

BARKER BUSINESS PARK (DPR23-00022, SPA23- 05321, TTM23-05322)

TRAFFIC & 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
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
PCE	Passenger Car Equivalent
PHF	Peak Hour Factor
Project	Barker Business Park
PVCC SP	Perris Valley Commerce Center Specific Plan
RIVTAM	Riverside County Transportation Analysis Model
SCAG	Southern California Association of Governments
SF	Square Foot
TA	Traffic Analysis
TAZ	Traffic Analysis Zone
TUMF	Transportation Uniform Mitigation Fee
VMT	Vehicle Miles Traveled
WRCOG	Western Riverside Council of Governments

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1 INTRODUCTION

This report presents the results of the Traffic Analysis (TA) for the Barker Business Park ("Project"). The Project site totals approximately 25.6 gross acres (24.9 net acres) within the City of Perris, located northeast of the Interstate 215 (I-215)/Placentia Avenue interchange, between Walnut Avenue to the north and Placentia Avenue to the south. The Project site comprises two parcels (APNs 305-050-055 and 305-050-051) bisected by [I-215] East Frontage Road (see 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

All study area intersections are forecast to operate at an acceptable level of service (LOS) during the AM and PM peak hours with the addition of Project traffic under Existing plus Project (E+P) conditions based on the Highway Capacity Manual (HCM) methodology. For cumulative conditions, the study area intersections are anticipated to continue to operate at an acceptable LOS, however, the westbound left turn movement at the I-215 Southbound Ramps and Placentia Avenue ramp-to-arterial intersection is anticipated to experience deficient queues during the PM peak hour. Modifications to the left turn pocket storage is required which can be accommodated via restriping and reducing the left turn pocket storage length at the I-215 Northbound Ramps. The Project will be responsible for fair share costs towards these deficient intersection locations for the recommended improvements detailed in this TA. The Project is also subject to the City's Development Impact Fee (DIF) and Western Riverside Council of Governments (WRCOG) Transportation Uniform Mitigation Fee (TUMF) programs.

The Project plans to construct the following improvements in conjunction with development to facilitate site access:

- Project to construct five driveways on E. Frontage Road and all driveways will be stop-controlled.
- Project to improve E. Frontage Road at its ultimate full-section as a Collector (66-foot right-of-way) between the northern and southern Project boundaries consistent with the City of Perris General Plan Circulation Element. It should be noted that curb-and-gutter along with sidewalk improvements appear to be in place along the east side of E. Frontage Road from Placentia Avenue to approximately 315 feet south of Walnut Avenue. However, the Project will modify the existing curb-and-gutter and sidewalk improvements in order to facilitate site access to the eastern portion of the Project. Improvements along the Project's frontage also include, but are not limited to, sidewalk, curb-and-gutter, and landscaping improvements on E. Frontage Road.

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

EXHIBIT 1-1 : LOCATION MAP



1.2 PROJECT OVERVIEW

The Project would develop a currently vacant site with two separate but complementary uses providing rental, lease, sale, and maintenance of trailers and heavy equipment. The Project Development Concept apportions the site into 3 lots, to be developed as summarized below.

- Lot 1, approximately 5.0 acres, is located in the northwest portion of the Project site, and south of E. Frontage Road would serve Tenant 2. Lot 1 would be developed with a 25,750-square-foot building, employee parking areas (80 stalls), and landscaping (approximately 15 percent or 32,680-square-feet). The proposed building would accommodate vehicle/heavy equipment maintenance activities and supporting office/administrative functions. Access to Lot 1 would be provided by three driveways onto adjacent [I-15] E. Frontage Road.
 - Driveway 1 will serve Lot 1 trucks only and will allow for full access (no turn restrictions).
 - Driveway 2 would serve Lot 1 passenger cars only and will be restricted to right-in/right-out access only.
 - Driveway 3 will serve Lot 1 passenger cars only and will allow for full access.
- Lot 2, approximately 10.3 acres, is located in the southeast portion of the Project site and south of E. Frontage Road would serve Tenant 1. Lot 2 would be developed with a 14,139 -square-foot building, heavy equipment and trailer holding/display lot, employee parking area (15 stalls) and landscaping (approximately 15.1 percent or 67,947-square-feet). The proposed building would accommodate vehicle/heavy equipment maintenance activities and supporting administrative functions. Access to Lot 2 would be provided by two driveways onto adjacent E. Frontage Road.
 - Driveway 4 will serve Lot 2 passenger cars only and will be restricted to right-in/right-out access only.
 - Driveway 5 will serve Lot 2 trucks and will allow for full access.
- Lot 3, approximately 9.6 acres, is located in the northern portion of the Project site, and north of E. Frontage Road would serve Tenant 1. Lot 3 would be developed as a heavy equipment/trailer display lot that would support operations of the Lot 2 tenant (Tenant 1). Access to Lot 3 would be provided by one driveway onto adjacent E. Frontage Road.
 - Driveway 5 will also serve Lot 3 trucks and will allow for full access (aligning with access for Lot 2).

The Project is anticipated to be constructed in a single phase with an anticipated Opening Year of 2026. Exhibit 1-2 identifies the preliminary site plan for the proposed Project.

Regional access to the Project site is accommodated from the I-215 Freeway via Placentia Avenue. In order to develop tenant-specific trip generation associated with each component of the proposed Project, existing Lot 1 and Lot 2/3 facilities with similar operational characteristics as those proposed by the Project were surveyed consistent with the methodology outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) for collecting local data. (2) The Project is anticipated to generate 642 two-way trips per day with 72 AM peak hour trips and 51 PM peak hour trips (actual vehicles). The Project is anticipated to generate a total of 880 passenger car equivalents (PCE) two-way trips per day with 100 AM PCE peak hour trips and 57 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.

EXHIBIT 1-2 : SITE PLAN



LEGEND:

- = Full Access Driveway
- = Right-In / Right-Out Driveway
- = Trailer Lot 1
- = Trailer Lot 2
- = Trailer Lot 3

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 (2024) Conditions
- Existing plus Project (E+P) Conditions
- Existing plus Ambient Growth plus Cumulative (EAC) (2026)
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2026)

1.3.1 EXISTING (2024) CONDITIONS

Information for Existing (2024) 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 2024 based on vehicle classification to apply PCE factors for heavy trucks (2-axles, 3-axles, and 4+-axles).

1.3.2 E+P 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.

1.3.3 EAC & EAPC (2026) CONDITIONS

The EAC and EAPC (2026) 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 (2024) conditions of 6.09% (3% per year, compounded annually, over 2 years) is included for both EAC and EAPC (2026) traffic conditions. This growth rate was 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 2026 Opening Year timeframe 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 2026 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 9 study area intersections shown in 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 City 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).

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

#	Intersection	Jursidiction
1	I-215 SB Ramps & Placentia Av.	Perris, County, Caltrans
2	I-215 NB Ramps & Placentia Av.	Perris, Caltrans
3	I-215 E. Frontage Rd. & Rider St.	Perris
4	I-215 E. Frontage Rd. & Driveway 1	Perris
5	I-215 E. Frontage Rd. & Driveway 2	Perris
6	I-215 E. Frontage Rd. & Driveway 3	Perris
7	I-215 E. Frontage Rd. & Driveway 4	Perris
8	I-215 E. Frontage Rd. & Driveway 5	Perris
9	I-215 E. Frontage Rd. & Placentia Av.	Perris

EXHIBIT 1-3 : STUDY AREA



LEGEND:

- ① = Existing Intersection Analysis Location
- ② = Future Intersection Analysis Location

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 and EAPC (2026) Traffic Conditions* include the detailed analysis. A summary of LOS results for all analysis scenarios is presented in Table 1-2.

1.5.1 EXISTING (2024) CONDITIONS

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

1.5.2 E+P CONDITIONS

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.

1.5.3 EAC & EAPC (2026) CONDITIONS

For EAC and EAPC (2026) conditions, the study area intersections are anticipated to continue to operate at an acceptable LOS, however, the westbound left turn movement at the I-215 Southbound Ramps and Placentia Avenue ramp-to-arterial intersection is anticipated to experience deficient queues during the PM peak hour. Modifications to the dual left turn pocket storage is required which can be accommodated via restriping and reducing the dual left turn pocket storage length at the I-215 Northbound Ramps. The addition of Project traffic is not anticipated to cause any new deficiencies.

TABLE 1-2: SUMMARY OF LOS

	Existing (2024)	E+P	EAC (2026)	EACP (2026)
1 I-215 SB Ramps & Placentia Av.	●	●	●	●
2 I-215 NB Ramps & Placentia Av.	●	●	●	●
3 E. Frontage Rd. & Rider St.	●	●	●	●
4 E. Frontage Rd. & Driveway 1	N/A	●	N/A	●
5 E. Frontage Rd. & Driveway 2	N/A	●	N/A	●
6 E. Frontage Rd. & Driveway 3	N/A	●	N/A	●
7 E. Frontage Rd. & Driveway 4	N/A	●	N/A	●
8 E. Frontage Rd. & Driveway 5	N/A	●	N/A	●
9 E. Frontage Rd. & Placentia Av.	●	●	●	●

LEGEND:

- ◀ = AM Peak Hour
- ▶ = PM Peak Hour
- = A-D
- = E
- = F

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 in Exhibit 1-4.

Recommendation 1 – I-215 E. Frontage Rd. & Driveway 1 (#4) – The following improvement is necessary to accommodate site access:

- Project to install a stop control on the eastbound approach and a shared left-right turn lane. The driveway would serve Tenant 2 trucks only. The driveway should also accommodate a dedicated left turn pocket on I-215 E. Frontage Road within the painted median. Driveway 1 is to align with the easterly alignment of Walnut Avenue.

Recommendation 2 – I-215 E. Frontage Rd. & Driveway 2 (#5) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the eastbound approach and a right turn lane. The driveway would serve Tenant 2 passenger cars only. The driveway should be designed to restrict the driveway to right-in/right-out access only.

Recommendation 3 – I-215 E. Frontage Rd. & Driveway 3 (#6) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the eastbound approach and a shared left-right turn lane. The driveway would serve Tenant 2 passenger cars only. The driveway should also accommodate a dedicated left turn pocket on I-215 E. Frontage Road within the painted median.

Recommendation 4 – I-215 E. Frontage Rd. & Driveway 4 (#7) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the eastbound approach and a right turn lane. The driveway would serve Tenant 1 passenger cars only. The driveway should be designed to restrict the driveway to right-in/right-out access only.

Recommendation 5 – I-215 E. Frontage Rd. & Driveway 5 (#8) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the eastbound and westbound approaches and accommodate shared left-through-right turn lane on both approaches allowing full access. The driveway would serve Tenant 1 trucks only from either side of I-215 E. Frontage Road. The driveway should also accommodate dedicated northbound and southbound left turn pockets along I-215 E. Frontage Road within the painted median.

Recommendation 6 – I-215 E. Frontage Road – I-215 E. Frontage Road is a north-south roadway bisecting the Project. Project to improve E. Frontage Road at its ultimate full-section as a Collector (66-foot right-of-way) between the northern and southern Project boundaries consistent with the City of Perris General Plan Circulation Element. It should be noted that curb-and-gutter along with sidewalk improvements appear to be in place along the east side of E. Frontage Road from Placentia Avenue to approximately 315 feet south of Walnut Avenue. However, the Project will modify the existing curb-

and-gutter and sidewalk improvements in order to facilitate site access to the eastern portion of the Project. Improvements along the Project's frontage also include, but are not limited to, sidewalk, curb-and-gutter, and landscaping improvements on E. Frontage Road.

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.

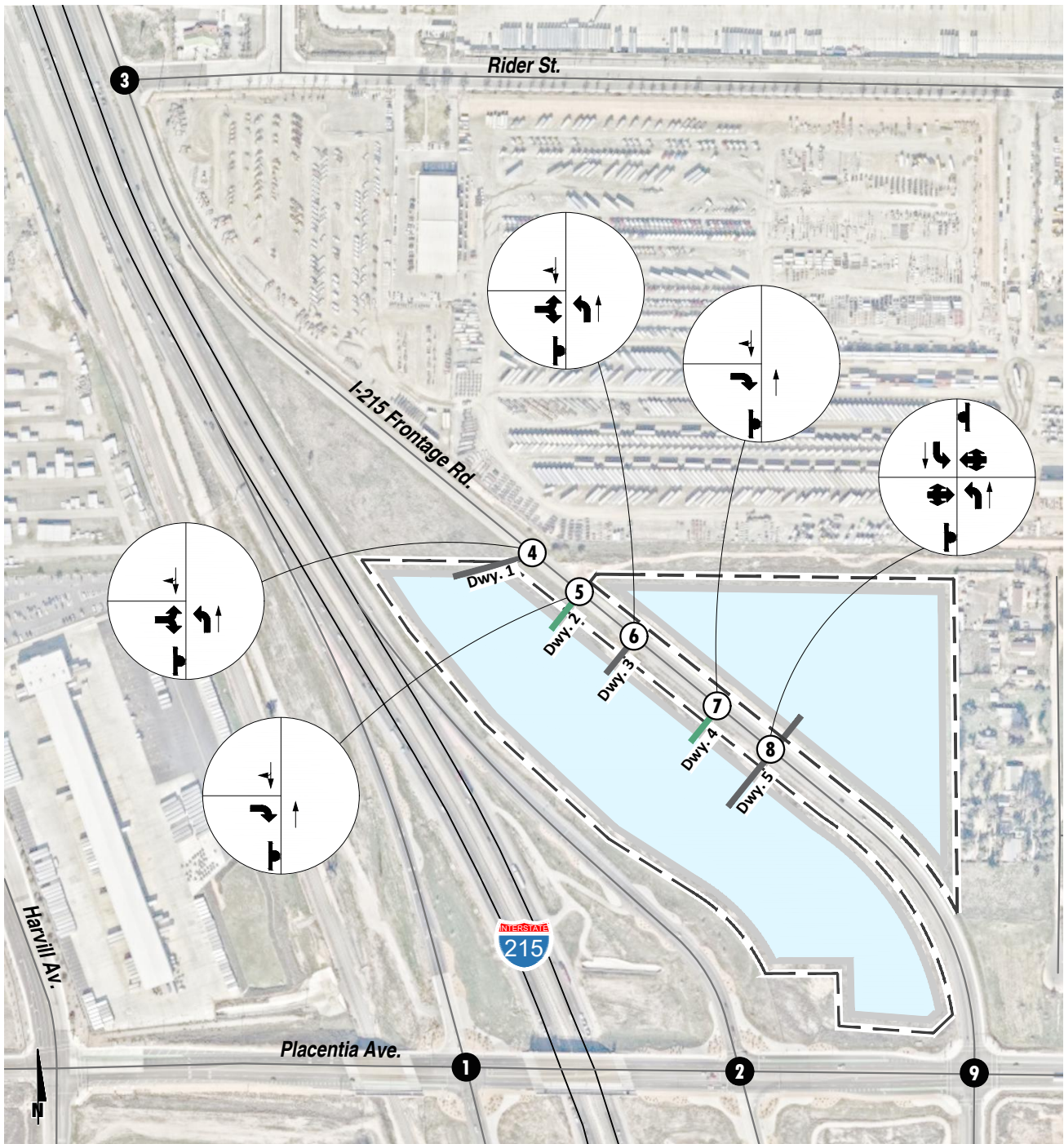
1.6.2 QUEUING ANALYSIS AT THE PROJECT DRIVEWAYS

Exhibit 1-5 identifies the Project driveway spacing. A minimum 330-foot spacing is required per the PVCC SP for a Collector. Driveway 2 and Driveway 4 do not meet the minimum 330-foot spacing criteria that is needed for full access. It is proposed that all driveways have full access with the exception of Driveway 2 and Driveway 4, which would be restricted to right-in/right-out access only. A queuing analysis was conducted at the study area intersections for EAPC (2026) With Project traffic conditions to determine if the Project's driveways are adequately spaced to accommodate 95th percentile queues. Exhibit 1-6 provides the conceptual striping plan along I-215 E. Frontage Road along the Project's frontage.

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 15-minute periods with 60-minute recording intervals.

The analysis was conducted for the weekday AM and weekday PM peak hours. The results, provided in Appendix 1.2, indicate no queuing issues are anticipated at the Project's driveways. As shown in Table 1-3, the driveways are able to accommodate the 95th percentile queues as currently designed.

