av./Driveway 2	Perris	No
7	Goetz Rd. & Driveway 3	Perris	No
8	Goetz Rd. & Mapes Rd.	Perris	No
9	Goetz Rd. & Fieldstone Dr.	Perris	No
10	Goetz Rd. & Ethanac Rd.	Perris, Menifee	No
11	Driveway 4 & Ellis Av.	Perris	No
12	Case Rd. & Ellis Av.	Perris	No
13	Redlands Av. & I-215 NB Ramps	Perris, Caltrans	No
14	Redlands Av. & I-215 SB Ramps	Perris, Caltrans	No
15	Redlands Av. & 4th St.	Perris, Caltrans	No
16	Redlands Av. & Ellis Av.	Perris	No
17	Case Rd. & Driveway 5	Perris	No
18	Murrieta Rd. & Case Rd.	Perris	No
19	Case Rd. & Mapes Rd.	Perris	No
20	Bonnie Dr. & Mapes Rd.	Perris	No
21	I-215 SB Ramps/SR-74 & Bonnie Dr.	Perris, Caltrans	No
22	I-215 NB Ramps & SR-74	Perris, Caltrans	No

The intent of a Congestion Management Project (CMP) is to 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 was most recently updated in 2019 as part of the Riverside County Long Range Transportation Study. The Riverside County Transportation Commission (RCTC) adopted the 2019 CMP for the County of Riverside in December 2019. (3) There are no study area intersections identified as a Riverside County CMP intersection.

1.5 DEFICIENCIES

This section provides a summary of deficiencies by analysis scenario. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 3 *Area Conditions*, Section 5 *E+P Traffic Conditions*, and Section 6 *EAC & EAPC (2025) Traffic Conditions* includes the detailed analysis. A summary of LOS results for all analysis scenarios is presented in Table 1-2.

TABLE 1-2: SUMMARY OF LOS

# Intersection	Existing (2023)		E+P (Project Improvements Only)		E+P (Project + Other Improvements)		EAC (2025)		EAPC (2025)	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1 Goetz Rd. & Case Rd.	●	●	●	●	●	●	●	●	●	●
2 Goetz Rd. & Ellis Av.	●	●	●	●	●	●	●	●	●	●
3 Goetz Rd. & Driveway 1	N/A	N/A	●	●	●	●	N/A	N/A	●	●
4 Goetz Rd. & Cai Ct.	●	●	●	●	●	●	●	●	●	●
5 Goetz Rd. & Malbert St.	●	●	●	●	●	●	●	●	●	●
6 Goetz Rd. & Mountain Av./Driveway 2	●	●	●	●	●	●	●	●	●	●
7 Goetz Rd. & Driveway 3	N/A	N/A	●	●	●	●	N/A	N/A	●	●
8 Goetz Rd. & Mapes Rd.	●	●	●	●	●	●	●	●	●	●
9 Goetz Rd. & Fieldstone Dr.	●	●	●	●	●	●	●	●	●	●
10 Goetz Rd. & Ethanac Rd.	●	●	●	●	●	●	●	●	●	●
11 Driveway 4 & Ellis Av.	N/A	N/A	●	●	●	●	N/A	N/A	●	●
12 Case Rd. & Ellis Av.	●	●	●	●	●	●	●	●	●	●
13 Redlands Av. & I-215 NB Ramps	●	●	●	●	●	●	●	●	●	●
14 Redlands Av. & I-215 SB Ramps	●	●	●	●	●	●	●	●	●	●
15 Redlands Av. & 4th St.	●	●	●	●	●	●	●	●	●	●
16 Redlands Av. & Ellis Av.	●	●	●	●	●	●	●	●	●	●
17 Case Rd. & Driveway 5	N/A	N/A	●	●	●	●	N/A	N/A	●	●
18 Murrieta Rd. & Case Rd.	●	●	●	●	●	●	●	●	●	●
19 Case Rd. & Mapes Rd.	●	●	●	●	●	●	●	●	●	●
20 Bonnie Dr. & Mapes Rd.	●	●	●	●	●	●	●	●	●	●
21 I-215 SB Ramps/SR-74 & Bonnie Dr.	●	●	●	●	●	●	●	●	●	●
22 I-215 NB Ramps & SR-74	●	●	●	●	●	●	●	●	●	●

● = A - E ● = F

1.5.1 EXISTING (2023) CONDITIONS

Intersections

The study area intersections are currently operating at an acceptable LOS during the peak hours.

Queues

There are no movements that currently experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for Existing (2023) traffic conditions.

1.5.2 E+P CONDITIONS

Intersections

The study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours with the addition of Project traffic under E+P traffic conditions.

Queues

There are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project traffic for E+P traffic conditions.

1.5.3 EAC & EAPC (2025) CONDITIONS

Intersections

The following study area intersections are anticipated to operate at an unacceptable LOS under EAC (2025) Without Project traffic conditions:

- Goetz Road & Ellis Avenue (#2) – LOS F AM and PM peak hours
- Goetz Road & Mountain Avenue/Driveway 2 (#6) – LOS F AM and PM peak hours
- Case Road & Ellis Avenue (#12) – LOS F AM and PM peak hours
- Redlands Avenue & 4th Street (#15) – LOS E AM peak hour; LOS F PM peak hour
- Redlands Avenue & Ellis Avenue (#16) – LOS E AM peak hour only
- Murrieta Road & Case Road (#18) – LOS F AM and PM peak hours
- Case Road & Mapes Road (#19) – LOS F AM and PM peak hours
- I-215 Southbound Ramps/SR-74 & Bonnie Drive (#21) – LOS E AM peak hour; LOS F PM peak hour

The addition of Project traffic is not anticipated to result in any additional deficiencies. It should be noted that the Project design feature to construct a traffic signal at Goetz Road & Mountain Avenue/Driveway 2 (#6) is anticipated to improve the intersection back to an acceptable LOS.

Queues

The following movement is anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for EAC (2025) traffic conditions:

- I-215 Southbound Ramps/SR-74 & Bonnie Drive (#21) southbound through – PM peak hour

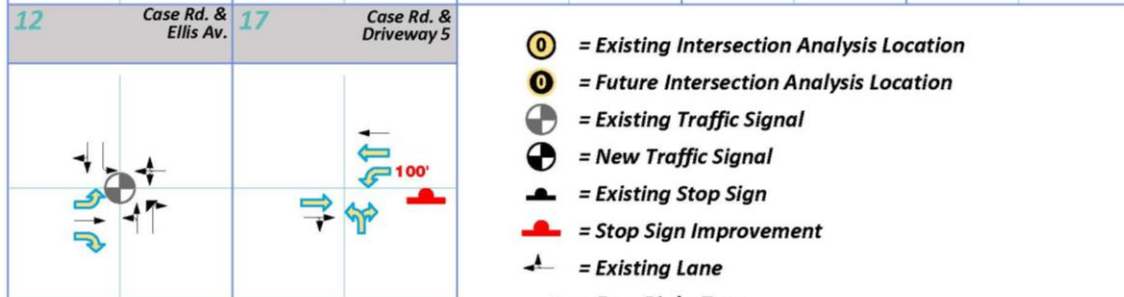
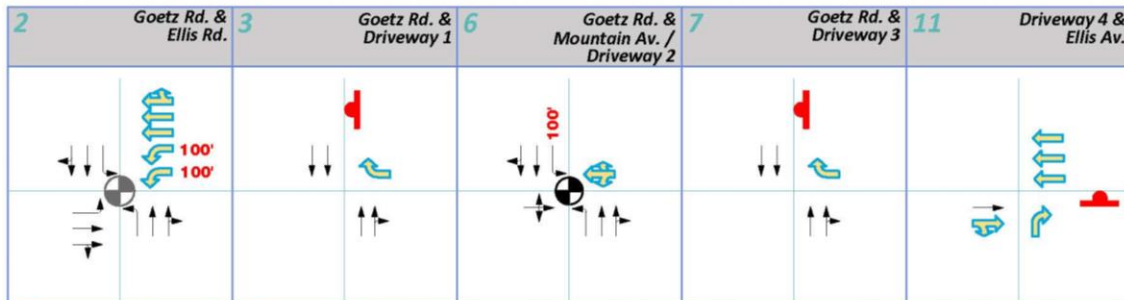
The southbound right turn movement at I-215 Southbound Ramps/SR-74 & Bonnie Drive (#21) is also anticipated to experience queuing issues during the weekday PM peak 95th percentile traffic flows for EAPC (2025) traffic conditions with the addition of Project traffic for EAPC (2025) traffic conditions.

1.6 RECOMMENDATIONS

1.6.1 SITE ADJACENT AND SITE ACCESS RECOMMENDATIONS

The following recommendations are based on the minimum improvements needed to accommodate site access and maintain acceptable peak hour operations for the proposed Project. The site adjacent recommendations are shown on Exhibits 1-4.

EXHIBIT 1-4: SITE ACCESS RECOMMENDATIONS



- 0** = Existing Intersection Analysis Location
- 0** = Future Intersection Analysis Location
- = Existing Traffic Signal
- = New Traffic Signal
- = Existing Stop Sign
- = Stop Sign Improvement
- = Existing Lane
- = Free Right Turn
- = Lane Improvement
- 100'** = Recommended Turn Pocket Length
- TRAP** = Trap Lane

Recommendation 1 – Goetz Road & Ellis Avenue (#2) – The following improvements are necessary to accommodate site access:

- Project to construct dual westbound left turn lanes with a minimum of 100-feet of storage.
- Project to construct two westbound through lanes and a shared through-right turn lane.

Recommendation 2 – Goetz Road & Driveway 1 (#3) – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the westbound approach and a right turn lane. The driveway should serve Building 1 and should be restricted to right-in/right-out access for passenger cars only. Access is to be controlled by the existing raised median on Goetz Road.

Recommendation 3 – Goetz Road & Driveway 2 (#6) – The following improvements are necessary to accommodate site access:

- Project to install traffic signal. The private driveway should align with the existing alignment of Mountain Avenue to the west and will allow full-access turning movement (no access restrictions). This driveway will only serve trucks for both Building 1 and Building 2.
- Project to construct a westbound shared left-through-right turn lane.

Recommendation 4 – Goetz Road & Driveway 3 (#7) – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the westbound approach and a right turn lane. The driveway should serve Building 2 and should be restricted to right-in/right-out access for passenger cars only. Access is to be controlled by the existing raised median on Goetz Road.

Recommendation 5 – Driveway 4 & Ellis Avenue (#11) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the northbound approach and a right turn lane. The driveway should serve Building 1 and should be restricted to right-in/right-out access for trucks only.
- Project to construct an eastbound shared through-right turn lane.
- Project to construct three westbound through lanes.

Recommendation 6 – Case Road & Ellis Avenue (#12) – The following improvement is necessary to accommodate site access:

- Project to construct an eastbound left turn lane and right turn lane.
- Project to retain the existing eastbound through lane.

Recommendation 7 – Driveway 5 & Case Road (#17) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the northbound approach and a shared left-right turn lane. The driveway should serve the truck/trailer lot and should allow for full access for trucks and passenger cars.
- Project to construct a westbound left turn lane with a minimum of 100-feet of storage.
- It should be noted, the adjacent cumulative development project (IDI project) will construct the 2nd eastbound and westbound through lanes. These improvements are anticipated to be completed at the time of the Project's opening year.

Recommendation 8 – Goetz Road – Goetz Road is a north-south roadway located along the Project's western frontage. Project to construct Goetz Road at its ultimate half-width as an Arterial (128-foot right-of-way) from Ellis Avenue to the southern Project boundary consistent with the City's standards.

Recommendation 9 – Ellis Avenue – Ellis Avenue is an east-west roadway located along the Project's northern boundary. Project to construct Ellis Avenue at its ultimate width as an Arterial (128-foot right-of-way) from Goetz Road to Case Road consistent with the City's standards.

Recommendation 10 – Case Road – Case Road is a north-south roadway located along the Project's eastern boundary. Project to construct Case Road at its ultimate half-width as a Secondary Arterial (94-foot right-of-way) from Ellis Avenue to the eastern Project boundary consistent with the City's standards. The adjacent cumulative project (IDI project) will construct the 2nd eastbound and westbound through lanes on Case Road, along with a 12-foot painted median.

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 Perris sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

1.6.2 OFF-SITE RECOMMENDATIONS

A summary of the off-site intersection improvements is provided in Table 1-3. As shown in Table 1-3, the Project will construct or contribute payment towards the improvements identified, as discussed in Section 1.6.1 *Site Adjacent and Site Access Recommendations*. For those improvements listed in Table 1-3 and not constructed as part of the Project, the Project Applicant's responsibility for the Project's contributions towards deficient intersections is fulfilled through payment of fair share or payment of fees (if applicable) that would be assigned to construction of the identified recommended improvements. The Project Applicant would be required to pay fair share fees and participate in pre-existing fee programs consistent with the City's requirements (see Section 7 *Local and Regional Funding Mechanisms*).

1.6.3 QUEUING ANALYSIS AT THE PROJECT DRIVEWAYS

A queuing analysis was conducted at the study area intersections for EAPC (2025) With Project traffic conditions to determine the turn pocket lengths necessary to accommodate 95th percentile queues. The analysis was conducted for the weekday AM and weekday PM peak hours. The results have been provided in Appendix 1.2.

SimTraffic is designed to model networks of signalized and unsignalized intersections, with the primary purpose of checking and fine-tuning signal operations. SimTraffic uses the input parameters from Synchro to generate random simulations. The 95th percentile queue is derived from the average queue plus 1.65 standard deviations. The 95th percentile queue is not necessarily ever observed; it is simply based on statistical calculations (or Average Queue plus 1.65 standard deviations). Many agencies utilize the 95th percentile queues for design purposes. A vehicle is considered queued whenever it is traveling at less than 10 feet/second. The random simulations generated by SimTraffic have been utilized to determine the 95th percentile queue lengths observed for each turn movement. A SimTraffic simulation has been recorded five (5) times, during the weekday AM and weekday PM peak hours, and has been seeded for 30-minute periods with 60-minute recording intervals.

TABLE 1-3: SUMMARY OF IMPROVEMENTS AND ROUGH ORDER OF MAGNITUDE COSTS

#	Intersection Location	Jurisdiction	Analysis Scenario			Project Responsibility	Improvements in DIF ^{1,2}	Cost ^{3,4}	Project Fair Share	Fair Share Cost ⁵	
			Existing	E+P	EAC (2025)						EAPC (2025)
2	Goetz Rd. & Ellis Av.	Perris	None	Add WB through lane	Not Applicable	Same as E+P	Construct	No	\$0	16.1%	\$0
				Add 2nd WB through lane	Not Applicable	Same as E+P	Construct	No	\$0		\$0
				Add 3rd WB through lane as a shared through-right turn lane	Not Applicable	Same as E+P	Construct	No	\$0		\$0
				Add WB left turn lane	Not Applicable	Same as E+P	Construct	No	\$0		\$0
				Add 2nd WB left turn lane	Not Applicable	Same as E+P	Construct	No	\$0		\$0
					Install a traffic signal	Same	Fair Share	No	\$600,000		\$96,718
							Total:	\$600,000		\$96,718	
3	Goetz Rd. & Driveway 1	Perris	None	Add WB right turn lane	Not Applicable	Same as E+P	Construct	No	\$0	--	\$0
										Total:	\$0
6	Goetz Rd. & Mountain Av./Driveway 2	Perris	None	Install a traffic signal	Not Applicable	Same as E+P	Construct	No	\$0	--	\$0
				Add WB right turn lane	Not Applicable	Same as E+P	Construct	No	\$0		\$0
										Total:	\$0
7	Goetz Rd. & Driveway 3	Perris	None	Add WB right turn lane	Not Applicable	Same as E+P	Construct	No	\$0	--	\$0
										Total:	\$0
11	Driveway 4 & Ellis Av.	Perris	None	Add NB right turn lane	Not Applicable	Same as E+P	Construct	No	\$0	--	\$0
				Add EB through lane as a shared through-right turn lane	Not Applicable	Same as E+P	Construct	No	\$0		\$0
				Add WB through lane	Not Applicable	Same as E+P	Construct	No	\$0		\$0
				Add 2nd WB through lane	Not Applicable	Same as E+P	Construct	No	\$0		\$0
				Add 3rd WB through lane	Not Applicable	Same as E+P	Construct	No	\$0		\$0
							Total:	\$0		\$0	
12	Case Rd. & Ellis Av.	Perris	None	Add EB left turn lane	Not Applicable	Same as E+P	Construct	No	\$0	11.9%	\$0
				Add EB right turn lane	Not Applicable	Same as E+P	Construct	No	\$0		\$0
				Add NB left turn lane	Same	Fair Share	No	\$90,946		\$10,856	
				Add WB left turn lane	Same	Fair Share	No	\$90,946		\$10,856	
							Total:	\$181,892		\$21,713	
16	Redlands Av. & Ellis Av.	Perris	None	None	Install a traffic signal	Same	Fair Share	No	\$600,000	7.7%	\$46,222
										Total:	\$600,000
17	Case Rd. & Driveway 5	Perris	None	Add NB share left-right turn lane	Not Applicable	Same as E+P	Construct	No	\$0	--	\$0
				Add 2nd EB through lane	Not Applicable	Same as E+P	Construct	No	\$0		\$0
				Add 2nd WB through lane	Not Applicable	Same as E+P	Construct	No	\$0		\$0
				Add WB left turn lane	Not Applicable	Same as E+P	Construct	No	\$0		\$0
							Total:	\$0		\$0	
18	Murrieta Rd. & Case Rd.	Perris	None	None	Install a traffic signal	Same	Fair Share	No	\$600,000	13.9%	\$83,146
										Total:	\$600,000
19	Case Rd. & Mapes Rd.	Perris	None	None	Install a traffic signal	Same	Fair Share	No	\$600,000	14.6%	\$87,660
					Add SB left turn lane	Same	Fair Share	No	\$90,946		\$13,287
					Add 2nd SB left turn lane	Same	Fair Share	No	\$90,946		\$13,287
							Total:	\$781,892		\$114,235	
21	I-215 SB Ramps/SR-74 & Bonnie Dr.	Perris, Caltrans	None	None	Add 2nd NB left turn lane	Same	Fair Share	No	\$90,946	10.1%	\$9,207
					Add 2nd SB left turn lane	Same	Fair Share	No	\$90,946		\$9,207
										Total:	\$181,892
							Total Cost for Improvements	\$2,945,675		\$380,449	
							Total Project Fair Share Contribution to Caltrans (non-DIF/other)⁶		\$9,207		
							Total Project Fair Share Contribution to the City of Perris (non-DIF/other)⁶		\$371,242		

¹ Improvements included in TUMF fee program. Although identified as a TUMF facility, the improvement is not currently identified on the Central Zone 5-Year Transportation Improvement Program Amendment (2021).

² Identifies the Project's responsibility to construct an improvement or contribute fair share or fee payment towards the implementation of the improvements shown. If identified as a Project construct obligation, then no fair share has been identified.

³ Program improvements constructed by Project may be eligible for fee credit, at discretion of the County. The highest peak hour fair share percentage for each intersection, as shown in Table 7-1, has been utilized.

⁴ Costs have been estimated using the data provided in Appendix "G" of the CMP (2003) for preliminary construction costs. A growth factor of 1.819 has been utilized to reflect 2023 costs.

⁵ Total project fair share contribution consists of the improvements which are not already included in a fee program for those intersections wholly or partially within the City of Perris.

⁶ Rough order of magnitude cost estimate.

2 METHODOLOGIES

This section presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with the City of Perris's 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 6th Edition Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (6) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Perris requires signalized intersection operations analysis based on the methodology described in the HCM. (6) Intersection LOS operations are based on an intersection's average control delay. Control delays include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1.

The traffic modeling and signal timing optimization software package Synchro (Version 11) is utilized to analyze signalized intersections within the study area. 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 ¹
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B
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
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
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
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F

Source: HCM, 6th Edition

¹ If V/C is greater than 1.0 then LOS is F per HCM.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Customary 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., $PHF = \frac{[Hourly Volume]}{[4 \times Peak\ 15\text{-minute\ Flow\ Rate}]}$). 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 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. (6)

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Perris requires the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (6) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2). 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. Delay for the intersection is

reported for the worst individual movement at a two-way stop-controlled intersection. For all-way stop controlled intersections, LOS is computed for the intersection as a whole (average delay).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), $V/C \leq 1.0$	Level of Service, $V/C \leq 1.0^1$
Little or no delays.	0 to 10.00	A
Short traffic delays.	10.01 to 15.00	B
Average traffic delays.	15.01 to 25.00	C
Long traffic delays.	25.01 to 35.00	D
Very long traffic delays.	35.01 to 50.00	E
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F

Source: HCM, 6th Edition

¹ If V/C is greater than 1.0 then LOS is F per HCM.

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by 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 California Department of Transportation (Caltrans) California Manual on Uniform Traffic Control Devices (CA MUTCD) for all study area intersections. (7)

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. (7) 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. 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. Urban warrants have been used as posted speed limits on major roadways with unsignalized intersections of 40 miles per hour or below and Rural warrants have been used where speeds exceed 40 miles per hour.

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets. Similarly, the speed limit has been used as the basis for determining the use of Urban and Rural warrants. A traffic signal warrant analysis was performed for the following study area intersection shown in Table 2-3:

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

#	Intersection
2	Goetz Rd. & Ellis Av.
5	Goetz Rd. & Malbert St.
6	Goetz Rd. & Mountain Av./Driveway 2
16	Redlands Av. & Ellis Av.
17	Case Rd. & Driveway 5
18	Murrieta Rd. & Case Rd.
19	Case Rd. & Mapes Rd.

Although unsignalized, the intersections of Goetz Road & Driveway 1 (#3) and Driveway 4 & Ellis Avenue (#11) are proposed for right-in/right-out access only. As such, traffic signal warrants have not been evaluated for these locations due to the access restrictions and infeasibility of a signal installation at these locations. 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 *E+P Traffic Conditions* and Section 6 *EAC & EAPC (2025) 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 QUEUING ANALYSIS

Consistent with Caltrans requirements, the 95th percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing deficiencies at the freeway ramp intersections at the I-215 Freeway at the Redlands Avenue and SR-74 interchanges. Specifically, the off-ramp queuing analysis is utilized to identify any potential queuing and “spill back” onto the I-215 Freeway mainline from the off-ramps. The 95th percentile queue has also been utilized to assess the queues at Redlands Avenue and SR-74 to identify any potential queuing.

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential deficiencies/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95th percentile queue resulting from the Synchro progression analysis. The footnote from the Synchro output sheets indicates if the 95th percentile cycle exceeds capacity. Traffic is simulated for two complete cycles of the 95th percentile traffic in Synchro in order to account for the effects of spillover between cycles. In practice, the 95th percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. The 95th percentile queue is derived from the average queue plus 1.65 standard deviations. The 95th percentile queue is not necessarily ever observed, it is simply based on statistical calculations.

2.5 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

The definition of an intersection deficiency has been obtained from the City of Perris' General Plan. LOS D along all City maintained roads (including intersections) and LOS D along I-215 and SR-74 (including intersections with local streets and roads). An exception to the local road standard is LOS E, at intersections of any Arterials and Expressways with SR-74, the Ramona-Cajalco Expressway, or at I-215 Freeway ramps. (8)

LOS E may be allowed within the boundaries of the Downtown Specific Plan Area to the extent that it would support transit-oriented development and walkable communities. Increased congestion in this area will facilitate an increase in transit ridership and encourage development of a complementary mix of land uses within a comfortable walking distance from light rail stations.

For the purposes of this traffic impact analysis, LOS D has also been considered the acceptable threshold for all study area intersections.

2.6 DEFICIENCY CRITERIA

This section outlines the methodology used in this analysis related to identifying circulation system deficiencies. The following deficiency criteria has been utilized for the City of Perris. To determine whether the addition of project-related traffic at a study intersection would result in a deficiency, the following will be utilized:

- A project-related deficiency is considered direct and significant when a study intersection operates at an acceptable LOS for existing conditions (without the project) and the addition of 50 or more AM or PM peak hour project trips causes the intersection delay to increase by 2 seconds or more and causes the intersection to operate at an unacceptable LOS for existing plus project (E+P) traffic conditions.
- A project-related deficiency is considered direct and significant when a study intersection operates at an unacceptable LOS for existing conditions (without the project) and the addition of 50 or more AM or PM peak hour project trips causes the intersection delay to increase by 2 seconds or more.
- A cumulative deficiency is considered direct and significant when a study intersection is forecast to operate at an acceptable LOS without the project and the addition of 50 or more AM or PM peak hour project trips causes the intersection delay to increase by 2 seconds or more and causes the intersection to operate at an unacceptable LOS for E+P traffic conditions.
- A cumulative deficiency is considered indirect and significant when a study intersection is forecast to operate at an unacceptable LOS and the addition of 50 or more AM or PM peak hour project trips causes the intersection delay to increase by 2 seconds or more.

2.7 PROJECT FAIR SHARE CALCULATION METHODOLOGY

In cases where this TA identifies that the Project would contribute additional traffic volumes to traffic deficiencies, Project fair share costs of improvements necessary to address deficiencies have been identified. The Project's fair share cost of improvements is determined based on the following equation, which is the ratio of Project traffic to new traffic, and new traffic is total future (EAPC) traffic less existing baseline traffic:

$$\text{Project Fair Share \%} = \frac{\text{Project AM/PM Traffic}}{(\text{2025 With Project AM/PM Total Traffic} - \text{Existing (2023) AM/PM Traffic})}$$

The Project fair share percentage has been calculated for both the AM peak hour and PM peak hour and the highest of the two has been selected. The Project fair share contribution calculations are presented in Section 7 *Local and Regional Funding Mechanisms* of this TA.

