URBAN | CROSSROADS

KELLER CROSSING TTM NO. 38163

TRAFFIC ANALYSIS

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16056-07 TA Report	County of Riverside	June 30, 2026

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CA MUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
DIF	Development Impact Fee
EAP	Existing Plus Ambient Growth Plus Project
EAPC	Existing Plus Ambient Growth Plus Project Plus Cumulative
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
OPR	Office of Planning and Research
PHF	Peak Hour Factor
Project	Keller Crossing
RCTC	Riverside County Transportation Commission
RTA	Riverside Transit Authority
TA	Traffic Analysis
TTM	Tentative Tract Map
TUMF	Transportation Uniform Mitigation Fee
WRCOG	Western Riverside Council of Governments
v/c	Volume to Capacity
VMT	Vehicle Miles Traveled

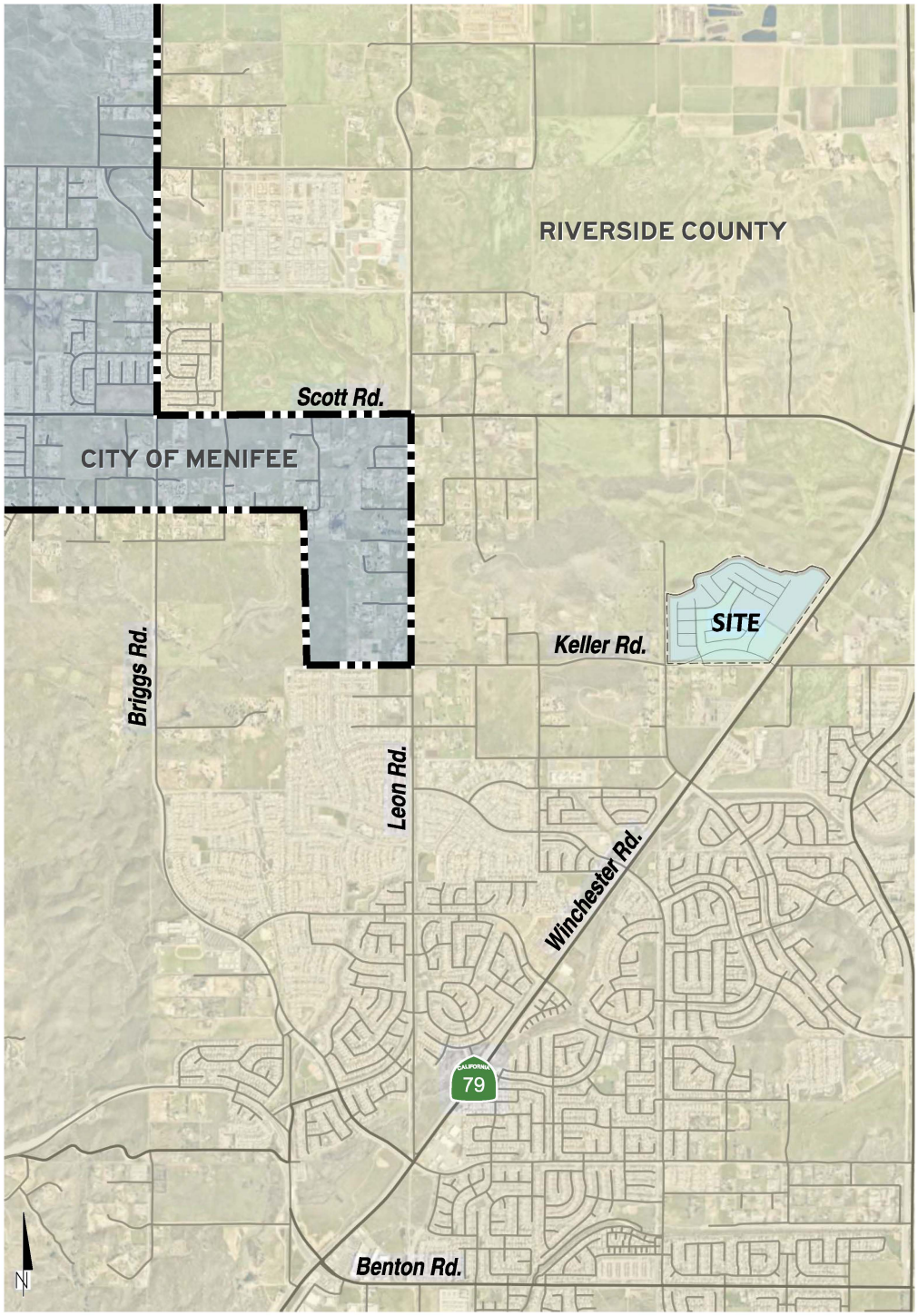
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1 SUMMARY OF FINDINGS