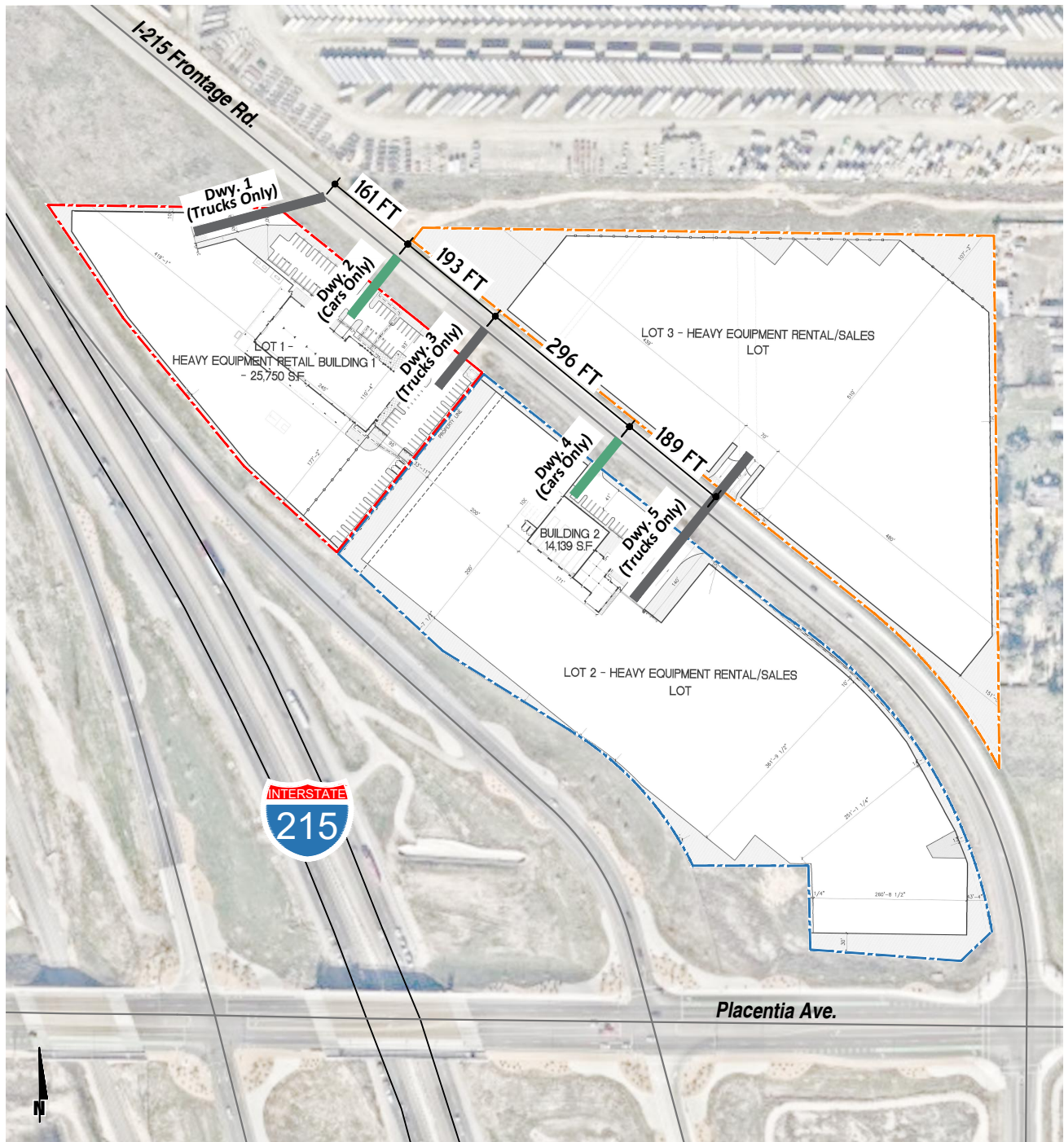
EXHIBIT 1-4 : SITE ACCESS RECOMMENDATIONS



LEGEND:

- = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- T** = Proposed Stop Sign
- = Existing Lane
- ↪** = Proposed Lane

EXHIBIT 1-5 : PROJECT DRIVEWAY SPACING



LEGEND:

- = Full Access Driveway
- = Right-In / Right-Out Driveway
- = Trailer Lot 1
- = Trailer Lot 2
- = Trailer Lot 3

EXHIBIT 1-6 : CONCEPT SIGNING & STRIPING

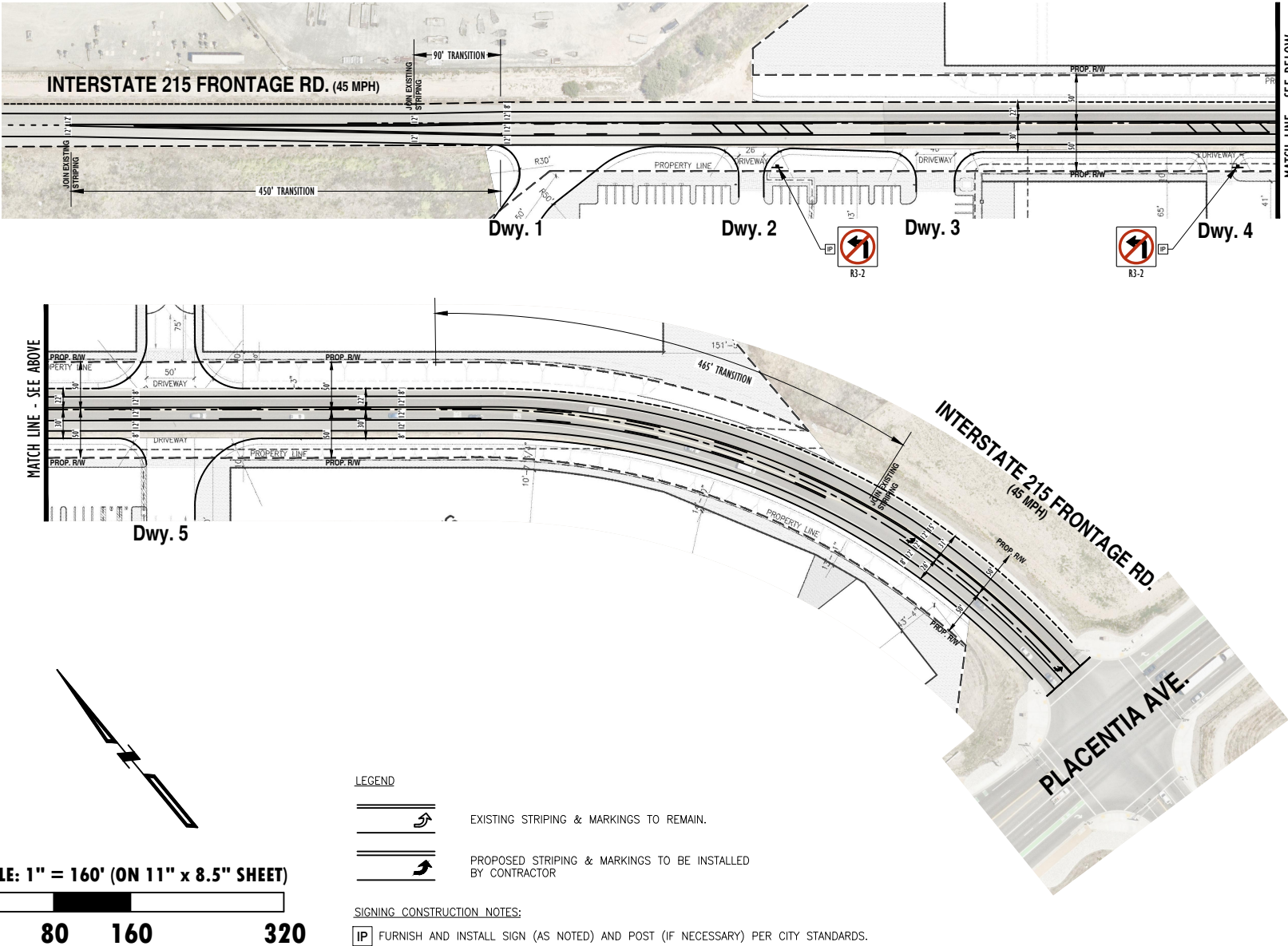


TABLE 1-3: SUMMARY OF SITE ACCESS QUEUES

Intersection	Movement	Available Stacking Distance (Feet)	Synchro: 95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
I-215 E. Frontage Rd. & Driveway 1	NBL	100	13	0	Yes	Yes
	EBL/R	200	10	5	Yes	Yes
I-215 E. Frontage Rd. & Driveway 2	EBR	50	23	31	Yes	Yes
I-215 E. Frontage Rd. & Driveway 3	NBL	100	17	8	Yes	Yes
	EBL/R	200	28	36	Yes	Yes
I-215 E. Frontage Rd. & Driveway 4	EBR	50	16	33	Yes	Yes
I-215 E. Frontage Rd. & Driveway 5	NBL	100	4	7	Yes	Yes
	EBL/T/R	100	26	21	Yes	Yes
	WBL/T/R	100	30	24	Yes	Yes

¹ Stacking distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided for the 95th percentile queue only. 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.

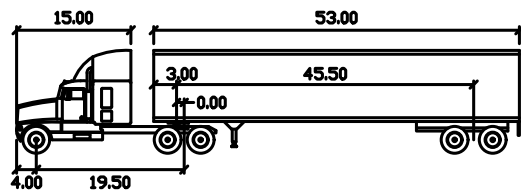
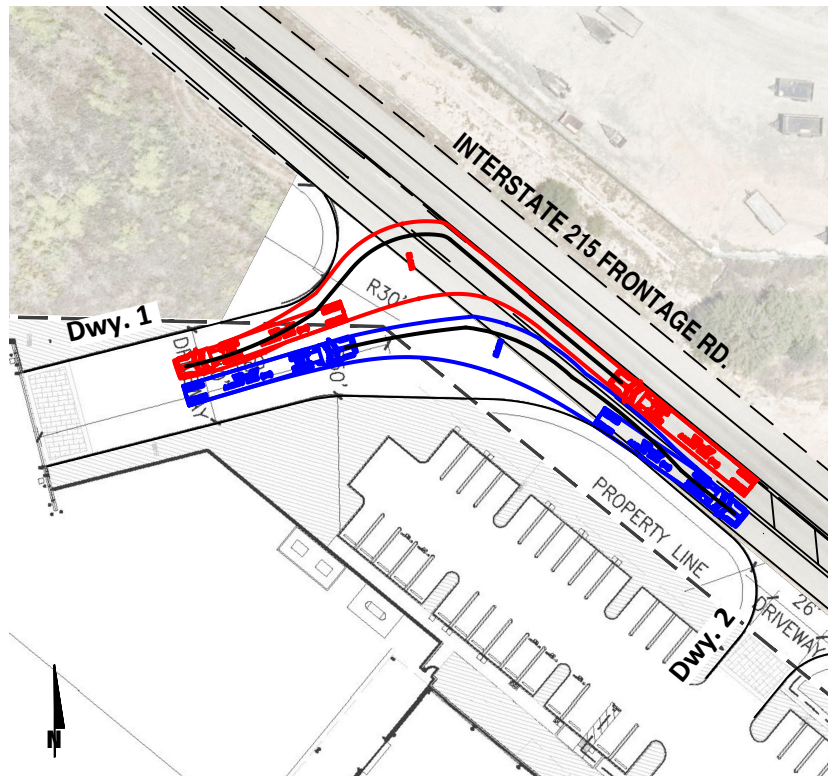
1.6.3 OFF-SITE RECOMMENDATIONS

Although there are no off-site peak hour intersection LOS deficiencies anticipated at the study area intersections, there is a queuing issue anticipated for the westbound left turn movement at the I-215 Southbound Ramps on Placentia Avenue under both EAC (2026) and EAPC (2026) traffic conditions. Modifications to the dual left turn pocket storage is required along with signal timing modification which can be accommodated via restriping and reducing the dual left turn pocket storage length at the I-215 Northbound Ramps (no other physical lane additions). Dual left turn pocket storage should be increased by 50-feet for the westbound lefts at the I-215 Southbound Ramps while reducing the eastbound left turn storage at the I-215 Northbound Ramps by 50-feet. The Project should contribute its fair share towards this recommended improvement. The Project will also be subject to participating in the Western Riverside Council of Governments (WRCOG) Transportation Uniform Mitigation Fee (TUMF) and City of Perris' Development Impact Fee (DIF) programs per the Project's Conditions of Approval.

1.7 TRUCK ACCESS AND CIRCULATION

Due to the typical wide turning radius of large trucks, a truck turning template has been overlaid on the site plan at the Project driveways anticipated to be utilized by heavy trucks in order to determine appropriate curb radii and to verify that trucks will have sufficient space to execute turning maneuvers (see Exhibit 1-7). As shown in Exhibit 1-7, all driveways serving heavy trucks are anticipated to accommodate the ingress and egress of heavy trucks as currently designed.

EXHIBIT 1-7 : TRUCK ACCESS (SHEET 1 OF 2)



WB-67

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

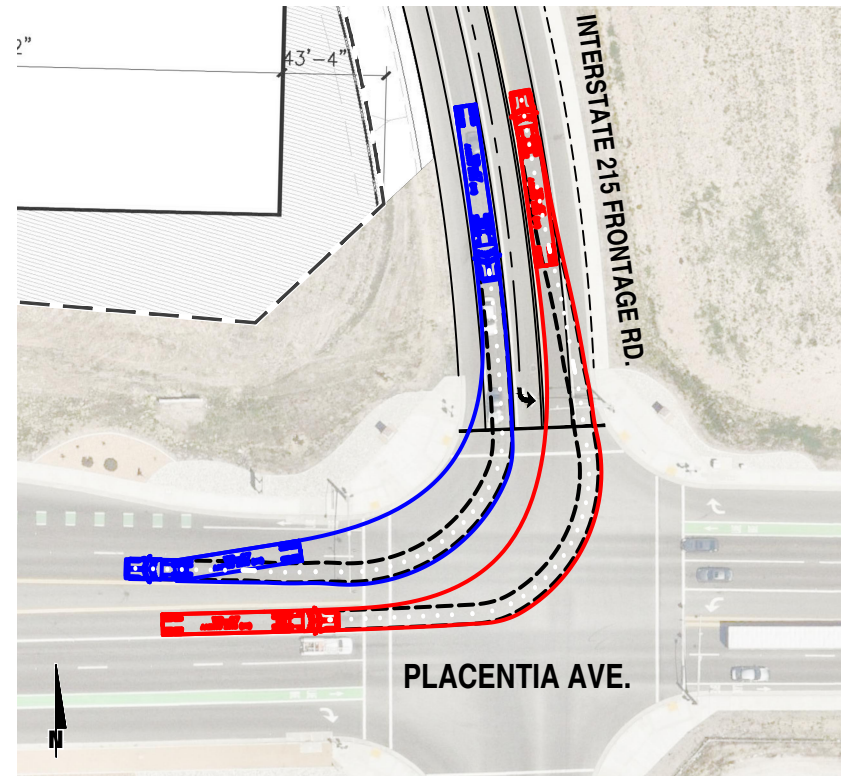
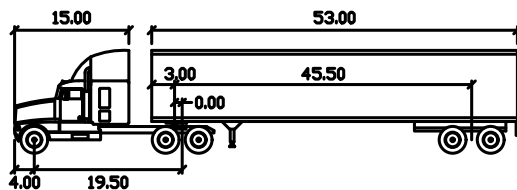
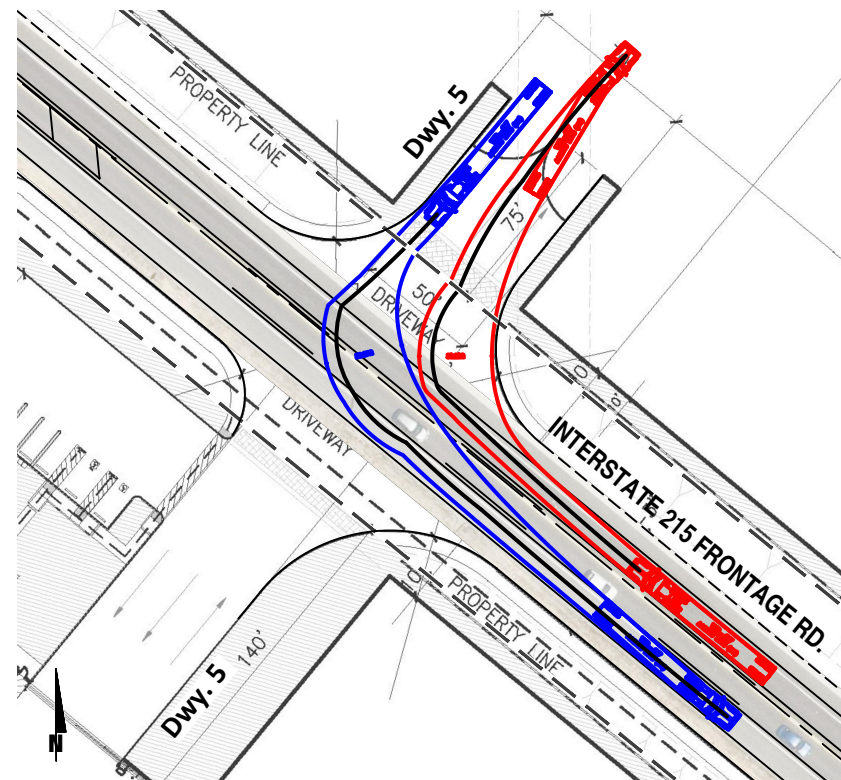
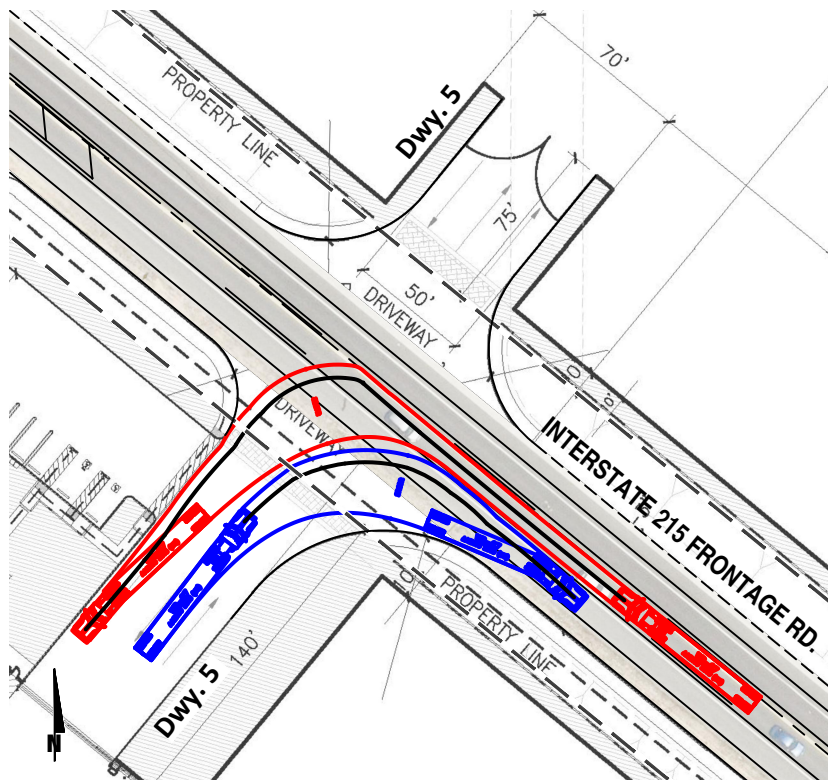


EXHIBIT 1-7 : TRUCK ACCESS (SHEET 2 OF 2)



WB-67

	feet		
Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

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's 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 a 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 7th Edition Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (3) 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. (3) 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 12) 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), $V/C \leq 1.0$	Level of Service, $V/C \leq 1.0^1$
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, 7th 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., $PHF = [Hourly Volume] / [4 \times Peak\ 15\text{-minute Flow Rate}]$). 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. (3)

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Perris requires the operations of unsignalized intersections to be evaluated using the methodology described in the HCM. (3) 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, 7th 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. (4)

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. (4) 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 where posted speed limits on major roadways with unsignalized intersections are 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 intersections shown in Table 2-3.