3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Perris General Plan Circulation Network, and a review of existing peak hour intersection operations, traffic signal warrant, and off-ramp queuing analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with City of Perris staff (Appendix 1.1), the study area includes a total of 22 existing and future 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 PERRIS GENERAL PLAN CIRCULATION ELEMENT

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

Arterials are designed to accommodate six travel lanes with a raised median, within a 128-foot right of way. The following study area roadways within the City of Perris are classified as Arterials:

- Goetz Road
- Ellis Avenue
- Redlands Avenue, north of 4th Street

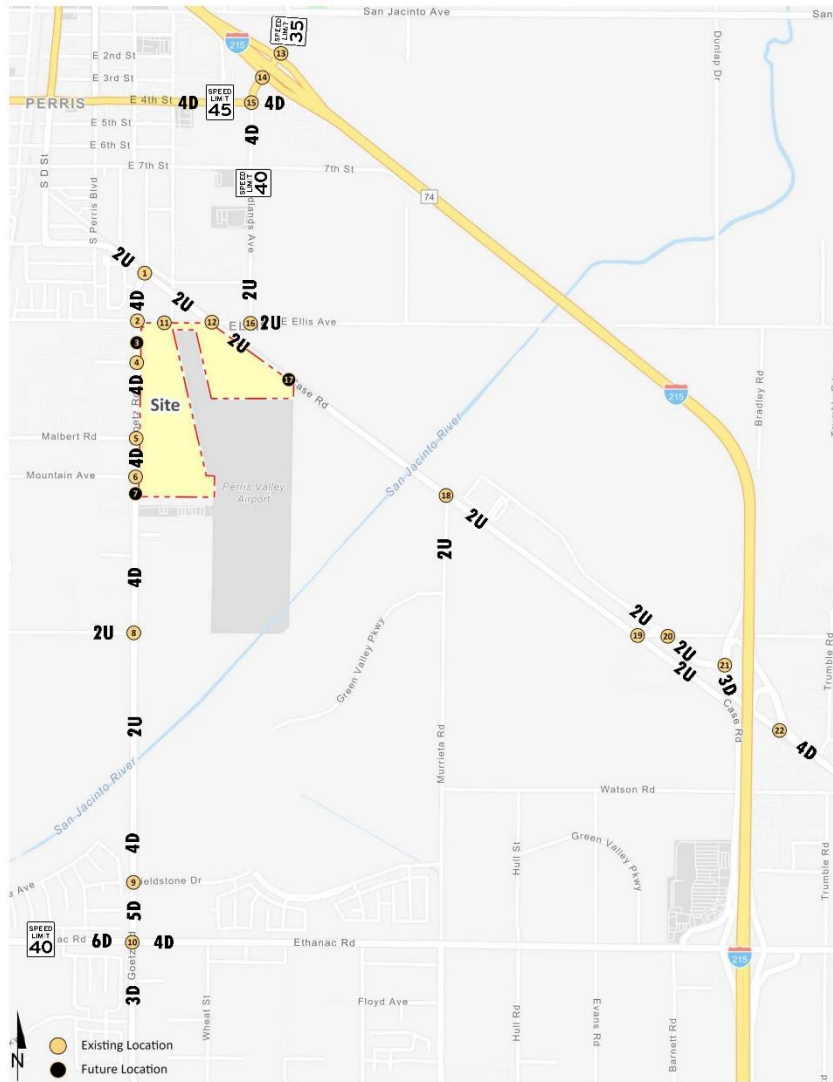
Secondary Arterials are designed to accommodate four travel lanes with a raised or painted median, within a 94-foot right of way. The following study area roadways within the City of Perris are classified as Secondary Arterials:

- Redlands Avenue, South of 4th Street
- Case Road
- 4th Street

3.3 BICYCLE, EQUESTRIAN, & PEDESTRIAN FACILITIES

Field observations indicate nominal pedestrian and bicycle activity within the study area. As shown on Exhibit 3-4, pedestrian facilities are built out along portions of Goetz Road. The City of Perris bike networks are shown on Exhibit 3-5. As shown on Exhibit 3-5, there is a Class II bike lane along Goetz Road and Redlands Avenue, a Class II bike lane along Ellis Avenue, and a Class I path along Case Road. Class II bikeways are on-street, striped and signed bike routes while Class I bikeways/paths are off-street facilities.

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



1	Goetz Rd. & Case Rd.	2	Goetz Rd. & Ellis Rd.	3	Goetz Rd. & Driveway 1	4	Goetz Rd. & Cai Ct.	5	Goetz Rd. & Malbert St.
Future Intersection									

- 4** = Number of Lanes
- D** = Divided
- U** = Undivided
- = Speed Limit (MPH)
- = Traffic Signal
- = Stop Sign
- = Existing Lane

<p>6 Goetz Rd. & Mountain Av. / Driveway 2</p>	<p>7 Goetz Rd. & Driveway 3</p> <p>Future Intersection</p>	<p>8 Goetz Rd. & Mapes Rd.</p>	<p>9 Goetz Rd. & Firestone Dr. / Fieldstone Dr.</p>	<p>10 Goetz Rd. & Ethanac Rd.</p>
<p>11 Driveway 4 & Ellis Av.</p> <p>Future Intersection</p>	<p>12 Case Rd. & Ellis Av.</p>	<p>13 Redlands Av. & I-215 NB Ramps</p>	<p>14 Redlands Av. & I-215 SB Ramps</p>	<p>15 Redlands Av. & 4th St.</p>
<p>16 Redlands Av. & Ellis Av.</p>	<p>17 Case Rd. & Driveway 5</p> <p>Future Intersection</p>	<p>18 Murrieta Rd. & Case Rd.</p>	<p>19 Case Rd. & Mapes Rd.</p>	<p>20 Bonnie Dr. & Mapes Rd.</p>
<p>21 I-215 SB Ramps / SR-74 & Bonnie Dr.</p>	<p>22 I-215 NB Ramps & SR-74</p>	<p> = Traffic Signal = All Way Stop = Stop Sign = Existing Lane = Free Right Turn = Channelized Yield Right Turn </p>		

EXHIBIT 3-2: CITY OF PERRIS GENERAL PLAN CIRCULATION ELEMENT

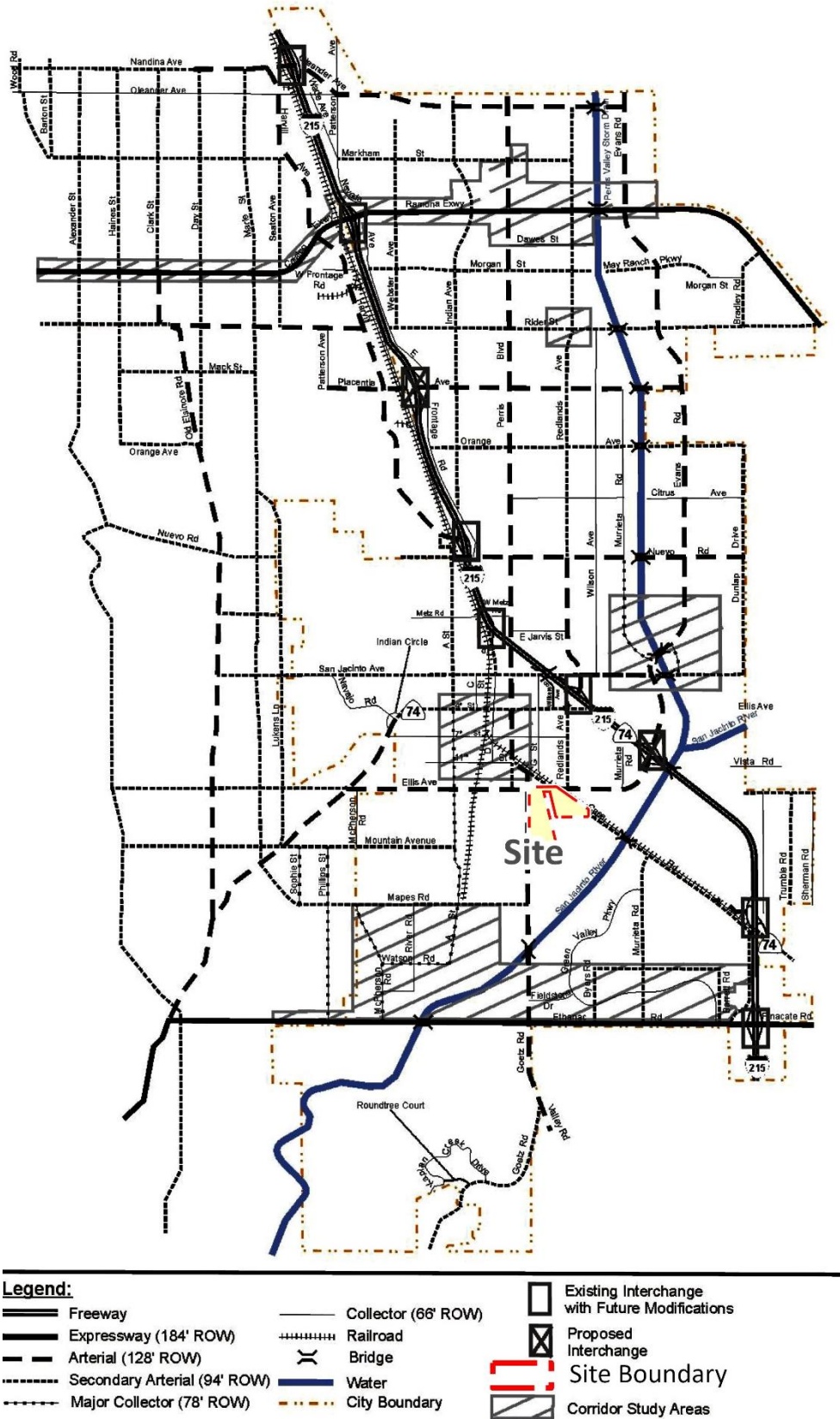
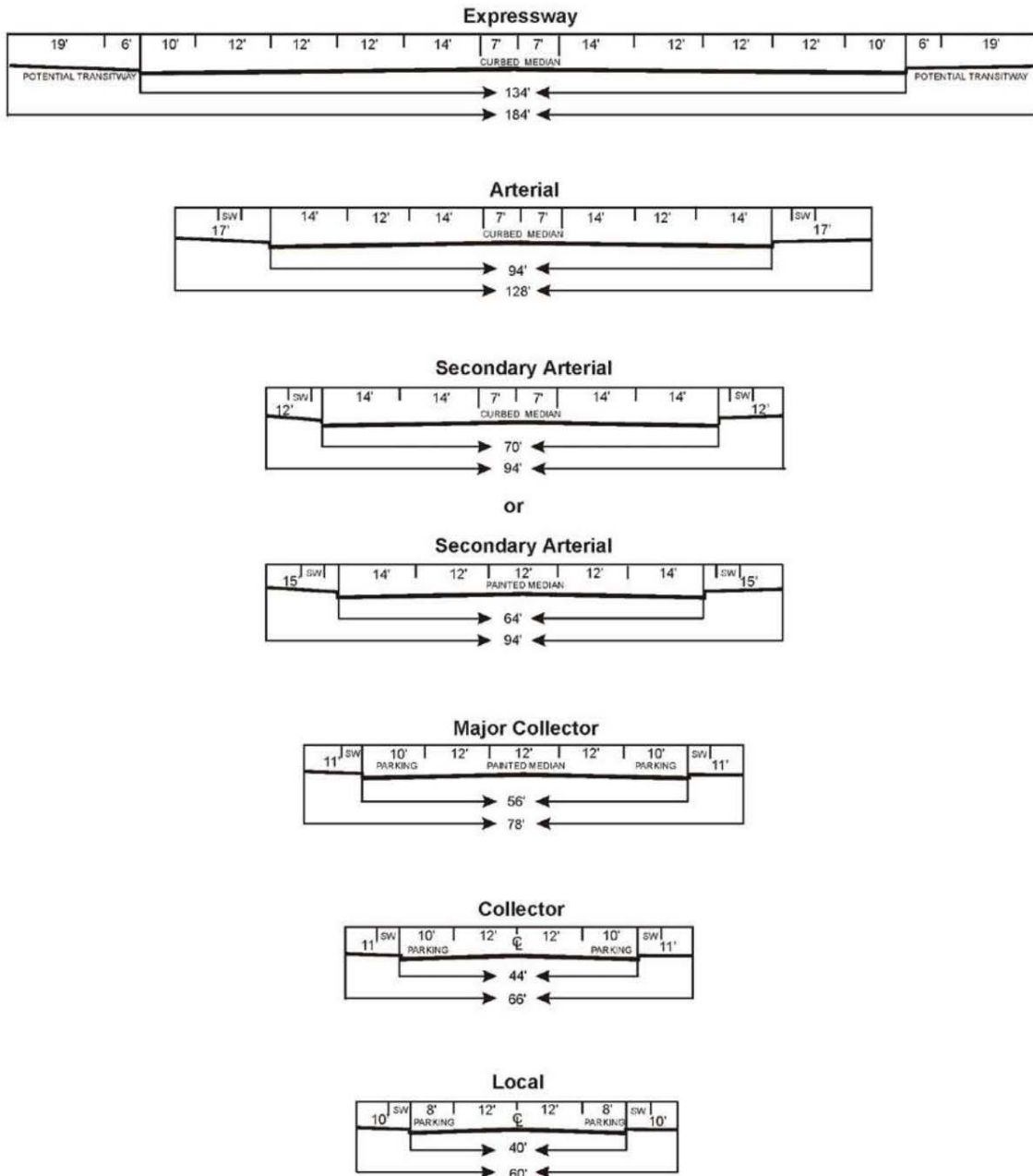


EXHIBIT 3-3: CITY OF PERRIS GENERAL PLAN ROADWAY CROSS-SECTIONS



Specific details for each cross-section follow in Figures 4.1 A - 4.1 F

Legend

- SW Sidewalk or Trail (at least 4 feet)
- PARKING Parking or Bike Lane
- PAINTED MEDIAN Center Median and/or Continuous Left Turning Lane
- CURBED MEDIAN Landscaped Center Median

EXHIBIT 3-4: EXISTING PEDESTRIAN FACILITIES

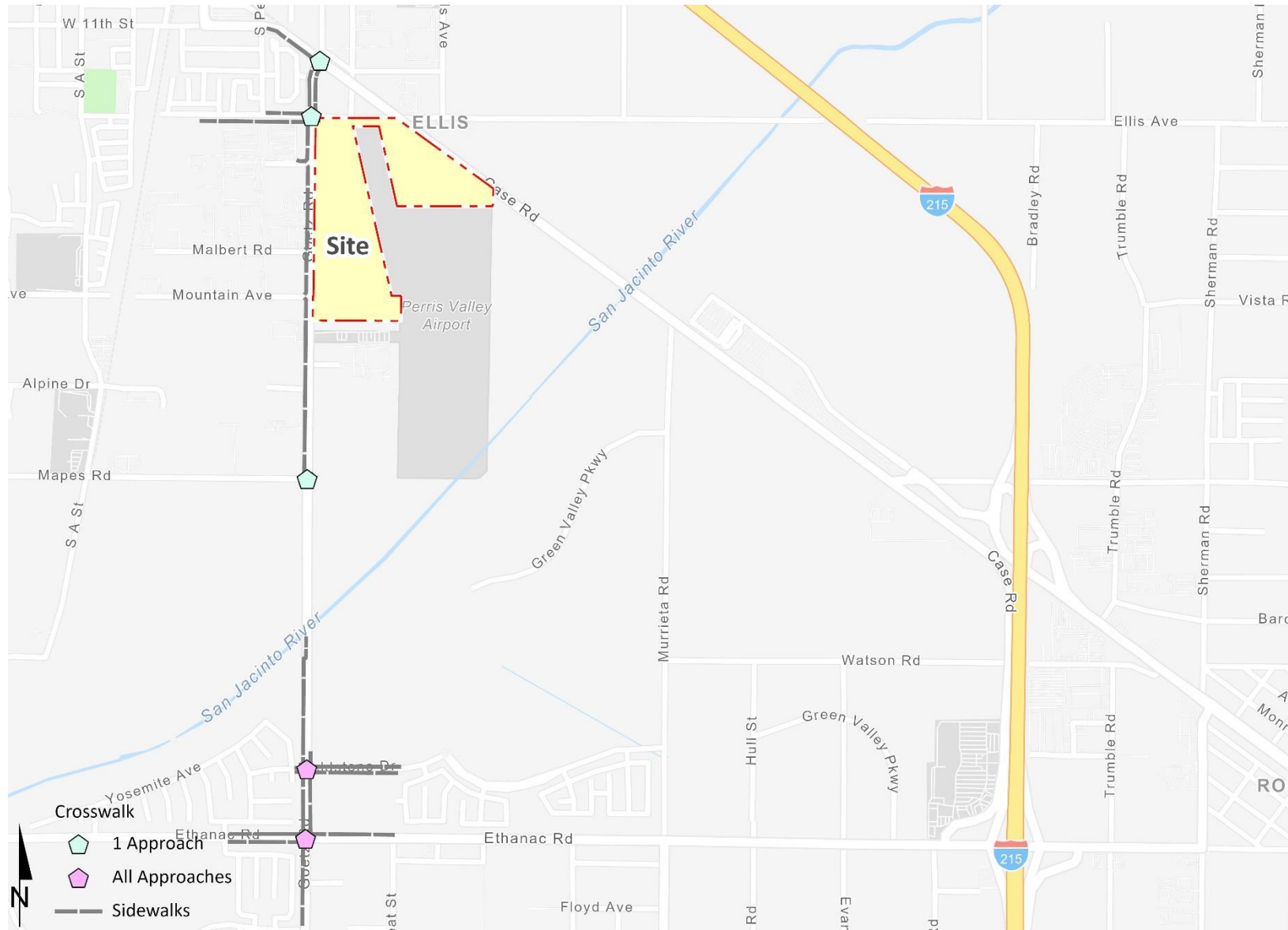
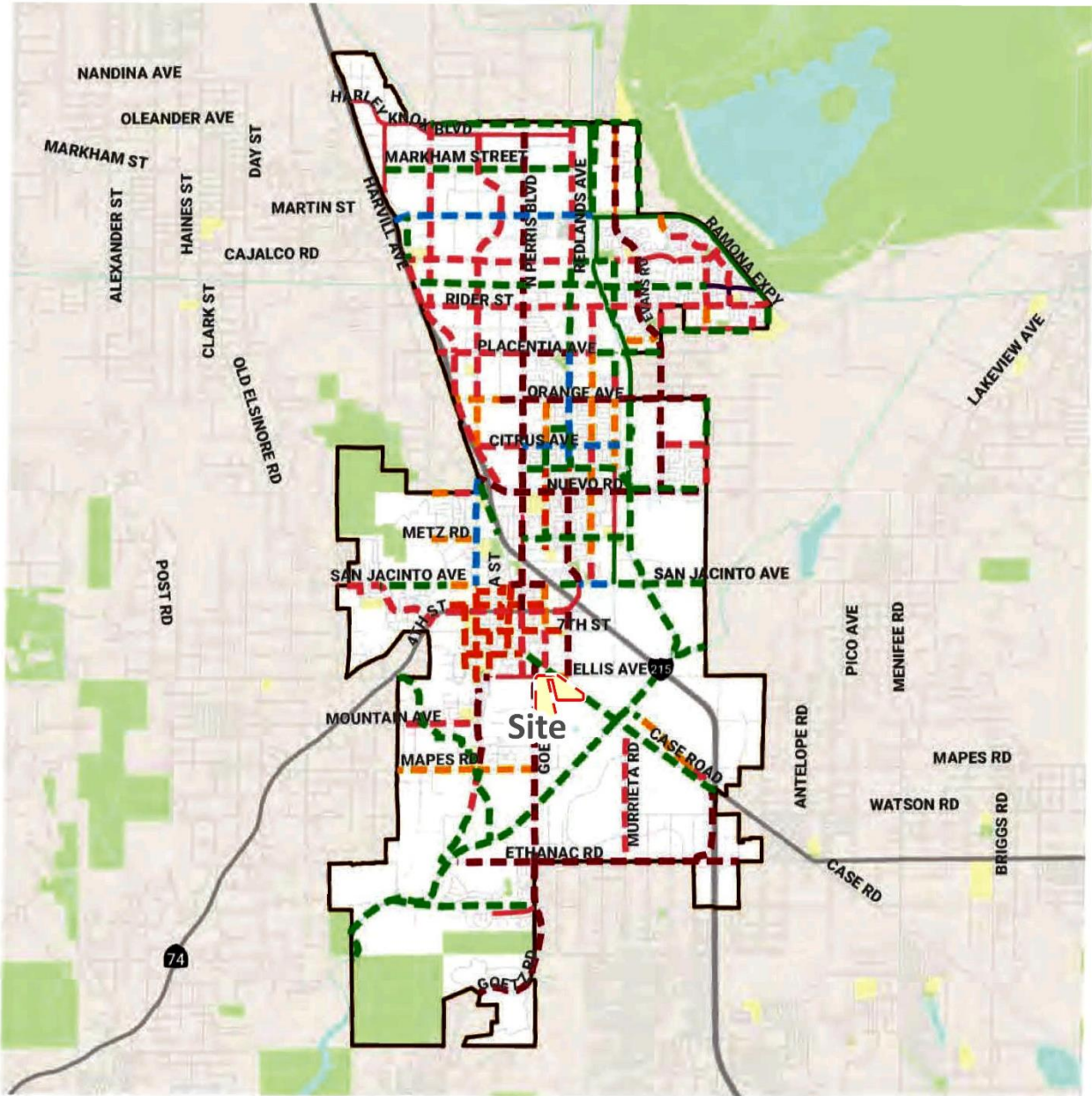


EXHIBIT 3-5: CITY OF PERRIS BIKE NETWORK



Existing / Recommended Bikeways

- Shared-Use Path (Class I)
- Bicycle Lane (Class II)
- Buffered Bike Lane (Class IIB)
- Bicycle Route (Class III)
- Bicycle Boulevard (Class IIIB)
- Separated Bikeway (Class IV)
- Walking Trail

Destinations + Boundaries

- City Boundary
- School
- Park or Open Space
- Site Boundary



Sources:
 SCAG
 UC Berkeley TMS
 OSM
 Caltrans



3.4 TRUCK ROUTES

The City of Perris truck routes are shown on Exhibit 3-6. Trucks are prohibited on certain City roadways through the Municipal Code through weight restrictions. Truck routes for the proposed Project have been determined based on discussions with City staff. These truck routes serve both the proposed Project and future cumulative development projects throughout the study area. Sensitive land uses have also been taken into consideration as part of determining the best routes for future trucks.

3.5 EXISTING TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in May 2022 when local schools were in session and operating on a typical bell schedule. 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)

A 3% growth rate is proposed to collected counts to reflect a 2023 baseline for Existing (2023) conditions. The 2023 weekday AM and weekday PM peak hour count data is 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. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

Existing weekday ADT volumes are shown on Exhibit 3-7. 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:

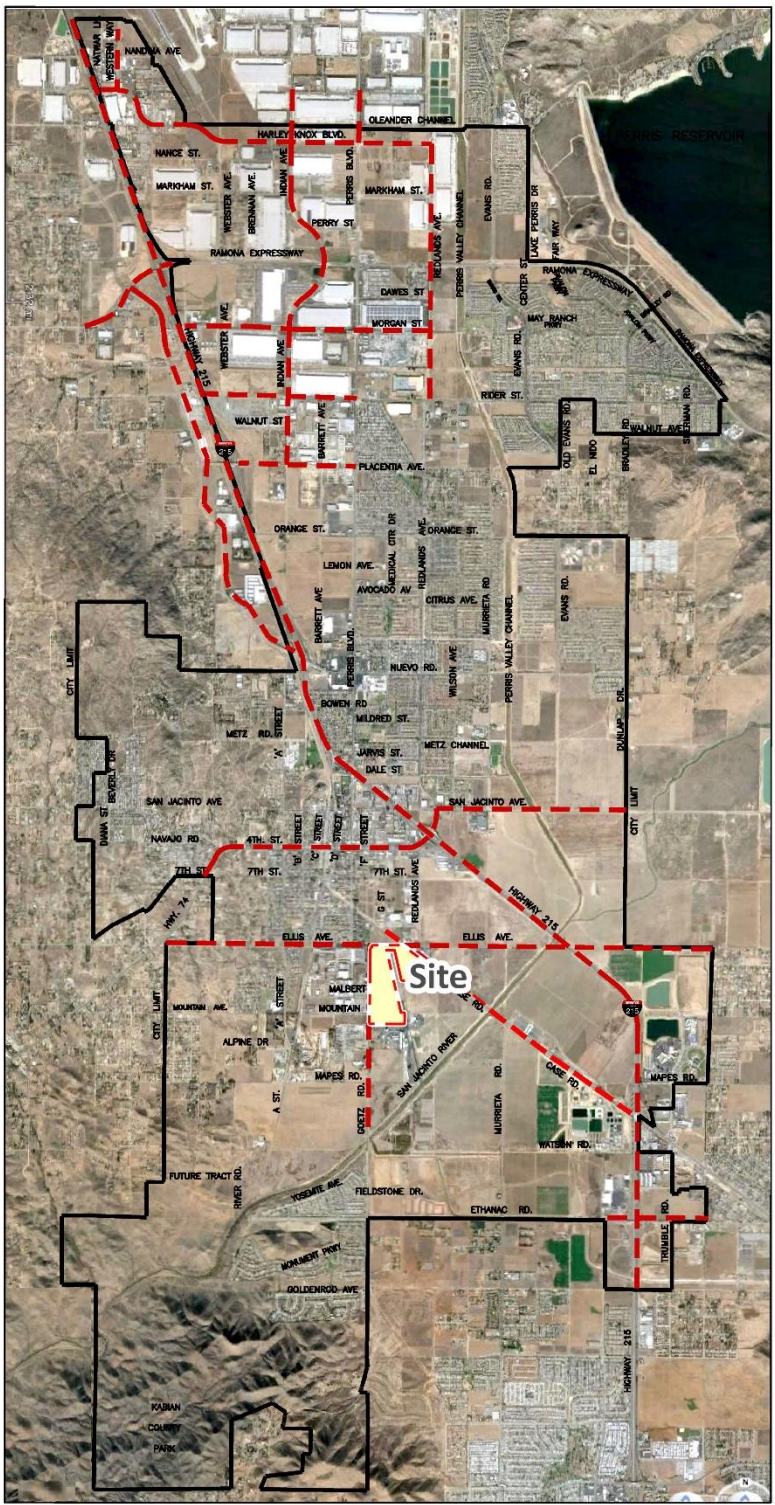
$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 14.68 = \text{Leg Volume}$$

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 6.81 percent. As such, the above equation utilizing a factor of 14.68 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 6.81 percent (i.e., $1/0.0681 = 14.68$) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes, in actual vehicles, are also shown on Exhibit 3-7. Existing weekday AM and weekday PM peak hour intersection volumes, in PCE, are 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 TA. The intersection operations analysis results are summarized in Table 3-1, which indicates that all of the study area intersections are currently operating at an unacceptable LOS during the peak hours. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

EXHIBIT 3-6: CITY OF PERRIS TRUCK ROUTES



LEGEND:

- TRUCK ROUTES
- PERRIS CITY LIMITS

 Site Boundary

EXHIBIT 3-7: EXISTING (2023) TRAFFIC VOLUMES (ACTUAL VEHICLES)