This report presents the results of the Traffic Analysis (TA) for the Keller Crossing Tentative Tract Map (**TTM**) No. 38163 (**Project**), which is located on the northwest corner of Winchester Road (SR-79) and Keller Road in the County of Riverside, as shown on Exhibit 1-1.

The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project and, where necessary, recommend improvements to achieve acceptable operations consistent with General Plan level of service goals and policies. This TA has been prepared in accordance with the County of Riverside's Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled (December 2020) (**County Guidelines**) and through consultation with County of Riverside staff during the scoping process. (1) The approved Project Traffic Study Scoping Agreement is provided in Appendix 1.1 of this TA.

EXHIBIT 1-1 : LOCATION MAP



1.1 PROJECT OVERVIEW

1.1.1 LAND USE

The Project consists of the development of 384 Single Family Detached Residential dwelling units, 230 Multifamily (Low-Rise) Residential dwelling units, 80 Senior Housing (Detached) units, and 8.97 acres of Active Park use. The Project is proposed to be evaluated in two phases with the first phase having an anticipated Opening Year of 2028 and Project Buildout anticipated in 2030. The first phase of development (2028) will include the development of 180 Single Family Detached Residential dwelling units and 98 Multifamily (Low-Rise) Residential dwelling units.

A preliminary site plan for the proposed Project is shown in Exhibit 1-2. Primary access to the Project site will be accommodated via a new alignment of Keller Road (via Street A and Street B). Both Street A and Street B will allow for full access onto Keller Road. No direct access is proposed from the Project to Winchester Road (SR-79) except via Keller Road. Access to the I-215 Freeway is presumed to occur via Scott Road and Clinton Keith Road. It should be noted that the extension of Clinton Keith Road has been completed between Leon Road and Winchester Road (SR-79).