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

#	Intersection
3	I-215 E. Frontage Rd. & Rider St.
4	I-215 E. Frontage Rd. & Driveway 1
6	I-215 E. Frontage Rd. & Driveway 3
8	I-215 E. Frontage Rd. & Driveway 5

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 and EAPC (2026) Traffic Conditions* of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

The definition of an intersection deficiency has been obtained from the City of Perris' General Plan. According to the City's Circulation Element, LOS D is to be maintained 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. (5)

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 Analysis, LOS D has been considered the acceptable threshold for all study area intersections.

2.5 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.

2.6 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, where new traffic is total future (EAPC) traffic less existing baseline traffic:

$$\text{Project Fair Share \%} = \frac{\text{Project AM/PM Traffic}}{(\text{2026 With Project AM/PM Total Traffic} - \text{Existing (2024) AM/PM Traffic})}$$

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.

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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 9 existing and future intersections as shown previously in 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. Exhibit 3-3 shows the roadway cross-sections for each General Plan roadway. 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 roadway is classified as an Arterial:

- Placentia Avenue

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 roadway is classified as a Secondary Arterial:

- Rider Street

Collector can accommodate two travel lanes with a 66-foot right-of-way. These facilities provide local access. The following roadway is classified as a Collector within the study area:

- I-215 E. Frontage Road

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



LEGEND:

- 0** = Existing Intersection Analysis Location

○ = Future Intersection Analysis Location

= Existing Traffic Signal
- 6** = Number of Lanes

U/D = Undivided / Divided
- = Existing Stop Sign

= Existing Lane

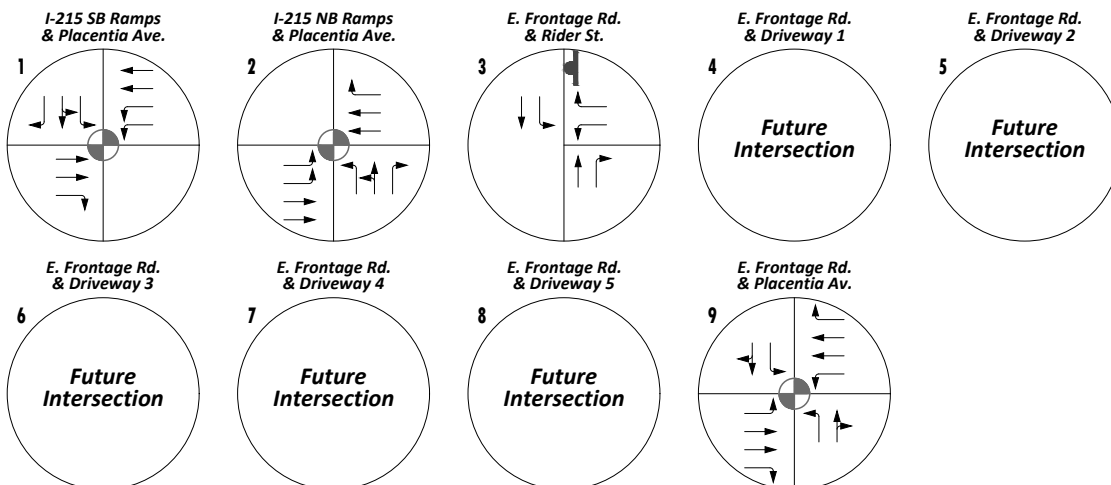


EXHIBIT 3-2 : CITY OF PERRIS GENERAL PLAN CIRCULATION ELEMENT



City of Perris
General Plan

Exhibit CE-12: City of Perris Future Roadway Network

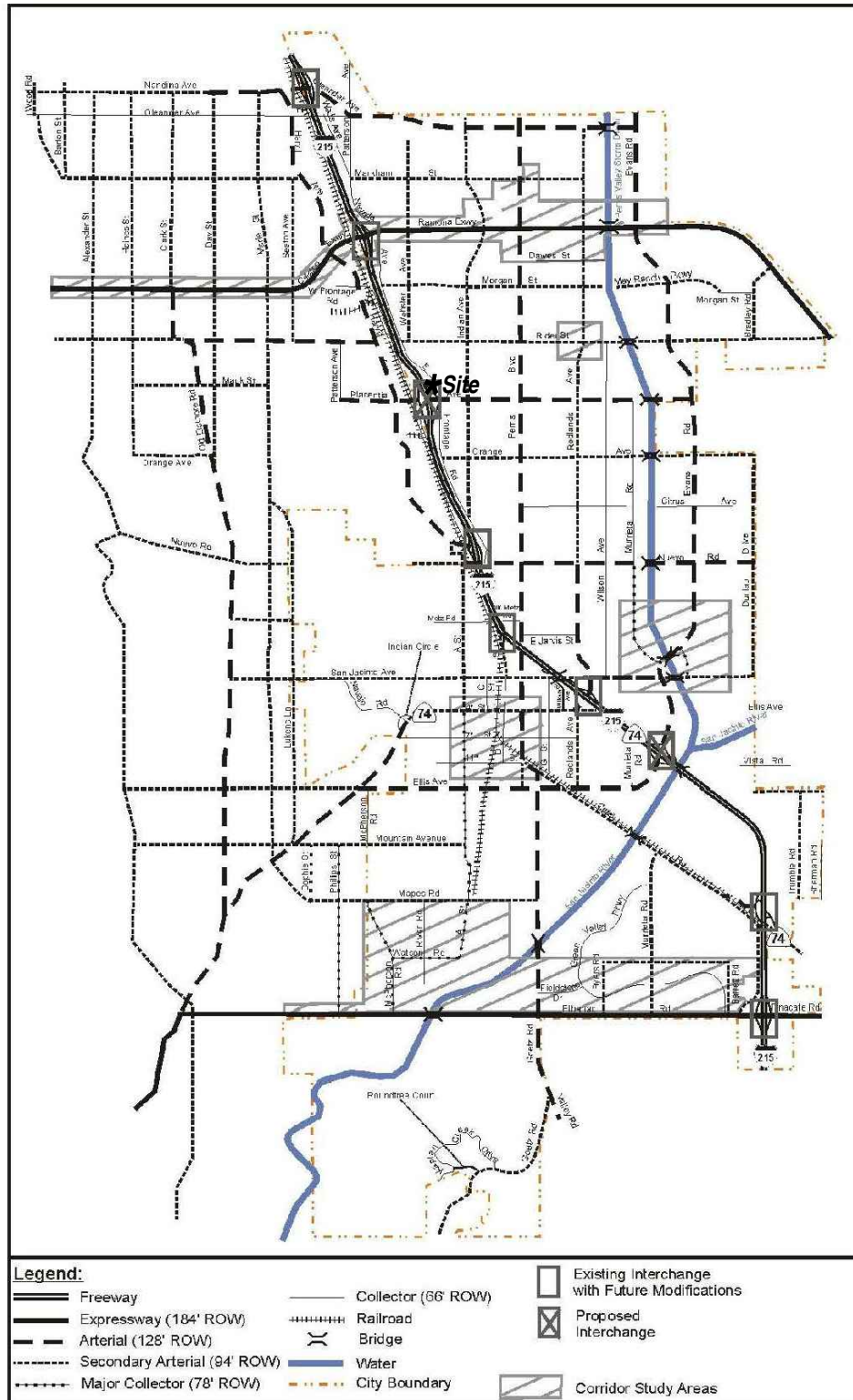
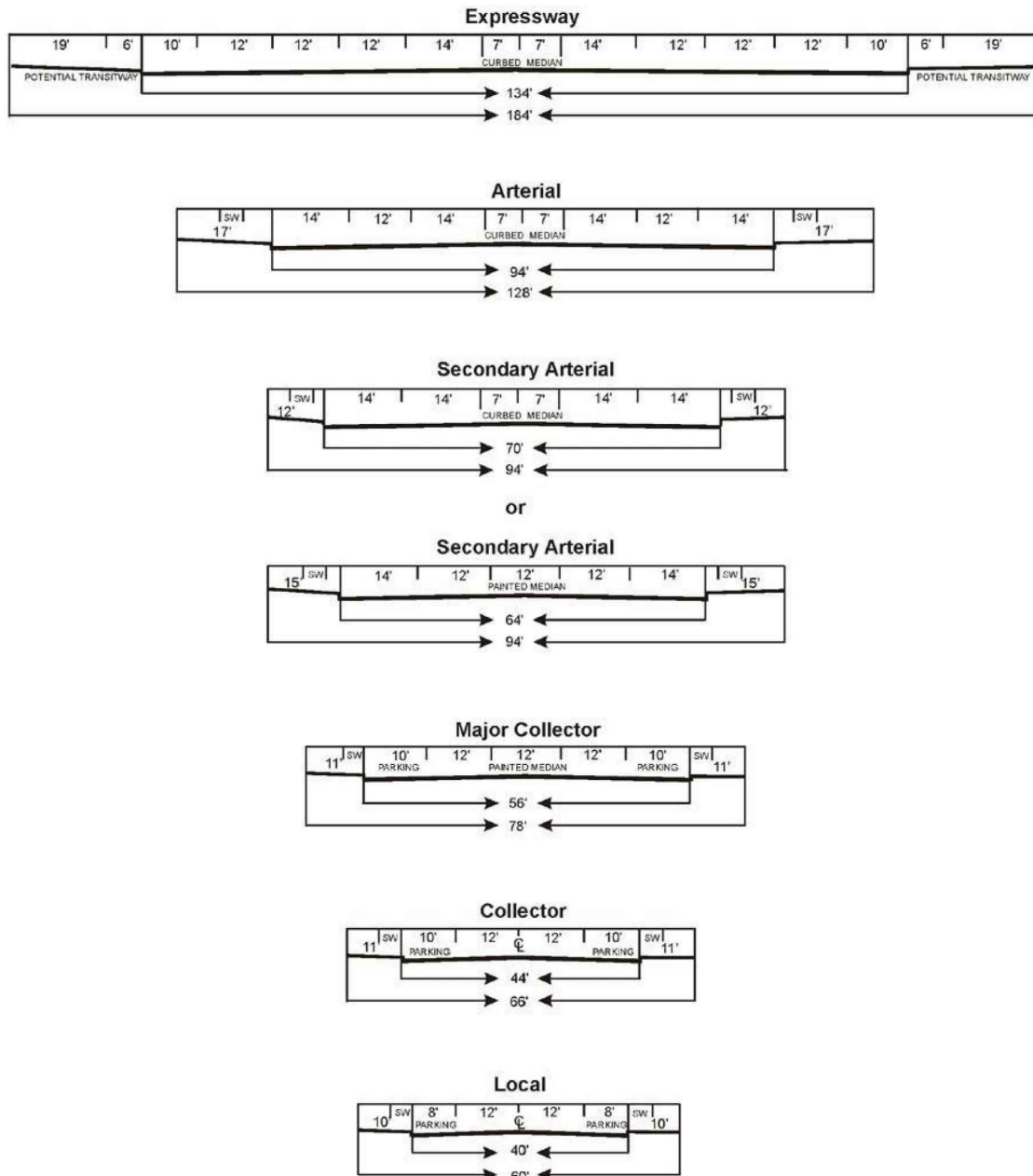


EXHIBIT 3-3 : CITY OF PERRIS GENERAL PLAN ROADWAY CROSS-SECTIONS



City of Perris
General Plan

Exhibit CE-11: City of Perris Future 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)	CURBED MEDIAN	Landscaped Center Median
PARKING	Parking or Bike Lane		
PAINTED MEDIAN	Center Median and/or Continuous Left Turning Lane		

3.3 BICYCLE, EQUESTRIAN, & PEDESTRIAN FACILITIES

In an effort to promote alternative modes of transportation, the City of Perris also includes a bikeway system. The City of Perris bicycle facilities are shown in Exhibit 3-4, which shows there are existing Class II (on-street, signed and striped) bike lanes along Placentia Avenue, but planned Class II bike lanes along I-215 E. Frontage Road in the future. Existing pedestrian facilities within the study area are shown in Exhibit 3-5. As shown in Exhibit 3-5, there are sidewalks along the east side of I-215 E. Frontage Road and along the north side of Placentia Avenue between Harvill Avenue and east of Indian Avenue. There is also an existing Class I (off-street) equestrian trail on the south side of Placentia Avenue from Harvill Avenue to I-215 E. Frontage Road. There are crosswalks on all approaches at the intersection of I-215 E. Frontage Road and Placentia Avenue. The closest transit stops are at the intersection of Perris Boulevard and Placentia Avenue (east of the study area). Field observations and traffic counts conducted in May 2024 indicate light pedestrian and bicycle activity within the study area associated with the adjacent commercial uses.

3.4 TRUCK ROUTES

The City of Perris truck routes are shown in Exhibit 3-6. Trucks are prohibited on certain City roadways through weight restrictions, as provided in the General Plan. 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. As shown in Exhibit 3-6, both I-215 E. Frontage Road and Placentia Avenue are truck routes.

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 2024 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)

The 2024 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.