<p>1 Goetz Rd. & Case Rd.</p> <table border="1"> <tr> <td>0(101) ↓</td> <td>0(101) ↓</td> <td>0(101) ↓</td> <td>↑ 0(101)</td> <td>↑ 163(101)</td> <td>↑ 205(101)</td> </tr> <tr> <td>0(101) ↓</td> <td>0(101) ↓</td> <td>0(101) ↓</td> <td>↑ 240(101)</td> <td>↑ 0(101)</td> <td>↑ 228(101)</td> </tr> <tr> <td>147(101) ↓</td> <td>95(101) ↓</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10,100</td> <td></td> <td></td> <td>11,400</td> <td></td> <td>9,600</td> </tr> </table>	0(101) ↓	0(101) ↓	0(101) ↓	↑ 0(101)	↑ 163(101)	↑ 205(101)	0(101) ↓	0(101) ↓	0(101) ↓	↑ 240(101)	↑ 0(101)	↑ 228(101)	147(101) ↓	95(101) ↓					10,100			11,400		9,600	<p>2 Goetz Rd. & Ellis Av.</p> <table border="1"> <tr> <td>11(102) ↓</td> <td>0(102) ↓</td> <td>52(102) ↓</td> <td>↑ 9(102)</td> <td>↑ 291(102)</td> <td>↑ 0(102)</td> </tr> <tr> <td>0(102) ↓</td> <td>0(102) ↓</td> <td>43(102) ↓</td> <td>↑ 15(102)</td> <td>↑ 456(102)</td> <td>↑ 8(102)</td> </tr> <tr> <td>0(102) ↓</td> <td>0(102) ↓</td> <td>8(102) ↓</td> <td></td> <td></td> <td></td> </tr> <tr> <td>1,500</td> <td></td> <td></td> <td>200</td> <td></td> <td>9,300</td> </tr> </table>	11(102) ↓	0(102) ↓	52(102) ↓	↑ 9(102)	↑ 291(102)	↑ 0(102)	0(102) ↓	0(102) ↓	43(102) ↓	↑ 15(102)	↑ 456(102)	↑ 8(102)	0(102) ↓	0(102) ↓	8(102) ↓				1,500			200		9,300	<p>3 Goetz Rd. & Driveway 1</p> <table border="1"> <tr> <td>0(203) ↓</td> <td>0(138) ↓</td> <td></td> <td>↑ 358(0)</td> <td>↑ 0(190)</td> <td>↑ 0(186)</td> </tr> <tr> <td>0(136) ↓</td> <td>0(174) ↓</td> <td></td> <td>↑ 507(0)</td> <td>↑ 0(174)</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10,450</td> <td></td> <td></td> <td>10,450</td> <td></td> <td>10,450</td> </tr> </table>	0(203) ↓	0(138) ↓		↑ 358(0)	↑ 0(190)	↑ 0(186)	0(136) ↓	0(174) ↓		↑ 507(0)	↑ 0(174)								10,450			10,450		10,450	<p>4 Goetz Rd. & Cai Ct.</p> <table border="1"> <tr> <td>10(9) ↓</td> <td>10(54) ↓</td> <td></td> <td>↑ 0(14)</td> <td>↑ 348(310)</td> <td>↑ 0(2)</td> </tr> <tr> <td>0(22) ↓</td> <td>0(2) ↓</td> <td></td> <td>↑ 497(301)</td> <td>↑ 0(2)</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>300</td> <td></td> <td></td> <td>10,300</td> <td></td> <td>10,300</td> </tr> </table>	10(9) ↓	10(54) ↓		↑ 0(14)	↑ 348(310)	↑ 0(2)	0(22) ↓	0(2) ↓		↑ 497(301)	↑ 0(2)								300			10,300		10,300	<p>5 Goetz Rd. & Malbert St.</p> <table border="1"> <tr> <td>20(0) ↓</td> <td>5(0) ↓</td> <td>5(0) ↓</td> <td>↑ 338(366)</td> <td>↑ 24(0)</td> <td>↑ 502(325)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>650</td> <td></td> <td></td> <td>10,450</td> <td></td> <td>10,450</td> </tr> </table>	20(0) ↓	5(0) ↓	5(0) ↓	↑ 338(366)	↑ 24(0)	↑ 502(325)													650			10,450		10,450
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<p>6 Goetz Rd. & Mountain Av./Driveway 2</p> <table border="1"> <tr> <td>14(0) ↓</td> <td>328(356) ↓</td> <td>1(0) ↓</td> <td>↑ 1(0)</td> <td></td> <td></td> </tr> <tr> <td>16(10) ↓</td> <td>9(10) ↓</td> <td>22(0) ↓</td> <td>↑ 509(315)</td> <td>↑ 3(0)</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>550</td> <td></td> <td></td> <td>100</td> <td></td> <td>10,200</td> </tr> </table>	14(0) ↓	328(356) ↓	1(0) ↓	↑ 1(0)			16(10) ↓	9(10) ↓	22(0) ↓	↑ 509(315)	↑ 3(0)								550			100		10,200	<p>7 Goetz Rd. & Driveway 3</p> <table border="1"> <tr> <td>0(3) ↓</td> <td>337(363) ↓</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>0(18) ↓</td> <td>0(19) ↓</td> <td>0(2) ↓</td> <td>↑ 534(307)</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10,200</td> <td></td> <td></td> <td>10,200</td> <td></td> <td>10,200</td> </tr> </table>	0(3) ↓	337(363) ↓					0(18) ↓	0(19) ↓	0(2) ↓	↑ 534(307)									10,200			10,200		10,200	<p>8 Goetz Rd. & Mapes Rd.</p> <table border="1"> <tr> <td>155(11) ↓</td> <td>136(371) ↓</td> <td>4(0) ↓</td> <td>↑ 0(2)</td> <td>↑ 1(3)</td> <td></td> </tr> <tr> <td>149(15) ↓</td> <td>3(0) ↓</td> <td>220(6) ↓</td> <td>↑ 283(4)</td> <td>↑ 348(292)</td> <td>↑ 12(0)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10,250</td> <td></td> <td></td> <td>250</td> <td></td> <td>15,900</td> </tr> </table>	155(11) ↓	136(371) ↓	4(0) ↓	↑ 0(2)	↑ 1(3)		149(15) ↓	3(0) ↓	220(6) ↓	↑ 283(4)	↑ 348(292)	↑ 12(0)							10,250			250		15,900	<p>9 Goetz Rd. & Fieldstone Dr.</p> <table border="1"> <tr> <td>12(0) ↓</td> <td>336(380) ↓</td> <td>9(0) ↓</td> <td>↑ 29(0)</td> <td>↑ 4(0)</td> <td></td> </tr> <tr> <td>75(0) ↓</td> <td>1(0) ↓</td> <td>37(0) ↓</td> <td>↑ 17(0)</td> <td>↑ 539(296)</td> <td>↑ 5(0)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2,850</td> <td></td> <td></td> <td>950</td> <td></td> <td>14,850</td> </tr> </table>	12(0) ↓	336(380) ↓	9(0) ↓	↑ 29(0)	↑ 4(0)		75(0) ↓	1(0) ↓	37(0) ↓	↑ 17(0)	↑ 539(296)	↑ 5(0)							2,850			950		14,850	<p>10 Goetz Rd. & Ethanac Rd.</p> <table border="1"> <tr> <td>13(60) ↓</td> <td>114(319) ↓</td> <td>250(1) ↓</td> <td>↑ 249(1)</td> <td>↑ 58(1)</td> <td>↑ 169(12)</td> </tr> <tr> <td>22(63) ↓</td> <td>98(1) ↓</td> <td>5(317) ↓</td> <td>↑ 1(237)</td> <td>↑ 1(237)</td> <td>↑ 368(1)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2,550</td> <td></td> <td></td> <td>17,300</td> <td></td> <td>12,750</td> </tr> </table>	13(60) ↓	114(319) ↓	250(1) ↓	↑ 249(1)	↑ 58(1)	↑ 169(12)	22(63) ↓	98(1) ↓	5(317) ↓	↑ 1(237)	↑ 1(237)	↑ 368(1)							2,550			17,300		12,750
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<p>16 Redlands Av. & Ellis Av.</p> <table border="1"> <tr> <td>114(0) ↓</td> <td>0(843) ↓</td> <td>14(401) ↓</td> <td>↑ 12(0)</td> <td>↑ 2(0)</td> <td></td> </tr> <tr> <td>200(178) ↓</td> <td>9(2) ↓</td> <td>0(184) ↓</td> <td>↑ 0(755)</td> <td>↑ 0(432)</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4,900</td> <td></td> <td></td> <td>300</td> <td></td> <td>10,700</td> </tr> </table>	114(0) ↓	0(843) ↓	14(401) ↓	↑ 12(0)	↑ 2(0)		200(178) ↓	9(2) ↓	0(184) ↓	↑ 0(755)	↑ 0(432)								4,900			300		10,700	<p>17 Case Rd. & Driveway 5</p> <table border="1"> <tr> <td>0(612) ↓</td> <td>0(239) ↓</td> <td>0(44) ↓</td> <td>↑ 0(69)</td> <td>↑ 335(18)</td> <td>↑ 0(7)</td> </tr> <tr> <td>0(772) ↓</td> <td>223(22) ↓</td> <td>0(47) ↓</td> <td>↑ 0(41)</td> <td>↑ 0(314)</td> <td>↑ 0(6)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10,700</td> <td></td> <td></td> <td>10,700</td> <td></td> <td>10,700</td> </tr> </table>	0(612) ↓	0(239) ↓	0(44) ↓	↑ 0(69)	↑ 335(18)	↑ 0(7)	0(772) ↓	223(22) ↓	0(47) ↓	↑ 0(41)	↑ 0(314)	↑ 0(6)							10,700			10,700		10,700	<p>18 Murrieta Rd. & Case Rd.</p> <table border="1"> <tr> <td>0(177) ↓</td> <td>0(3) ↓</td> <td></td> <td>↑ 0(13)</td> <td>↑ 232(5)</td> <td>↑ 28(0)</td> </tr> <tr> <td>0(150) ↓</td> <td>178(1) ↓</td> <td>45(0) ↓</td> <td>↑ 103(0)</td> <td>↑ 8(0)</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10,700</td> <td></td> <td></td> <td>8,550</td> <td></td> <td>3,400</td> </tr> </table>	0(177) ↓	0(3) ↓		↑ 0(13)	↑ 232(5)	↑ 28(0)	0(150) ↓	178(1) ↓	45(0) ↓	↑ 103(0)	↑ 8(0)								10,700			8,550		3,400	<p>19 Case Rd. & Mapes Rd.</p> <table border="1"> <tr> <td>197(0) ↓</td> <td>1(0) ↓</td> <td>75(0) ↓</td> <td>↑ 45(0)</td> <td>↑ 63(303)</td> <td></td> </tr> <tr> <td>113(0) ↓</td> <td>73(406) ↓</td> <td></td> <td>↑ 1(0)</td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8,550</td> <td></td> <td></td> <td>4,550</td> <td></td> <td>350</td> </tr> </table>	197(0) ↓	1(0) ↓	75(0) ↓	↑ 45(0)	↑ 63(303)		113(0) ↓	73(406) ↓		↑ 1(0)									8,550			4,550		350	<p>20 Bonnie Dr. & Mapes Rd.</p> <table border="1"> <tr> <td>7(0) ↓</td> <td>6(0) ↓</td> <td></td> <td>↑ 0(224)</td> <td>↑ 0(22)</td> <td></td> </tr> <tr> <td>1(0) ↓</td> <td>0(301) ↓</td> <td>158(105) ↓</td> <td>↑ 266(79)</td> <td>↑ 12(0)</td> <td>↑ 0(19)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8,250</td> <td></td> <td></td> <td>Nominal</td> <td></td> <td>8,250</td> </tr> </table>	7(0) ↓	6(0) ↓		↑ 0(224)	↑ 0(22)		1(0) ↓	0(301) ↓	158(105) ↓	↑ 266(79)	↑ 12(0)	↑ 0(19)							8,250			Nominal		8,250
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<p>21 I-215 SB Ramps/SR-74 & Bonnie Dr.</p> <table border="1"> <tr> <td>31(165) ↓</td> <td>510(0) ↓</td> <td>0(65) ↓</td> <td>↑ 0(75)</td> <td>↑ 0(80)</td> <td></td> </tr> <tr> <td>27(238) ↓</td> <td>0(82) ↓</td> <td>137(0) ↓</td> <td>↑ 247(1)</td> <td>↑ 383(1)</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6,400</td> <td></td> <td></td> <td>24,250</td> <td></td> <td>24,250</td> </tr> </table>	31(165) ↓	510(0) ↓	0(65) ↓	↑ 0(75)	↑ 0(80)		27(238) ↓	0(82) ↓	137(0) ↓	↑ 247(1)	↑ 383(1)								6,400			24,250		24,250	<p>22 I-215 NB Ramps & SR-74</p> <table border="1"> <tr> <td>10(6) ↓</td> <td>0(9) ↓</td> <td>159(0) ↓</td> <td>↑ 808(0)</td> <td>↑ 620(0)</td> <td></td> </tr> <tr> <td>10(4) ↓</td> <td>637(0) ↓</td> <td>0(310) ↓</td> <td>↑ 0(224)</td> <td>↑ 0(3)</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>13,150</td> <td></td> <td></td> <td>35,900</td> <td></td> <td>13,150</td> </tr> </table>	10(6) ↓	0(9) ↓	159(0) ↓	↑ 808(0)	↑ 620(0)		10(4) ↓	637(0) ↓	0(310) ↓	↑ 0(224)	↑ 0(3)								13,150			35,900		13,150																																																																											
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##(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

EXHIBIT 3-8: EXISTING (2023) TRAFFIC VOLUMES (PCE)

1	Goetz Rd. & Case Rd.	2	Goetz Rd. & Ellis Av.	3	Goetz Rd. & Driveway 1	4	Goetz Rd. & Cai Ct.	5	Goetz Rd. & Malbert St.
0(101) ↓ 0(101) ↓ 0(101) ↓ 0(101) ↓ 169(101) ↓ 121(101) ↓	↑ 0(101) ↑ 186(101) ↑ 250(101) ↑ 289(101) ↑ 0(101) ↑ 285(101) ↑	↓ 9(102) ↓ 362(102) ↓ 0(102) ↓ 11(102) ↓ 0(102) ↓ 62(102) ↓	↑ 1(102) ↑ 0(102) ↑ 21(102) ↑ 48(102) ↑ 542(102) ↑ 10(102) ↑	↓ 444(0) ↓ 0(225) ↓ 0(168) ↓	↑ 0(212) ↑ 0(261) ↑ 0(166) ↑ 600(0) ↑ 0(206) ↑	↓ 0(14) ↓ 393(415) ↓ 57(10) ↓ 57(63) ↓	↑ 0(2) ↑ 0(3) ↑ 0(25) ↑ 544(362) ↑ 0(3) ↑	↓ 30(0) ↓ 414(480) ↓ 11(0) ↓ 8(0) ↓	↑ 31(0) ↑ 590(390) ↑
6	Goetz Rd. & Mountain Av./Driveway 2	7	Goetz Rd. & Driveway 3	8	Goetz Rd. & Mapes Rd.	9	Goetz Rd. & Fieldstone Dr.	10	Goetz Rd. & Ethanac Rd.
↓ 19(0) ↓ 403(424) ↓ 1(0) ↓ 32(57) ↓ 20(57) ↓	↑ 3(0) ↑ 42(0) ↑ 586(338) ↑ 3(0) ↑	↓ 0(8) ↓ 422(472) ↓ 0(25) ↓ 0(26) ↓	↑ 0(2) ↑ 3(3) ↑ 0(2) ↑ 631(365) ↑	↓ 182(11) ↓ 187(487) ↓ 5(0) ↓ 169(15) ↓ 3(0) ↓ 261(6) ↓	↑ 0(2) ↑ 3(3) ↑ 32(4) ↑ 411(350) ↑ 13(0) ↑	↓ 14(0) ↓ 428(496) ↓ 9(0) ↓ 77(0) ↓ 1(0) ↓ 39(0) ↓	↑ 32(0) ↑ 4(0) ↑ 19(0) ↑ 640(354) ↑ 5(0) ↑	↓ 15(87) ↓ 23(93) ↓ 147(369) ↓ 310(3) ↓ 104(1) ↓ 7(355) ↓	↑ 310(2) ↑ 63(1) ↑ 207(13) ↑ 1(277) ↑ 1(277) ↑ 403(1) ↑
11	Driveway 4 & Ellis Av.	12	Case Rd. & Ellis Av.	13	Redlands Av. & I-215 NB Ramps	14	Redlands Av. & I-215 SB Ramps	15	Redlands Av. & 4th St.
0(75) ↓ 0(628) ↓ 0(34) ↓ 0(2) ↓ 0(36) ↓ 10(5) ↓ 0(34) ↓	↑ 0(10) ↑ 22(5) ↑ 0(2) ↑ 0(41) ↑ 0(422) ↑ 0(8) ↑	↓ 0(31) ↓ 231(272) ↓ 164(361) ↓ 0(15) ↓ 8(55) ↓ 2(5) ↓	↑ 130(297) ↑ 22(79) ↑ 39(294) ↑ 0(1) ↑ 297(159) ↑ 98(215) ↑	↓ 212(0) ↓ 1038(0) ↓ 0(3) ↓ 184(0) ↓ 717(0) ↓	↑ 285(0) ↑ 4(2) ↑ 336(0) ↑ 184(0) ↑ 717(0) ↑	↓ 918(347) ↓ 456(96) ↓ 140(0) ↓ 0(2) ↓ 165(1) ↓	↑ 0(131) ↑ 0(2) ↑ 0(108) ↑ 761(295) ↑ 313(75) ↑	↓ 751(137) ↓ 316(933) ↓ 55(0) ↓ 668(0) ↓ 23(0) ↓ 22(0) ↓	↑ 25(523) ↑ 14(7) ↑ 6(371) ↑ 23(147) ↑ 353(822) ↑ 14(0) ↑
16	Redlands Av. & Ellis Av.	17	Case Rd. & Driveway 5	18	Murrieta Rd. & Case Rd.	19	Case Rd. & Mapes Rd.	20	Bonnie Dr. & Mapes Rd.
143(0) ↓ 0(897) ↓ 23(407) ↓ 240(183) ↓ 14(2) ↓ 0(203) ↓	↑ 24(0) ↑ 3(0) ↑ 0(786) ↑ 0(454) ↑	↓ 0(648) ↓ 0(268) ↓ 0(45) ↓ 0(806) ↓ 272(24) ↓ 0(51) ↓	↑ 0(71) ↑ 394(18) ↑ 0(8) ↑ 0(43) ↑ 0(335) ↑ 0(6) ↑	↓ 0(203) ↓ 0(3) ↓ 0(177) ↓ 222(1) ↓ 50(0) ↓	↑ 0(16) ↑ 272(6) ↑ 36(0) ↑ 123(0) ↑ 9(0) ↑	↓ 230(0) ↓ 2(0) ↓ 92(0) ↓ 134(0) ↓ 98(455) ↓	↑ 57(0) ↑ 78(370) ↑ 3(0) ↑	↓ 9(0) ↓ 15(0) ↓ 1(0) ↓ 0(338) ↓ 193(117) ↓	↑ 0(281) ↑ 0(24) ↑ 316(89) ↑ 27(0) ↑ 0(20) ↑
21	I-215 SB Ramps/SR-74 & Bonnie Dr.	22	I-215 NB Ramps & SR-74						
41(211) ↓ 67(6(0) ↓ 0(68) ↓ 29(263) ↓ 0(95) ↓ 179(0) ↓	↑ 0(85) ↑ 0(93) ↑ 301(1) ↑ 470(1) ↑	↓ 13(6) ↓ 0(9) ↓ 187(0) ↓ 14(4) ↓ 840(0) ↓ 0(345) ↓	↑ 943(0) ↑ 758(0) ↑ 0(273) ↑ 0(5) ↑						

###(##) AM(PM) Peak Hour Intersection Volumes
 ## Average Daily Trips

TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2023) CONDITIONS

#	Intersection	Traffic Control ²	Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM
1	Goetz Rd. & Case Rd.	TS	17.4	15.6	B	B
2	Goetz Rd. & Ellis Av.	CSS	18.5	13.6	C	B
3	Goetz Rd. & Driveway 1		Future Intersection			
4	Goetz Rd. & Cai Ct.	TS	6.9	6.7	A	A
5	Goetz Rd. & Malbert St.	CSS	13.2	11.9	B	B
6	Goetz Rd. & Mountain Av./Driveway 2	CSS	15.6	12.9	C	B
7	Goetz Rd. & Driveway 3		Future Intersection			
8	Goetz Rd. & Mapes Rd.	TS	15.2	16.9	B	B
9	Goetz Rd. & Fieldstone Dr.	TS	15.8	13.5	B	B
10	Goetz Rd. & Ethanac Rd.	TS	30.0	32.6	C	C
11	Driveway 4 & Ellis Av.		Future Intersection			
12	Case Rd. & Ellis Av.	TS	17.7	15.5	B	B
13	Redlands Av. & I-215 NB Ramps	TS	12.3	12.8	B	B
14	Redlands Av. & I-215 SB Ramps	TS	10.8	10.7	B	B
15	Redlands Av. & 4th St.	TS	41.0	40.9	D	D
16	Redlands Av. & Ellis Av.	AWS	9.3	8.5	A	A
17	Case Rd. & Driveway 5		Future Intersection			
18	Murrieta Rd. & Case Rd.	AWS	10.9	12.3	B	B
19	Case Rd. & Mapes Rd.	AWS	10.5	12.8	B	B
20	Bonnie Dr. & Mapes Rd.	TS	13.3	14.2	B	B
21	I-215 SB Ramps/SR-74 & Bonnie Dr.	TS	13.5	20.4	B	C
22	I-215 NB Ramps & SR-74	TS	7.8	9.6	A	A

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

² TS = Traffic Signal; AWS = All-way Stop; CSS = Cross-street Stop

3.7 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. There are no unsignalized study area intersections that currently warrant a traffic signal for Existing traffic conditions. Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

3.8 QUEUING ANALYSIS

A queuing analysis was performed for the off-ramps at the I-215 Freeway at Redlands Avenue and SR-74 interchanges. Queuing analysis findings are presented in Table 3-2. It is important to note that off-ramp lengths are consistent with the measured distance between the intersection and the freeway mainline. As shown in Table 3-2, there are no movements that are currently experiencing queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows. Worksheets for Existing (2023) traffic conditions off-ramp queuing analysis are provided in Appendix 3.4.

TABLE 3-2: PEAK HOUR QUEUING SUMMARY FOR EXISTING (2023) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet) ³		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
Redlands Av. & I-215 NB Ramps	WBL	1,160	204	234	Yes	Yes
	WBL/T/R	790	194	179	Yes	Yes
	WBR	425	87	168	Yes	Yes
Redlands Av. & I-215 SB Ramps	EBL	1,100	103	114	Yes	Yes
	EBL/T/R	745	63	81	Yes	Yes
	EBR	125	42	43	Yes	Yes
I-215 Southbound Ramps & SR-74	SBT	1,445	544	845 ²	Yes	Yes
	SBR	130	31	19	Yes	Yes
I-215 Northbound Ramps & SR-74	SBL/R	1,465	114	211	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

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4 PROJECTED FUTURE TRAFFIC

The Project is proposed to consist of the development of a 795,109 SF high-cube fulfillment center warehouse building (Building 1), 71,961 SF warehouse building (Building 2), and a truck/trailer storage lot with approximately 323 spaces plus 2 auto parking stalls and 20 tractor stalls. Vehicular access will be provided via the following driveways:

- Driveway 1 on Goetz Road – right-in/right-out access for passenger cars only for Building 1
- Driveway 2 on Goetz Road – private new driveway assumed to align with Mountain Avenue and would allow for full access via a signalized intersection, only serving trucks for both Building 1 and Building 2
- Driveway 3 on Goetz Road – right-in/right-out access driveway serving passenger cars only for Building 2
- Driveway 4 on Ellis Avenue – right-in/right-out access for trucks only for Building 1
- Driveway 5 on Case Road – full access for trucks and passenger cars to the truck/trailer lot

Regional access to the Project site is accommodated from the I-215 Freeway via Redlands Avenue and SR-74 interchanges.

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 attracted to and produced by the specific land uses being proposed for a given development. In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the ITE Trip Generation Manual (11th Edition, 2021). (2)

For the purposes of this analysis, the storage yard on Site 2 has been evaluated assuming it is an independent use in an effort to evaluate the most conservative trip generation for the Project (for Site 2). Trip generation rates for the proposed uses are summarized in Table 4-1. A summary of the proposed Project trip generation, in actual vehicles, is shown in Table 4-2. As shown in Table 4-2, the proposed Project is anticipated to generate 2,728 two-way trips per day with 195 AM peak hour trips and 227 PM peak hour trips (actual vehicles). A summary of the proposed Project trip generation, in PCE, is shown in Table 4-3. As shown in Table 4-3, The Project is anticipated to generate a total of 3,800 PCE two-way trips per day with 262 AM PCE peak hour trips and 292 PM PCE peak hour trips.

TABLE 4-1: PROJECT TRIP GENERATION RATES

Land Use	ITE Land Use		AM Peak Hour			PM Peak Hour			Daily
	Code	Units ¹	In	Out	Total	In	Out	Total	
Actual Vehicle Trip Generation Rates									
High-Cube Fulfillment Center Warehouse ²	--	TSF	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars (AM=84.4%, PM=87.3%, Daily=82.2%)			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (AM=6.6%, PM=6.7%, Daily=7.6%)			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+-Axle Trucks (AM=9.0%, PM=6.0%, Daily=10.2%)			0.008	0.003	0.011	0.003	0.007	0.010	0.217
General Light Industrial ³	110	TSF	0.651	0.089	0.740	0.091	0.559	0.650	4.870
Passenger Cars (AM=98.6%, PM=98.5%, Daily=94.9%)			0.645	0.085	0.730	0.086	0.554	0.640	4.620
2-Axle Trucks (AM=0.2%, PM=0.1%, Daily=0.8%)			0.001	0.001	0.002	0.001	0.001	0.002	0.042
3-Axle Trucks (AM=0.3%, PM=0.1%, Daily=1.1%)			0.001	0.001	0.002	0.001	0.001	0.002	0.052
4+-Axle Trucks (AM=0.9%, PM=0.4%, Daily=3.2%)			0.004	0.002	0.006	0.003	0.003	0.006	0.157
Truck/Trailer Lot ⁴	--	Spaces	0.077	0.065	0.142	0.072	0.086	0.157	2.107
Passenger Cars (AM=30.2%, PM=44.4%, Daily=39.6%)			0.026	0.017	0.043	0.021	0.049	0.070	0.834
2-Axle Trucks (AM=10.5%, PM=3.3%, Daily=5.1%)			0.007	0.008	0.015	0.005	0.000	0.005	0.108
3-Axle Trucks (AM=27.8%, PM=33.9%, Daily=29.4%)			0.014	0.025	0.039	0.033	0.020	0.053	0.620
4+-Axle Trucks (AM=31.5%, PM=18.4%, Daily=25.9%)			0.030	0.015	0.045	0.012	0.017	0.029	0.545
Passenger Car Equivalent (PCE) Trip Generation Rates³									
High-Cube Fulfillment Center Warehouse ²		TSF	0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (PCE = 2.0)			0.012	0.004	0.016	0.006	0.016	0.022	0.324
5+-Axle Trucks (PCE = 3.0)			0.025	0.008	0.033	0.008	0.022	0.030	0.651
General Light Industrial ³	110	TSF	0.651	0.089	0.740	0.091	0.559	0.650	4.870
Passenger Cars			0.645	0.085	0.730	0.086	0.554	0.640	4.620
2-Axle Trucks (PCE = 1.5)			0.002	0.001	0.003	0.002	0.001	0.003	0.063
3-Axle Trucks (PCE = 2.0)			0.002	0.002	0.004	0.002	0.002	0.004	0.104
4+-Axle Trucks (PCE = 3.0)			0.012	0.007	0.019	0.009	0.010	0.019	0.470
Truck/Trailer Lot ⁴		Spaces	0.077	0.065	0.142	0.072	0.086	0.157	2.107
Passenger Cars			0.026	0.017	0.043	0.021	0.049	0.070	0.834
2-Axle Trucks (PCE = 1.5)			0.010	0.012	0.022	0.008	0.000	0.008	0.163
3-Axle Trucks (PCE = 2.0)			0.028	0.051	0.079	0.066	0.040	0.107	1.240
4+-Axle Trucks (PCE = 3.0)			0.089	0.045	0.134	0.037	0.050	0.087	1.634

¹ TSF = thousand square feet

² Trip Generation Rates and Vehicle Mix Source: [High Cube Warehouse Trip Generation Study](#), WSP, January 29, 2019.