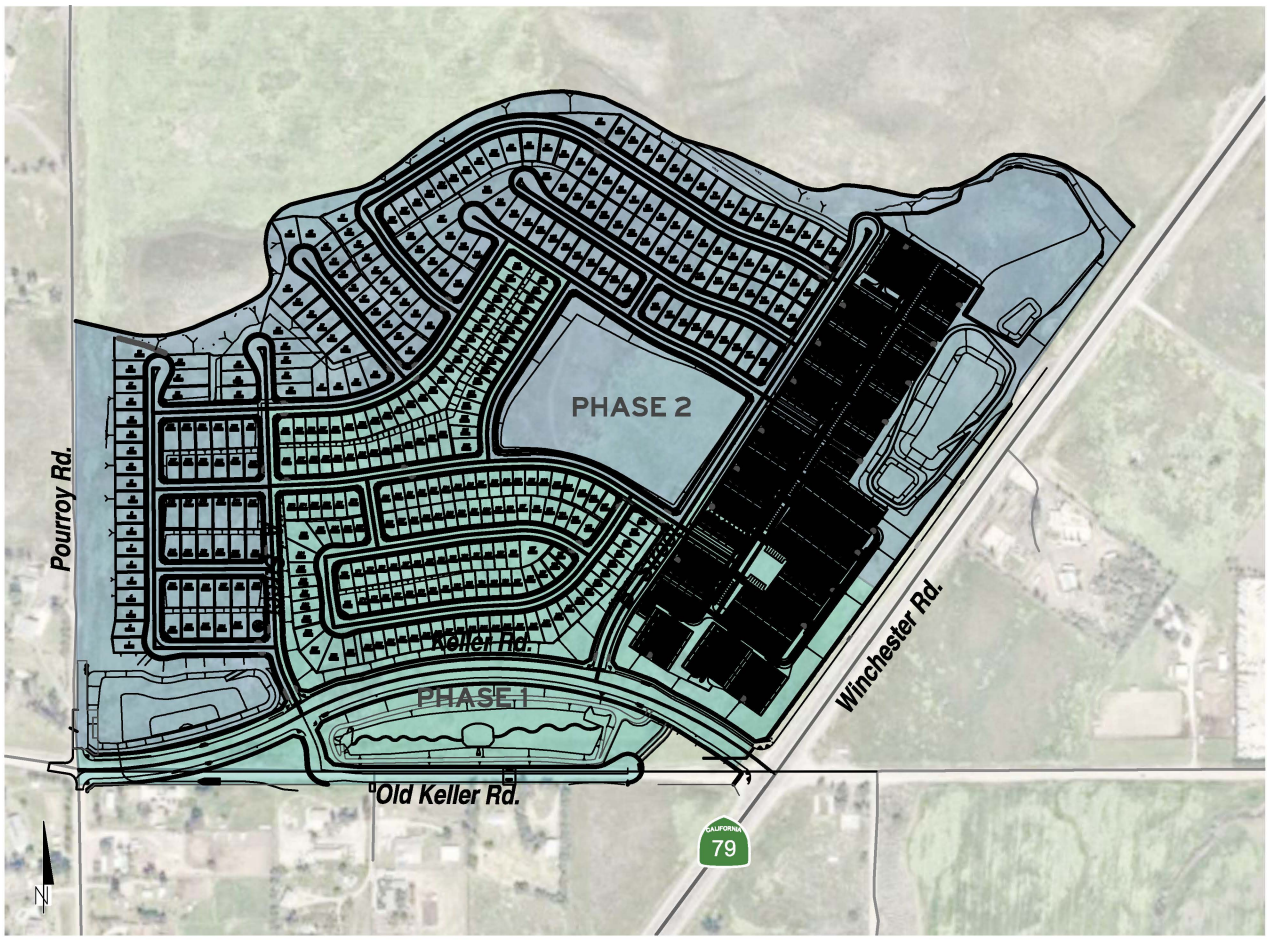
The prior Approved Keller Crossing Specific Plan Traffic Study (dated January 20, 2022, referred to as 2022 Traffic Study) No. 380 (Amendment No. 1) evaluated up to 176,000 square feet of commercial retail uses, however, this component of the Project has been replaced by the development of 230 Multifamily (Low-Rise) Residential dwelling units in the current proposal.

1.1.2 TRIP GENERATION

In order to develop the traffic characteristics of the proposed Project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) were used to estimate the Project's trip generation based on the Single Family Detached Housing (ITE Land Use Code 210), Multifamily (Low-Rise) Residential (ITE Land Use Code 220), and Senior Adult Housing – Single Family (ITE Land Use Code 251) land use categories. (2) The trip generation rates for the Active Park are based on the San Diego Municipal Code's Land Development Code Trip Generation Manual (May 2003). (3)

The Project (at Project Buildout) is anticipated to generate 5,720 two-way trip-ends per day with 398 AM peak hour trips and 538 PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

EXHIBIT 1-2 : PRELIMINARY SITE PLAN



1.2 ANALYSIS SCENARIOS

For the purposes of this TA, potential deficiencies to intersection level of service (LOS) have been assessed for each of the following conditions:

- Existing (2024) Conditions
- Existing plus Ambient Growth plus Project (EAP) (2028) Conditions (Project Phase 1)
- Existing plus Ambient Growth plus Project (EAP) (2030) Conditions (Project Buildout)
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2030) Conditions (Project Buildout only)

1.2.1 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 and operating on normal bell schedules at the time traffic counts were collected.