EXHIBIT 3-4 : CITY OF PERRIS GENERAL PLAN BICYCLE FACILITIES



City of Perris
General Plan

Exhibit CE-14: Bikeway Systems

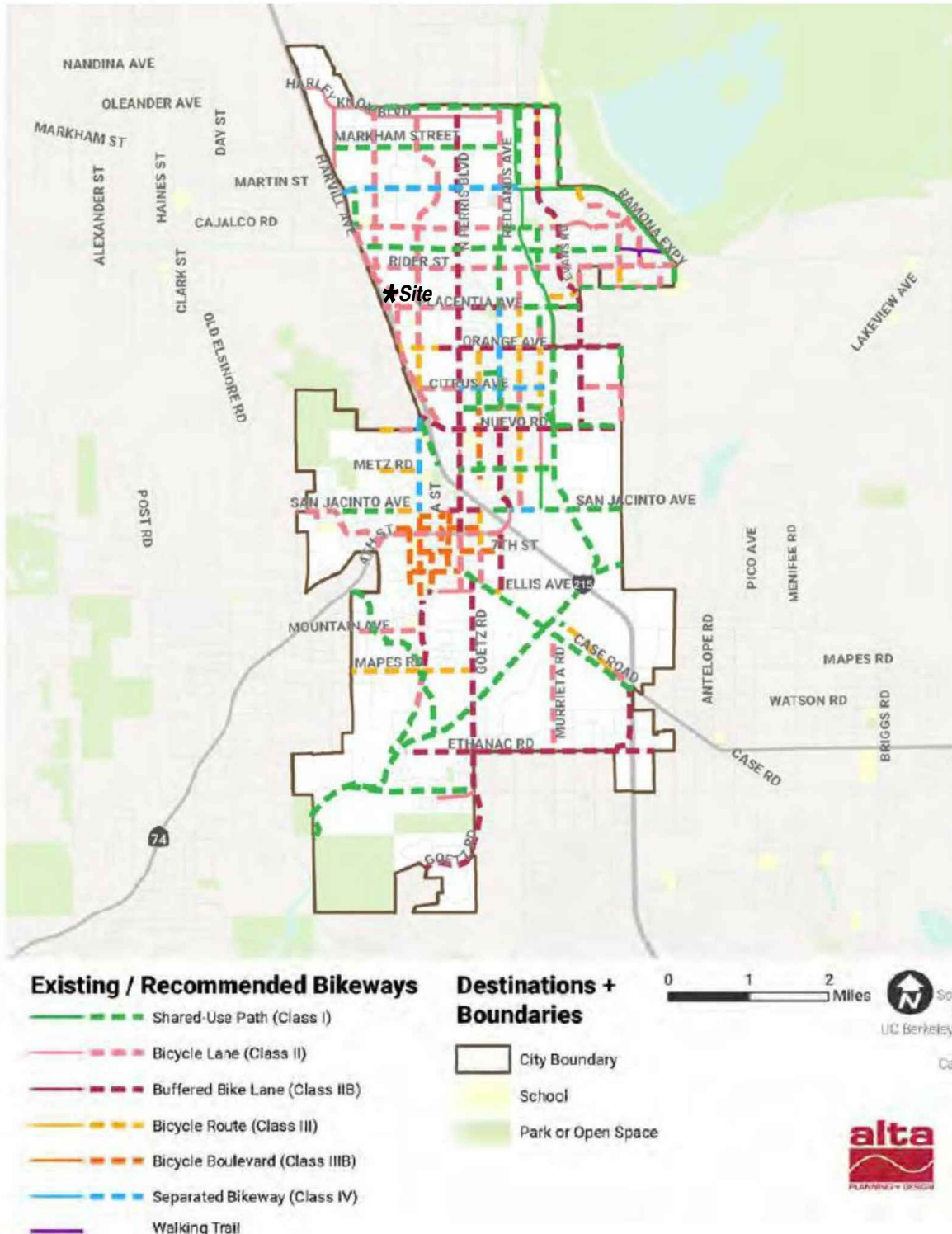
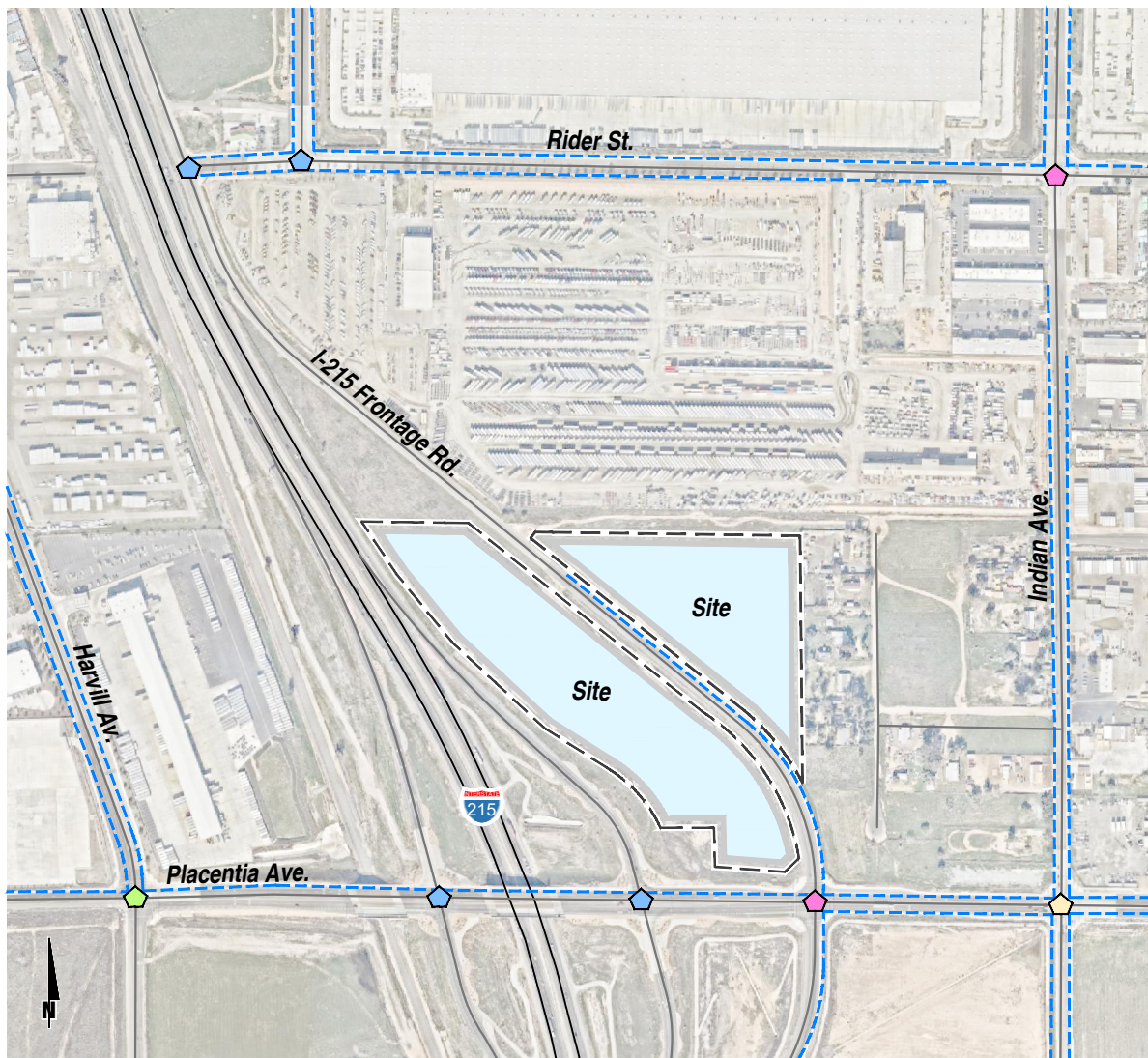


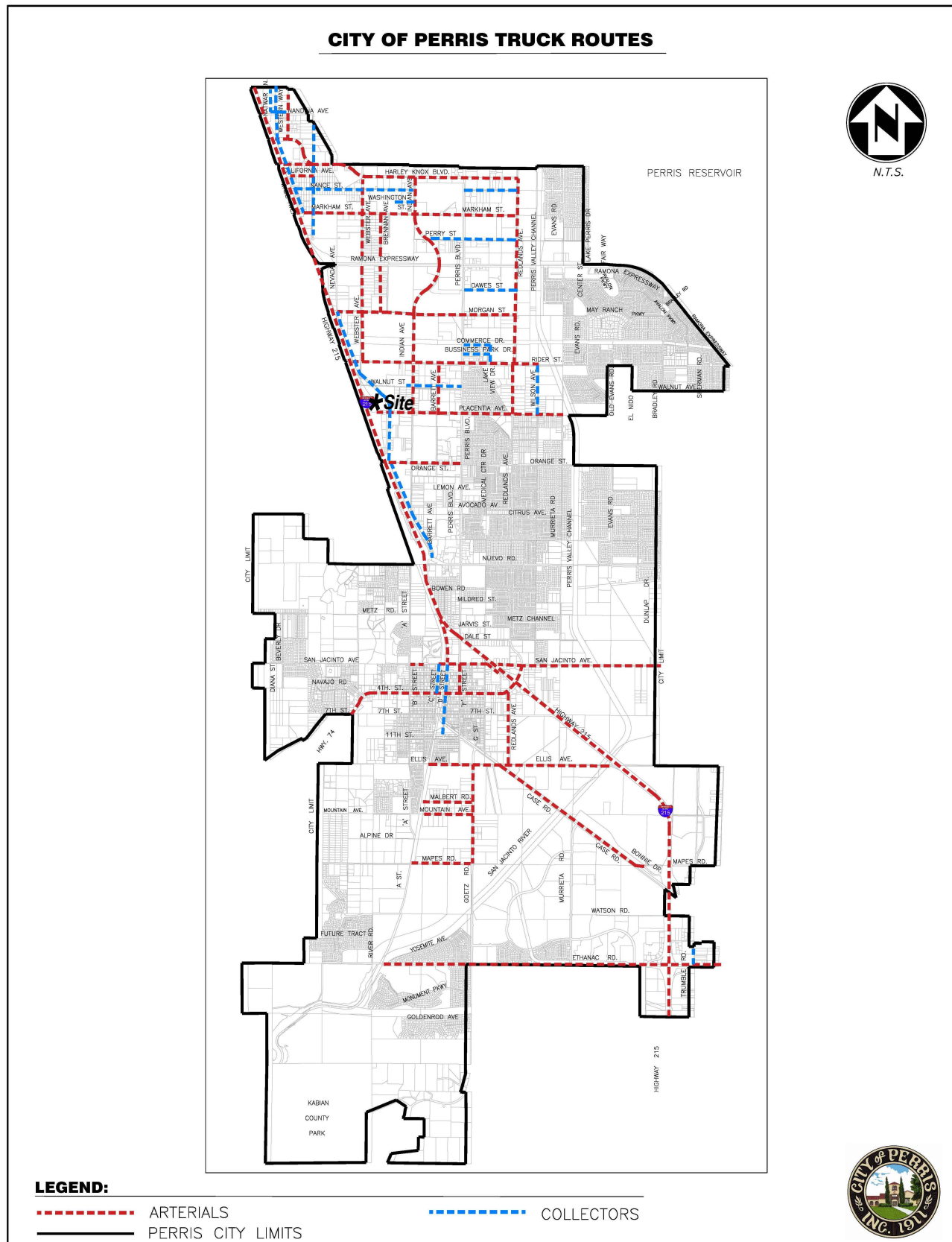
EXHIBIT 3-5 : EXISTING PEDESTRIAN FACILITIES



LEGEND:

- ◆ = 1 Approach
- ◆ = 2 Approaches
- ◆ = All Approaches
- ◆ = All Approaches (School)
- = Sidewalks

EXHIBIT 3-6 : CITY OF PERRIS TRUCK ROUTES



Existing weekday ADT volumes are shown in 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:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 12.29 = \text{Leg Volume}$$

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 8.14 percent. As such, the above equation utilizing a factor of 12.29 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 8.14 percent (i.e., $1/0.0814 = 12.29$) 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 in Exhibit 3-7. Existing weekday AM and weekday PM peak hour intersection volumes, in PCE, are shown in Exhibit 3-8.

To represent the effect large trucks, buses, and recreational vehicles have on traffic flow, all trucks were converted into PCE. By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is also much longer than for passenger cars and varies depending on the type of vehicle and number of axles. For this analysis, the following PCE factors have been used to estimate each turning movement: 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks. These factors are consistent with the values recommended for use in the City of Perris. Consistent with the City's Guidelines, the peak hour intersection operations analyses utilize the PCE volumes.

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 acceptable LOS during the peak hours. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

EXHIBIT 3-7 : EXISTING (2024) TRAFFIC VOLUMES (ACTUAL VEHICLES)



LEGEND:

- 0 = Existing Intersection Analysis Location
- 0 = Future Intersection Analysis Location

- 00(00) = Peak Hour Volume AM(PM)
- 00 = Average Daily Traffic (ADT) In Thousands

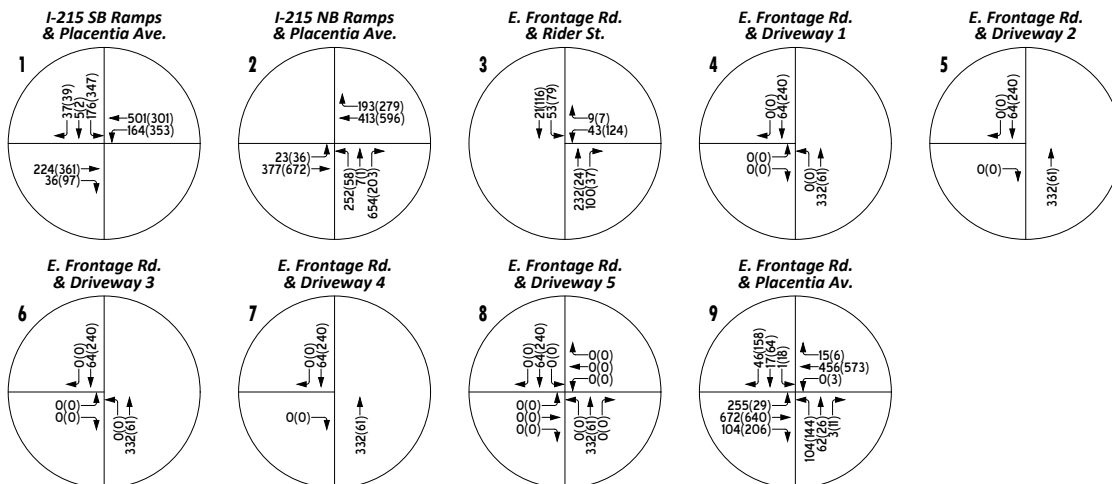


EXHIBIT 3-8 : EXISTING (2024) TRAFFIC VOLUMES (PCE)



LEGEND:

- ① = Existing Intersection Analysis Location
- ② = Future Intersection Analysis Location

00(00) = Peak Hour Volume AM(PM)

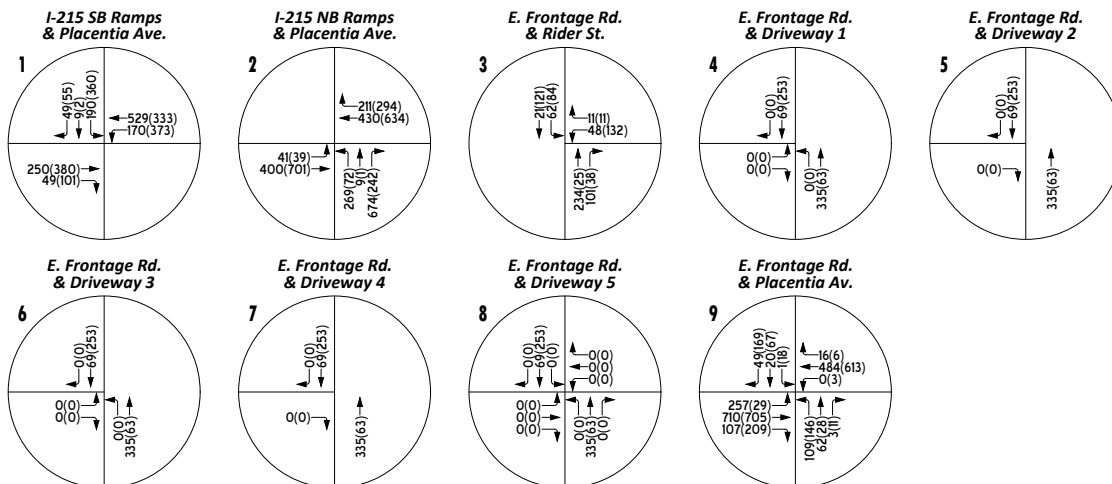


TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2024) CONDITIONS

# Intersection	Traffic Control ²	Delay ¹ (secs.)		Level of Service	
		AM	PM	AM	PM
1 I-215 SB Ramps & Placentia Av.	TS	10.5	13.4	B	B
2 I-215 NB Ramps & Placentia Av.	TS	15.5	10.6	B	B
3 I-215 E. Frontage Rd. & Rider St.	CSS	11.3	12.8	B	B
4 I-215 E. Frontage Rd. & Driveway 1		Future Intersection			
5 I-215 E. Frontage Rd. & Driveway 2		Future Intersection			
6 I-215 E. Frontage Rd. & Driveway 3		Future Intersection			
7 I-215 E. Frontage Rd. & Driveway 4		Future Intersection			
8 I-215 E. Frontage Rd. & Driveway 5		Future Intersection			
9 I-215 E. Frontage Rd. & Placentia Av.	TS	11.9	11.6	B	B

¹ Per the Highway Capacity Manual (7th 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; 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 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings are presented in Table 3-2. As shown in Table 3-2, there are currently no study area off-ramps experiencing queuing issues during the peak hours under Existing (2024) traffic conditions. Worksheets for Existing (2024) traffic conditions queuing analysis are provided in Appendix 3.4.

TABLE 3-2: PEAK HOUR QUEUING SUMMARY FOR EXISTING (2024) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	Synchro: 95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps & Placentia Av. (#1)	SBL	335	58	118	Yes	Yes
	SBL/T	1,470	60	121	Yes	Yes
	SBR	890	17	20	Yes	Yes
	EBT	990	57	106	Yes	Yes
	EBR	260	16	32	Yes	Yes
	WBL	250	43	108	Yes	Yes
	WBT	670	64	51	Yes	Yes
I-215 NB Ramps & Placentia Av. (#2)	NBL	575	83	32	Yes	Yes
	NBL/T	1,525	82	31	Yes	Yes
	NBR	1,000	245	61	Yes	Yes
	EBL	250	27	18	Yes	Yes
	EBT	670	112	86	Yes	Yes
	WBT	510	151	122	Yes	Yes
	WBR	350	52	39	Yes	Yes

¹ Stacking distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided for the 95th percentile queue only. 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.

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4 PROJECTED FUTURE TRAFFIC

The Project would develop a currently vacant site with two separate but complementary uses providing rental, lease, sale, and maintenance of trailers and heavy equipment. The Project Development Concept apportions the site into 3 lots, to be developed as summarized below.

- Lot 1, approximately 5.0 acres, is located in the northwest portion of the Project site, and south of E. Frontage Road would serve Tenant 2. Lot 1 would be developed with a 25,750-square-foot building, employee parking areas (80 stalls), and landscaping (approximately 15 percent or 32,680-square-feet). The proposed building would accommodate vehicle/heavy equipment maintenance activities and supporting office/administrative functions. Access to Lot 1 would be provided by three driveways onto adjacent [I-15] E. Frontage Road.
 - Driveway 1 will serve Lot 1 trucks only and will allow for full access (no turn restrictions).
 - Driveway 2 would serve Lot 1 passenger cars only and will be restricted to right-in/right-out access only.
 - Driveway 3 will serve Lot 1 passenger cars only and will allow for full access.
- Lot 2, approximately 10.3 acres, is located in the southeast portion of the Project site and south of E. Frontage Road would serve Tenant 1. Lot 2 would be developed with a 14,139 -square-foot building, heavy equipment and trailer holding/display lot, employee parking area (15 stalls) and landscaping (approximately 15.1 percent or 67,947-square-feet). The proposed building would accommodate vehicle/heavy equipment maintenance activities and supporting administrative functions. Access to Lot 2 would be provided by two driveways onto adjacent E. Frontage Road.
 - Driveway 4 will serve Lot 2 passenger cars only and will be restricted to right-in/right-out access only.
 - Driveway 5 will serve Lot 2 trucks and will allow for full access.
- Lot 3, approximately 9.6 acres, is located in the northern portion of the Project site, and north of E. Frontage Road would serve Tenant 1. Lot 3 would be developed as a heavy equipment/trailer display lot that would support operations of the Lot 2 tenant (Tenant 1). Access to Lot 3 would be provided by one driveway onto adjacent E. Frontage Road.
 - Driveway 5 will also serve Lot 3 trucks and will allow for full access (aligning with access for Lot 2).

The Project is anticipated to be constructed in a single phase with an anticipated Opening Year of 2026. Exhibit 1-2 identifies the preliminary site plan for the proposed Project.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic that is attracted to, and produced by, a development and is based upon the specific land uses planned for a given project. In order to develop tenant-specific trip generation associated with each component of the proposed Project, two existing Tenant 1 and Tenant 2 facilities with similar operational characteristics as those proposed by the Project were surveyed consistent with the methodology outlined in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) for collecting local data. Traffic counts were collected at each site on January 23rd through 25th, 2024 (Tuesday through Thursday). A summary of the count data collected at each site, by day, is provided in Attachment B for Tenant 1 and Attachment C for Tenant 2 in Appendix 1.1. See Attachment B and Attachment C in Appendix 1.1 for driveway count data worksheets.