Inbound and outbound split source: ITE [Trip Generation Manual](#), Eleventh Edition (2021) for ITE Land Use Code 154.

³ Trip Generation & Vehicle Mix Source: Institute of Transportation Engineers (ITE), [Trip Generation Manual](#), Eleventh Edition (2021).

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 See Attachment A for Trip Generation Rates based on empirical data.

TABLE 4-2: PROJECT TRIP GENERATION SUMMARY (ACTUAL VEHICLES)

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
High-Cube Fulfillment Warehouse	795.109 TSF							
Passenger Cars:		63	19	82	32	82	114	1,392
2-4-axle Trucks:		5	1	6	2	6	9	130
5+-axle Trucks:		7	2	9	2	6	8	174
Total Truck Trips (Actual Vehicles):		12	3	15	4	12	16	304
Total Trips (Actual Vehicles)²		75	22	97	36	94	130	1,696
General Light Industrial	71.961 TSF							
Passenger Cars:		46	6	52	6	40	46	332
2-axle Trucks:		0	0	0	0	0	0	4
3-axle Trucks:		0	0	0	0	0	0	4
4+-axle Trucks:		0	0	0	0	0	0	12
Total Truck Trips (Actual Vehicles):		0	0	0	0	0	0	20
Total Trips (Actual Vehicles)²		46	6	52	6	40	46	352
Truck/Trailer Lot	323 Spaces							
Passenger Cars:		8	5	13	7	16	23	270
2-axle Trucks:		2	3	5	2	0	2	36
3-axle Trucks:		5	8	13	11	6	17	200
4+-axle Trucks:		10	5	15	4	5	9	176
Total Truck Trips (Actual Vehicles):		17	16	33	17	11	28	412
Total Trips (Actual Vehicles)²		25	21	46	24	27	51	682
Project Total (Actual Vehicles)		146	49	195	66	161	227	2,730

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

TABLE 4-3: PROJECT TRIP GENERATION SUMMARY (PCE)

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Passenger Car Equivalent (PCE):								
High-Cube Fulfillment Warehouse	795.109 TSF							
Passenger Cars:		63	19	82	32	82	114	1,392
2-4-axle Trucks:		10	3	13	5	13	17	258
5+-axle Trucks:		20	6	26	7	17	24	518
Total Truck Trips (PCE):		30	9	39	12	30	42	776
Total Trips (PCE)²		93	28	121	44	112	156	2,168
General Light Industrial								
General Light Industrial	71.961 TSF							
Passenger Cars:		46	6	52	6	40	46	332
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	1	1	2	34
Total Truck Trips (PCE):		1	0	1	1	1	2	48
Total Trips (PCE)²		47	6	53	7	41	48	380
Truck/Trailer Lot								
Truck/Trailer Lot	323 Spaces							
Passenger Cars:		8	5	13	7	16	23	270
2-axle Trucks:		3	4	7	3	0	3	54
3-axle Trucks:		9	16	25	21	13	34	400
4+-axle Trucks:		29	14	43	12	16	28	528
Total Truck Trips (PCE):		41	34	75	36	29	65	982
Total Trips (PCE)²		49	39	88	43	45	88	1,252
Project Total (PCE)		189	73	262	94	198	292	3,800

¹ TSF = thousand square feet

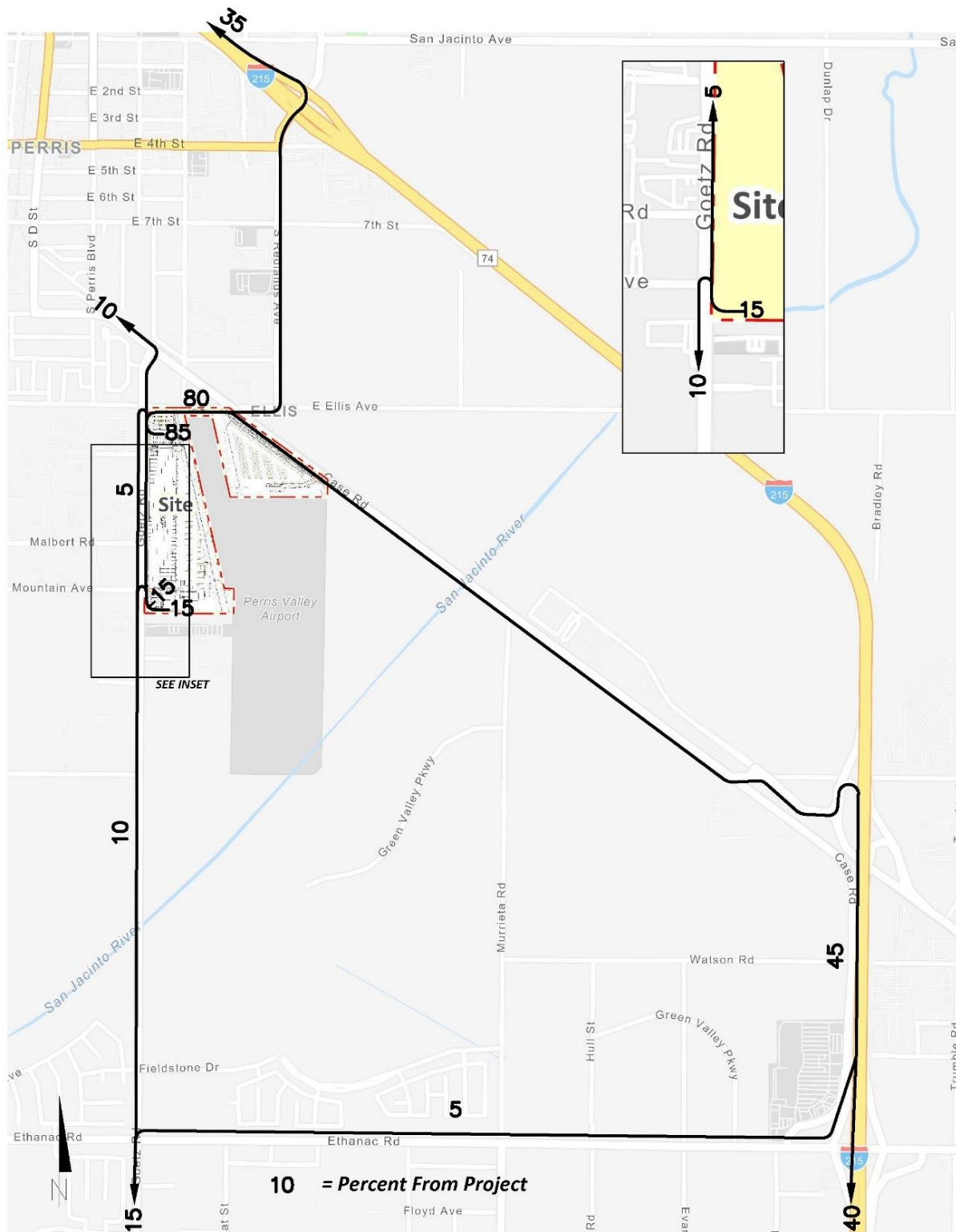
² Total Trips = Passenger Cars + Truck Trips.

4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered to identify the route where the Project traffic would distribute. The Project trip distribution for both passenger cars and trucks was developed based on anticipated travel patterns to and from the Project site and are consistent with other similar projects that have been reviewed and approved by City of Perris staff. Passenger car distribution patterns were based on existing and planned land uses and roadway infrastructure in the area. Truck distribution patterns were based on City truck routes, proximity to the freeway system, and the Project Applicant’s input on percentage of traffic oriented to the Port of Long Beach or other destinations. The passenger car trip distributions for the warehouse and truck/trailer lot are shown on Exhibits 4-1 and 4-2, respectively. The truck trip distributions are illustrated on Exhibits 4-3 and 4-4 for the warehouse and truck/trailer lot, respectively. Distribution patterns for each vehicle type have been provided for the warehouse building and truck/trailer lot components.

EXHIBIT 4-1: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION - WAREHOUSE

Outbound:



Inbound:

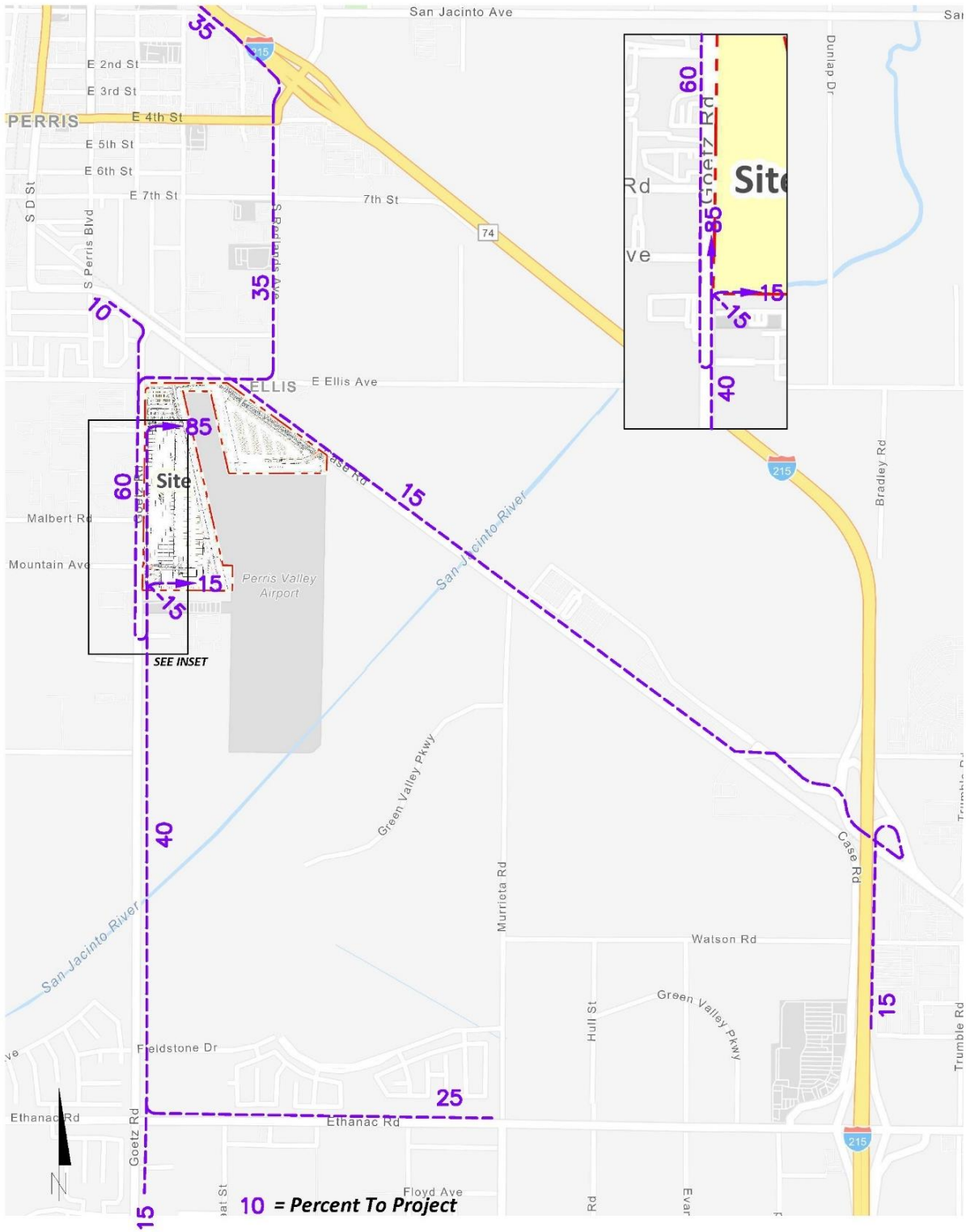
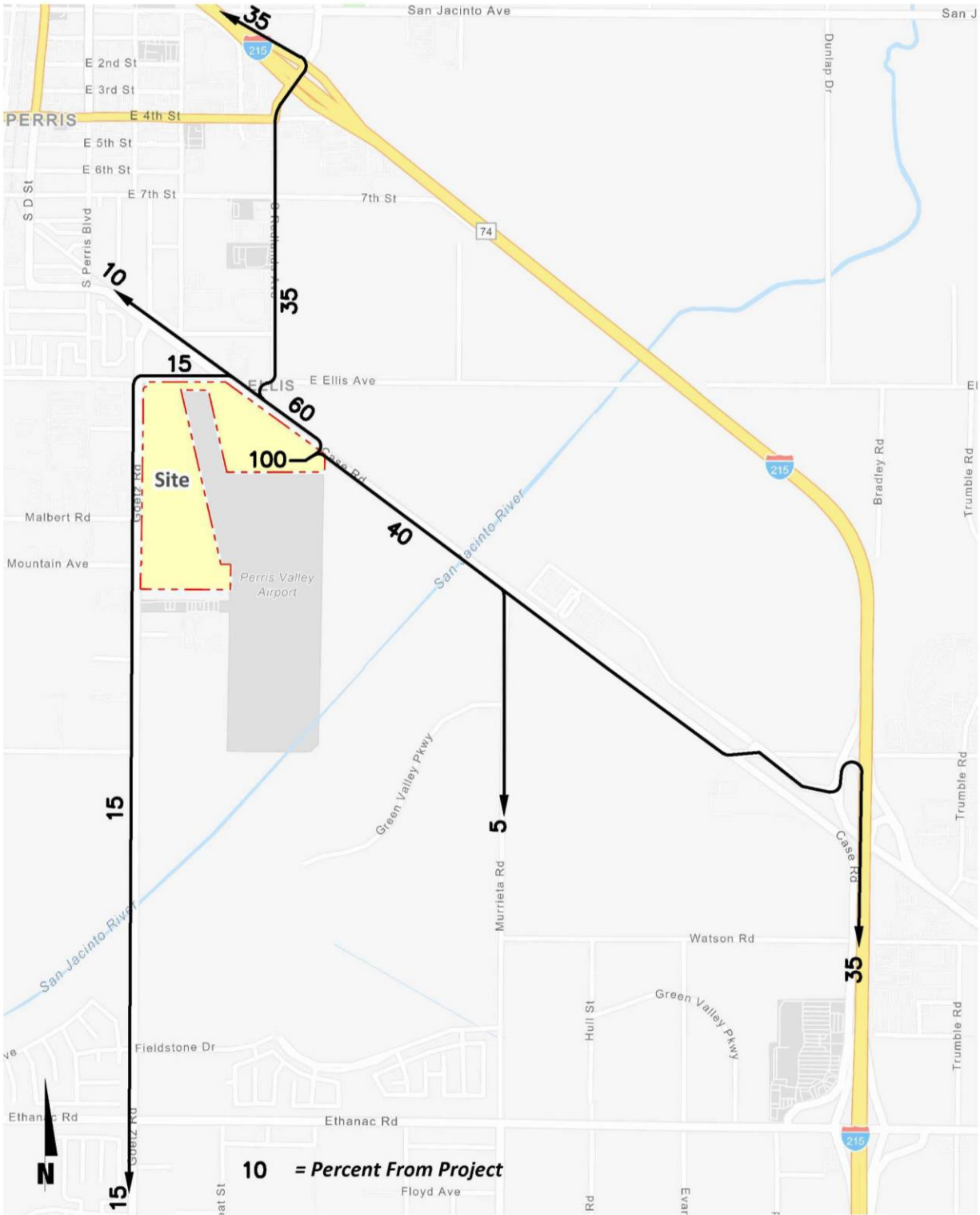


EXHIBIT 4-2: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION - TRUCK/TRAILER LOT

Outbound:



Inbound:

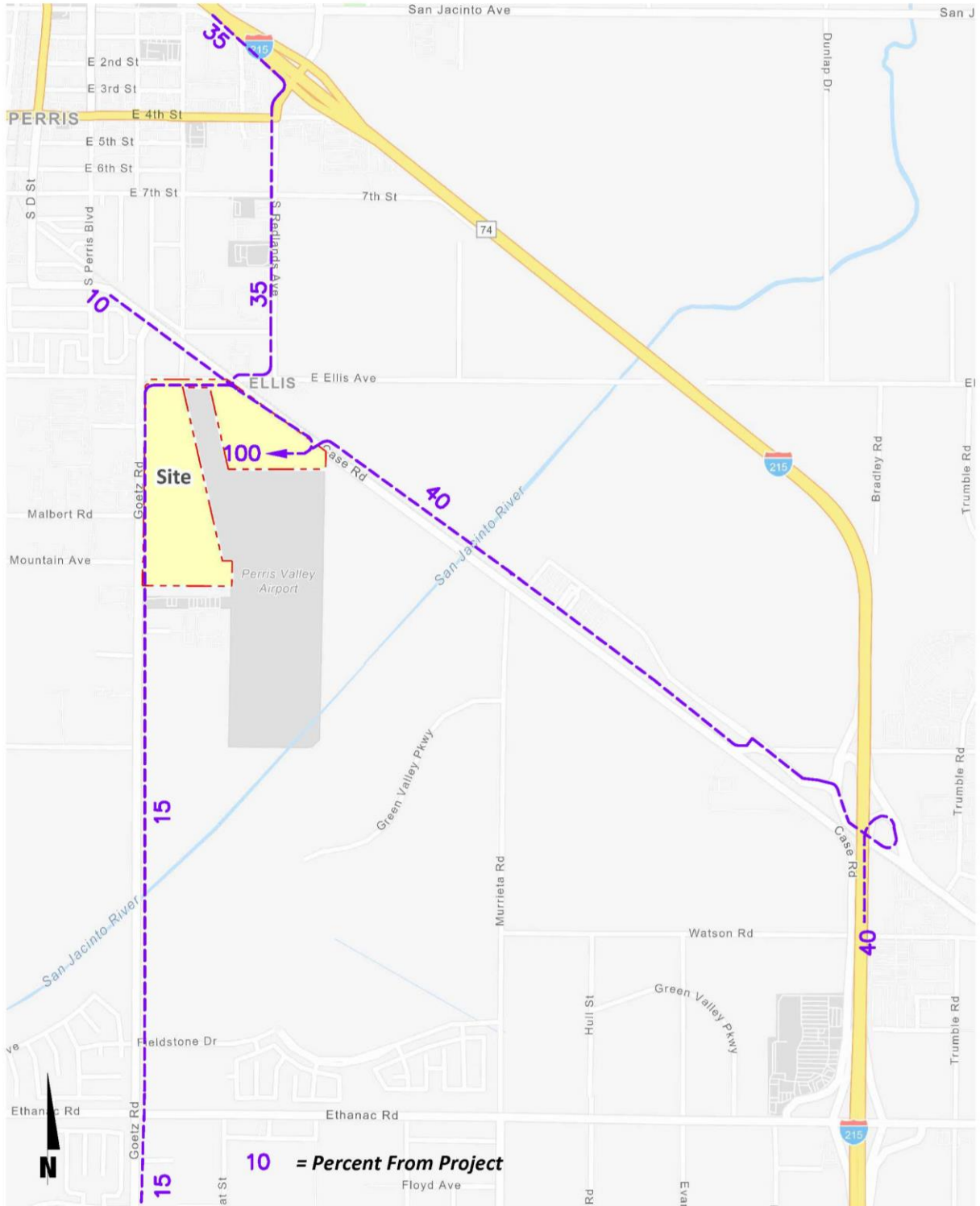
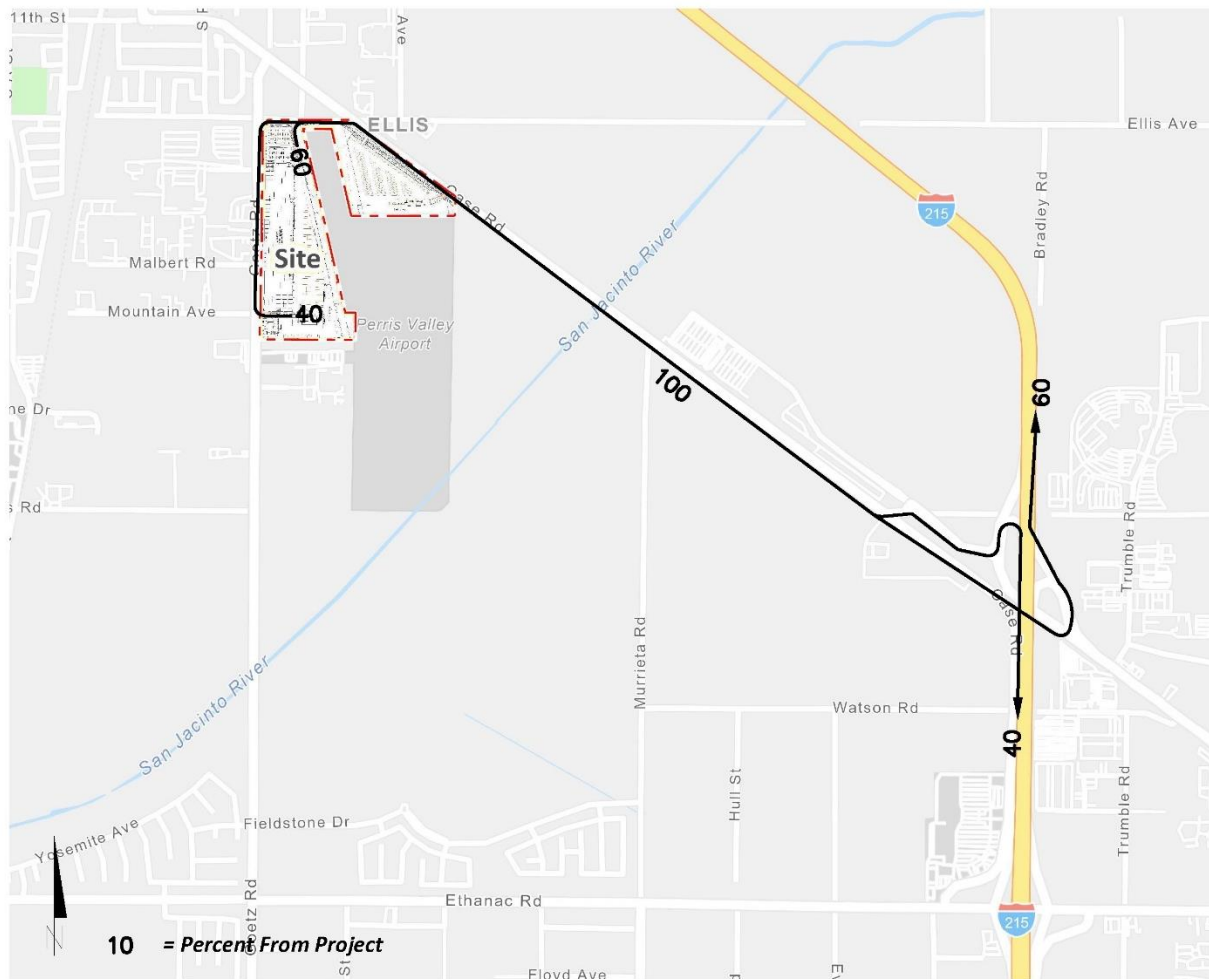


EXHIBIT 4-3: PROJECT (TRUCK) TRIP DISTRIBUTION - WAREHOUSE

Outbound:



Inbound:

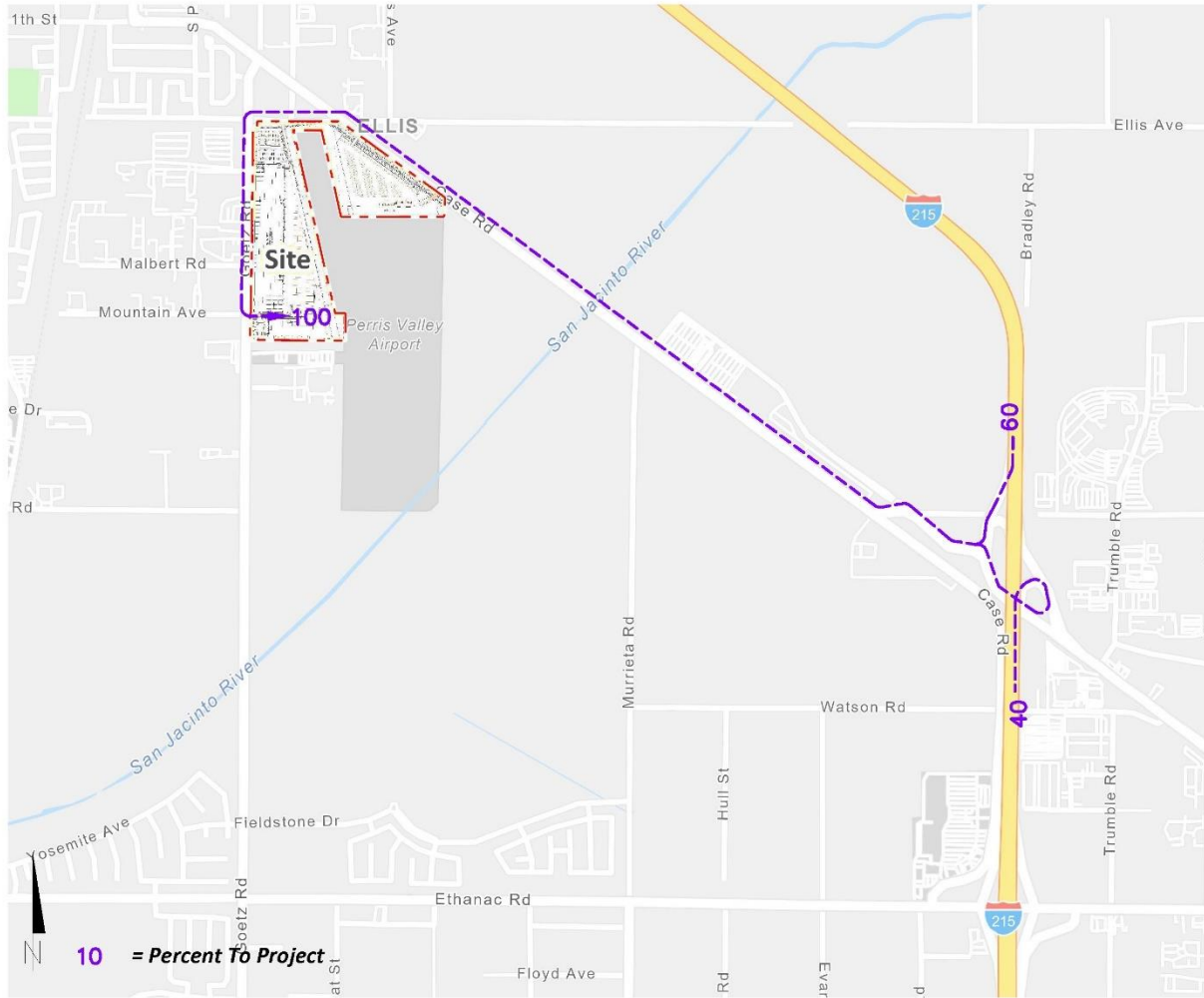
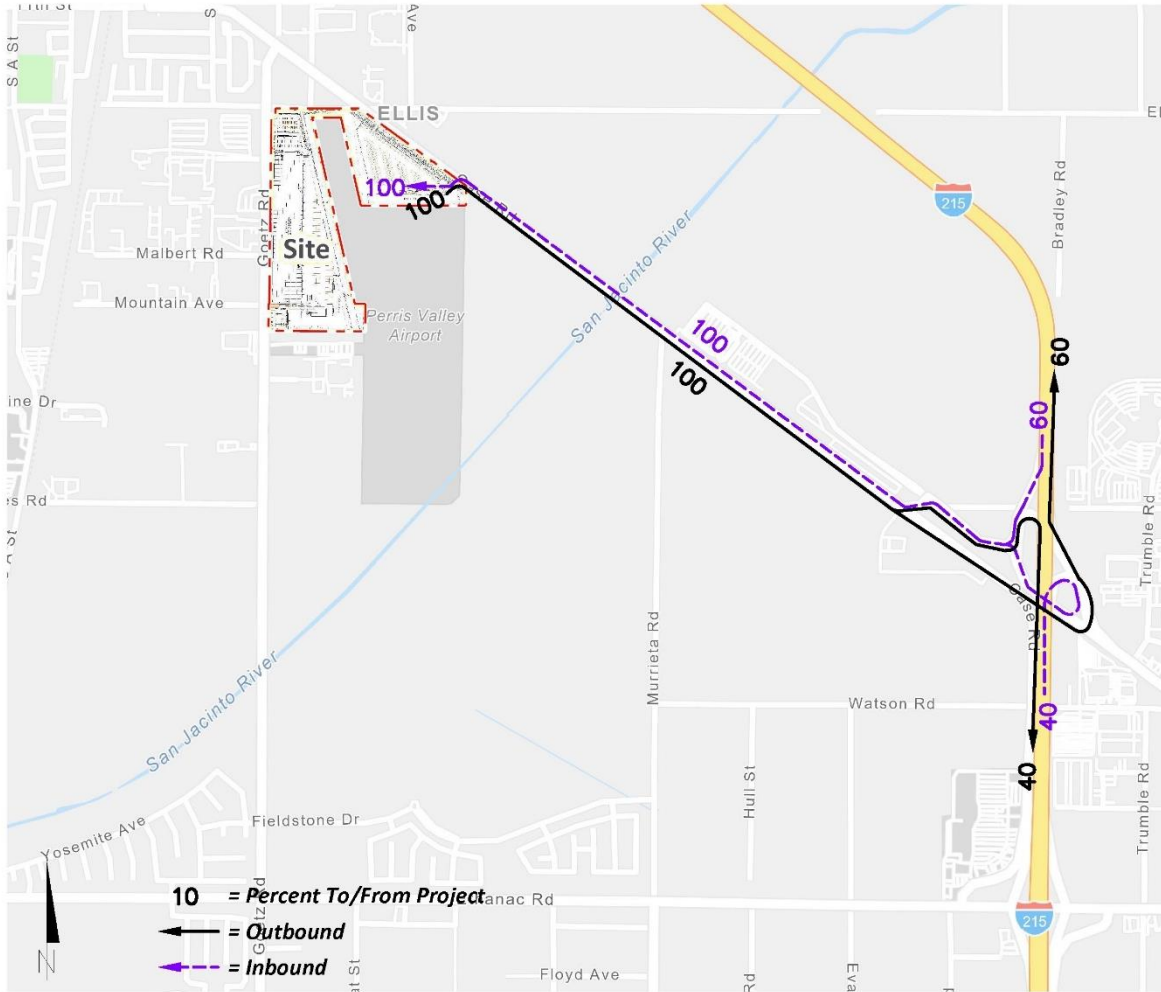


EXHIBIT 4-4: PROJECT (TRUCK) TRIP DISTRIBUTION - TRUCK/TRAILER LOT



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.