1.2.2 EAP (2028 & 2030) CONDITIONS

The EAP (2028) and EAP (2030) conditions analysis determines the potential circulation system deficiencies based on a comparison of the EAP traffic conditions to Existing conditions. The roadway network is similar to Existing conditions except for new connections to be constructed by the Project. To account for background traffic growth, an ambient growth factor from Existing (2024) conditions of 8.24% (2 percent per year, compounded over 4 years) is included for EAP (2028) traffic conditions and 12.62% (2 percent per year, compounded over 6 years) included for EAP (2030) traffic conditions. The assumed ambient growth factor is based on the requirements per the County Guidelines. Consistent with County Guidelines, the EAP analysis is intended to identify "Opening Year" deficiencies associated with the development of the Project based on the expected background growth within the study area.

1.2.3 EAPC (2030) CONDITIONS

The EAPC (2030) 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. To account for background traffic growth, an ambient growth factor from Existing (2024) conditions of 12.62% (2 percent per year, compounded over 6 years) is included for EAPC (2030) traffic. 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 2030 Opening Year time frame assumed for the Project. The resulting traffic growth utilized in the TA (ambient growth factor plus traffic generated by related projects) would therefore tend to overstate rather than understate background cumulative traffic deficiencies under 2030 conditions.

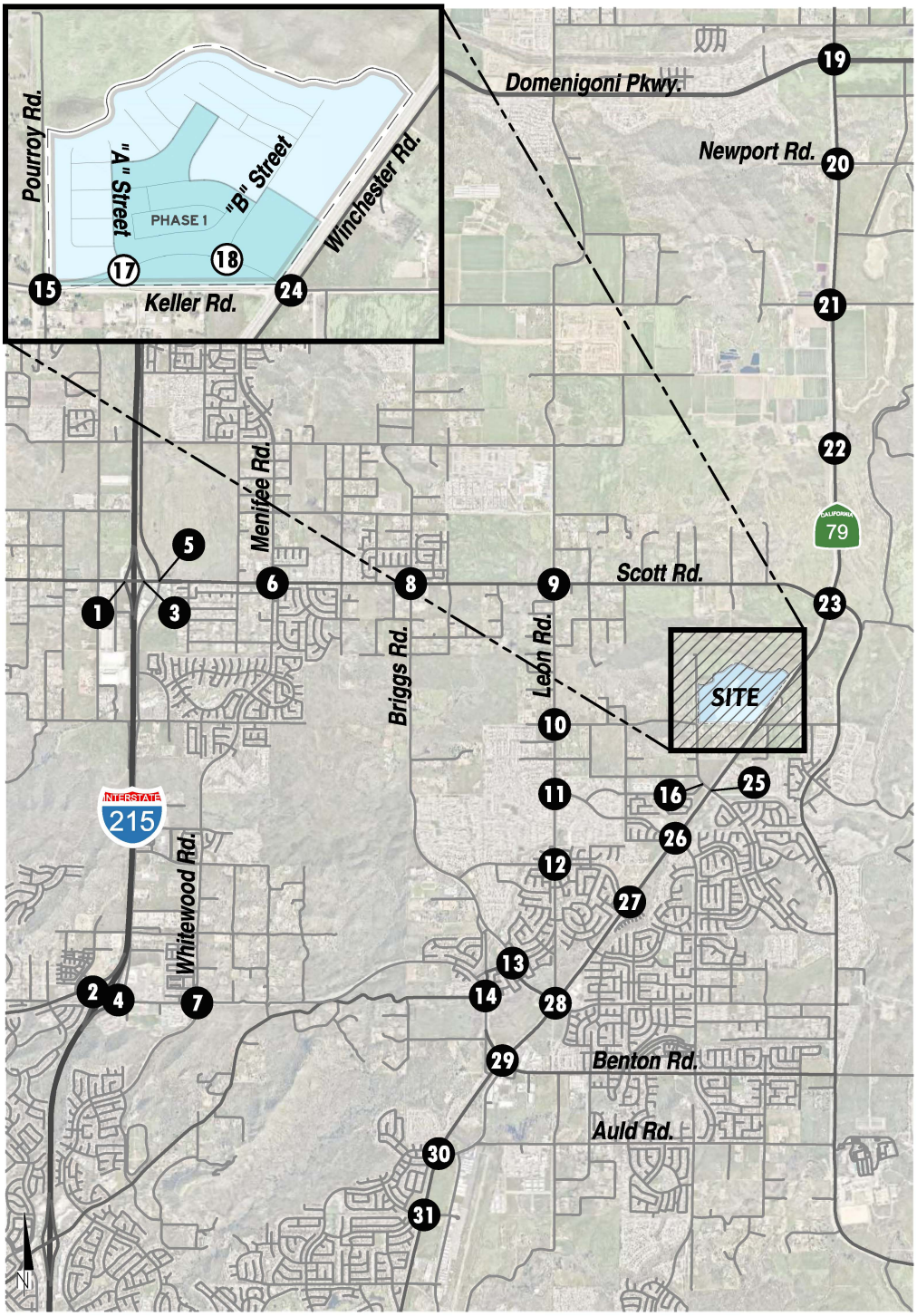
1.3 STUDY AREA

For the purposes of this TA, 31 study area intersections were selected for evaluation based on County Guidelines and consultation with County staff. (1) The 31 study area intersections shown on Exhibit 1-3 and listed in Table 1-1 have been selected for assessment based on the County's analysis criteria of 50 or more peak hour trips. The study area intersections will be evaluated using the Highway Capacity Manual (HCM) 7th Edition methodology.