Tables 4-1 and 4-2 summarize the weighted average trip generation rate for both Tenant 1 and Tenant 2 respectively, based on the count data collected over three consecutive days and the corresponding acreage of each surveyed facility.

TABLE 4-1: TENANT 1 TRIP GENERATION RATES

Land Use ¹	Units ²	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Existing: Tenant 1	AC	1.000	0.528	1.528	0.222	0.889	1.111	9.486
Passenger Cars		0.431	0.153	0.583	0.111	0.542	0.653	4.333
2-Axle Trucks		0.306	0.000	0.306	0.111	0.347	0.458	1.778
3-Axle Trucks		0.222	0.153	0.375	0.000	0.000	0.000	1.722
4+-Axle Trucks		0.042	0.222	0.264	0.000	0.000	0.000	1.653

¹ Trip Generation & Vehicle Mix Source: Driveway count data summarized on Table A-1 and Table A-2 divided by the existing respective acreage (4.5 and 12.0 acres) in

² AC = Acres

TABLE 4-2: TENANT 2 TRIP GENERATION RATES

Land Use ¹	Units ²	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicle Trip Generation Rates								
Existing: Tenant 2	AC	5.807	2.516	8.323	1.012	4.746	5.759	89.860
Passenger Cars		5.080	1.931	7.010	0.791	4.383	5.174	69.778
2-Axle Trucks		0.364	0.364	0.727	0.221	0.364	0.585	9.677
3-Axle Trucks		0.000	0.000	0.000	0.000	0.000	0.000	2.197
4+-Axle Trucks		0.364	0.221	0.585	0.000	0.000	0.000	8.207

¹ Trip Generation & Vehicle Mix Source: Driveway count data summarized on Table B-1 and Table B-2 divided by the existing respective acreage (2.26 and 3.51 acres) in

² AC = Acres

Based on the trip generation rates shown in Table 4-1, the trip generation for the Tenant 1 component on 19.9 acres is shown in Table 4-3. Similarly, based on the trip generation rates shown in Table 4-2, the trip generation for the Tenant 2 component on 5.0 acres is shown in Table 4-4.

TABLE 4-3: TENANT 1 TRIP GENERATION SUMMARY

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
Proposed: Tenant 1	19.9 AC							
Passenger Cars:		9	3	12	2	11	13	86
2-axle Trucks:		6	0	6	2	7	9	36
3-axle Trucks:		4	3	7	0	0	0	34
4+-axle Trucks:		1	4	5	0	0	0	34
Total Truck Trips (Actual Vehicles):		11	7	18	2	7	9	104
Total Trips (Actual Vehicles)²		20	10	30	4	18	22	190
Passenger Car Equivalent (PCE):								
Proposed: Tenant 1	19.9 AC							
Passenger Cars:		9	3	12	2	11	13	86
2-axle Trucks:		9	0	9	3	10	13	54
3-axle Trucks:		9	6	15	0	0	0	70
4+-axle Trucks:		2	13	15	0	0	0	100
Total Truck Trips (PCE):		20	19	39	3	10	13	224
Total Trips (PCE)²		29	22	51	5	21	26	310

¹ AC = Acres

² Total Trips = Passenger Cars + Truck Trips.

TABLE 4-4: TENANT 2 TRIP GENERATION SUMMARY

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
Proposed: Tenant 2	5.0 AC							
Passenger Cars:		25	10	35	4	22	26	350
2-axle Trucks:		2	2	4	1	2	3	48
3-axle Trucks:		0	0	0	0	0	0	12
4+-axle Trucks:		2	1	3	0	0	0	42
Total Truck Trips (Actual Vehicles):		4	3	7	1	2	3	102
Total Trips (Actual Vehicles)²		29	13	42	5	24	29	452
Passenger Car Equivalent (PCE):								
Proposed: Tenant 2	5.0 AC							
Passenger Cars:		25	10	35	4	22	26	350
2-axle Trucks:		3	3	6	2	3	5	74
3-axle Trucks:		0	0	0	0	0	0	22
4+-axle Trucks:		5	3	8	0	0	0	124
Total Truck Trips (PCE):		8	6	14	2	3	5	220
Total Trips (PCE)²		33	16	49	6	25	31	570

¹ TSF = thousand square feet

² Total Trips = Passenger Cars + Truck Trips.

The sum of these two components is summarized in Table 4-5 and represents the proposed Project which is anticipated to generate a total of 642 two-way trips per day, with 72 trips during the AM peak hour and 51 trips during the PM peak hour. PCE factors were applied to the trip generation rates for heavy trucks (2-axles, 3-axles, and 4+-axles). Also shown in Table 4-5 is the PCE-based trip generation which shows the proposed Project is anticipated to generate a total of 880 two-way PCE trips per day, with 100 PCE AM peak hour and 57 PCE PM peak hour trips.

TABLE 4-5: TOTAL PROJECT TRIP GENERATION SUMMARY

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Actual Vehicles:								
Proposed Project: Tenant 1 + Tenant 2	24.9 AC							
Passenger Cars:		34	13	47	6	33	39	436
2-axle Trucks:		8	2	10	3	9	12	84
3-axle Trucks:		4	3	7	0	0	0	46
4+-axle Trucks:		3	5	8	0	0	0	76
Total Truck Trips (Actual Vehicles):		15	10	25	3	9	12	206
Total Trips (Actual Vehicles)²		49	23	72	9	42	51	642
Passenger Car Equivalent (PCE):								
Proposed Project: Tenant 1 + Tenant 2	24.9 AC							
Passenger Cars:		34	13	47	6	33	39	436
2-axle Trucks:		12	3	15	5	13	18	128
3-axle Trucks:		9	6	15	0	0	0	92
4+-axle Trucks:		7	16	23	0	0	0	224
Total Truck Trips (PCE):		28	25	53	5	13	18	444
Total Trips (PCE)²		62	38	100	11	46	57	880

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 patterns for both passenger cars and trucks have been developed based on recent experience on other studies for similar land uses in the vicinity and comments provided by City of Perris staff. Passenger car distribution patterns will be based on existing and planned land uses and roadway infrastructure in the area. Truck distribution patterns will be 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. Based on the City's latest adopted truck routes, Placentia Avenue is a designated truck route and has been utilized for the purposes of the truck trip distribution patterns for the Project to access the I-215 Freeway. The passenger car trip distributions for the proposed Project are shown in Exhibit 4-1. The truck trip distributions are illustrated in Exhibit 4-2. Insets show the individual distributions proposed for Tenant 1 and Tenant 2.

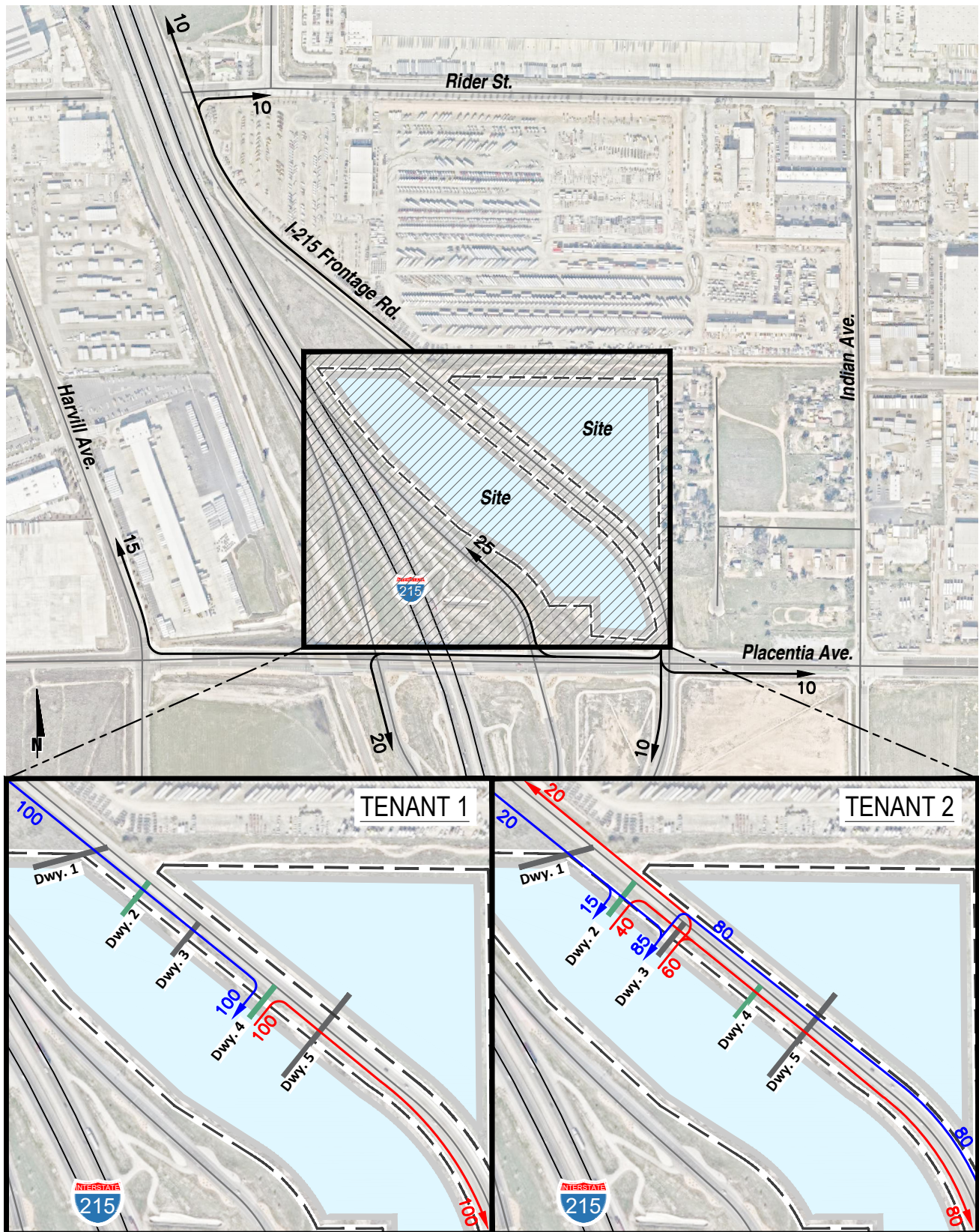
4.3 MODAL SPLIT

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 in Exhibit 4-3. Project weekday peak hour intersection turning movement volumes, in PCE, are shown in Exhibit 4-4.

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



LEGEND:

10 = Car Percent To / From Project
 —> = Trip Distribution

—> = Inbound
 —> = Outbound

— = Full Access Driveway
 — = Right-In / Right-Out Driveway

EXHIBIT 4-2 : PROJECT (TRUCK) TRIP DISTRIBUTION

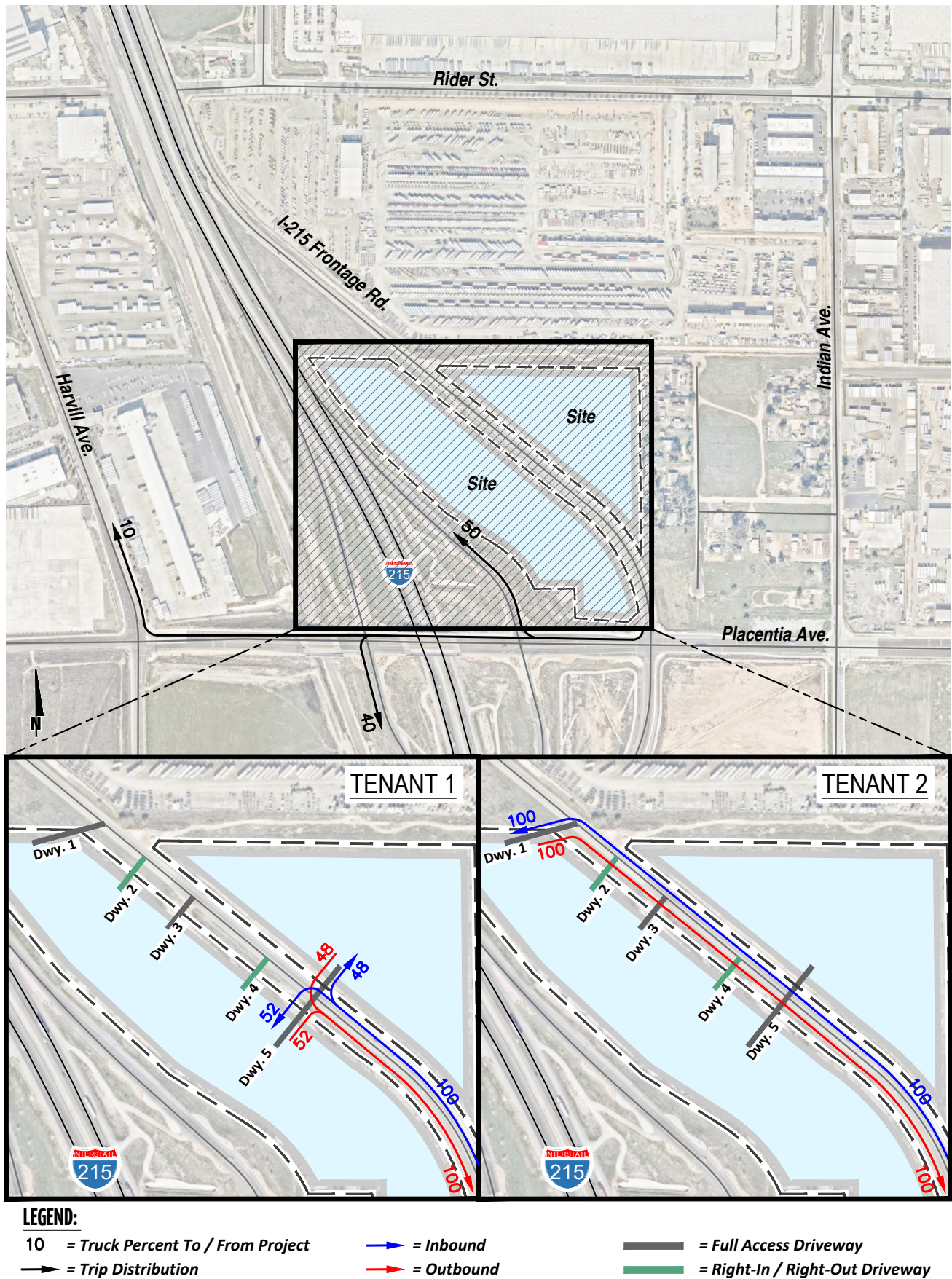


EXHIBIT 4-3 : PROJECT ONLY TRAFFIC VOLUMES (ACTUAL VEHICLES)



LEGEND:

- 0 = Existing Intersection Analysis Location
- 0 = Future Intersection Analysis Location

- 00(00) = Peak Hour Volume AM(PM)
- 00 = Average Daily Traffic (ADT)

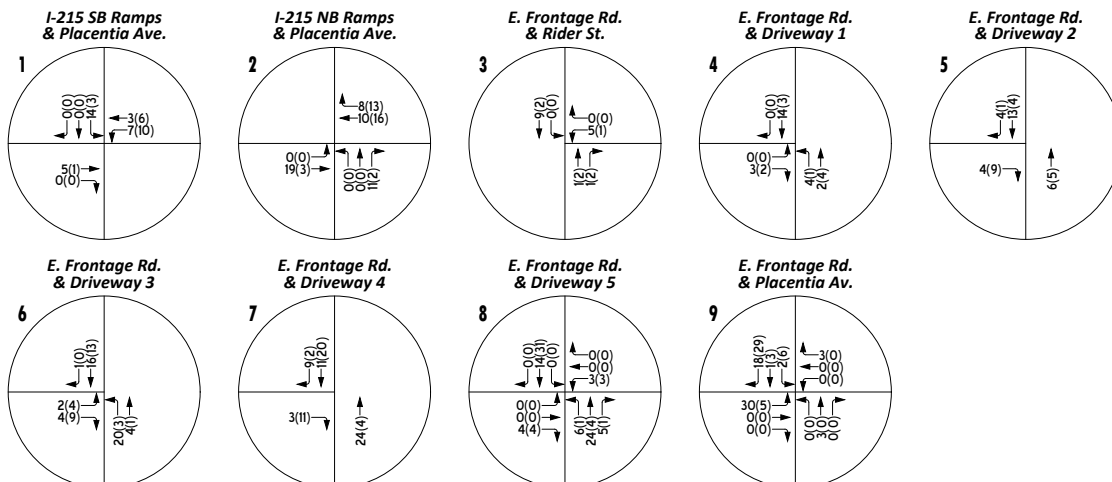


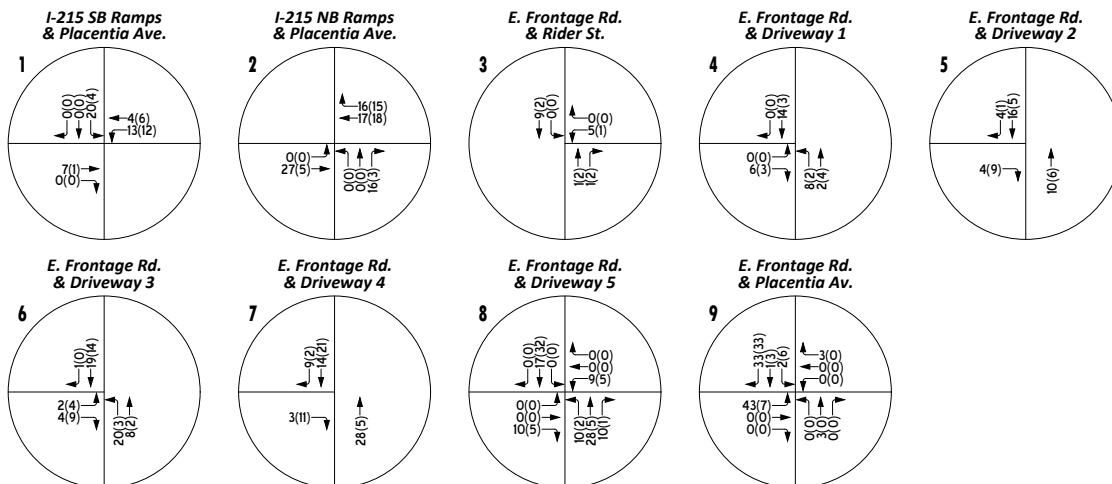
EXHIBIT 4-4 : PROJECT ONLY TRAFFIC VOLUMES (PCE)



LEGEND:

- 0 = Existing Intersection Analysis Location
- 0 = Future Intersection Analysis Location

- 00(00) = Peak Hour Volume AM(PM)
- 00 = Average Daily Traffic (ADT)



4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 3% per year, compounded annually, for 2026 conditions. The total ambient growth is 6.09% for 2026 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) Connect SoCal 2024 (adopted April 4, 2024) growth forecasts for the City of Perris identifies projected growth in households of 18,600 in 2019 to 34,600 in 2050, or an 86.0 percent increase over the 31-year period. (6) Growth in employment over the same 31-year period is projected to increase by 80.3 percent, or a 2.0 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.