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 weekday ADT and weekday peak hour intersection turning movement volumes, in actual vehicles, are shown on Exhibit 4-5. Project weekday peak hour intersection turning movement volumes, in PCE, are shown on Exhibit 4-6.

4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 3% per year, compounded annually, for 2025 conditions. The total ambient growth is 6.09% for 2025 traffic conditions (compounded growth of 3 percent per year over 2 years or $1.03^{2\text{years}}$). The ambient growth factor is intended to approximate regional traffic growth. 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. This growth rate is consistent with the ambient per year growth rate utilized by the City of Perris and is utilized by other recent studies in the City of Perris.

The currently adopted Southern California Association of Governments (SCAG) 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (September 2020) growth forecasts for the City of Perris identifies projected growth in population of 74,900 in 2016 to 121,000 in 2045, or a 61.6 percent increase over the 29-year period. (9) The change in population equates to roughly a 1.67 percent growth rate, compounded annually. Similarly, growth over the same 29-year period in households is projected to increase by 96.5 percent, or 2.36 percent annual growth rate. Finally, growth in employment over the same 29-year period is projected to increase by 64.0 percent, or a 1.72 percent annual growth rate. This results in an average of 1.91 percent annual growth rate. As such, the 3.0 percent per year ambient growth rate utilized in this TA would appear to conservatively estimate annual traffic growth and overstate as opposed to understate future traffic forecasts.

EXHIBIT 4-5: PROJECT ONLY TRAFFIC VOLUMES (ACTUAL VEHICLES)

1 Goetz Rd. & Case Rd.	2 Goetz Rd. & Ellis Av.	3 Goetz Rd. & Driveway 1	4 Goetz Rd. & Cai Ct.	5 Goetz Rd. & Malbert St.
Nominal 150 1,400 200	150 1,400 1,600 Nominal	1,650 1,450 2,250	2,250 1,650 2,250	1,650 1,050
← 1(2) 1(1) → 11(4) ↓ 3(12) ↖ 3(12) ↗	← 11(4) ↖ 67(25) 1(6) → 3(12) ↗ 22(103) ↘	← 79(35) ↑ 21(104) 5(18) → 93(82) ↘	← 79(35) 97(50) →	← 41(22) ↖ 38(13) 59(37) →
6 Goetz Rd. & Mountain Av./Driveway 2	7 Goetz Rd. & Driveway 3	8 Goetz Rd. & Mapes Rd.	9 Goetz Rd. & Fieldstone Dr.	10 Goetz Rd. & Ethanac Rd.
850 450 Nominal	450 250 450	450 450	450 450	450 250 300
← 2(8) ↖ 39(14) ↑ 1(5) 1(6) ↖ 31(23) ↗	← 3(15) ↑ 4(18) 28(11) → 16(6) ↘	← 3(15) 45(16) →	← 3(15) 45(16) →	← 3(15) ↑ 27(10) ↖ 1(6)
11 Driveway 4 & Ellis Av.	12 Case Rd. & Ellis Av.	13 Redlands Av. & I-215 NB Ramps	14 Redlands Av. & I-215 SB Ramps	15 Redlands Av. & 4th St.
1,500 1,400	Nominal 700 1,500	350 350	350 700	700 700
← 67(25) 22(103) → 2(7) ↗	← 1(1) ↖ 38(13) ↖ 3(2) 9(43) → 15(68) ↓ 29(12) ↖ 1(2) → 2(6) ↗	11(48) ↖	41(16) ↓ 11(48) →	← 41(16) 11(48) →
16 Redlands Av. & Ellis Av.	17 Case Rd. & Driveway 5	18 Murrieta Rd. & Case Rd.	19 Case Rd. & Mapes Rd.	20 Bonnie Dr. & Mapes Rd.
700 700	1,350 1,000 700	1,350 1,350	1,350 1,350	1,350 1,350
41(16) ↓ 11(48) →	← 28(10) ↖ 20(20) 14(67) → 5(4) ↓ 3(10) ↖ 18(17) ↗	← 49(30) 32(83) → 0(1) ↓	49(30) ↓ 32(83) →	32(83) ↓ 49(30) ↖
21 I-215 SB Ramps/SR-74 & Bonnie Dr.	22 I-215 NB Ramps & SR-74			
800 1,350	550 550			
↑ 17(13) 21(70) → 11(14) ↓ 31(17) ↖	↑ 31(17) 11(14) →			

##(##) AM(PM) Peak Hour Intersection Volumes
Average Daily Trips

EXHIBIT 4-6: PROJECT ONLY TRAFFIC VOLUMES (PCE)

1	Goetz Rd. & Case Rd.	2	Goetz Rd. & Ellis Av.	3	Goetz Rd. & Driveway 1	4	Goetz Rd. & Cai Ct.	5	Goetz Rd. & Malbert St.
6	Goetz Rd. & Mountain Av./Driveway 2	7	Goetz Rd. & Driveway 3	8	Goetz Rd. & Mapes Rd.	9	Goetz Rd. & Fieldstone Dr.	10	Goetz Rd. & Ethanac Rd.
11	Driveway 4 & Ellis Av.	12	Case Rd. & Ellis Av.	13	Redlands Av. & I-215 NB Ramps	14	Redlands Av. & I-215 SB Ramps	15	Redlands Av. & 4th St.
16	Redlands Av. & Ellis Av.	17	Case Rd. & Driveway 5	18	Murrieta Rd. & Case Rd.	19	Case Rd. & Mapes Rd.	20	Bonnie Dr. & Mapes Rd.
21	I-215 SB Ramps/SR-74 & Bonnie Dr.	22 I-215 NB Ramps & SR-74							

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

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 County of Riverside and City of Perris. The cumulative project list includes known and foreseeable projects that are anticipated to contribute traffic to the study area intersections.

Where applicable, cumulative projects anticipated to contribute measurable traffic (i.e., 50 or more peak hour trips) to study area intersections have been manually added to the study area network to generate Opening Year Cumulative forecasts. In other words, this list of cumulative development projects has been reviewed to determine which projects would likely contribute measurable traffic through the study area intersections (e.g., those cumulative projects in close proximity to the proposed Project). For the purposes of this analysis, the cumulative projects that were determined to affect one or more of the study area intersections are shown on Exhibit 4-7, listed in Table 4-4, and have been considered for inclusion. Any additional traffic generated by other projects not on the cumulative projects list is likely accounted for through background ambient growth factors that have been applied to the peak hour volumes at study area intersections as discussed in Section 4.5 *Background Traffic*. Cumulative Only ADT and peak hour intersection turning movement volumes, in actual vehicles are shown on Exhibit 4-8. Cumulative Only peak hour intersection turning movement volumes, in PCE, are shown on Exhibit 4-9.

TABLE 4-4: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

No.	Project Name / Case Number	Jurisdiction	Land Use	Quantity Units ¹
P1	Mapes and Trumble Industrial	Perris	High-Cube Fulfillment Center Warehouse	396.000 TSF
P2	Perris Multifamily Residential (DPR 20-00008)	Perris	Multifamily (Low-Rise)	287 DU
P3	Pulte Residential / TTM 30850	Perris	SFDR	496 DU
P4	Perez Indus / DPR 16-00016	Perris	Industrial	2.500 TSF
P5	Pharmacy / DPR 20-00022	Perris	Industrial	15.000 TSF
P6	South Perris Industrial Project	Perris	Industrial	
	Site 1			784.000 TSF
	Site 2			3,448.734 TSF
	Site 3			2,300.000 TSF
P7	Riverwoods	Perris	Single Family Housing	663 DU
			Elementary School	600 STU
			Park	12.0 AC
P8	Go Fresh Gas Station	Perris	Gasoline/Conven. Mkt./Retail Store/Car Wash	16 VSP
			Convenient Store	3.960 TSF
			Retail Store	1.406 TSF
			Car Wash Tunnel	2.505 TSF
P9	Track 37803	Perris	Residential	145 DU
P10	Villa Verona Apt - Track 37181 / DPR 16-00002	Perris	Multifamily Housing	360 DU
P11	Senior Housing / DPR 17-00005	Perris	Multifamily Housing	141 DU
	Green Valley Specific Plan	Perris	Single/Multifamily Housing	1,240 DU
P12	GVSP - Track 37262		Single Family Housing	191 DU
P13	GVSP - Track 37716		Multifamily Housing	97 DU
P14	GVSP - Track 37722		Single Family Housing	116 DU
P15	GVSP - Track 37817		Multifamily Housing	227 DU
P16	GVSP - Track 37818		Single Family Housing	138 DU
P17	GVSP - Track 37818		Multifamily Housing	236 DU
P18	GVSP - Track 37223		Single Family Housing	235 DU
P19	Airport Industrial	Perris	Industrial	650.000 TSF
P20	Perris Valley Town Center (West Side)	Perris	Retail	28.000 TSF
			Fast-Food w/ Drive-Thru	2.200 TSF
P21	Perris Valley Town Center (East Side)	Perris	Shopping Center	644.866 TSF
			Fast-Food w/ Drive-Thru	10.500 TSF
			High Turnover Restaurant	15.120 TSF
			Gas Station	16 VFP
P22	Weinerschnitzel / CUP 17-05083	Perris	Fast-Food Restaurant	2.000 TSF
P23	Burge Indus 2	Perris	Industrial	19.000 TSF
P24	Perris Plaza - Build-out	Perris	Commercial	173.000 TSF
P25	Wilson Industrial / DPR 19-00007	Perris	High-Cube Warehouse	303.000 TSF
P26	Arco Expansion	Perris	Commercial	3.869 TSF
P27	Rados / DPR 07-0119	Perris	High-Cube Warehouse	1,200.000 TSF
P28	Rider 2/4	Perris	High-Cube Warehouse	1,373.449 TSF
P30	Sunwest Enterprises	Perris	SFDR	61 DU
P31	Pacific Ave	Perris	PUD	131 DU
P32	Sunwest Enterprises	Perris	SFDR	57 DU

No.	Project Name / Case Number	Jurisdiction	Land Use	Quantity Units ¹
P33	Jason Keller/John Ford	Perris	SFDR	189 DU
P34	Jason Keller/John Ford	Perris	SFDR	122 DU
P35	Rastogi Family LTD / John Ford	Perris	SFDR	75 DU
P36	Sterling Villa Senior Housing	Perris	Senior Adult Housing - Attached	429 DU
P37	Burge Indus 1	Perris	Industrial	18,000 TSF
P38	Pulliam Indus	Perris	Industrial	16,000 TSF
P39	Hillwood Ethanac	Perris	High-Cube Transload Warehouse	362.348 TSF
			High-Cube Cold Storage Warehouse	50,000 TSF
M1	SP260A2	Menifee	SP Proposal for APN329-110-003/026/028/01	2,025 DU
M2	United Carports Warehouse (DEV2022-009)	Menifee	Warehouse	58.643 TSF
M3	Trumble Retail (CUP2016-290)	Menifee	Hotel	108 RM
			Quality Restaurant	5.500 TSF
			Fast-Food w/ Drive-Thru	3,000 TSF
			Gas Station	12 VFP
M4	Paragon Framing (CUP2018-126)	Menifee	Office/Storage	10,454 TSF
M5	Trumble/Watson Warehouse (DEV2022-019)	Menifee	Warehouse	327.631 TSF
M6	TR 38132 & 38133 (SPA DEV2021-005)	Menifee	Single Family Residential	322 DU
M7	MR-27 LLC Rancon (TTM 34118)	Menifee	Multifamily (Low-Rise)	85 DU
M8	Motte Country Plaza (PP2018-300)	Menifee	Gas Station	12 VFP
M9	Forterra Pipe (PP2018-199)	Menifee	Storage Yard Expansion	20,700 TSF
M10	Menifee Commerce Center (PP2019-005)	Menifee	Warehouse	1,461.650 TSF
	Menifee Commerce Center II (DEV2022-014)	Menifee	Warehouse	1,139.478 TSF
	Nova Battery Storage (DEV2022-015)	Menifee	Redevelopment of IEEC Plant	
	McLaughlin Warehouses (DEV2022-016)	Menifee	Warehouse	491.467 TSF
M11	Goetz/Ethanac Commercial (PP PLN21-0319)	Menifee	Gas Station + Retail	14.290 TSF
	Corsica Business Park (DEV2022-010)	Menifee	Business Park	276.682 TSF
	Capstone Industrial (PLN21-0370)	Menifee	Warehouse	700.037 TSF
	DEV2022-017	Menifee	Warehouse	551.685 TSF
	Northern Gateway Commerce Center II (PP PLN21-0281)	Menifee	High-Cube Warehouse	1,312.601 TSF
	Ethanac/Evans Warehouse (DEV2022-018)	Menifee	Warehouse	137.896 TSF
	Ethanac Square (MJMOD PLN21-0104)	Menifee	Gas Station	3.800 TSF
	Ethanac/Barnett Warehouse (PP PLN21-0290)	Menifee	Warehouse	250.000 TSF
M12	Mapes and Sherman Warehouse	Menifee	High-Cube Fulfillment Center Warehouse	277.578 TSF
M13	Cimarron Ridge	Menifee	Residential	756 DU
M14	DEV2022-001	Menifee	Single Family Residential	96 DU
M15	Valley Blvd. Tract Map	Menifee	Single Family Residential	68 DU
M16	TR/PP Di Capri	Menifee	Condominiums	61 DU
M17	Coronado Condos	Menifee	Condominiums	73 DU
M18	Vista Ridge	Menifee	Condominiums	30 DU
M19	McCall-Encanto Gas Station	Menifee	Gas Station w/ Convenient Store	6 VFP
			Fast-Food Restaurant w/ Drive-Thru	3,900 TSF
M20	McLaughlin Village	Menifee	Condominiums	126 DU
M20	McLaughlin Village	Menifee	Condominiums	126 DU
M21	Legado	Menifee	Residential	1,022 DU
M22	Underwood	Menifee	Residential	543 DU

No.	Project Name / Case Number	Jurisdiction	Land Use	Quantity Units ¹
M23	Cypress and Sands Apartments	Menifee	Residential	136 DU
M24	Beyond Menifee	Menifee	Mixed-Use	17.3 AC
RC1	Stoneridge	County	High-Cube Cold Storage	1,695.355 TSF
			High-Cube Fulfillment	2,966.872 TSF
			High-Cube Warehouse	2,966.872 TSF
			Manufacturing	847.678 TSF
			Warehousing	427.759 TSF
			Industrial Park	641.639 TSF
			Free-Standing Discount Store	100.000 TSF
			Commercial Retail	21.968 TSF
			RC2	TTM/TR37358
RC3	TR36712	County	Single Family Lots	74 DU
RC4	TTM37728	County	228 Lot Schedule a Tentative Map	228 DU
RC5	SP00344/TR35045	County	Residential with Park/Open Space/ School/Ba	796 DU
R6	Ellis/Sherman Warehouses	County	High-Cube Fulfillment	1,374.688 TSF
			High-Cube Cold Storage	242.592 TSF
RC7	TR31687	County	Single Family Residential	65 DU
RC8	TR36635	County	Residential, 6.0 Acres Park/ Basin	283 DU
RC9	TR36665	County	Residential lots with 14 Open Space lots	587 DU
RC10	TR37134	County	Single Family Residential	73 DU
RC11	McCanna Hills / TTM 33978	County	SFDR	63.000 DU
RC12	PPT220047	County	Warehousing	192.249 TSF
RC13	Patterson & Harvill Warehouse	County	Warehousing & Cold Storage	100.190 TSF
RC25	PPT190028	County	Warehousing	197.856 TSF
RC15	Dedeaux Harvill Truck Terminal		Truck Terminal	55.700 TSF
RC16	Harvill & Water Logistics	County	High-Cube Fulfillment Center Warehouse	304.376 TSF
		County	High-Cube Cold Storage Warehouse	130.447 TSF
RC17	Placentia Truck Drop Lot	County	Truck Trailer Storage	8.060 AC
RC18	28840 Rider Street	County	Animal Production Facility	54.450 TSF
RC19	Barker Logistics	County	High-Cube Fulfillment Center Warehouse	699.630 TSF
RC20	Harvill & Cajalco Warehouse	County	General Light Industrial & Truck Yard	99.770 TSF
RC21	Patterson & Cajalco Warehouse	County	Warehousing & Cold Storage	107.968 TSF
RC22	Rider & Patterson Business Center	County	High-Cube Fulfillment Center Warehouse	591.203 TSF
RC23	Mead Valley Commerce Center	County	High-Cube Cold Storage	150.526 TSF
			High-Cube Fulfillment Center Warehouse	852.984 TSF
			Active Park	14.940 AC

¹ TSF = Thousand Square Feet; DU = Dwelling Units; VSP = Vehicle Fueling Positions; STU = Students; AC = Acres

EXHIBIT 4-7: CUMULATIVE DEVELOPMENT LOCATION MAP

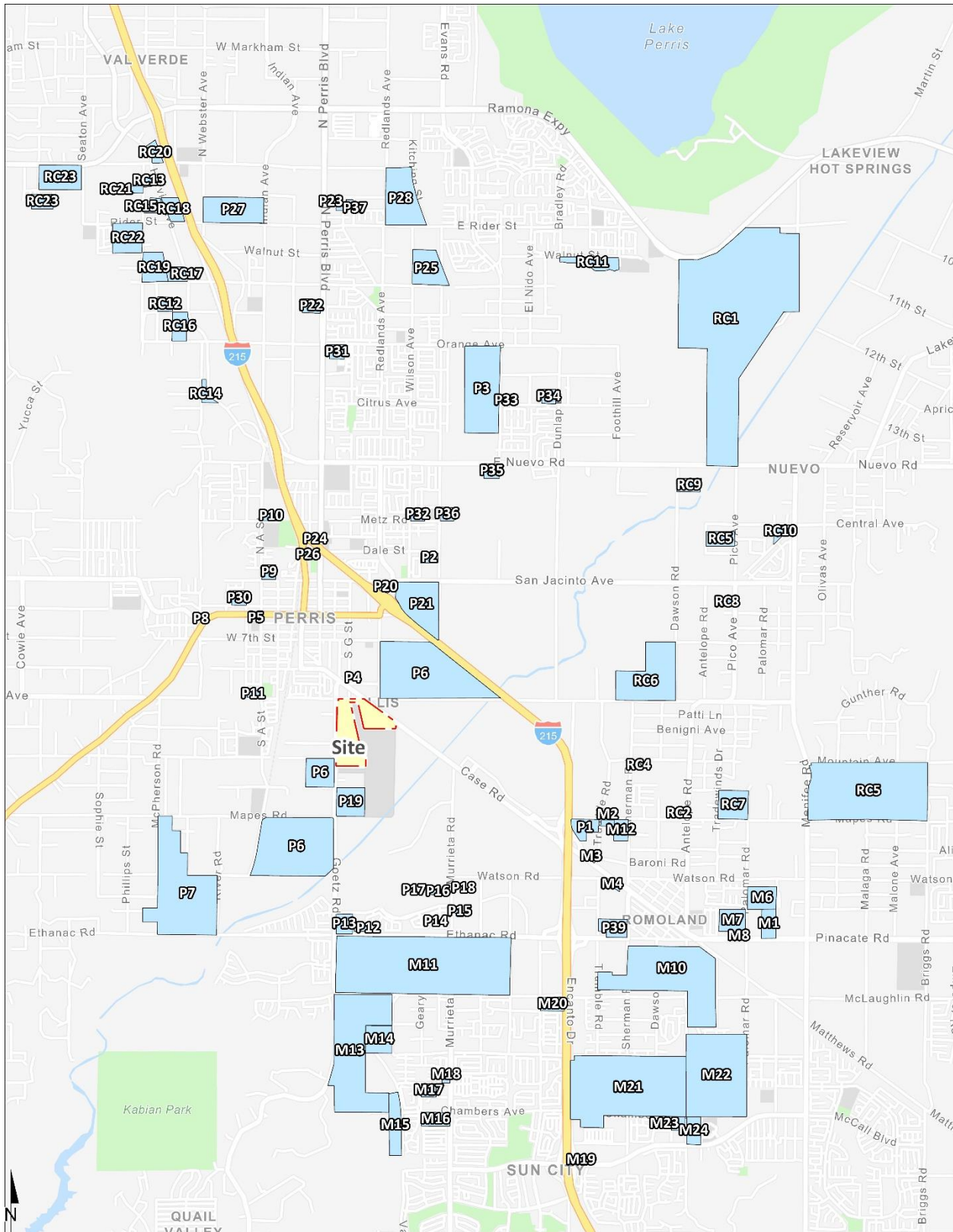


EXHIBIT 4-8: CUMULATIVE ONLY TRAFFIC VOLUMES (ACTUAL VEHICLES)

<p>1 Goetz Rd. & Case Rd.</p> <p>500 1,250</p> <p>← 1(1) ← 49(60)</p> <p>39(55) → 48(64) ↓</p> <p>53(70) ↑ 1(1) ↑</p> <p>2,700</p>	<p>2 Goetz Rd. & Ellis Av.</p> <p>1,450 Nominal</p> <p>← 49(65)</p> <p>1(1) ↓</p> <p>1(1) ↓ 54(71) ↑ 140(335) ↑</p> <p>259(197) ↑</p> <p>8,400</p>	<p>3 Goetz Rd. & Driveway 1</p> <p>8,400</p> <p>← 309(263)</p> <p>195(407) →</p> <p>8,400</p>	<p>4 Goetz Rd. & Cai Ct.</p> <p>8,400</p> <p>← 309(263)</p> <p>195(407) →</p> <p>8,400</p>	<p>5 Goetz Rd. & Malbert St.</p> <p>8,350</p> <p>← 5(2) ← 299(265)</p> <p>1(5) → 0(1) ↓</p> <p>1(0) ↑ 193(402) ↑</p> <p>100</p> <p>8,300</p>
<p>6 Goetz Rd. & Mountain Av./Driveway 2</p> <p>8,300 Nominal</p> <p>117(65) ↓ 181(196) ↓ 70(234) ↓</p> <p>8(37) ↓</p> <p>28(14) ↓ 123(163) ↑</p> <p>4,200</p>	<p>7 Goetz Rd. & Driveway 3</p> <p>5,100</p> <p>← 179(221)</p> <p>151(177) →</p> <p>5,100</p>	<p>8 Goetz Rd. & Mapes Rd.</p> <p>3,500</p> <p>22(14) ↓ 54(163) ↓ 17(46) →</p> <p>7(28) ↓</p> <p>34(18) ↓ 126(72) →</p> <p>1,350</p>	<p>9 Goetz Rd. & Fieldstone Dr.</p> <p>3,400</p> <p>0(1) ↓ 36(152) ↓ 0(1) ↓</p> <p>15(47) ↓ 43(28) ↑ 59(35) ↑</p> <p>117(62) ↑ 22(67) ↑</p> <p>1,750</p> <p>3,500</p>	<p>10 Goetz Rd. & Ethanac Rd.</p> <p>3,150</p> <p>1(1) ↓ 38(123) ↓ 1(1) ↓</p> <p>57(63) ↓ 44(70) ↑ 17(10) ↑</p> <p>5(17) ↑</p> <p>1,700</p> <p>2,850</p>
<p>11 Driveway 4 & Ellis Av.</p> <p>6,900</p> <p>← 259(197)</p> <p>140(335) →</p> <p>6,900</p>	<p>12 Case Rd. & Ellis Av.</p> <p>1,250</p> <p>16(56) ↓ 27(14) ↓</p> <p>73(162) → 66(173) ↓</p> <p>137(89) ↓ 68(34) ↓ 142(96) ↓</p> <p>8(36) ↑ 122(108) ↑ 66(188) ↑</p> <p>7,600</p> <p>8,000</p>	<p>13 Redlands Av. & I-215 NB Ramps</p> <p>13,400</p> <p>162(209) ↓ 317(394) ↓</p> <p>14(11) ↓ 207(245) ↑</p> <p>102(258) ↓ 305(381) ↑</p> <p>3,050</p> <p>5,350</p>	<p>14 Redlands Av. & I-215 SB Ramps</p> <p>12,450</p> <p>140(172) ↓ 191(234) ↓</p> <p>165(213) → 254(208) ↓</p> <p>242(426) ↑ 12(16) ↑</p> <p>3,200</p> <p>12,000</p>	<p>15 Redlands Av. & 4th St.</p> <p>10,100</p> <p>188(212) ↓ 206(168) ↓</p> <p>193(241) →</p> <p>61(201) ↑</p> <p>5,600</p> <p>4,450</p>
<p>16 Redlands Av. & Ellis Av.</p> <p>4,250</p> <p>135(109) ↓ 76(172) → 167(93) →</p> <p>29(15) ↓ 9(38) ↑ 62(216) ↑</p> <p>4,600</p> <p>7,600</p>	<p>17 Case Rd. & Driveway 5</p> <p>8,000</p> <p>← 348(219)</p> <p>149(418) →</p> <p>8,000</p>	<p>18 Murrieta Rd. & Case Rd.</p> <p>1,300</p> <p>← 307(195) 33(107) ↑</p> <p>137(377) → 12(41) ↓</p> <p>41(24) ↓ 95(60) ↓</p> <p>8,750</p> <p>8,000</p>	<p>19 Case Rd. & Mapes Rd.</p> <p>8,250</p> <p>340(302) ↓ 232(437) →</p> <p>8,750</p>	<p>20 Bonnie Dr. & Mapes Rd.</p> <p>500</p> <p>232(437) ↓ 340(302) ↓</p> <p>8,750</p> <p>8,250</p>
<p>21 I-215 SB Ramps/SR-74 & Bonnie Dr.</p> <p>10,750</p> <p>54(90) ↓ 148(318) ↓ 90(305) →</p> <p>142(133) ↓</p> <p>286(212) ↑ 231(217) ↑</p> <p>10,500</p> <p>9,350</p>	<p>22 I-215 NB Ramps & SR-74</p> <p>9,350</p> <p>242(146) ↓ 126(237) ↓</p> <p>97(84) ↓ 193(367) →</p> <p>203(181) ↑ 275(283) ↑</p> <p>12,750</p> <p>550</p>			