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

#	Intersection	Jurisdiction	CMP?
1	I-215 SB Ramps & Scott Rd.	Menifee, Caltrans	No
2	I-215 SB Ramps & Clinton Keith Rd.	Murrieta, Caltrans	No
3	I-215 NB Ramps & Scott Rd.	Menifee, Murrieta, Caltrans	No
4	I-215 NB Ramps & Clinton Keith Rd.	Murrieta, Caltrans	No
5	Antelope Rd. & Scott Rd.	Menifee, Murrieta, Caltrans	No
6	Menifee Rd. & Scott Rd.	Menifee, County	No
7	Whitewood Rd. & Clinton Keith Rd.	Murrieta	No
8	Briggs Rd. & Scott Rd.	Menifee, County	No
9	Leon Rd. & Scott Rd.	Menifee, County	No
10	Leon Rd. & Keller Rd.	County of Riverside	No
11	Leon Rd. & Whisper Heights Pkwy.	County of Riverside	No
12	Leon Rd. & Jean Nicholas Rd.	County of Riverside	No
13	Briggs Rd. & Leon Rd.	County of Riverside	No
14	Leon Rd. & Clinton Keith Rd.	County of Riverside	No
15	Pourroy Rd. & Keller Rd.	County of Riverside	No
16	Pourroy Rd. & Pat Rd.	County of Riverside	No
17	Old Keller Rd./Street A & Keller Rd.	County of Riverside	No
18	Street B & Keller Rd.	County of Riverside	No
19	Winchester Rd. (SR-79) & Domenigoni Pkwy.	County, Caltrans	No
20	Winchester Rd. (SR-79) & Newport Rd.	County, Caltrans	No
21	Winchester Rd. (SR-79) & Holland Rd.	County, Caltrans	No
22	Winchester Rd. (SR-79) & Garbani Rd.	County, Caltrans	No
23	Winchester Rd. (SR-79) & Scott Rd.	County, Caltrans	No
24	Winchester Rd. (SR-79) & Keller Rd.	County, Caltrans	No
25	Winchester Rd. (SR-79) & Abelia St.	County, Caltrans	No
26	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	County, Caltrans	No
27	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	County, Caltrans	No
28	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	County, Murrieta, Caltrans	No
29	Winchester Rd. (SR-79) & Benton Rd.	County, Murrieta, Caltrans	No
30	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	County, Murrieta, Caltrans	No
31	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	County, Murrieta, Caltrans	No