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of 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 in Exhibit 4-5, listed in Table 4-6, 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 in Exhibit 4-6. Cumulative Only peak hour intersection turning movement volumes, in PCE, are shown in Exhibit 4-7.

TABLE 4-6: CUMULATIVE DEVELOPMENT LAND USE SUMMARY (1 OF 2)

No.	Project Name / Case Number	Jurisdiction	Land Use	Quantity Units ¹
P1	Canyon Steel (CS)	Perris	Industrial	25.000 TSF
P2	Tract 32497	Perris	Single Family Detached	131 DU
P3	Stratford Ranch East / TTM 38071	Perris	Single Family Detached	197 DU
	APN 302200005	Perris	Single Family Detached	19 DU
P4	Perris Truck Yard	Perris	Truck Yard	9.5 AC
P5	Marijuana Manufacturing (MM)	Perris	Industrial	1.000 TSF
	Holistic Inc.	Perris	Cultivation	5.000 TSF
P6	First Indus (Goodwin)	Perris	High-Cube Warehouse	338.000 TSF
P7	Kwasizur Industrial	Perris	Warehousing	138.000 TSF
P8	Rados / DPR 07-0119	Perris	High-Cube Warehouse	1,200.000 TSF
P9	Patriot Industrial	Perris	Warehousing	286.000 TSF
P10	Habit / CUP23-05025	Perris	Fast-Food Restaurant w/ DT	8.000 TSF
	Mosque / CUP21-05102		Mosque	12.000 TSF
P11	Lakecreek East and West	Perris	High-Cube Warehouse	556.000 TSF
P12	Westcoast Textile / DPR 16-00001	Perris	Warehousing	180.000 TSF
P13	Tract 31659	Perris	Single Family Detached	161 DU
	Tract 32041	Perris	Single Family Detached	122 DU
P14	Harley Knox Commerce Park / DPR 16-004	Perris	High-Cube Warehouse	386.278 TSF
P15	7-Eleven Auto Carwash / CUP19-05281	Perris	Gas Station w/ Carwash	4.100 TSF
P16	First March Logistics	Perris	Warehousing	589.971 TSF
P17	Citrus Court / TTM 37038	Perris	Single Family Detached	111 DU
P18	Beyond Market Gas Station / CUP20-05101	Perris	Gas Station w/ Market	7.250 TSF
P19	March Plaza / CUP16-05165	Perris	Commercial Retail	47.253 TSF
P20	Tommy's Carwash & Restaurant / CUP20-05217	Perris	Carwash & Fast-Food Restaurant w/ DT	8.500 TSF
P21	Wilson Industrial / DPR 19-00007	Perris	High-Cube Warehouse	303.000 TSF
P22	Integra Expansion / MMOD 17-05075	Perris	High-Cube Warehouse	273.000 TSF
P23	Duke - Patterson at Nance	Perris	High-Cube Warehouse	580.000 TSF
P24	Rider 2/4	Perris	High-Cube Warehouse	1,373.449 TSF
P25	AAA	Perris	Industrial	2.000 TSF
P26	Pulliam Indus	Perris	Industrial	16.000 TSF
P27	Burge Indus 1	Perris	Industrial	18.000 TSF
P28	Burge Indus 2	Perris	Industrial	19.000 TSF
P29	Nance Industrial	Perris	Warehousing	156.000 TSF
P30	Dedeaux Walnut Warehouse	Perris	Industrial	205.830 TSF
P31	Perris and Ramona Warehouse	Perris	Industrial	347.938 TSF
P32	JM Realty Perris and Indian	Perris	Warehouse	232.575 TSF
			Hotel	125 Room
P33	Harley Knox Commerce Center	Perris	Warehousing	156.780 TSF
P34	Perris de Plaza (Buildout) ²	Perris	Shopping Center	173.000 TSF
P35	Ramona Gateway Commerce Center	Perris	High-Cube Fulfillment	902.713 TSF
			High-Cube Cold Storage	47.511 TSF
			Fast-Food Restaurant w/ DT	16.500 TSF
			Fast-Food Restaurant w/o DT	10.200 TSF
			Coffee Shop w/ DT	2.400 TSF
			Automated Car Wash	1 Tunnel
			Gas Station w/ Market	16 VFP
P36	Ramona & Brennan	Perris	Warehousing	162.871 TSF
P37	Patterson Commerce Center	Perris	High-Cube Fulfillment	224.247 TSF
			High-Cube Cold Storage	39.573 TSF
P38	Gas Station, Carwash & Hotel / DPR22-00007	Perris	Gas Station w/ Carwash & Hotel	22.000 TSF
P39	Perris Commercial / DPR22-00038	Perris	General Light Industrial	275.098 TSF
			High Turnover (Sit-Down) Restaurant	9.000 TSF
			Hotel	107 Rooms
P40	Jack in the Box & Gas Station / CUP22-05083	Perris	Gas Station & Fast Food Restaurant w/ DT	3.202 TSF
P41	Perris Gateway	Perris	Self Storage	80.478 TSF
			Gas Station w/ Market & Carwash	32 VFP
			Commercial Retail Uses	30.400 TSF
P42	OLC3	Perris	High-Cube Fulfillment	774.419 TSF
			Commercial Retail/Restaurant	63.500 TSF
P43	Harvest Landing Specific Plan	Perris	Business Park and Commercial	13,574.233 TSF

TABLE 4-6: CUMULATIVE DEVELOPMENT LAND USE SUMMARY (2 OF 2)

No.	Project Name / Case Number	Jurisdiction	Land Use	Quantity Units ¹
RC1	McCanna Hills / TTM 33978	Riv. Co.	Single Family Detached	63 DU
RC2	Stoneridge	Riv. Co.	High-Cube Cold Storage	1695.355 TSF
			High-Cube Fulfillment	2966.872 TSF
			High-Cube Warehouse	2966.872 TSF
			Manufacturing	847.678 TSF
			Warehouse	427.759 TSF
			Industrial Park	641.639 TSF
			Free-Standing Discount Superstore	100.000 TSF
			Commercial Retail	21.968 TSF
RC3	Majestic Freeway Business Center - Building 12	Riv. Co.	Warehousing	154.751 TSF
RC4	Majestic Freeway Business Center - Building 15	Riv. Co.	Warehousing	90.279 TSF
RC5	PPT180025: Seaton Commerce Center	Riv. Co.	High-Cube Warehouse	210.800 TSF
RC6	Majestic Freeway Business Center - Building 11	Riv. Co.	High-Cube Warehouse	391.045 TSF
RC7	Majestic Freeway Business Center - Buildings 1, 3 & 4	Riv. Co.	Warehousing	48.930 TSF
			High-Cube Warehouse	1195.740 TSF
RC8	Val Verde Logistics Center	Riv. Co.	High-Cube Warehouse	280.308 TSF
RC9	Dedeaux Truck Terminal	Riv. Co.	Truck Terminal	55.700 TSF
RC10	Harvill & Rider Warehouse	Riv. Co.	High-Cube Warehouse	284.746 TSF
			General Light Industrial	50.249 TSF
RC11	Rider & Patterson Business Center (PP26293)	Riv. Co.	High-Cube Warehouse	612.481 TSF
RC12	PPT180023: Rider Commerce Center	Riv. Co.	Warehousing	204.330 TSF
RC13	PP26173	Riv. Co.	High-Cube Warehouse	423.665 TSF
RC14	Barker Logistics	Riv. Co.	High-Cube Warehouse	699.630 TSF
RC15	Placentia Truck Trailer Parking Lot	Riv. Co.	High-Cube Warehouse	335 Space
RC16	PP26241	Riv. Co.	Warehousing	23.600 TSF
RC17	Majestic Freeway Business Center - Building 13	Riv. Co.	High-Cube Warehouse	322.997 TSF
RC18	Majestic Freeway Business Center - Building 14A/B	Riv. Co.	Warehousing	354.583 TSF
RC19	Majestic Freeway Business Center - Building 17	Riv. Co.	High-Cube Warehouse	268.955 TSF
RC20	Majestic Freeway Business Center - Building 18	Riv. Co.	High-Cube Warehouse	317.760 TSF
RC21	Thrifty Oil (South & North)	Riv. Co.	Warehousing	357.965 TSF
RC22	Harvill & Cajalco	Riv. Co.	General Light Industrial	99.770 TSF
			Trailer Yard/Storage	133 Spaces
RC23	Harvill & Water	Riv. Co.	High-Cube Fulfillment	434.823 TSF
RC24	Cajalco Commerce Center	Riv. Co.	High-Cube Fulfillment	852.984 TSF
			High-Cube Cold Storage	150.526 TSF
			Active Park	14.9 AC
RC25	Seaton Avenue Warehouse	Riv. Co.	General Light Industrial	53.958 TSF
			Warehousing	305.759 TSF

¹ DU = Dwelling Units; TSF = Thousand Square Feet

² Includes 151,000 SF Target. 3,831 SF Raising Canes, 3,586 SF Panera, plus other remaining undeveloped pads.

EXHIBIT 4-5 : CUMULATIVE DEVELOPMENT LOCATION MAP

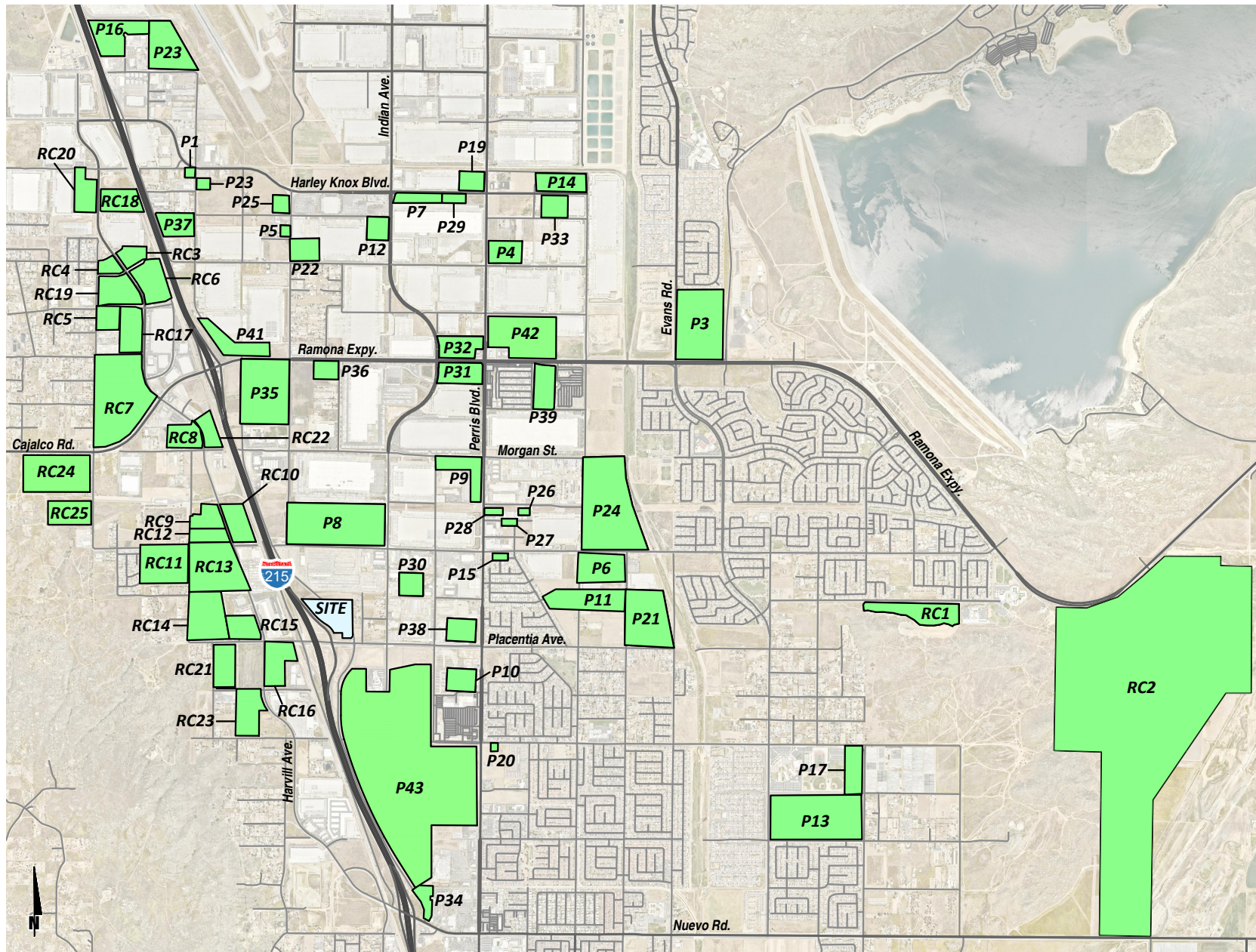


EXHIBIT 4-6 : CUMULATIVE ONLY TRAFFIC VOLUMES (ACTUAL VEHICLES)



LEGEND:

- ① = Existing Intersection Analysis Location
- ② = Future Intersection Analysis Location

- 00(00) = Peak Hour Volume AM(PM)
- 00 = Average Daily Traffic (ADT) In Thousands

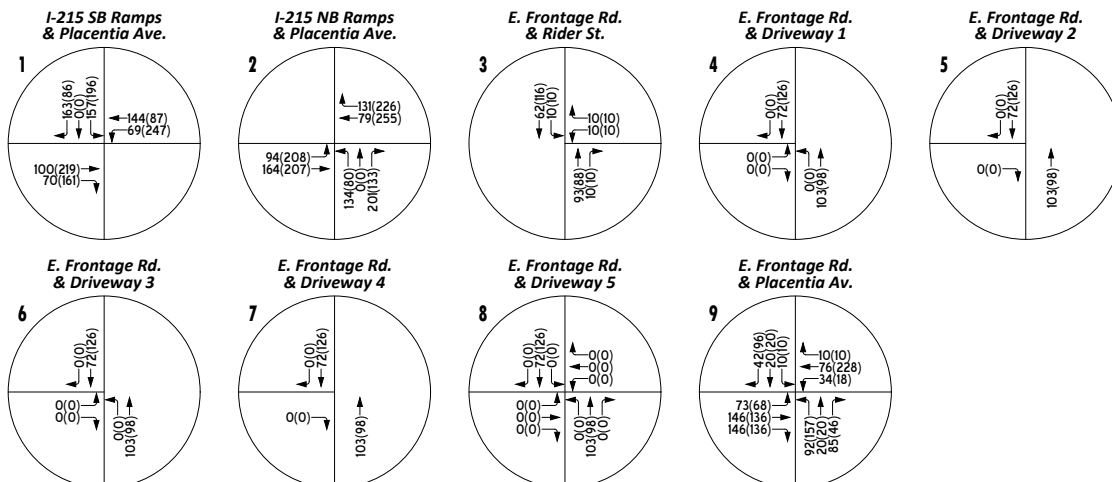


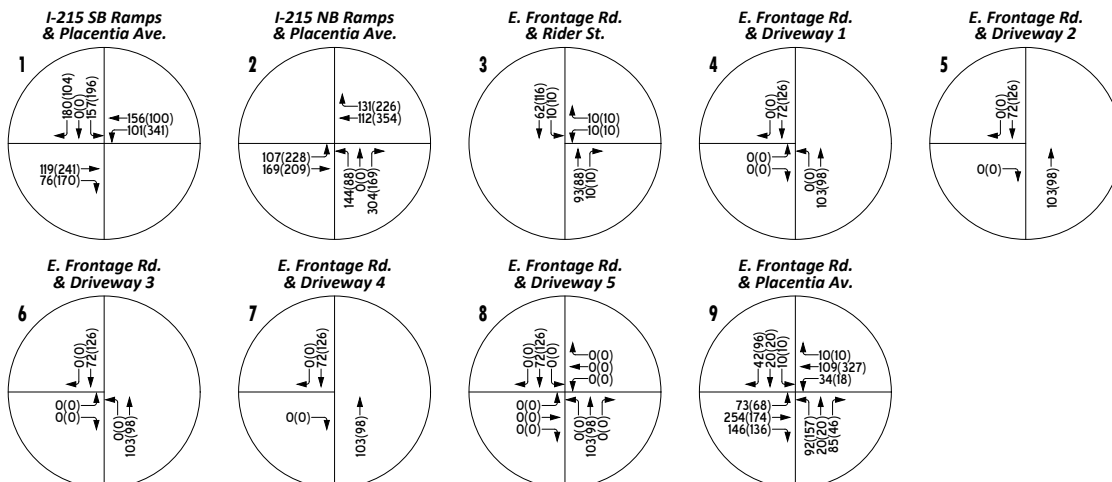
EXHIBIT 4-7 : CUMULATIVE ONLY TRAFFIC VOLUMES (PCE)



LEGEND:

- ① = Existing Intersection Analysis Location
- ② = Future Intersection Analysis Location

- 00(00) = Peak Hour Volume AM(PM)
- 00 = Average Daily Traffic (ADT) In Thousands



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5 E+P TRAFFIC CONDITIONS

This section discusses the traffic forecasts for E+P conditions and the resulting intersection operations, traffic signal warrant, and off-ramp queuing analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for E+P conditions are consistent with those shown previously in 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 E+P conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).