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

Average Daily Trips

EXHIBIT 4-9: CUMULATIVE ONLY TRAFFIC VOLUMES (PCE)

1	Goetz Rd. & Case Rd.	2	Goetz Rd. & Ellis Av.	3	Goetz Rd. & Driveway 1	4	Goetz Rd. & Cai Ct.	5	Goetz Rd. & Malbert St.																																								
	<table border="1"> <tr> <td>← 1(1)</td> <td>← 49(60)</td> </tr> <tr> <td>39(55) →</td> <td>53(70) ↓</td> </tr> <tr> <td>48(64) ↓</td> <td>1(1) ↑</td> </tr> </table>	← 1(1)	← 49(60)	39(55) →	53(70) ↓	48(64) ↓	1(1) ↑		<table border="1"> <tr> <td>← 49(65)</td> <td>← 324(265)</td> </tr> <tr> <td>1(1) ↓</td> <td>1(1) →</td> </tr> <tr> <td></td> <td>54(71) →</td> </tr> <tr> <td></td> <td>208(411) ↑</td> </tr> </table>	← 49(65)	← 324(265)	1(1) ↓	1(1) →		54(71) →		208(411) ↑		<table border="1"> <tr> <td>← 374(331)</td> <td></td> </tr> <tr> <td></td> <td>263(483) →</td> </tr> </table>	← 374(331)			263(483) →		<table border="1"> <tr> <td>← 374(331)</td> <td></td> </tr> <tr> <td></td> <td>263(483) →</td> </tr> </table>	← 374(331)			263(483) →		<table border="1"> <tr> <td>← 6(3)</td> <td>← 363(331)</td> </tr> <tr> <td>2(6) ↓</td> <td>1(0) ↓</td> </tr> <tr> <td>0(1) ↓</td> <td>259(475) →</td> </tr> </table>	← 6(3)	← 363(331)	2(6) ↓	1(0) ↓	0(1) ↓	259(475) →												
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6	Goetz Rd. & Mountain Av./Driveway 2	7	Goetz Rd. & Driveway 3	8	Goetz Rd. & Mapes Rd.	9	Goetz Rd. & Fieldstone Dr.	10	Goetz Rd. & Ethanac Rd.																																								
	<table border="1"> <tr> <td>← 137(86)</td> <td>← 225(240)</td> </tr> <tr> <td>111(280) ↓</td> <td>1(5) ↓</td> </tr> <tr> <td>8(37) ↓</td> <td>28(14) ↓</td> </tr> <tr> <td></td> <td>148(191) ↑</td> </tr> </table>	← 137(86)	← 225(240)	111(280) ↓	1(5) ↓	8(37) ↓	28(14) ↓		148(191) ↑		<table border="1"> <tr> <td>← 203(246)</td> <td></td> </tr> <tr> <td></td> <td>176(205) →</td> </tr> </table>	← 203(246)			176(205) →		<table border="1"> <tr> <td>← 29(21)</td> <td>← 60(170)</td> </tr> <tr> <td>30(61) ↓</td> <td>34(18) ↓</td> </tr> <tr> <td>7(28) ↓</td> <td>126(72) →</td> </tr> </table>	← 29(21)	← 60(170)	30(61) ↓	34(18) ↓	7(28) ↓	126(72) →		<table border="1"> <tr> <td>← 0(1)</td> <td>← 36(152)</td> </tr> <tr> <td>0(1) ↓</td> <td>15(47) ↓</td> </tr> <tr> <td></td> <td>43(28) ↑</td> </tr> <tr> <td></td> <td>59(35) ↑</td> </tr> <tr> <td></td> <td>117(62) ↑</td> </tr> <tr> <td></td> <td>23(67) ↑</td> </tr> </table>	← 0(1)	← 36(152)	0(1) ↓	15(47) ↓		43(28) ↑		59(35) ↑		117(62) ↑		23(67) ↑		<table border="1"> <tr> <td>← 1(1)</td> <td>← 38(123)</td> </tr> <tr> <td>1(1) ↓</td> <td>57(63) ↓</td> </tr> <tr> <td></td> <td>44(70) ↑</td> </tr> <tr> <td></td> <td>17(10) ↑</td> </tr> <tr> <td></td> <td>5(17) ↑</td> </tr> </table>	← 1(1)	← 38(123)	1(1) ↓	57(63) ↓		44(70) ↑		17(10) ↑		5(17) ↑
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##(##) AM(PM) Peak Hour Intersection Volumes

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5 E+P TRAFFIC CONDITIONS

This section discusses the traffic forecasts for E+P (with Project improvements) and E+P (with Project improvements + improvements by others) conditions and the resulting intersection operations, traffic signal warrant, and off-ramp queuing analyses.

5.1 E+P ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for E+P conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the roadway improvements mentioned in Section 5.1.1 and Section 5.1.2 for E+P (with Project improvements) and E+P (with Project improvements + improvements by others) conditions, respectively.

5.1.1 E+P (NO IMPROVEMENTS) ROADWAY IMPROVEMENTS

No additional roadway improvements, except for the Project driveways, are assumed to be in place for E+P (No Improvements) conditions. As such, Project site adjacent recommendations, such as widening a Project site adjacent roadway to its ultimate half-width or constructing an inbound left turn lane for ingress Project trips, are not incorporated under E+P (No Improvements) conditions.

5.1.2 E+P (WITH PROJECT IMPROVEMENTS) ROADWAY IMPROVEMENTS

Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for E+P (with Project improvements) conditions and E+P (with Project improvements + improvements by others) (e.g., intersection and roadway improvements at the Project's frontage and driveways).

5.1.3 E+P (WITH PROJECT IMPROVEMENTS + IMPROVEMENTS BY OTHERS) ROADWAY IMPROVEMENTS

Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for E+P (with Project improvements) conditions (e.g., intersection and roadway improvements at the Project's frontage and driveways).

Improvements by others that are conditioned on and are either under construction or are anticipated to be in place prior to the Project's occupancy and would be completed by other developers in the immediate area assumed to be in place for E+P (with Project improvements + improvements by others) conditions only. The improvements by others are anticipated to be constructed through the development of the South Perris Industrial Project and the City of Perris' dedicated development of Ellis Avenue to its ultimate full-section width. The improvements by others are anticipated to consist of the following roadway improvements:

- New traffic signals to be installed at the following intersections:
 - Ellis Avenue & Redlands Avenue
 - Case Road & Murrieta Road
 - Case Road & Mapes Road

- Ellis Avenue to be constructed to its ultimate full-section width as an arterial (128-foot right of way). This improvement is anticipated to include the construction of a 2nd and 3rd westbound through lane at Goetz Road & Ellis Avenue (#2) and a 2nd eastbound through lane and 2nd westbound through lane at Redlands Avenue & Ellis Avenue (#16).
- An additional southbound lane to be constructed on Redlands Avenue, providing a southbound left-turn lane and a southbound right-turn lane at Redlands Avenue & Ellis Avenue (#16).
- Case Road to be constructed to its ultimate full-section width as a secondary arterial (94-foot right of way), from Ellis Avenue to I-215 Freeway Ramps. This improvement is anticipated to include the construction of a 2nd eastbound and 2nd westbound through lane along Case Road.
- Case Road & Mapes Road (#19) to consist of the following lanes for each approach:
 - Northbound: One left-turn lane and one shared through-right-turn lane
 - Southbound: One left-turn lane and one shared through-right-turn lane
 - Eastbound: One left-turn lane, one through lane, and one right-turn lane
 - Westbound: One left-turn lane, one through lane, and one right-turn lane
- SR-74 & I-215 Southbound Ramps (#21) to construct a 2nd northbound left turn lane and a 2nd southbound through lane.

5.2 EXISTING PLUS PROJECT TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus Project traffic. The weekday ADT and weekday peak hour intersection turning movement volumes, in actual vehicles, which can be expected for E+P traffic conditions are shown on Exhibit 5-1. The weekday peak hour intersection turning movement volumes, in PCE, which can be expected for E+P traffic conditions are shown on Exhibit 5-2.

5.3 INTERSECTION OPERATIONS ANALYSIS

E+P peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 5-1 for E+P traffic conditions, which indicate that all of the study area intersections are anticipated to continue to operate at an acceptable LOS under E+P traffic conditions, consistent with Existing traffic conditions. The intersection operations analysis worksheets for E+P (with Project improvements) and E+P (with Project improvements + improvements by others) are included in Appendices 5.1 and 5.2, respectively.

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed for E+P traffic conditions based on peak hour intersection turning movements volumes or planning level (ADT) volumes. Goetz Road & Ellis Avenue (#2) is anticipated to meet a peak hour volume-based traffic signal warrant under E+P traffic conditions (see Appendix 5.3).

EXHIBIT 5-1: E+P TRAFFIC VOLUMES (ACTUAL VEHICLES)

<p>1 Goetz Rd. & Case Rd.</p> <p>12,100</p> <p>← 164(192) ↑ 205(186)</p> <p>148(204) → 106(142) ↓</p> <p>243(148) ↑ 228(174) ↓</p> <p>10,900</p>	<p>2 Goetz Rd. & Ellis Av.</p> <p>10,350</p> <p>← 9(14) ↓ 302(314)</p> <p>11(9) → 52(54) ↓</p> <p>↑ 1(0) 82(27) ↓</p> <p>44(28) ↑ 459(313) ↓</p> <p>30(105) ↑</p> <p>11,450</p>	<p>3 Goetz Rd. & Driveway 1</p> <p>12,750</p> <p>← 437(401)</p> <p>↑ 21(104)</p> <p>512(343) ↑ 93(32) ↓</p> <p>1,450</p> <p>13,350</p>	<p>4 Goetz Rd. & Cai Ct.</p> <p>13,200</p> <p>← 427(391)</p> <p>10(10) → 10(10) ↓</p> <p>594(365) ↑</p> <p>300</p> <p>13,200</p>	<p>5 Goetz Rd. & Malbert St.</p> <p>12,750</p> <p>← 20(3) ↓ 379(385)</p> <p>5(18) → 5(19) ↓</p> <p>38(13) ↓ 24(2) ↑</p> <p>561(344) ↑</p> <p>650</p> <p>12,150</p>
<p>6 Goetz Rd. & Mountain Av./Driveway 2</p> <p>11,900</p> <p>← 14(11) ↓ 330(379)</p> <p>16(15) → 9(6) ↓</p> <p>↑ 2(7) 0(3)</p> <p>23(10) ↑ 540(315) ↓</p> <p>3(0) ↓</p> <p>500</p> <p>11,300</p>	<p>7 Goetz Rd. & Driveway 3</p> <p>11,300</p> <p>← 340(395)</p> <p>↑ 4(18)</p> <p>562(307) ↑ 16(6) ↓</p> <p>250</p> <p>11,300</p>	<p>8 Goetz Rd. & Mapes Rd.</p> <p>10,250</p> <p>← 155(60) ↓ 139(334)</p> <p>149(63) → 3(1) ↓</p> <p>↑ 0(1) 0(1)</p> <p>↑ 1(12)</p> <p>283(237) ↓ 393(180) ↓</p> <p>12(1) ↓</p> <p>250</p> <p>10,900</p>	<p>9 Goetz Rd. & Fieldstone Dr.</p> <p>17,300</p> <p>← 12(72) ↓ 339(558)</p> <p>75(35) → 1(5) ↓</p> <p>↑ 29(10) 0(5)</p> <p>↑ 4(2)</p> <p>17(40) ↓ 584(373) ↓</p> <p>5(7) ↓</p> <p>1,000</p> <p>16,250</p>	<p>10 Goetz Rd. & Ethanac Rd.</p> <p>16,250</p> <p>← 13(27) ↓ 117(258)</p> <p>22(14) → 98(50) ↓</p> <p>5(4) ↓</p> <p>250(308) ↓ 1(1) ↓</p> <p>↑ 276(264) 58(73)</p> <p>↑ 170(275) 368(191) ↓</p> <p>1(1) ↑ 1(1) ↑</p> <p>18,650</p> <p>13,850</p>
<p>11 Driveway 4 & Ellis Av.</p> <p>1,550</p> <p>← 83(27)</p> <p>30(105) → 2(7) ↓</p> <p>100</p> <p>1,450</p>	<p>12 Case Rd. & Ellis Av.</p> <p>11,950</p> <p>← 188(316) ↓ 139(78)</p> <p>15(44) → 17(69) ↓</p> <p>↑ 105(112) 54(15)</p> <p>37(92) ↓</p> <p>29(12) ↑ 254(240) ↓</p> <p>84(71) ↓</p> <p>6,300</p> <p>10,150</p>	<p>13 Redlands Av. & I-215 NB Ramps</p> <p>36,600</p> <p>← 205(128) ↓ 975(877)</p> <p>210(384) → 45(106) ↓</p> <p>↑ 267(493) 2(4)</p> <p>↑ 299(330)</p> <p>153(171) ↓ 668(783) ↓</p> <p>13,250</p> <p>34,250</p>	<p>14 Redlands Av. & I-215 SB Ramps</p> <p>34,250</p> <p>← 843(818) ↓ 431(389)</p> <p>120(173) → 0(2) ↓</p> <p>175(195) ↓</p> <p>↑ 701(781) 249(419) ↓</p> <p>13,000</p> <p>35,200</p>	<p>15 Redlands Av. & 4th St.</p> <p>32,650</p> <p>← 697(612) ↓ 316(255)</p> <p>602(772) → 21(22) ↓</p> <p>20(47) ↓</p> <p>53(44) ↓ 22(41) ↓</p> <p>↑ 25(69) 10(18)</p> <p>↑ 4(7) 10(6) ↓</p> <p>2,600</p> <p>23,550</p>
<p>16 Redlands Av. & Ellis Av.</p> <p>6,050</p> <p>← 155(193) ↓ 14(3)</p> <p>211(198) → 9(1) ↓</p> <p>↑ 12(13) 2(5)</p> <p>350</p> <p>5,900</p>	<p>17 Case Rd. & Driveway 5</p> <p>12,750</p> <p>← 363(313) ↓ 20(20)</p> <p>237(473) → 5(4) ↓</p> <p>3(10) ↓ 18(17) ↓</p> <p>700</p> <p>12,400</p>	<p>18 Murrieta Rd. & Case Rd.</p> <p>10,450</p> <p>← 281(254) ↓ 28(22)</p> <p>210(384) → 45(106) ↓</p> <p>↑ 103(79) 8(19) ↓</p> <p>10,450</p> <p>3,600</p>	<p>19 Case Rd. & Mapes Rd.</p> <p>10,100</p> <p>← 246(195) ↓ 1(0)</p> <p>145(321) → 73(82) ↓</p> <p>↑ 45(75) 63(80)</p> <p>0(1) ↓ 1(1) ↓</p> <p>4,850</p> <p>Nominal</p>	<p>20 Bonnie Dr. & Mapes Rd.</p> <p>350</p> <p>← 7(6) ↓ 6(9)</p> <p>190(393) ↓</p> <p>1(4) → 315(254) ↓</p> <p>12(3) ↑</p> <p>10,100</p> <p>10,100</p>
<p>21 I-215 SB Ramps/SR-74 & Bonnie Dr.</p> <p>19,400</p> <p>← 48(33) ↓ 510(799)</p> <p>48(100) → 148(303) ↓</p> <p>↑ 278(224) 383(309) ↓</p> <p>26,300</p> <p>8,150</p>	<p>22 I-215 NB Ramps & SR-74</p> <p>14,500</p> <p>← 41(46) ↓ 159(236)</p> <p>637(1067) →</p> <p>↑ 808(584) 620(487)</p> <p>38,100</p> <p>26,300</p>			

##(##) AM(PM) Peak Hour Intersection Volumes
Average Daily Trips

EXHIBIT 5-2: E+P TRAFFIC VOLUMES (PCE)

1	Goetz Rd. & Case Rd.	2	Goetz Rd. & Ellis Av.	3	Goetz Rd. & Driveway 1	4	Goetz Rd. & Cai Ct.	5	Goetz Rd. & Malbert St.																																																																																																								
	<table border="1"> <tr><td>←</td><td>187(214)</td></tr> <tr><td>↑</td><td>250(261)</td></tr> <tr><td>↓</td><td>272(178)</td></tr> <tr><td>→</td><td>285(206)</td></tr> <tr><td>←</td><td>170(226)</td></tr> <tr><td>→</td><td>132(172)</td></tr> </table>	←	187(214)	↑	250(261)	↓	272(178)	→	285(206)	←	170(226)	→	132(172)		<table border="1"> <tr><td>←</td><td>9(14)</td></tr> <tr><td>↑</td><td>1(0)</td></tr> <tr><td>↓</td><td>373(419)</td></tr> <tr><td>→</td><td>107(36)</td></tr> <tr><td>←</td><td>11(10)</td></tr> <tr><td>→</td><td>62(63)</td></tr> <tr><td>←</td><td>49(31)</td></tr> <tr><td>↑</td><td>545(374)</td></tr> <tr><td>↓</td><td>35(114)</td></tr> <tr><td>→</td><td></td></tr> </table>	←	9(14)	↑	1(0)	↓	373(419)	→	107(36)	←	11(10)	→	62(63)	←	49(31)	↑	545(374)	↓	35(114)	→			<table border="1"> <tr><td>←</td><td>542(524)</td></tr> <tr><td>↑</td><td>21(104)</td></tr> <tr><td>↓</td><td></td></tr> <tr><td>→</td><td>607(416)</td></tr> <tr><td>←</td><td>93(32)</td></tr> <tr><td>→</td><td></td></tr> </table>	←	542(524)	↑	21(104)	↓		→	607(416)	←	93(32)	→			<table border="1"> <tr><td>←</td><td>491(468)</td></tr> <tr><td>↑</td><td></td></tr> <tr><td>↓</td><td></td></tr> <tr><td>→</td><td>57(57)</td></tr> <tr><td>←</td><td>57(57)</td></tr> <tr><td>→</td><td>644(396)</td></tr> </table>	←	491(468)	↑		↓		→	57(57)	←	57(57)	→	644(396)		<table border="1"> <tr><td>←</td><td>30(8)</td></tr> <tr><td>↑</td><td>474(503)</td></tr> <tr><td>↓</td><td>38(13)</td></tr> <tr><td>→</td><td>11(25)</td></tr> <tr><td>←</td><td>8(26)</td></tr> <tr><td>→</td><td>31(2)</td></tr> <tr><td>←</td><td>652(410)</td></tr> <tr><td>→</td><td></td></tr> </table>	←	30(8)	↑	474(503)	↓	38(13)	→	11(25)	←	8(26)	→	31(2)	←	652(410)	→																																	
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###(##) AM(PM) Peak Hour Intersection Volumes

TABLE 5-1: INTERSECTION ANALYSIS FOR E+P CONDITIONS

# Intersection	Traffic Control ²	Existing (2023)				E+P (No Improvements)				E+P (Project Improvements Only)				E+P (Project + Other Improvements)			
		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1 Goetz Rd. & Case Rd.	TS	17.4	15.6	B	B	-- ³				17.5	15.7	B	B	-- ⁵			
2 Goetz Rd. & Ellis Av.	CSS/ TS	18.5	13.6	C	B	28.5	15.6	D	D	28.5	15.6	D	C	14.6	12.7	B	B
3 Goetz Rd. & Driveway 1	CSS	Future Intersection				-- ⁴				11.0	10.5	B	B	-- ⁵			
4 Goetz Rd. & Cai Ct.	TS	6.9	6.7	A	A	-- ⁴				7.0	6.8	A	A	-- ⁵			
5 Goetz Rd. & Malbert St.	CSS	13.2	11.9	B	B	-- ⁴				15.2	12.5	C	B	-- ⁵			
6 Goetz Rd. & Mountain Av./Driveway 2	CSS/ TS	15.6	12.9	C	B	18.4	13.7	C	B	17.5	13.6	C	B	12.0	9.1	B	B
7 Goetz Rd. & Driveway 3	CSS	Future Intersection				-- ⁴				10.7	9.5	B	A	-- ⁵			
8 Goetz Rd. & Mapes Rd.	TS	15.2	16.9	B	B	-- ³				15.1	17.0	B	B	-- ⁵			
9 Goetz Rd. & Fieldstone Dr.	TS	15.8	13.5	B	B	-- ³				16.0	13.5	B	B	-- ⁵			
10 Goetz Rd. & Ethanac Rd.	TS	30.0	32.6	C	C	-- ³				30.7	33.0	C	C	-- ⁵			
11 Driveway 4 & Ellis Av.	CSS	Future Intersection				8.5	9.0	A	A	8.4	8.7	A	A	-- ⁵			
12 Case Rd. & Ellis Av.	TS	17.7	15.5	B	B	22.4	22.3	C	C	22.4	22.1	C	C	17.7	18.2	B	B
13 Redlands Av. & I-215 NB Ramps	TS	12.3	12.8	B	B	-- ³				12.5	13.1	B	B	-- ⁵			
14 Redlands Av. & I-215 SB Ramps	TS	10.8	10.7	B	B	-- ³				11.2	10.9	B	B	-- ⁵			
15 Redlands Av. & 4th St.	TS	41.0	40.9	D	D	-- ³				40.9	41.0	D	D	-- ⁵			
16 Redlands Av. & Ellis Av.	AWS/ TS	9.3	8.5	A	A	-- ³				9.7	9.1	A	A	11.9	12.8	B	B
17 Case Rd. & Driveway 5	CSS	Future Intersection				-- ⁴				10.6	13.6	B	B	9.7	11.5	A	B
18 Murrieta Rd. & Case Rd.	AWS/ TS	10.9	12.3	B	B	-- ³				13.0	17.5	B	C	7.8	8.0	A	A
19 Case Rd. & Mapes Rd.	AWS/ TS	10.5	12.8	B	B	-- ³				13.1	20.2	B	C	18.6	23.1	B	C
20 Bonnie Dr. & Mapes Rd.	TS	13.3	14.2	B	B	-- ³				13.6	14.2	B	B	-- ⁵			
21 I-215 SB Ramps/SR-74 & Bonnie Dr.	TS	13.5	20.4	B	C	-- ³				16.7	30.4	B	C	13.2	19.8	B	B
22 I-215 NB Ramps & SR-74	TS	7.8	9.6	A	A	-- ³				9.1	10.6	A	B	-- ⁵			

^{*} **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

² TS = Traffic Signal; AWS = All-way Stop; CSS = Cross-street Stop; **TS** = Improvement

³

No Project site adjacent improvements have been recommended at this intersection. As such, the results for this intersection are reported under E+P (Project Improvements Only).

⁴ While Project site adjacent improvements (e.g., constructing an adjacent roadway to its ultimate half width), E+P (Project Improvements Only) has analyzed the intersection consistent with the existing lane geometry. As such, the results for this intersection, with no improvements, are reported under E+P (Project Improvements Only)

⁵ No improvements by others are conditioned on for this intersection. As such, the results for this intersection are reported under E+P (Project Improvements Only)

5.5 QUEUING ANALYSIS

Queuing analysis findings for E+P are presented in Table 5-2. As shown in Table 5-2, there are no movements that are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project traffic. Worksheets for E+P (with Project improvements and E+P (with Project improvements + improvements by Others) traffic conditions queuing analysis are provided in Appendices 5.4 and 5.5, respectively.

TABLE 5-2: PEAK HOUR QUEUING SUMMARY FOR E+P CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2023)				E+P (Project Improvements Only)				E+P (Project + Other Improvements)			
			95th Percentile Queue (Feet)		Acceptable? ¹		95th Percentile Queue (Feet)		Acceptable? ¹		95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak	PM Peak	AM	PM	AM Peak	PM Peak	AM	PM	AM Peak	PM Peak	AM	PM
Redlands Av. & I-215 NB Ramps	WBL	1,160	204	234	Yes	Yes	206	244	Yes	Yes	206	244	Yes	Yes
	WBL/T/R	790	194	179	Yes	Yes	195	185	Yes	Yes	195	185	Yes	Yes
	WBR	425	87	168	Yes	Yes	88	173	Yes	Yes	88	173	Yes	Yes
Redlands Av. & I-215 SB Ramps	EBL	1,100	103	114	Yes	Yes	115	123	Yes	Yes	115	123	Yes	Yes
	EBL/T/R	745	63	81	Yes	Yes	58	78	Yes	Yes	58	78	Yes	Yes
	EBR	125	42	43	Yes	Yes	44	45	Yes	Yes	44	45	Yes	Yes
I-215 Southbound Ramps & SR-74	SBT	1,445	544	845 ²	Yes	Yes	546	845 ²	Yes	Yes	154	285	Yes	Yes
	SBR	130	31	19	Yes	Yes	52	32	Yes	Yes	25	27	Yes	Yes
I-215 Northbound Ramps & SR-74	SBL/R	1,465	114	211	Yes	Yes	148	237	Yes	Yes	148	237	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

6 EAC AND EAPC (2025) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAC and EAPC (2025) traffic conditions and the resulting intersection operations, traffic signal warrant, and off-ramp queuing analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAC and EAPC (2025) 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 (2025) conditions (e.g., intersection and roadway improvements at the Project's frontage and driveways).