EXHIBIT 1-3 : STUDY AREA



LEGEND:

0 = *Existing Intersection Analysis Location*

(0) = *Future Intersection Analysis Location*

The off-site study area intersections are consistent with those evaluated in the 2022 Traffic Study.

The intent of a Congestion Management Program (CMP) is to directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. The County of Riverside CMP became effective with the passage of Proposition 111 in 1990 and was most recently updated in 2019 as part of the Riverside County Long Range Transportation Study. The Riverside County Transportation Commission (RCTC) adopted the 2019 CMP for the County of Riverside in December 2019. (2) There are no study area intersections identified as a Riverside County CMP intersection.

1.4 GENERAL PLAN CONSISTENCY REQUIREMENTS FOR INTERSECTIONS

This section provides a brief overview of the intersection LOS deficiencies identified in this report. The LOS standards used for this assessment are consistent with those identified in the County of Riverside General Plan. Section 2 *Methodologies* provides a detailed explanation on the methodologies used for this assessment, while Section 3 *Area Conditions,* Section 5 *EAP (2028) Traffic Conditions,* Section 6 *EAP (2030) Traffic Conditions,* and Section 7 *EAPC (2030) Traffic Conditions* include the operations analysis results for each analysis scenario. Additionally, a summary of the peak hour LOS analysis results is presented in Table 1-2.

1.4.1 EXISTING (2024) CONDITIONS

The assessment of Existing (2024) traffic conditions is performed to establish a baseline of current LOS operations from which the effects of the Project's future contribution of traffic can be measured. The study area intersections were found to currently operate at an acceptable LOS (i.e., at or above the County of Riverside's adopted General Plan thresholds) during the peak hours, with the exception of the following intersections:

- Leon Road & Scott Road (#9) – LOS E AM peak hour only
- Leon Road & Keller Road (#10) – LOS E AM peak hour only
- Leon Road & Clinton Keith Road (#14) – LOS E AM peak hour only
- Winchester Road (SR-79) & Domenigoni Parkway (#19) – LOS F AM and PM peak hours

1.4.2 EAP (2028), EAP (2030), AND EAPC (2030) CONDITIONS

An assessment of Opening Year and Cumulative traffic conditions is performed to identify whether the traffic contribution associated with both of the Project (Phase 1 and Project Buildout) and that of other reasonably foreseeable future development projects in the area have the potential to cause intersection LOS to fall below the City's adopted thresholds. The Project's contribution to these forecasted LOS deficiencies is typically addressed through fee payments to an established fee program (both local and regional).

The results of the LOS assessments for EAP (2028), EAP (2030), AND EAPC (2030) traffic conditions are also summarized in Table 1-2, while Section 5 *EAP (2028) Traffic Conditions,* Section 6 *EAP (2030) Traffic Conditions,* and Section 7 *EAPC (2030) Traffic Conditions* of the report provide a more detailed list of the forecast LOS deficiencies.