5.2 TRAFFIC VOLUME FORECASTS

This scenario includes E+P 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 in Exhibit 5-1. The weekday peak hour intersection turning movement volumes, in PCE, which can be expected for E+P traffic conditions are shown in 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 traffic conditions are included in Appendix 5.1 of this TA.

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



LEGEND:

- ① = Existing Intersection Analysis Location
- ② = Future Intersection Analysis Location

- 00(00) = Peak Hour Volume AM(PM)
- 00 = Average Daily Traffic (ADT) In Thousands

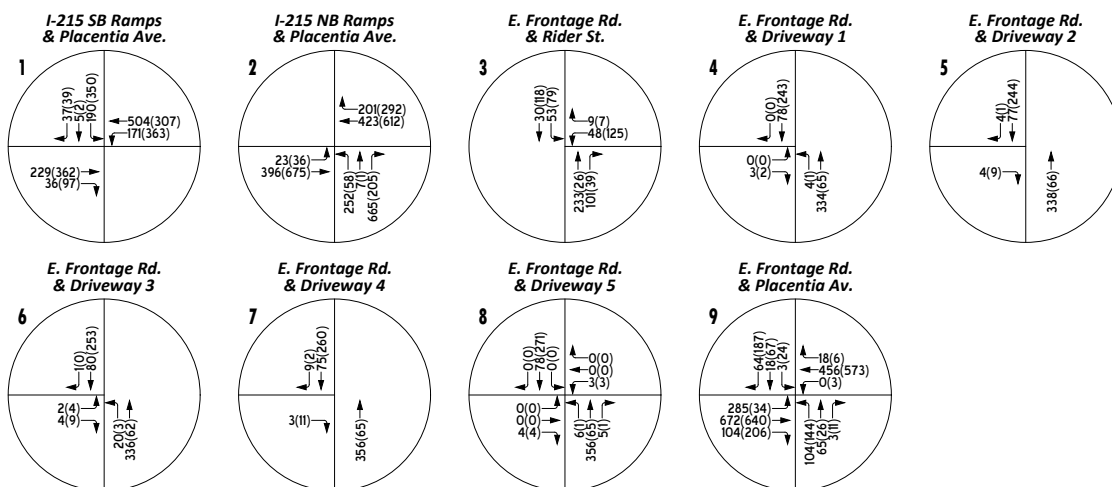


EXHIBIT 5-2 : E+P TRAFFIC VOLUMES (PCE)



LEGEND:

- ① = Existing Intersection Analysis Location
- ② = Future Intersection Analysis Location

- 00(00) = Peak Hour Volume AM(PM)
- 00 = Average Daily Traffic (ADT) In Thousands

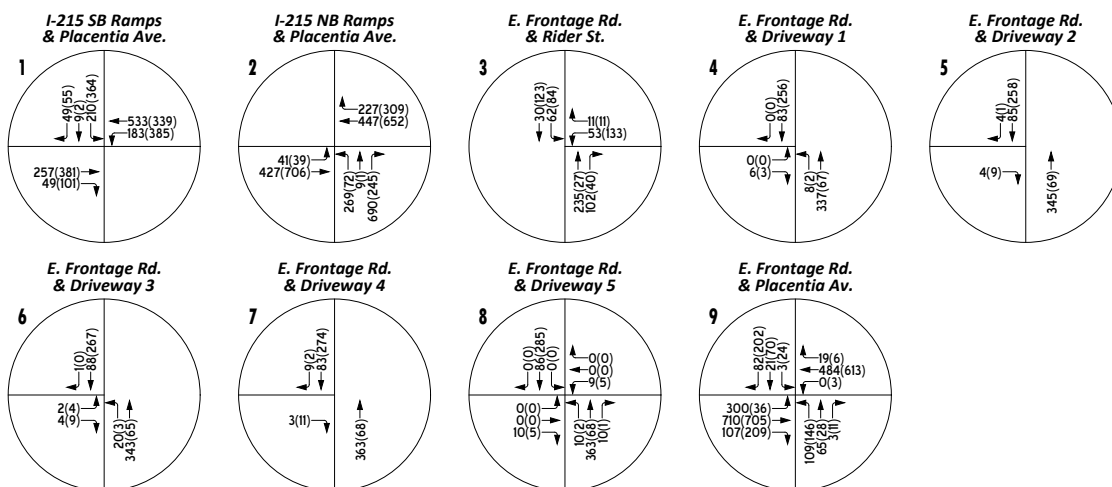


TABLE 5-1: INTERSECTION ANALYSIS FOR E+P CONDITIONS

# Intersection	Traffic Control ²	Existing (2024)				E+P			
		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
		AM	PM	AM	PM	AM	PM	AM	PM
1 I-215 SB Ramps & Placentia Av.	TS	10.5	13.4	B	B	10.7	13.4	B	B
2 I-215 NB Ramps & Placentia Av.	TS	15.5	10.6	B	B	15.9	10.6	B	B
3 I-215 E. Frontage Rd. & Rider St.	CSS	11.3	12.8	B	B	11.5	12.9	B	B
4 I-215 E. Frontage Rd. & Driveway 1	<u>CSS</u>	Future Intersection				8.7	9.7	A	A
5 I-215 E. Frontage Rd. & Driveway 2	<u>CSS</u>	Future Intersection				8.7	9.8	A	A
6 I-215 E. Frontage Rd. & Driveway 3	<u>CSS</u>	Future Intersection				9.6	10.1	A	B
7 I-215 E. Frontage Rd. & Driveway 4	<u>CSS</u>	Future Intersection				8.7	9.9	A	A
8 I-215 E. Frontage Rd. & Driveway 5	<u>CSS</u>	Future Intersection				12.0	11.0	B	B
9 I-215 E. Frontage Rd. & Placentia Av.	TS	11.9	11.6	B	B	13.3	12.2	B	B

¹ Per the Highway Capacity Manual (7th 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

² TS = Traffic Signal; CSS = Cross-street Stop; CSS = Improvement

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for E+P traffic conditions is based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. No study area intersections are anticipated to meet either peak hour volume or ADT volume-based warrants with the addition of Project traffic (see Appendix 5.2).

5.5 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for E+P traffic conditions are presented in Table 5-2. As shown in Table 5-2, the study area off-ramps are not anticipated to experience queuing issues during the peak hours under E+P traffic conditions, consistent with Existing (2024) traffic conditions. Worksheets for E+P traffic conditions queuing analysis are provided in Appendix 5.3.

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

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2024)				E+P			
			Synchro: 95th Percentile Queue (Feet)		Acceptable? ¹		Synchro: 95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps & Placentia Av. (#1)	SBL	335	58	118	Yes	Yes	65	121	Yes	Yes
	SBL/T	1,470	60	121	Yes	Yes	65	123	Yes	Yes
	SBR	890	17	20	Yes	Yes	16	20	Yes	Yes
	EBT	990	57	106	Yes	Yes	60	108	Yes	Yes
	EBR	260	16	32	Yes	Yes	16	33	Yes	Yes
	WBL	250	43	108	Yes	Yes	47	110	Yes	Yes
	WBT	670	64	51	Yes	Yes	67	52	Yes	Yes
I-215 NB Ramps & Placentia Av. (#2)	NBL	575	83	32	Yes	Yes	78	32	Yes	Yes
	NBL/T	1,525	82	31	Yes	Yes	77	32	Yes	Yes
	NBR	1,000	245	61	Yes	Yes	440	68	Yes	Yes
	EBL	250	27	18	Yes	Yes	34	19	Yes	Yes
	EBT	670	112	86	Yes	Yes	180	91	Yes	Yes
	WBT	510	151	122	Yes	Yes	217	131	Yes	Yes
	WBR	350	52	39	Yes	Yes	65	40	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided for the 95th percentile queue only. 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.

5.6 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements. Improvements needed to achieve acceptable LOS have been identified at intersections, roadway segments, or study area off-ramps that are anticipated to operate at a deficient LOS under E+P traffic conditions.

5.6.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

As shown in Table 5-1, there are no study area intersections anticipated to operate at an unacceptable LOS based on the daily roadway capacity thresholds and minimum LOS criteria under E+P traffic conditions. As such, no improvements have been identified.

5.6.2 RECOMMENDED IMPROVEMENTS TO ADDRESS OFF-RAMP QUEUEING DEFICIENCIES

As shown previously in Table 5-2, there are no study area off-ramps anticipated to experience queuing issues under E+P traffic conditions. As such, no improvements have been identified.

6 EAC AND EAPC (2026) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAC and EAPC (2026) 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 (2026) conditions are consistent with those shown previously in 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 (2026) conditions (e.g., intersection and roadway improvements at the Project's frontage and driveways).

6.2 TRAFFIC VOLUME FORECASTS

6.2.1 EAC (2026) 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 (2026) traffic conditions are shown in Exhibit 6-1. The weekday peak hour intersection turning movement volumes, in PCE, which can be expected for EAC (2026) traffic conditions are shown in Exhibit 6-3.

6.2.2 EAPC (2026) 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 (2026) traffic conditions are shown in Exhibit 6-2. The weekday peak hour intersection turning movement volumes, in PCE, which can be expected for EAPC (2026) traffic conditions are shown in Exhibit 6-4.

6.3 INTERSECTION OPERATIONS ANALYSIS

EAC and EAPC (2026) 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 and EAPC (2026) traffic conditions. Table 6-1 indicates that the study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours under EAC (2026) traffic conditions.

EXHIBIT 6-1 : EAC (2026) TRAFFIC VOLUMES (ACTUAL VEHICLES)



LEGEND:

- ① = Existing Intersection Analysis Location
- ② = Future Intersection Analysis Location

- 00(00) = Peak Hour Volume AM(PM)
- 00 = Average Daily Traffic (ADT) In Thousands

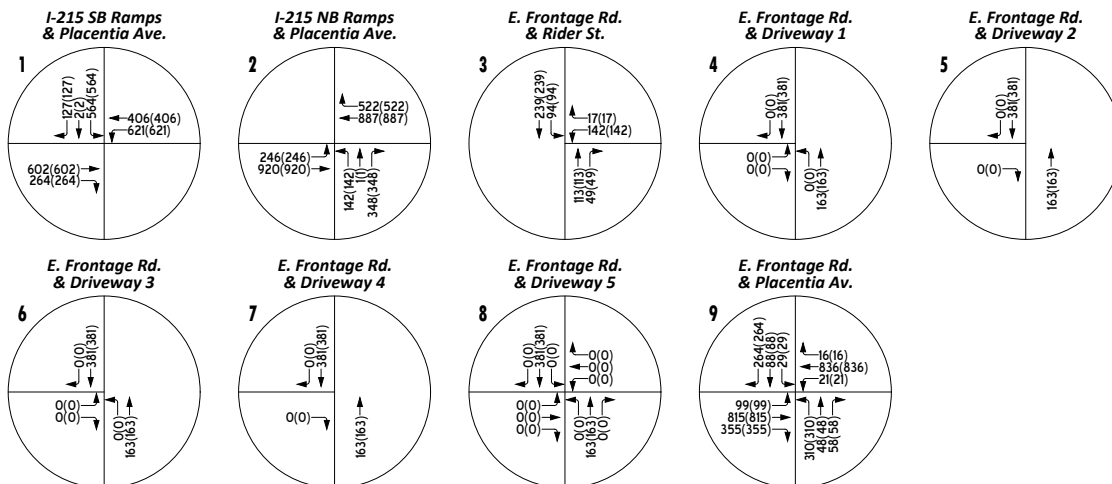


EXHIBIT 6-2 : EAPC (2026) TRAFFIC VOLUMES (ACTUAL VEHICLES)



LEGEND:

- 0 = Existing Intersection Analysis Location
- = Future Intersection Analysis Location

- 00(00) = Peak Hour Volume AM(PM)
- 00 = Average Daily Traffic (ADT) In Thousands

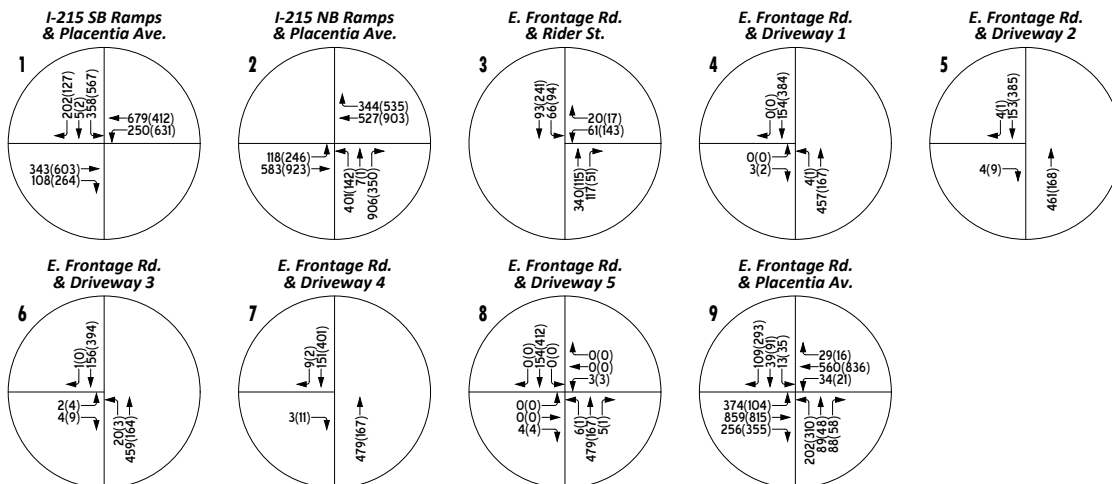


EXHIBIT 6-3 : EAC (2026) TRAFFIC VOLUMES (PCE)



LEGEND:

- ① = Existing Intersection Analysis Location
- ② = Future Intersection Analysis Location

- 00(00) = Peak Hour Volume AM(PM)
- 00 = Average Daily Traffic (ADT) In Thousands

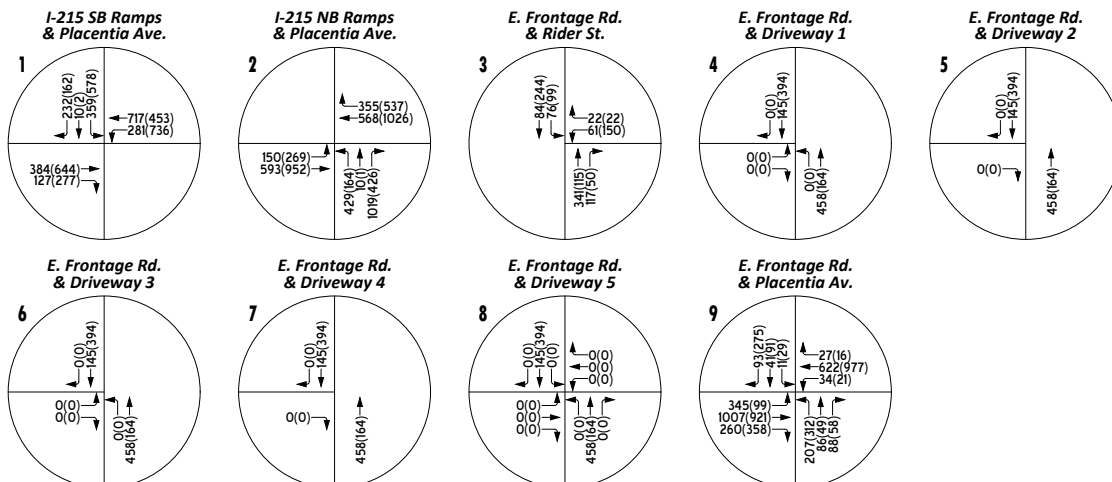


EXHIBIT 6-4 : EAPC (2026) TRAFFIC VOLUMES (PCE)



LEGEND:

- 0 = Existing Intersection Analysis Location
- = Future Intersection Analysis Location

- 00(00) = Peak Hour Volume AM(PM)
- 00 = Average Daily Traffic (ADT) In Thousands

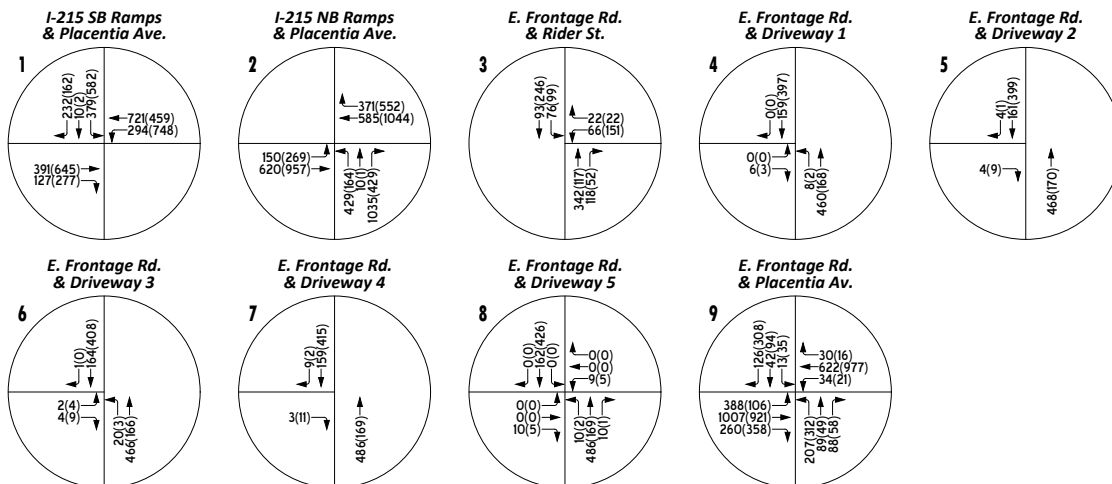


TABLE 6-1: INTERSECTION ANALYSIS FOR EAPC (2026) CONDITIONS

#	Intersection	Traffic Control ²	EAC (2026)				EAPC (2026)			
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM	AM	PM	AM	PM
1	I-215 SB Ramps & Placentia Av.	TS	12.4	19.8	B	B	12.5	20.0	B	B
2	I-215 NB Ramps & Placentia Av.	TS	42.4	21.7	D	C	46.4	21.9	D	C
3	I-215 E. Frontage Rd. & Rider St.	CSS	13.1	16.7	B	C	13.3	16.9	B	C
4	I-215 E. Frontage Rd. & Driveway 1	<u>CSS</u>	Future Intersection				9.1	10.8	A	B
5	I-215 E. Frontage Rd. & Driveway 2	<u>CSS</u>	Future Intersection				9.2	10.8	A	B
6	I-215 E. Frontage Rd. & Driveway 3	<u>CSS</u>	Future Intersection				10.3	11.3	B	B
7	I-215 E. Frontage Rd. & Driveway 4	<u>CSS</u>	Future Intersection				9.2	11.0	A	B
8	I-215 E. Frontage Rd. & Driveway 5	<u>CSS</u>	Future Intersection				13.7	12.7	B	B
9	I-215 E. Frontage Rd. & Placentia Av.	TS	29.4	33.3	C	C	42.7	34.1	D	C

¹ Per the Highway Capacity Manual (7th 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

² TS = Traffic Signal; CSS = Cross-street Stop; CSS = Improvement

With the addition of Project traffic, there are no study area intersections anticipated to operate at an unacceptable LOS during the peak hours under EAPC (2026) traffic conditions. The intersection operations analysis worksheets for EAC and EAPC (2026) traffic conditions are included in Appendices 6.1 and 6.2, respectively.