6.2 EAC AND EAPC (2025) TRAFFIC VOLUME FORECASTS

6.2.1 EAC (2025) TRAFFIC CONDITIONS

This scenario includes Existing traffic volumes plus an ambient growth factor of 6.09% and the addition of traffic generated by cumulative development projects. The weekday ADT and weekday peak hour intersection turning movement volumes, in actual vehicles, which can be expected for EAC (2025) traffic conditions are shown on Exhibit 6-1. The weekday peak hour intersection turning movement volumes, in PCE, which can be expected for EAC (2025) traffic conditions are shown on Exhibit 6-2.

6.2.2 EAPC (2025) TRAFFIC CONDITIONS

This scenario includes Existing traffic volumes plus an ambient growth factor of 6.09%, the addition of traffic generated by cumulative development projects, and the addition of Project traffic. The weekday ADT and weekday peak hour intersection turning movement volumes, in actual vehicles, which can be expected for EAPC (2025) traffic conditions are shown on Exhibit 6-3. The weekday peak hour intersection turning movement volumes, in PCE, which can be expected for EAPC (2025) traffic conditions are shown on Exhibit 6-4.

6.3 INTERSECTION OPERATIONS ANALYSIS

EAC and EAPC (2025) peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 6-1 for EAC (2025) traffic conditions, which indicates that the following study area intersection is anticipated to operate at an unacceptable LOS during the peak hours:

- Goetz Road & Ellis Avenue (#2) – LOS F AM and PM peak hours
- Goetz Road & Mountain Avenue/Driveway 2 (#6) – LOS F AM and PM peak hours
- Case Road & Ellis Avenue (#12) – LOS F AM and PM peak hours
- Redlands Avenue & 4th Street (#15) – LOS E AM peak hour; LOS F PM peak hour
- Redlands Avenue & Ellis Avenue (#16) – LOS E AM peak hour only

- Murrieta Road & Case Road (#18) – LOS F AM and PM peak hours
- Case Road & Mapes Road (#19) – LOS F AM and PM peak hours
- I-215 Southbound Ramps/SR-74 & Mapes Road (#21) – LOS E AM peak hour; LOS F PM peak hour

EXHIBIT 6-1: EAC (2025) TRAFFIC VOLUMES (ACTUAL VEHICLES)

<p>1 Goetz Rd. & Case Rd.</p> <p>500</p> <p>13,350</p> <p>1(1)</p> <p>← 222(262) ↑ 218(197)</p> <p>195(270) → 149(210) ↓</p> <p>308(214) ← 1(1) ↑ 242(185) →</p> <p>13,400</p>	<p>2 Goetz Rd. & Ellis Av.</p> <p>11,650</p> <p>7,100</p> <p>10(15)</p> <p>← 358(394) ↑ 1(0)</p> <p>12(10) → 56(58) ↓</p> <p>47(24) ← 275(199) ↑ 538(390) → 148(337) →</p> <p>11,200</p>	<p>3 Goetz Rd. & Driveway 1</p> <p>19,500</p> <p>689(651)</p> <p>733(752) ↑</p> <p>19,500</p>	<p>4 Goetz Rd. & Cai Ct.</p> <p>19,300</p> <p>678(641)</p> <p>11(11) → 11(11) ↓</p> <p>722(741) ↑</p> <p>19,300</p>	<p>5 Goetz Rd. & Malbert St.</p> <p>19,450</p> <p>26(5)</p> <p>658(650)</p> <p>6(24) → 5(21) ↓</p> <p>26(2) → 726(728) ↑</p> <p>19,400</p>
<p>6 Goetz Rd. & Mountain Av./Driveway 2</p> <p>19,350</p> <p>100</p> <p>132(77)</p> <p>529(590)</p> <p>2(5)</p> <p>1(2)</p> <p>0(3)</p> <p>87(250) → 18(43) ↓</p> <p>51(18) ← 663(473) → 3(0) →</p> <p>4,750</p>	<p>7 Goetz Rd. & Driveway 3</p> <p>15,950</p> <p>537(624)</p> <p>718(491) ↑</p> <p>15,950</p>	<p>8 Goetz Rd. & Mapes Rd.</p> <p>13,250</p> <p>250</p> <p>186(78)</p> <p>198(502)</p> <p>4(1)</p> <p>0(1)</p> <p>0(1)</p> <p>1(13)</p> <p>175(113) → 3(1) → 240(364) ↓</p> <p>334(270) → 495(246) → 13(1) →</p> <p>12,250</p>	<p>9 Goetz Rd. & Fieldstone Dr.</p> <p>20,250</p> <p>2,750</p> <p>13(77)</p> <p>393(728)</p> <p>25(82)</p> <p>74(39)</p> <p>0(5)</p> <p>63(37)</p> <p>80(38) → 1(5) → 39(35) ↓</p> <p>18(42) → 689(441) → 27(74) →</p> <p>3,050</p>	<p>10 Goetz Rd. & Ethanac Rd.</p> <p>18,900</p> <p>20,050</p> <p>15(30)</p> <p>159(381)</p> <p>322(390)</p> <p>308(340)</p> <p>62(77)</p> <p>196(295)</p> <p>24(16) → 104(53) → 5(4) ↓</p> <p>1(1) → 1(1) → 396(220) ↓</p> <p>16,400</p>
<p>11 Driveway 4 & Ellis Av.</p> <p>6,950</p> <p>276(199)</p> <p>148(337) →</p> <p>6,950</p>	<p>12 Case Rd. & Ellis Av.</p> <p>13,200</p> <p>13,150</p> <p>214(390)</p> <p>175(97)</p> <p>119(155)</p> <p>139(110)</p> <p>102(284)</p> <p>79(163) → 68(174) ↓</p> <p>137(89) → 336(287) → 229(165) →</p> <p>17,150</p>	<p>13 Redlands Av. & I-215 NB Ramps</p> <p>50,000</p> <p>16,300</p> <p>380(345)</p> <p>1352(1325)</p> <p>490(768)</p> <p>2(4)</p> <p>331(361)</p> <p>253(389) → 1014(1212) →</p> <p>9,450</p>	<p>14 Redlands Av. & I-215 SB Ramps</p> <p>46,350</p> <p>16,200</p> <p>1035(1040)</p> <p>648(647)</p> <p>292(397) → 0(2) ↓ 396(398) ↓</p> <p>974(1204) → 276(461) →</p> <p>11,150</p>	<p>15 Redlands Av. & 4th St.</p> <p>36,200</p> <p>7,200</p> <p>928(758)</p> <p>498(254)</p> <p>56(62)</p> <p>27(111)</p> <p>11(235)</p> <p>4(7)</p> <p>832(991) → 22(116) ↓ 21(50) ↓</p> <p>23(44) → 396(333) → 11(6) →</p> <p>10,200</p>
<p>16 Redlands Av. & Ellis Av.</p> <p>9,600</p> <p>4,950</p> <p>256(297)</p> <p>44(18)</p> <p>22(52)</p> <p>64(221)</p> <p>288(331) → 177(94) →</p> <p>12,750</p>	<p>17 Case Rd. & Driveway 5</p> <p>19,400</p> <p>19,400</p> <p>704(541)</p> <p>386(849) →</p> <p>19,400</p>	<p>18 Murrieta Rd. & Case Rd.</p> <p>1,300</p> <p>17,850</p> <p>553(433)</p> <p>63(130)</p> <p>326(696) → 60(152) ↓</p> <p>150(108) → 103(80) →</p> <p>4,350</p>	<p>19 Case Rd. & Mapes Rd.</p> <p>16,950</p> <p>4,850</p> <p>549(477)</p> <p>1(0)</p> <p>80(69)</p> <p>48(80)</p> <p>67(85)</p> <p>352(690) → 77(87) →</p> <p>0(1) → 1(1) →</p> <p>17,850</p>	<p>20 Bonnie Dr. & Mapes Rd.</p> <p>850</p> <p>7(6)</p> <p>6(10)</p> <p>1(4) →</p> <p>400(766) ↓</p> <p>622(540) → 13(3) →</p> <p>17,500</p>
<p>21 I-215 SB Ramps/SR-74 & Bonnie Dr.</p> <p>29,300</p> <p>87(111)</p> <p>689(1166)</p> <p>119(337) → 288(439) ↓</p> <p>548(431) → 637(545) →</p> <p>16,150</p>	<p>22 I-215 NB Ramps & SR-74</p> <p>23,300</p> <p>50,850</p> <p>253(177)</p> <p>295(487)</p> <p>1060(801)</p> <p>933(800)</p> <p>108(106) → 869(1499) →</p> <p>36,250</p>	<p>550</p>		

##(##) AM(PM) Peak Hour Intersection Volumes
Average Daily Trips

EXHIBIT 6-2: EAC (2025) TRAFFIC VOLUMES (PCE)

<p>1 Goetz Rd. & Case Rd.</p> <table border="1"> <tr> <td>← 1(1)</td> <td>← 246(285)</td> </tr> <tr> <td>→ 219(293)</td> <td>→ 266(277)</td> </tr> <tr> <td>↓ 176(243)</td> <td>↓ 338(247)</td> </tr> <tr> <td></td> <td>↑ 1(1)</td> </tr> <tr> <td></td> <td>↑ 303(219)</td> </tr> </table>	← 1(1)	← 246(285)	→ 219(293)	→ 266(277)	↓ 176(243)	↓ 338(247)		↑ 1(1)		↑ 303(219)	<p>2 Goetz Rd. & Ellis Av.</p> <table border="1"> <tr> <td>← 10(15)</td> <td>← 433(505)</td> </tr> <tr> <td>→ 12(11)</td> <td>→ 346(267)</td> </tr> <tr> <td>↓ 67(68)</td> <td>↓ 52(27)</td> </tr> <tr> <td></td> <td>↑ 629(455)</td> </tr> <tr> <td></td> <td>↑ 219(414)</td> </tr> </table>	← 10(15)	← 433(505)	→ 12(11)	→ 346(267)	↓ 67(68)	↓ 52(27)		↑ 629(455)		↑ 219(414)	<p>3 Goetz Rd. & Driveway 1</p> <table border="1"> <tr> <td>← 845(841)</td> <td></td> </tr> <tr> <td></td> <td>→ 900(897)</td> </tr> </table>	← 845(841)			→ 900(897)	<p>4 Goetz Rd. & Cai Ct.</p> <table border="1"> <tr> <td>← 792(781)</td> <td></td> </tr> <tr> <td>→ 60(60)</td> <td>→ 840(842)</td> </tr> <tr> <td>↓ 60(60)</td> <td></td> </tr> </table>	← 792(781)		→ 60(60)	→ 840(842)	↓ 60(60)		<p>5 Goetz Rd. & Malbert St.</p> <table border="1"> <tr> <td>← 38(12)</td> <td>← 802(832)</td> </tr> <tr> <td>→ 13(32)</td> <td>→ 34(2)</td> </tr> <tr> <td>↓ 9(28)</td> <td>↓ 885(862)</td> </tr> </table>	← 38(12)	← 802(832)	→ 13(32)	→ 34(2)	↓ 9(28)	↓ 885(862)								
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##(##) AM(PM) Peak Hour Intersection Volumes

EXHIBIT 6-3: EAPC (2025) TRAFFIC VOLUMES (ACTUAL VEHICLES)

<p>1 Goetz Rd. & Case Rd.</p> <p>500</p> <p>13,350</p> <p>1(1)</p> <p>← 223(264) 218(197)</p> <p>196(271) → 160(214) ↓</p> <p>311(226) ← 1(1) ↑ 242(185) ↓</p> <p>13,600</p>	<p>2 Goetz Rd. & Ellis Av.</p> <p>11,800</p> <p>8,450</p> <p>10(15)</p> <p>← 369(398)</p> <p>12(10) → 56(58) ↓</p> <p>48(30) ← 541(402) → 170(440) ↓</p> <p>1(0)</p> <p>342(224)</p> <p>19,850</p>	<p>3 Goetz Rd. & Driveway 1</p> <p>21,150</p> <p>1,450</p> <p>768(686)</p> <p>21(104)</p> <p>738(770) → 93(82) ↓</p> <p>21,750</p>	<p>4 Goetz Rd. & Cai Ct.</p> <p>21,550</p> <p>757(676)</p> <p>11(11) → 11(11) ↓</p> <p>819(791) ↑</p> <p>21,550</p>	<p>5 Goetz Rd. & Malbert St.</p> <p>21,100</p> <p>26(5)</p> <p>626(672)</p> <p>38(13)</p> <p>6(24) → 5(21) ↓</p> <p>26(2) ← 785(765) ↑</p> <p>20,450</p>
<p>6 Goetz Rd. & Mountain Av./Driveway 2</p> <p>20,200</p> <p>550</p> <p>132(77)</p> <p>531(598)</p> <p>41(19)</p> <p>2(7)</p> <p>0(3)</p> <p>87(250) → 18(43) ↓</p> <p>52(24) ← 694(496) → 3(0) ↓</p> <p>16,600</p>	<p>7 Goetz Rd. & Driveway 3</p> <p>16,400</p> <p>250</p> <p>540(639)</p> <p>4(18)</p> <p>746(502) → 16(6) ↓</p> <p>16,400</p>	<p>8 Goetz Rd. & Mapes Rd.</p> <p>13,700</p> <p>250</p> <p>186(78)</p> <p>201(517)</p> <p>4(1)</p> <p>0(1)</p> <p>0(1)</p> <p>1(13)</p> <p>175(113) → 3(1) → 240(364) ↓</p> <p>334(270) ← 540(262) → 13(1) ↓</p> <p>20,650</p>	<p>9 Goetz Rd. & Fieldstone Dr.</p> <p>20,700</p> <p>2,750</p> <p>13(77)</p> <p>396(743)</p> <p>25(82)</p> <p>74(39)</p> <p>0(5)</p> <p>63(37)</p> <p>80(38) → 1(5) → 39(35) ↓</p> <p>18(42) ← 734(457) → 27(74) ↓</p> <p>19,750</p>	<p>10 Goetz Rd. & Ethanac Rd.</p> <p>19,350</p> <p>20,350</p> <p>15(30)</p> <p>162(396)</p> <p>322(390)</p> <p>335(350)</p> <p>62(77)</p> <p>197(301)</p> <p>24(16) → 104(53) → 5(4) ↓</p> <p>1(1) ← 1(1) ↑ 396(220) ↓</p> <p>16,700</p>
<p>11 Driveway 4 & Ellis Av.</p> <p>8,450</p> <p>343(224)</p> <p>170(440) →</p> <p>2(7) ↓</p> <p>100</p>	<p>12 Case Rd. & Ellis Av.</p> <p>13,200</p> <p>13,850</p> <p>215(391)</p> <p>175(97)</p> <p>119(155)</p> <p>177(123)</p> <p>105(286)</p> <p>88(206) → 83(242) ↓</p> <p>166(101) ← 337(289) → 231(171) ↓</p> <p>18,150</p>	<p>13 Redlands Av. & I-215 NB Ramps</p> <p>50,000</p> <p>16,300</p> <p>380(345)</p> <p>1352(1325)</p> <p>490(768)</p> <p>2(4)</p> <p>331(361)</p> <p>264(437) → 1014(1212) ↑</p> <p>46,250</p>	<p>14 Redlands Av. & I-215 SB Ramps</p> <p>46,700</p> <p>16,200</p> <p>1035(1040)</p> <p>648(647)</p> <p>292(397) → 0(2) ↓ 437(414) ↓</p> <p>985(1252) ↑ 276(461) ↓</p> <p>45,250</p>	<p>15 Redlands Av. & 4th St.</p> <p>36,900</p> <p>7,200</p> <p>928(758)</p> <p>539(270)</p> <p>56(62)</p> <p>27(111)</p> <p>11(235)</p> <p>4(7)</p> <p>832(991) → 22(116) ↓ 21(50) ↓</p> <p>23(44) ← 407(381) ↑ 11(6) ↓</p> <p>10,900</p>
<p>16 Redlands Av. & Ellis Av.</p> <p>10,300</p> <p>4,950</p> <p>297(313)</p> <p>44(18)</p> <p>22(52)</p> <p>64(221)</p> <p>299(379) → 177(94) ↓</p> <p>13,450</p>	<p>17 Case Rd. & Driveway 5</p> <p>20,400</p> <p>20,750</p> <p>732(551)</p> <p>20(20)</p> <p>400(916) → 5(4) ↓</p> <p>3(10) → 18(17) ↓</p> <p>700</p>	<p>18 Murrieta Rd. & Case Rd.</p> <p>1,300</p> <p>19,200</p> <p>602(463)</p> <p>63(130)</p> <p>358(779) → 60(153) ↓</p> <p>150(108) → 103(80) ↓</p> <p>4,400</p>	<p>19 Case Rd. & Mapes Rd.</p> <p>18,300</p> <p>4,850</p> <p>598(507)</p> <p>1(0)</p> <p>80(69)</p> <p>48(80)</p> <p>67(85)</p> <p>384(773) → 77(87) ↓</p> <p>0(1) ← 1(1) ↑</p> <p>550</p>	<p>20 Bonnie Dr. & Mapes Rd.</p> <p>850</p> <p>7(6)</p> <p>6(10)</p> <p>1(4) →</p> <p>432(849) ↓</p> <p>671(570) → 13(3) ↑</p> <p>18,350</p>
<p>21 I-215 SB Ramps/SR-74 & Bonnie Dr.</p> <p>30,100</p> <p>104(124)</p> <p>689(1166)</p> <p>140(407) → 299(453) ↓</p> <p>579(448) ← 637(545) ↑</p> <p>36,800</p>	<p>22 I-215 NB Ramps & SR-74</p> <p>23,850</p> <p>50,850</p> <p>284(194)</p> <p>295(487)</p> <p>1060(801)</p> <p>933(800)</p> <p>119(120) → 869(1499) ↓</p> <p>550</p>			

##(##) AM(PM) Peak Hour Intersection Volumes
Average Daily Trips

EXHIBIT 6-4: EAPC (2025) TRAFFIC VOLUMES (PCE)

<p>1 Goetz Rd. & Case Rd.</p> <p>↓ 1(1) ← 247(287) ↑ 266(277)</p> <p>220(294) → 187(247) ↓</p> <p>341(259) ↑ 1(1) → 303(219) ↖</p>	<p>2 Goetz Rd. & Ellis Av.</p> <p>↓ 10(15) ← 444(509)</p> <p>12(11) ↓</p> <p>67(68) ↓</p> <p>↑ 1(0) ↑ 432(301)</p> <p>53(33) ↖ 632(467) → 244(525) ↗</p>	<p>3 Goetz Rd. & Driveway 1</p> <p>← 943(885)</p> <p>↑ 21(104)</p> <p>907(923) ↑ 93(32) ↗</p>	<p>4 Goetz Rd. & Cai Ct.</p> <p>← 890(825)</p> <p>60(60) ↓</p> <p>60(60) ↓</p> <p>940(900) →</p>	<p>5 Goetz Rd. & Malbert St.</p> <p>← 38(12) ← 862(863) ↓ 38(13)</p> <p>13(32) ↓</p> <p>9(28) ↓</p> <p>34(2) ↑ 947(907) →</p>
<p>6 Goetz Rd. & Mountain Av./Driveway 2</p> <p>↓ 157(98) ← 654(764) ↑ 60(28)</p> <p>145(296) ↓</p> <p>29(44) ↓</p> <p>74(24) ↖ 800(585) → 3(0) ↗</p> <p>↑ 7(14) 0(3)</p>	<p>7 Goetz Rd. & Driveway 3</p> <p>← 654(787)</p> <p>↑ 4(18)</p> <p>873(591) → 16(6) ↗</p>	<p>8 Goetz Rd. & Mapes Rd.</p> <p>↓ 222(113) ← 262(576) ↑ 5(3)</p> <p>209(159) ↓</p> <p>3(1) ↓</p> <p>284(405) ↓</p> <p>↑ 0(2) 0(1) 3(14)</p> <p>378(312) ↖ 608(290) → 14(1) ↗</p>	<p>9 Goetz Rd. & Fieldstone Dr.</p> <p>↓ 15(81) ← 493(833) ↑ 25(83)</p> <p>82(39) ↓</p> <p>1(5) ↓</p> <p>42(36) ↓</p> <p>↑ 77(39) 0(5) 63(37)</p> <p>20(44) ↖ 841(526) → 27(76) ↗</p>	<p>10 Goetz Rd. & Ethanac Rd.</p> <p>↓ 17(34) ← 197(427) ↑ 385(446)</p> <p>25(17) ↓</p> <p>110(58) ↓</p> <p>8(5) ↓</p> <p>↑ 399(395) 67(84) 237(328)</p> <p>1(1) ↖ 1(1) → 432(245) ↗</p>
<p>11 Driveway 4 & Ellis Av.</p> <p>← 433(301)</p> <p>244(525) →</p> <p>5(19) ↗</p>	<p>12 Case Rd. & Ellis Av.</p> <p>← 262(425) ↓ 201(116)</p> <p>91(207) ↓</p> <p>157(337) ↓</p> <p>↑ 146(175) ↑ 183(123) ↑ 171(371)</p> <p>250(178) ↖ 384(349) → 306(240) ↗</p>	<p>13 Redlands Av. & I-215 NB Ramps</p> <p>↓ 387(354) ← 1419(1384)</p> <p>367(462) ↖ 1066(1254) →</p> <p>↑ 510(800) 4(7) 371(404)</p>	<p>14 Redlands Av. & I-215 SB Ramps</p> <p>← 1114(1123) ↓ 675(666)</p> <p>314(407) ↓</p> <p>0(2) ↓</p> <p>412(439) ↓</p> <p>1119(1309) ↖ 344(498) ↗</p>	<p>15 Redlands Av. & 4th St.</p> <p>↓ 985(830) ← 524(300)</p> <p>902(1056) ↓</p> <p>24(148) ↓</p> <p>23(54) ↓</p> <p>↑ 27(113) ↑ 15(268) 6(8)</p> <p>24(45) ↖ 505(404) → 15(6) ↗</p>
<p>16 Redlands Av. & Ellis Av.</p> <p>↓ 358(374) ← 53(18)</p> <p>371(437) ↓</p> <p>210(124) ↓</p> <p>↑ 34(55) ← 95(255)</p>	<p>17 Case Rd. & Driveway 5</p> <p>← 937(757) ↑ 44(39)</p> <p>586(1130) ↓</p> <p>5(4) ↓</p> <p>3(10) ↖ 36(35) ↗</p>	<p>18 Murrieta Rd. & Case Rd.</p> <p>← 811(677) ↑ 71(132)</p> <p>557(999) ↓</p> <p>65(166) ↓</p> <p>171(118) ↖ 105(81) ↗</p>	<p>19 Case Rd. & Mapes Rd.</p> <p>↓ 799(710) ← 2(0) ↑ 98(73)</p> <p>558(979) ↓</p> <p>104(101) ↓</p> <p>↑ 61(91) ↑ 83(98)</p> <p>0(1) ↖ 3(1) ↗</p>	<p>20 Bonnie Dr. & Mapes Rd.</p> <p>← 9(7) ← 16(10)</p> <p>620(1066) ↓</p> <p>1(4) ↓</p> <p>890(776) ↓</p> <p>↑ 28(5) ↗</p>
<p>21 I-215 SB Ramps/SR-74 & Bonnie Dr.</p> <p>↓ 215(221) ← 865(1280)</p> <p>202(479) ↓</p> <p>435(598) ↓</p> <p>702(560) ↖ 729(584) ↗</p>	<p>22 I-215 NB Ramps & SR-74</p> <p>↓ 353(259) ← 325(546)</p> <p>215(229) ↓</p> <p>1084(1649) ↓</p> <p>↑ 1204(916) ↑ 1079(885)</p>			

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

TABLE 6-1: INTERSECTION ANALYSIS FOR EAPC (2025) CONDITIONS

#	Intersection	Traffic Control ²	EAC (2025)				EAPC (2025)				Project Related Increase in Delay (secs.) ³	
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service		AM	PM
			AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Goetz Rd. & Case Rd.	TS	19.4	17.0	B	B	19.6	17.2	B	B	--	--
2	Goetz Rd. & Ellis Av.	CSS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	-- ⁴	-- ⁴
3	Goetz Rd. & Driveway 1	CSS	Future Intersection				12.7	14.1	B	B	--	--
4	Goetz Rd. & Cai Ct.	TS	7.2	7.2	A	A	7.2	7.2	A	A	--	--
5	Goetz Rd. & Malbert St.	CSS	20.3	17.6	C	C	25.0	18.9	D	C	--	--
6	Goetz Rd. & Mountain Av./Driveway 2	CSS/TS	87.4	>100.0	F	F	14.8	16.3	B	B	--	--
7	Goetz Rd. & Driveway 3	CSS	Future Intersection				11.8	10.5	B	B	--	--
8	Goetz Rd. & Mapes Rd.	TS	17.1	23.3	B	C	17.0	23.9	B	C	--	--
9	Goetz Rd. & Fieldstone Dr.	TS	24.1	18.0	C	B	25.7	18.0	C	B	--	--
10	Goetz Rd. & Ethanac Rd.	TS	45.1	48.8	D	D	49.8	50.0	D	D	--	--
11	Driveway 4 & Ellis Av.	CSS	Future Intersection				9.0	10.2	A	B	--	--
12	Case Rd. & Ellis Av.	TS	137.7	>200.0	F	F	144.1	>200.0	F	F	6.4	-- ⁴
13	Redlands Av. & I-215 NB Ramps	TS	18.8	23.2	B	C	19.0	24.4	B	C	--	--
14	Redlands Av. & I-215 SB Ramps	TS	18.5	19.2	B	B	19.5	19.7	B	B	--	--
15	Redlands Av. & 4th St.	TS	79.7	91.2	E	F	80.7	91.4	E	F	1.0	0.2
16	Redlands Av. & Ellis Av.	AWS	38.5	33.7	E	D	46.9	48.1	E	E	8.4	14.4
17	Case Rd. & Driveway 5	CSS	Future Intersection				11.7	18.8	B	C	--	--
18	Murrieta Rd. & Case Rd.	AWS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	-- ⁴	-- ⁴
19	Case Rd. & Mapes Rd.	AWS	>100.0	>100.0	F	F	>100.0	>100.0	F	F	-- ⁴	-- ⁴
20	Bonnie Dr. & Mapes Rd.	TS	20.1	17.3	C	B	26.7	20.8	C	C	--	--
21	I-215 SB Ramps/SR-74 & Bonnie Dr.	TS	69.8	>200.0	E	F	83.7	>200.0	F	F	13.9	-- ⁴
22	I-215 NB Ramps & SR-74	TS	36.9	48.5	D	D	46.1	53.2	D	D	--	--

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown. HCM delay reported in seconds.

² TS = Traffic Signal; AWS = All-way Stop; CSS = Cross-street Stop

³ Project-related increase in delay is only calculated for deficient intersections within the jurisdiction of the City of Perris.

⁴ No Project-specific increase in delay is identified. However, it should be noted that an increase in delay greater than two seconds is anticipated with the Project. As such, the Project has an indirect impact on this intersection and requires a fair share of the cost of the recommended improvements. See Table 7-1 for fair share calculations.

With the addition of Project traffic, there are no additional study area intersections anticipated to operate at an unacceptable LOS during the peak hours under EAPC (2025) traffic conditions. The intersection operations analysis worksheets for EAC and EAPC (2025) traffic conditions are included in Appendices 6.1 and 6.2, respectively. It should be noted, the Project design feature to construct a traffic signal at Goetz Road & Mountain Avenue/Driveway 2 (#6) is anticipated to improve the intersection to an acceptable LOS under EAPC (2025) traffic conditions.

6.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed for EAC (2025) traffic conditions based on peak hour intersection turning movements volumes or planning level (ADT) volumes. The following unsignalized study area intersections are anticipated to meet a traffic signal warrant under EAC (2025) traffic conditions, in addition to the intersection identified previously under E+P traffic conditions:

- Goetz Road & Mountain Avenue/Driveway 2 (#6)
- Redlands Avenue & Ellis Avenue (#16)
- Murrieta Road & Case Road (#18)
- Case Road & Mapes Road (#19)

With the addition of Project traffic, there are no additional study area intersections anticipated to meet a traffic signal warrant under EAPC (2025) traffic conditions. EAC and EAPC (2025) traffic signal warrant analysis worksheets are provided in Appendices 6.3 and 6.4, respectively.

6.5 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for EAC and EAPC (2025) are presented in Table 6-2. As shown in Table 6-2, the southbound through movement at I-215 Southbound Ramps & SR-74 (#21) is anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows under EAC (2025) traffic conditions. No additional intersections are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows with the addition of Project traffic under EAPC (2025) traffic conditions, however, the southbound right turn movement at the I-215 Southbound Ramps and SR-74 is anticipated to experience queuing issues during the PM peak hour only with the addition of Project traffic. Worksheets for EAC and EAPC (2025) traffic conditions queuing analysis for are provided in Appendices 6.5 and 6.6, respectively.

TABLE 6-2: PEAK HOUR OFF-RAMP QUEUING SUMMARY FOR EAPC (2025) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	EAC (2025)				EAPC (2025)			
			95th Percentile Queue (Feet)		Acceptable? ¹		95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak	PM Peak	AM	PM	AM Peak	PM Peak	AM	PM
Redlands Av. & I-215 NB Ramps	WBL	1,160	332	321	Yes	Yes	332	321	Yes	Yes
	WBL/T/R	790	289	417	Yes	Yes	289	417	Yes	Yes
	WBR	425	263	358	Yes	Yes	263	358	Yes	Yes
Redlands Av. & I-215 SB Ramps	EBL	1,100	283	321	Yes	Yes	298	330	Yes	Yes
	EBL/T/R	745	223	281	Yes	Yes	221	282	Yes	Yes
	EBR	125	186 ³	210 ³	Yes	Yes	205 ³	211 ³	Yes	Yes
I-215 Southbound Ramps & SR-74	SBT	1,445	1,010 ²	1,575 ²	Yes	No	1,029 ²	1,776 ²	Yes	No
	SBR	130	120	97	Yes	Yes	152 ³	159	Yes	No
I-215 Northbound Ramps & SR-74	SBL/R	1,465	677 ²	919 ²	Yes	Yes	757 ²	956 ²	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 25 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-10 Freeway mainline.

6.6 DEFICIENCIES AND IMPROVEMENTS

Improvements needed to achieve acceptable LOS have been identified at intersections or off-ramps that are anticipated to operate at a deficient LOS under EAC and EAPC (2025) traffic conditions.

6.6.1 IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

Based on the City of Perris deficiency criteria discussed in Section 2.6 *Deficiency Criteria*, roadway intersections were found to be deficient. Improvements necessary to improve project-related traffic deficiencies are shown in Table 6-3. Table 6-3 indicates the physical improvements needed to address LOS deficiencies at each of the study area intersections under EAPC (2025) traffic conditions. The improvements have been identified to improve the EAPC (2025) deficiencies back to acceptable levels. Intersection analysis worksheets for EAPC (2025) traffic conditions, with improvements, are provided in Appendix 6.7.

TABLE 6-3: INTERSECTION ANALYSIS FOR EAPC (2025) CONDITIONS WITH IMPROVEMENTS

	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service		
		Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM	
		L	T	R	L	T	R	L	T	R	L	T	R					
2 Goetz Rd. & Ellis Av.																		
- Without Improvements	CSS	1	2	0	1	2	0	0	1	1	2	3	0	>100.0	>100.0	F	F	
- With Improvements	TS	1	2	0	1	2	0	0	1	1	2	3	0	20.6	17.6	C	B	
12 Case Rd. & Ellis Av.																		
- Without Improvements	TS	0	1	1	1	1	0	1	1	1	0	1	0	144.1	>200.0	F	F	
- With Improvements	TS	1	1	1	1	1	0	1	1	1	1	1	0	40.6	53.5	D	D	
16 Redlands Av. & Ellis Av.																		
- Without Improvements	CSS	0	0	0	0	1	0	0	1	0	0	1	0	46.9	48.1	E	E	
- With Improvements	TS	0	0	0	0	1	0	0	1	0	0	1	0	9.6	10.8	A	B	
18 Murrieta Rd. & Case Rd.																		
- Without Improvements	CSS	1	0	1	0	0	0	0	1	1	1	1	0	>100.0	>100.0	F	F	
- With Improvements	TS	1	0	1	0	0	0	0	1	1	1	1	0	11.3	18.5	B	B	
19 Case Rd. & Mapes Rd.																		
- Without Improvements	AWS	0	1	0	0	1	0	0	1	0	0	1	0	>100.0	>100.0	F	F	
- With Improvements	TS	0	1	0	2	1	0	0	1	0	0	1	0	26.3	25.8	C	C	
21 I-215 SB Ramps/SR-74 & Bonnie Dr.																		
- Without Improvements	TS	1	1	0	0	1	1	1	0	1	0	0	0	83.7	>200.0	F	F	
- With Improvements	TS	2	1	0	0	2	1	1	0	1	0	0	0	16.9	51.3	B	D	

* **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; **1** = Improvement

² Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ TS = Traffic Signal; **TS** = Traffic Signal

6.6.2 IMPROVEMENTS TO ADDRESS DEFICIENCIES ON OFF-RAMP QUEUES

Improvement strategies have been recommended at study area off-ramps that have been identified as deficient under EAPC (2025) traffic conditions. The improvements are consistent with the intersection improvements identified in Table 6-3. The effectiveness of the recommended improvement strategies to address EAPC (2025) off-ramp deficiencies are presented in Table 6-4. Worksheets for EAPC (2025) conditions, with improvements, off-ramp queueing analysis worksheets are provided in Appendix 6.8

TABLE 6-4: PEAK HOUR QUEUING SUMMARY FOR EAPC (2025) CONDITIONS WITH IMPROVEMENTS

Intersection	Movement	Available Stacking Distance (Feet)	Without Improvements				With Improvements			
			95th Percentile Queue (Feet)		Acceptable? ¹		95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak	PM Peak	AM	PM	AM Peak	PM Peak	AM	PM
I-215 Southbound Ramps & SR-74	SBT	1,445	1,029 ²	1,776 ²	Yes	No	14	28 ²	Yes	Yes
	SBR	130	152 ³	159	Yes	No	2	2	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent through lane has sufficient storage to accommodate any spillover without spilling back and affecting the I-10 Freeway mainline.

7 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the City of Perris are funded through a combination of project mitigation, development impact fee programs or fair share contributions, such as the City of Perris Development Impact Fee (DIF) program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

7.1 TRANSPORTATION UNIFORM MITIGATION FEE (TUMF) PROGRAM

The WRCOG is responsible for establishing and updating TUMF rates. The County may grant developers a credit against the specific components of fees for the dedication of land or the construction of facilities identified in the list of improvements funded by each of these fee programs. Fees are based upon projected land uses and a related transportation need to address growth based upon a 2016 Nexus study.

TUMF is an ambitious regional program created to address cumulative impacts of growth throughout western Riverside County. Program guidelines are being handled on an iterative basis. Exemptions, credits, reimbursements, and local administration are being deferred to primary agencies. The County of Riverside serves this function for the proposed Project. Fees submitted to the County are passed on to the WRCOG as the ultimate program administrator.

TUMF guidelines empower a local zone committee to prioritize and arbitrate certain projects. The Project is located in the Central 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.

7.2 CITY OF PERRIS DEVELOPMENT IMPACT FEE (DIF) PROGRAM

In 1991, the City of Perris created a Development Impact Fee program to impose and collect fees from new residential, commercial, and industrial development for the purpose of funding roadways and intersections necessary to accommodate City growth as identified in the City's General Plan Circulation Element. This DIF program has been successfully implemented by the City since 1991 and was updated in 2014. The City updated the DIF program to add new roadway segments and intersections necessary to accommodate future growth and to ensure that the identified street improvements would operate at or above the City's LOS performance threshold. The City's DIF program includes facilities that are not part of, or which may exceed improvements identified and covered by the TUMF program. As a result, the pairing of the regional and local fee programs provides a more comprehensive funding and implementation plan to ensure an adequate and interconnected transportation system. Under the City's DIF program, the City may grant 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 DIF program.

Similar to the TUMF Program, after the City's DIF fees are collected, they are placed in a separate interest-bearing account pursuant to the requirements of Government Code sections 66000 *et seq.* The timing to use the DIF fees is established through periodic capital improvement programs which are overseen by the City's Public Works 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 DIF program establishes a timeline to fund, design, and build the improvements.

The City has an established, proven track record with respect to implementing the City's DIF Program. Many of the roadway segments and intersections included within the study area for this Traffic Impact Analysis are at various stages of widening and improvement based on the City's collection of DIF fees. Under this Program, as a result of the City's continual monitoring of the local circulation system, the City ensures that DIF improvements are constructed prior to when the LOS would otherwise fall below the City's established performance criteria.

7.3 FAIR SHARE CONTRIBUTION

Project improvements 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. Detailed fair share calculations, for each peak hour, for the applicable deficient study area intersection are provided in Table 7-1. 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.

TABLE 7-1: PROJECT FAIR SHARE CALCULATIONS FOR INTERSECTIONS

#	Intersection	Existing (2023)	Project Only	EAPC (2025)	Total New Traffic	Project % of New Traffic ¹	
2	Goetz Rd. & Ellis Av.	AM:	1,066	126	1,894	828	15.2%
		PM:	895	167	1,931	1,036	16.1%
12	Case Rd. & Ellis Av.	AM:	991	123	2,151	1,160	10.6%
		PM:	1,056	175	2,522	1,466	11.9%
16	Redlands Av. & Ellis Av.	AM:	447	52	1,122	675	7.7%
		PM:	406	64	1,264	858	7.5%
18	Murrieta Rd. & Case Rd.	AM:	712	148	1,780	1,068	13.9%
		PM:	868	114	2,173	1,305	8.7%
19	Case Rd. & Mapes Rd.	AM:	694	148	1,707	1,013	14.6%
		PM:	818	177	2,054	1,236	14.3%
21	I-215 SB Ramps/SR-74 & Bonnie Dr.	AM:	1,696	147	3,148	1,452	10.1%
		PM:	1,885	177	3,722	1,837	9.6%

¹ **BOLD** = Highest fair share percentage is highlighted.

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8 VEHICLE MILES TRAVELED (VMT)

8.1 BACKGROUND

Changes to the Guidelines for Implementation of CEQA were adopted in December 2018, which requires all lead agencies to adopt VMT as a replacement for automobile delay-based level of service as the new measure for identifying transportation impacts for land use projects. This statewide mandate went into effect July 1, 2020. To aid in this transition, the Governor's Office of Planning and Research (OPR) released a Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018) (Technical Advisory). Based on OPR's Technical Advisory, the City of Perris adopted their Transportation Impact Analysis Guidelines for CEQA (May 2020) (City Guidelines). The adopted City Guidelines have been utilized to prepare the VMT analysis.

8.2 VMT SCREENING

Based on a more detailed review of the applicable VMT screening methods outlined in the City Guidelines, it is determined that the Project is not eligible for screening and further VMT Analysis is required.

8.3 VMT MODELING

City Guidelines identify the Riverside County Transportation Model (RIVCOM), as the appropriate tool for conducting VMT analysis for land use projects in the City of Perris. RIVCOM was released in June 2021 and is the most current sub-regional modeling tool for Western Riverside County. RIVCOM is a useful tool to estimate VMT as it considers interaction between different land uses based on socio-economic data such as population, households, and employment.

8.4 VMT METRIC AND SIGNIFICANCE THRESHOLD

City Guidelines establish VMT per service population (i.e., population and employees) as the appropriate VMT metric for conducting VMT analyses within the City of Perris. VMT per service population is an efficiency metric that allows an individual land use project's VMT to be compared to the remainder of the City. Projects found to increase average weekday VMT per service population within the City may be deemed to have a significant impact. More specifically, City Guidelines identify the following impact thresholds for project level VMT analyses:

- The base model year project generated VMT per service population exceeds the City of Perris base year VMT per service population, or
- The future model year project generated VMT per service population exceeds the City of Perris base year VMT per service population.

As of now, Western Riverside Council of Governments (WRCOG) has not published jurisdictional averages for its member agencies utilizing the RIVCOM model. As a result, the City of Perris base year average VMT per service population should be calculated utilizing the RIVCOM base year model. All Traffic Analysis Zones (TAZs) located within the City of Perris were selected and the total VMT was calculated from the RIVCOM base year traffic model. Citywide VMT for the City of Perris was then divided by the City's base year service population (i.e., population and employment) resulting in a VMT

per service population for the City of Perris of **32.38**. Table 8-1 presents the calculated citywide VMT, service population and resulting VMT per service population metric.

TABLE 8-1: CITY OF PERRIS VMT PER SERVICE POPULATION

	Base Year
Total VMT	2,925,864
Service Population	90,351
VMT per Service Population	32.38

8.5 PROJECT LAND USE CONVERSION

In order to estimate project generated VMT, standard land use information such as building square footage must first be converted into a RIVCOM compatible dataset. The RIVCOM model utilizes socio-economic data (SED) (e.g., population, households and employment) instead of land use information to estimate vehicle trips. Project building square footage has been converted to employment and input into the Project’s TAZ to estimate VMT. As the City of Perris does not have City specific employment factors to convert land use information to employees, it has been recommended by City staff to estimate employment. Employment for the Project has been estimated based on standard employment generation factors from the Riverside County General Plan (4). Table 8-2 summarizes the SED inputs used to reflect the Project in RIVCOM.

TABLE 8-2: PROJECT EMPLOYMENT ESTIMATES

	Building Area	Conversion Factor ¹	Estimated Employees
Industrial	795,109 SF	1,030 SF per employee	772

8.6 VMT CALCULATION: ORIGIN/DESTINATION VMT METHOD

The Origin/Destination (OD) method for calculating VMT sums all weekday VMT generated by trips with at least one trip-end in the study area (i.e., TAZ or group of TAZ’s). The OD method accounts for all trips (i.e., both passenger car and truck) and trip purposes (i.e., total VMT) and therefore provides a more complete estimate of VMT. Total VMT is then divided by the Project’s service population to derive the efficiency metric VMT per service population, which is then compared to the remainder of the City for purposes of identifying a potential VMT impact.

Table 8-3 presents Project generated total OD VMT and the resulting total OD VMT per service population for both Base Year (2018) and Future Year (2045) conditions. The Project is estimated to generate VMT per service population of 33.35 for Base Year and 29.44 for Future Year conditions that would exceed the City’s adopted impact threshold by 3.0% for Base Year conditions. Conversely, the Project is estimated to generate VMT per service population 9.1% below the City’s impact threshold for Future Year conditions. The Project would be required to reduce its near-term VMT impact by 782² VMT or 2.9%³ to achieve a less than significant finding.

¹ Riverside County General Plan; Appendix E-2

² (33.35 VMT/Capita_{Project} x 808 employees) - (32.38 VMT/Capita_{Threshold} x 808 employees) = 782 VMT

³ 782 VMT / 26,945 VMT x 100 = 2.9%

TABLE 8-3: PROJECT GENERATED VMT PER SERVICE POPULATION

	<i>Base Year</i>	<i>Future Year</i>
<i>Service Population</i>	772	772
<i>Total OD VMT</i>	25,746	22,728
<i>OD VMT per Service Population</i>	33.35	29.44
<i>City Threshold</i>	32.38	32.38
<i>Percent Increase to Threshold</i>	3.0%	-9.1%
<i>Potentially Significant?</i>	Yes	No

8.7 VMT MITIGATION STRATEGIES

The effectiveness of trip reduction measures that have the ability to reduce VMT has been determined based on the California Air Pollution Control Officers Association (CAPCOA) Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (December 2021) (**Handbook**) (5). The Handbook provides methods to quantify reductions in greenhouse gas emissions and for transportation related measures associated reductions in VMT. This evaluation will focus on relevant transportation measures as described by the Handbook.

8.7.1 SELECTING MEASURES

When considering which transportation measures are applicable from the Handbook, factors such as project type, scale and locational context are each important considerations for determining measure applicability. Users of the Handbook must review the measure factsheets to determine those measures that align and are applicable with project characteristics.

8.7.2 PROJECT TYPE

Project type is an important consideration when determining which measures are applicable for review. For example, measures associated with neighborhood design are likely not applicable to employment generation land use projects, whereas trip reduction programs to reduce employee commute VMT would not be applicable to a residential land use project.

8.7.3 SCALE

It is important to note that measures can be applied at different scales or geographic levels. The Handbook states that, “some measures may only be applicable at the project-level, whereas others may be more appropriate within a broader planning context such as for a general plan or climate action plan.” The geographic levels considered in the Handbook include Project/Site and Plan/Community. Project/Site applies to measures that can reduce VMT at the scale of an individual development project or employer. Plan/Community refers to measures that reduce VMT at the scale of a specific plan, general plan or climate action plan. Transportation measures can be quantified at either the Project/Site scale or the Plan/Community scale, but never both.⁴

⁴ Handbook, Page 37

8.7.4 LOCATIONAL CONTEXT

The Handbook states locational context is “used to identify trip reduction measures within the transportation sector that are appropriate in certain types of neighborhoods differentiated by transportation characteristics and level of development (e.g., urban, rural, suburban).” More specifically, rural, suburban and urban are defined as follows:

Rural: An area characterized by little development. Compared to urban and suburban areas, rural areas have a lower density of residences, higher numbers of single-family residences, and higher numbers of vehicle dependent land use patterns. Where applicable, the Handbook provides three land use distinctions within the rural locational context category—R_a, R_b, and R_c. R_a refers to rural areas within a master-planned community. These rural areas often include a broad offering of amenities and services, which may be accessed by walking or other alternative forms of transportation. R_b refers to rural areas adjacent to a commuter rail station with convenient rail service to a major employment center. As the name implies, these rural areas have greater access to commuter rail as an alternative mode of transportation. R_c refers to rural areas with transit service and that are near jobs/services.

Suburban: An area characterized by dispersed, low-density, single-use, automobile dependent land use patterns, usually outside of the central city. Also known as a suburb.

Urban: An area located within the central city with higher density land uses than in the suburbs. Often characterized by multi-family housing, tall office buildings and dense retail.

The Project’s locational context is determined to be suburban.

8.7.5 TRANSPORTATION MEASURES

As noted in the Handbook, transportation measures “promote transit and alternative transportation, support use of alternatively fueled vehicles, or encourage land use planning practices that reduce vehicle trips and vehicle miles traveled (VMT). Measures within the transportation sector are separated into six subsectors: Land Use, Neighborhood Design, Parking or Road Pricing Management, Transit, Trip Reduction Programs, and Clean Vehicles and Fuels.”⁵ For the purposes of this evaluation, the Trip Reduction Programs subsector is most applicable to reducing employee commute VMT and would apply to the Project’s industrial land use.

8.7.6 TRIP REDUCTION PROGRAMS SUBSECTOR

The Project shall develop and implement transportation demand management (TDM) strategies from Trip Reduction Programs subsector that are considered feasible and will contribute to reducing project generated VMT.

Features to promote the use of alternative transportation modes such as sidewalks, bicycle lanes, and bicycle racks are included as part of the Project’s design. Property owner associations and/or building occupants shall be required to implement a Transportation Demand Management (**TDM**) Plan to discourage single-occupancy vehicle trips for employees and encourage alternative modes of transportation such as carpooling, transit, walking, and biking. The Project does have the ability to provide design features that would promote carpooling such as T-8 Provide Ride Sharing Program and promote non-motorized transportation alternatives such as measure T-10 End-of-Trip Bicycle Facilities

⁵ Handbook, Page 30

8.7.7 (MEASURE T-8) PROVIDE RIDESHARING PROGRAM

Measure T-8 Provide Ridesharing Program is listed in the Handbook as available to projects in a suburban setting. As described in the Handbook “the measure will implement a ridesharing program and establish a permanent transportation management association with funding requirements for employers. Ridesharing encourages carpooled vehicle trips in place of single-occupied vehicle trips, thereby reducing the number of trips, VMT, and GHG emissions.”⁶ Implementation requirements for T-8 are as follows:

- Designating a certain percentage of desirable parking spaces for ridesharing vehicles.
- Designating adequate passenger loading and unloading and waiting areas for ridesharing vehicles.
- Providing an app or website for coordinating rides.

The Fact Sheet for T-8 Provide Ridesharing Program was utilized to calculate the Project’s potential VMT reduction.

TABLE 8-4: T-8 CALCULATION VARIABLES

ID	Variable	Value	Unit	Source
Output				
A	Percent reduction in GHG emissions from project/site employee commute VMT	0-8.0	%	calculated
User Inputs				
B	Percent of employees eligible for program	0-100	%	user input
Constants, Assumptions, and Available Defaults				
C	Percent reduction in employee commute VMT	4	%	SANDAG 2019

$$A = B \times C$$

$$4\% = 100\% \times 4\%$$

As Project design features, the Project will be required to include building and parking elements for rideshare program for commuters that choose to carpool as a mode of travel. This will promote an alternative mode choice of commuting for employees. As calculated, the Project will implement a ridesharing program and establish a permanent transportation management association with funding requirements for employers. The costs of developing, implementing, and maintaining a rideshare program in a way that encourages participation are generally borne by tenant employers and/or property owners, and when providing a ridesharing program, a best practice is to establish funding by a non-revocable funding mechanism for employer-provided subsidies to reduce VMT by 4%. In order to achieve the full 4% as calculated, 100% of the building employees need to be eligible for this program.

8.7.8 (MEASURE T-10) END-OF-TRIP BICYCLE FACILITIES

Measure T-10 Provide End-of-Trip Bicycle Facilities is listed in the Handbook as available to projects in a suburban setting. As described in the Handbook, “the measure will install and maintain end-of-trip

⁶ Handbook, Page 92

facilities for employee use. End-of-trip facilities include bike parking, bike lockers, showers, and personal lockers. The provision and maintenance of secure bike parking and related facilities encourages commuting by bicycle, thereby reducing VMT and GHG emissions.”⁷ The Fact Sheet for T-10 Provide End-of-Trip Bicycle Facilities was utilized to calculate the Project’s potential VMT reduction.

TABLE 8-5: T-10 CALCULATION VARIABLES

ID	Variable	Value	Unit	Source
A	Percent reduction in GHG emissions from project/site employee commute VMT	0.1-4.4	%	calculated
User Inputs				
	None			
Constants, Assumptions, and Available Defaults				
B	Bike mode adjustment factor	1.78 or 4.86 ¹	unitless	Buehler 2012
C	Existing bicycle trip length for all trips in region	2.2	miles	FHWA 2017a
D	Existing vehicle trip length for all trips in region	11.7	miles	FHWA 2017a
E	Existing bicycle mode share for work trips in region	0.4	%	FHWA 2017b
F	Existing vehicle mode share for work trips in region	95.3	%	FHWA 2017b

¹The bike mode adjustment factor should be provided by the user based on type of bike facility. A study found that commuters with showers, lockers, and bike parking at work are associated with 4.86 times greater likelihood to commute by bicycle when compared to individuals without any bicycle facilities at work. Individuals with bike parking, but no showers and lockers at the workplace, are associated with 1.78 times greater likelihood to cycle to work than those without trip-end facilities.

$$A = \frac{C \times (E - (B \times E))}{D \times F}$$

$$0.1\% = \frac{2.2 \times (0.4\% - (1.78 \times 0.4\%))}{11.7 \times 95.3\%}$$

As Project design features, the Project will be required to include building elements for bicycle trip end facilities (i.e., parking) for commuters that choose to bicycle as a mode of travel. This will promote an alternative mode choice of commuting for employees. As calculated, the Project will reduce VMT by 0.1%.

8.7.9 TOTAL VMT REDUCTIONS

The 2021 Handbook states that effectiveness levels for multiple measures within a subsector may be multiplied to determine a combined effectiveness level. Because the combination of measures and independence of measures are complicated, the 2021 Handbook recommends that measure reductions within a subsector be multiplied unless the user can provide substantial evidence indicating that emission reductions are independent of one another and that they should therefore

⁷ Handbook, Page 133

be added. Each subsector has a maximum allowable reduction. These were derived by combining the maximum allowable reduction of each individual non-mutually-exclusive measure within the subsector. As all the Project Design features above fall under the Subsector of “Trip Reduction Programs”, the 2021 Handbook states that the “Trip Reduction Subsector” has a maximum reduction of 45%. Therefore, a project cannot exceed the maximum allowable reduction. 2021 Handbook provides the following equation for combining Subsector reductions:

$$Reduction_{subsector} = 1 - [(1 - A) \times (1 - B) \times (1 - C) \dots]$$

Project’s VMT reduction are as follows:

$$4.1\% = 1 - [(1 - 4\%) \times (1 - 0.1\%)]$$

As outlined through the VMT reduction calculations presented above, with the inclusion of the VMT mitigation measure the Project is estimated to reduce its VMT impact by 4.1%, which would reduce the Project’s VMT impact to a level of less than significant. For TDM measures that require ongoing operational strategies, the TDM plan shall include an ongoing monitoring program to ensure the plan is implemented on an ongoing basis. CEQA requires that feasible mitigation measures be implemented to reduce a Project’s level of impact.

8.8 SUMMARY

Based on the results of this analysis the following findings are made:

- The Project was evaluated against screening criteria as outlined in the City Guidelines. The truck/trailer lot was found to meet the local serving screening criteria and therefore was screened from further VMT analysis.
- The Project’s industrial warehousing component did not meet eligible screening criteria and was required to prepare a project level VMT analysis.
- The Project was found to exceed the City’s impact threshold by 3.0% for Base Year conditions and is 9.1% below the City’s impact threshold for Future Year conditions.
- With the successful implementation and enforcement of the Project’s TDM program to include VMT mitigation measures T-8 and T-10. The Projects VMT impact is considered less than significant.

The VMT scoping agreement and forms are included in Appendix 1.3.

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9 REFERENCES

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4. **County of Riverside.** *Appendix E: Socioeconomic Build-Out Assumptions and Methodology*. County of Riverside : s.n., April 2017.
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