6.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAC and EAPC (2026) traffic conditions is based on the peak hour volumes or planning level ADT volume-based traffic signal warrants. No study area intersections are anticipated to meet either peak hour volume or ADT volume-based warrants under either EAC or EAPC (2026) traffic conditions (see Appendices 6.3 and 6.4).

6.5 OFF-RAMP QUEUING ANALYSIS

Queuing analysis findings for EAC and EAPC traffic conditions are presented in Table 6-2. As shown in Table 6-2, the following study area off-ramp is anticipated to experience queuing issues during the peak hours under EAC (2026) traffic conditions:

- I-215 Southbound Ramps & Placentia Avenue (#1) westbound left – PM peak hour only

There are no additional movements 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 (2026) traffic conditions. Worksheets for EAC and EAPC (2026) traffic conditions queuing analysis are provided in Appendix 6.5 and 6.6, respectively.

6.6 DEFICIENCIES AND IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements. Improvements needed to achieve acceptable LOS have been identified at intersections, roadway segments, or study area off-ramps that are anticipated to operate at a deficient LOS under EAC and EAPC (2026) traffic conditions.

6.6.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

As shown in Table 6-1, there are no study area intersections anticipated to operate at an unacceptable LOS based on the daily roadway capacity thresholds and minimum LOS criteria under EAPC (2026) traffic conditions. As such, no improvements have been identified.

6.6.2 RECOMMENDED IMPROVEMENTS TO ADDRESS OFF-RAMP QUEUEING DEFICIENCIES

Improvement strategies have been recommended at study area off-ramps that have been identified as deficient under EAC and EAPC (2026) traffic conditions. The westbound left turn movement at the I-215 Southbound Ramps and Placentia Avenue ramp-to-arterial intersection is anticipated to experience deficient queues during the PM peak hour (see Table 6-2). Modifications to the dual left turn pocket storage is required along with signal timing modification which can be accommodated via restriping and reducing the dual left turn pocket storage length at the I-215 Northbound Ramps (no other physical lane additions). Dual left turn pocket storage should be increased by 50-feet for the westbound lefts at the I-215 Southbound Ramps while reducing the eastbound left turn storage at the I-215 Northbound Ramps by 50-feet. The addition of Project traffic is not anticipated to cause any new deficiencies.

TABLE 6-2: PEAK HOUR QUEUING SUMMARY FOR EAC AND EAPC (2026) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	EAC (2026)				EAPC (2026)			
			Synchro: 95th Percentile Queue (Feet)		Acceptable? ¹		Synchro: 95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps & Placentia Av. (#1)	SBL	335	128	247	Yes	Yes	137	250	Yes	Yes
	SBL/T	1,470	130	249	Yes	Yes	140	252	Yes	Yes
	SBR	890	65	44	Yes	Yes	66	45	Yes	Yes
	EBT	990	116	313 ²	Yes	Yes	122	318 ²	Yes	Yes
	EBR	260	37	67	Yes	Yes	38	67	Yes	Yes
	WBL	250	95	278	Yes	No	102	284 ²	Yes	No
	WBT	670	133	100	Yes	Yes	137	102	Yes	Yes
I-215 NB Ramps & Placentia Av. (#2)	NBL	575	121	89	Yes	Yes	118	87	Yes	Yes
	NBL/T	1,525	121	91	Yes	Yes	120	89	Yes	Yes
	NBR	1,000	1,030 ^{2,3}	352	Yes	Yes	1,169 ^{2,3}	354	Yes	Yes
	EBL	250	106 ²	192 ²	Yes	Yes	127 ²	152	Yes	Yes
	EBT	670	221	272	Yes	Yes	297	285	Yes	Yes
	WBT	510	247	401	Yes	Yes	342 ²	458	Yes	Yes
	WBR	350	74	61	Yes	Yes	88	72	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided for the 95th percentile queue only. An additional 25 feet of stacking

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-215 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 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 DIF 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 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 County'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, have been provided in Table 7-1 for the applicable deficient study area intersection and for each applicable phase (queuing deficiency, not LOS operational deficiency). 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

#	Intersection	Existing (2024)	Project	EAPC (2026)	Total New Traffic	Project % of New Traffic ¹
1	I-215 SB Ramps & Placentia Av.					
	AM:	1,245	44	2,154	909	4.8%
	PM:	1,603	23	2,875	1,272	1.8%

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

8 VEHICLE MILES TRAVELED (VMT)

8.1 BACKGROUND

The California Environmental Quality Act (CEQA) requires all lead agencies to adopt VMT as the measure for identifying transportation impacts for land use projects. To comply with CEQA, the City adopted analytical procedures, screening tools, and impact thresholds for VMT, which are documented in the Transportation Impact Analysis Guidelines for CEQA (May 12, 2020) (City Guidelines). (1) This VMT screening evaluation has been developed based on the adopted City Guidelines. See Appendix 8.1 for the VMT technical memorandum.

8.2 VMT SCREENING

The City's Guidelines list standardized VMT screening criteria that can be used to identify when a proposed land use development project is anticipated to result in a less than significant impact thereby eliminating the need to conduct additional VMT analysis. The City of Perris VMT screening criteria are listed below. A land use project need only meet one of the screening criteria to result in a less than significant impact.

- Affordable Housing
- High Quality Transit Areas (HQTAs)
- Local-Serving Land Use
- Low VMT Area
- Net Daily Trips Less than 500 ADT

8.2.1 AFFORDABLE HOUSING

This screening criteria is not applicable to the Project as no residential land use is proposed.

Affordable Housing screening criteria is not met.

8.2.2 HIGH QUALITY TRANSIT AREAS (HQTAs)

Consistent with guidance identified in the City Guidelines, projects located within a Transit Priority Area (TPA) (i.e., within ½ mile of an existing "major transit stop"¹ or an existing stop along a "high-quality transit corridor"²) may be presumed to have a less than significant impact absent substantial evidence to the contrary. However, the presumption may not be appropriate if a project:

- Has a Floor Area Ratio (FAR) of less than 0.75;
- Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
- Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or

¹ Pub. Resources Code, § 21064.3 ("Major transit stop" means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.).

² Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.).

- Replaces affordable residential units with a smaller number of moderate or high-income residential units.

The Project does not intend to develop a FAR of greater than 0.75 to meet the secondary criteria. Therefore, irrespective of the Project's location to any HQT, the Project would not qualify for this screening criteria.

HQT screening criteria is not met.

8.2.3 LOCAL-SERVING LAND USE

As identified in the City Guidelines, local serving land uses provide more opportunities for residents and employees to shop, dine, and obtain services closer to home and work.

Tenant 1 functions as a local-serving business due to the operational needs of industries such as transportation and logistics. Proximity to clients allows for the easy access to trailers, which are frequently needed on short notice for freight transport or to meet operational demands. Being local reduces transportation costs associated with moving trailers and allows for quicker turnaround times. Tenant 1 can provide on-site repairs and replacements with minimal delay, ensuring that client operations are not disrupted. In addition, a local trailer leasing company typically has a thorough understanding of regional road regulations and weight limits, ensuring that the trailers they lease comply with all necessary standards. This operational structure allows trailer leasing companies to serve the needs of businesses within their local markets effectively. Because logistics operation's efficiency is heavily reliant on reducing trip length and limiting empty dead load truck trips, the site's proximity to the existing logistics business base will serve to reduce traffic.

Tenant 1's primary business is renting and leasing semi-trailers to a diverse clientele. Importantly, Tenant 1 does not participate in trucking operations, general vehicle storage, or industrial activities such as freight storage, hauling, or breaking. Heavy duty trucks are not housed on-site; only those needing a trailer will visit the location. This usage is anticipated to reduce VMT, as customers would otherwise drive longer distances to rent a commercial trailer. It is understood that there are no other significant commercial trailer rental services within the City of Perris. Any truck visiting the site would already be on a pre-planned route, thereby reducing the distance customers need to travel to access a rental trailer. The major customer base is the Perris and Moreno Valley area, with customers unlikely to travel further to rent an empty trailer. The operations are comparable to those of a U-Haul or small box truck rental facility, where customers typically opt for the closest available location when seeking to rent vehicles or small box trucks.

Tenant 2 is a construction equipment leasing company operates as a local-serving entity due to the specific logistical demands of the construction industry. Proximity to clients allows for timely delivery of heavy machinery, which is often required on short notice to meet project deadlines and ensure work can continue without interruption. By being located near construction sites, the company minimizes downtime and provides quick access to essential equipment. The transportation of large construction machinery is logistically complex and costly, so operating locally reduces transportation expenses and streamlines the leasing process. Additionally, local companies can provide on-site maintenance and repairs with minimal delays, ensuring that any equipment breakdowns do not cause prolonged project disruptions. Furthermore, these companies are knowledgeable about regional regulations and zoning laws, ensuring that the machinery complies with local requirements.

As both tenant's unique operational characteristics are considered locally serving the area, the Project meets the Local-Serving Land Use screening criteria.

Local-Serving Land Use screening criteria is met.

8.2.4 LOW VMT AREA SCREENING

The City Guidelines state, "Projects that locate in areas with low VMT, and that incorporate similar features (i.e., land use type, access to the circulation network, etc.), will tend to exhibit similarly low VMT." It is our understanding that the City of Perris utilizes its own VMT scoping form to identify areas of low VMT. The City of Perris' Scoping Form uses the sub-regional Riverside County Transportation Analysis Model (RIVTAM) to measure VMT performance in individual traffic analysis zones (TAZs) within the WRCOG region. Since the development and adaptation of Perris' Scoping Form, WRCOG has released an updated transportation demand model RIVCOM, which supersedes the RIVTAM data contained in the City's Scoping Form. Based on consultation with City Staff, it was recommended that the latest WRCOG web-based VMT screening tool (**Screening Tool**) be utilized in lieu of the City's Scoping Form.

The Project's location and traffic analysis zone (**TAZ**) were determined using the Screening Tool, which identified the Project's TAZ as TAZ 1829. TAZ 1829 has a VMT per employee of 17.3, while the citywide baseline average VMT per employee is 16.8. Therefore, the Project is not located in a low VMT generating area (see Exhibit 8-1).

Low VMT Area screening criteria is not met.

8.2.5 NET DAILY TRIPS LESS THAN 500 ADT

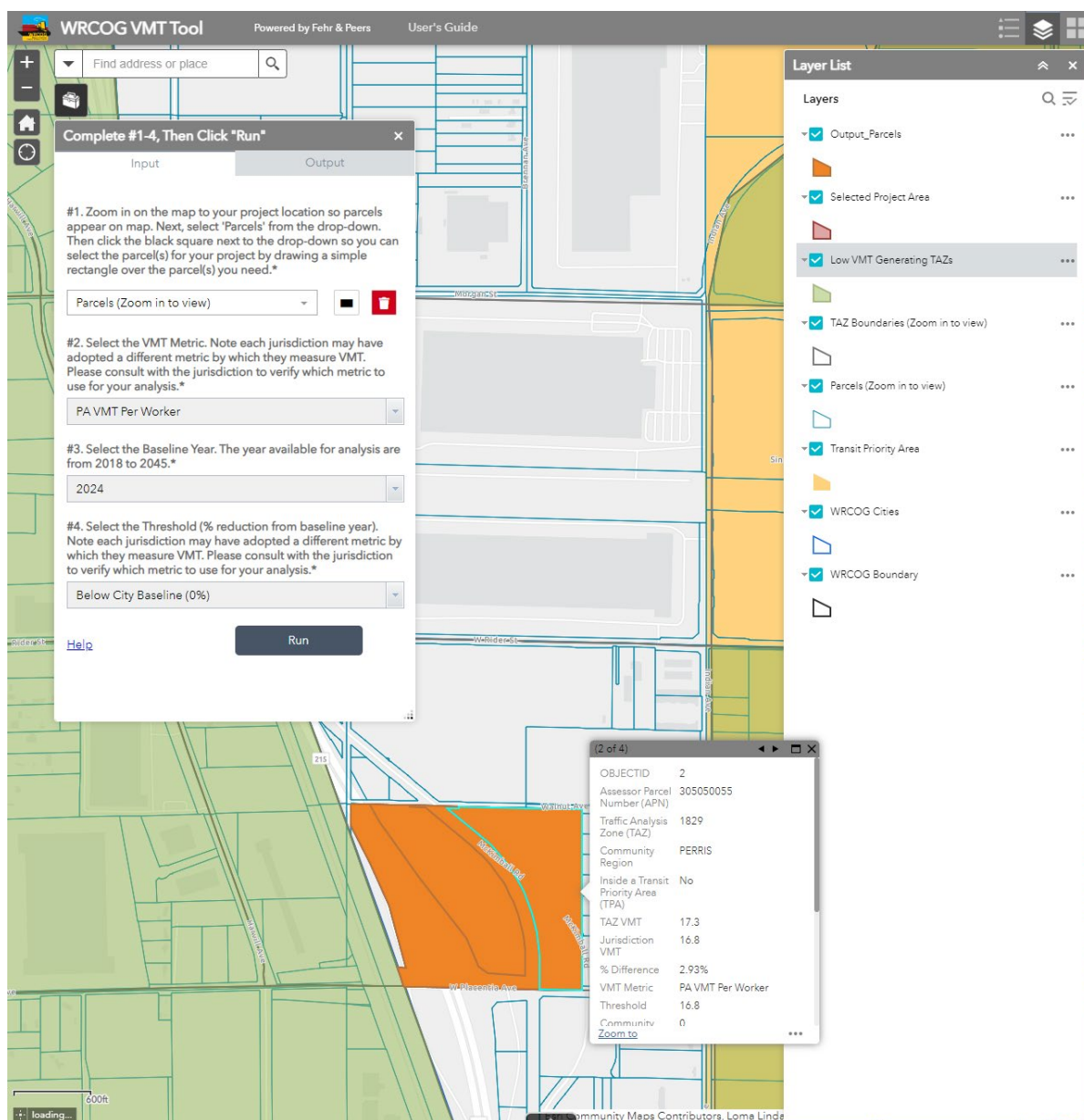
The City Guidelines note that projects that generate less than 500 average daily trips (ADT) would not cause a substantial increase in the total citywide or regional VMT and are therefore presumed to have a less than significant impact on VMT. The Project is forecast to generate 642 two-way daily trips and exceed the City's 500 ADT threshold (see Table 4-5).

Net Daily Trips Less Than 500 ADT screening criteria is not met.

8.3 SUMMARY OF FINDINGS

The Project was found to meet the Local-Serving Land Use screening criteria based on the Project's operational characteristics. The Project is presumed to have a less than significant impact on VMT and no further VMT analysis is required.

EXHIBIT 8-1: WRCOG SCREENING TOOL RESULTS



9 REFERENCES

1. **City of Perris.** *Transportation Impact Analysis Guidelines for CEQA*. City of Perris : s.n., May 12, 2020.
2. **Institute of Transportation Engineers.** *Trip Generation Manual*. 11th Edition. 2021.
3. **Transportation Research Board.** *Highway Capacity Manual (HCM)*. 7th Edition. s.l. : National Academy of Sciences, 2022.
4. **Caltrans.** California Manual on Uniform Traffic Control Devices (MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CAMUTCD)*. 2023.
5. **City of Perris.** *General Plan Circulation Element*. City of Perris : s.n., August 26, 2008.
6. **Southern California Association of Governments (SCAG).** *Connect SoCal 2024 - Demographics & Growth Forecast Technical Report*. s.l. : Southern California Association of Governments (SCAG), Adopted April 4, 2024.

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