TABLE 1-2 : SUMMARY OF LOS

	Existing (2024)	EAP (2028)	EAP (2030)	EAPC (2030)
1 I-215 SB Ramps & Scott Rd.				
2 I-215 SB Ramps & Clinton Keith Rd.				
3 I-215 NB Ramps & Scott Rd.				
4 I-215 NB Ramps & Clinton Keith Rd.				
5 Antelope Rd. & Scott Rd.				
6 Menifee Rd. & Scott Rd.				
7 Whitewood Rd. & Clinton Keith Rd.				
8 Briggs Rd. & Scott Rd.				
9 Leon Rd. & Scott Rd.				
10 Leon Rd. & Keller Rd.				
11 Leon Rd. & Whisper Heights Pkwy.				
12 Leon Rd. & Jean Nicholas Rd.				
13 Briggs Rd. & Leon Rd.				
14 Leon Rd. & Clinton Keith Rd.				
15 Pourroy Rd. & Keller Rd.				
16 Pourroy Rd. & Pat Rd.				
17 Old Keller Rd./Street A & Keller Rd.	N/A			
18 Street B & Keller Rd.	N/A			
19 Winchester Rd. (SR-79) & Domenigoni Pkwy.				
20 Winchester Rd. (SR-79) & Newport Rd.				
21 Winchester Rd. (SR-79) & Holland Rd.				
22 Winchester Rd. (SR-79) & Garbani Rd.				
23 Winchester Rd. (SR-79) & Scott Rd.				
24 Winchester Rd. (SR-79) & Keller Rd.				
25 Winchester Rd. (SR-79) & Abelia St.				
26 Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.				
27 Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.				
28 Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.				
29 Winchester Rd. (SR-79) & Benton Rd.				
30 Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.				
31 Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.				

LEGEND:

- *= AM Peak Hour*
- *= PM Peak Hour*
- *= A-D*
- *= E*
- *= F*

1.5 RECOMMENDATIONS

1.5.1 INTERSECTION IMPROVEMENT RECOMMENDATIONS NECESSARY TO MAINTAIN GENERAL PLAN CONSISTENCY

The summary of intersection improvement recommendations to maintain General Plan LOS standards for EAP (2028, 2030) and EAPC (2030) are listed in Table 1-3. Recommended storage lengths necessary to accommodate existing or anticipated future 95th percentile queues are also shown in Table 1-3. A comparison of the improvement recommendations to the intersection operations improvement recommendations included in the 2022 Traffic Study is shown in Table 1-4.

In addition to the improvements summarized in Table 1-3, the Project is to extend the northbound right-turn lane storage at Leon Road and Scott Road (Intersection #9) to 550 feet to accommodate queues anticipated under EAP (2030) conditions. The associated queuing analysis is provided in Sections 5.6.2 and 6.6.2 of the TA.

TABLE 1-3: SUMMARY OF IMPROVEMENTS BY ANALYSIS SCENARIO (1 OF 4)

#	Intersection Location	Jurisdiction	Analysis Scenario				Improvements included in Fee Program?[1]	Project Responsibility[2]	Fair Share %[3]
			Existing (2024)	EAP (2028)	EAP (2030)	EAPC (2030)			
5	Antelope Rd. & Scott Rd.	Menifee, Murrieta, Caltrans	Increase SB right turn storage to 250 feet	Same	Same	Not Analyzed[4]	No	Fair Share	3.8%
			Increase EB left turn storage to 320 feet	Same	Same	Not Analyzed[4]	No	Fair Share	
						Add 3rd EB through	No	Fair Share	
						Add 2nd SB through	Yes (TUMF)	Fees	
6	Menifee Rd. & Scott Rd.	Menifee, County	Increase EB left turn storage to 325 feet	Same	Same	Not Analyzed[4]	No	Fair Share	4.8%
			Increase WB left turn storage to 500 feet	Same	Same	Not Analyzed[4]	No	Fair Share	
					Restripe the SB left turn lane to accommodate 200 feet of storage.	Not Analyzed[4]	No	Construct[5]	
						Add 3rd EB through	Yes (TUMF)	Fees	
						Add 3rd WB through	Yes (TUMF)	Fees	
						Add 2nd EB left turn	No	Fair Share	
						Add 2nd WB left turn	No	Fair Share	
						Add WB right turn	No	Fair Share	
						Restripe NB right turn lane as a shared through-right turn	No	Fair Share	
7	Whitewood Rd. & Clinton Keith Rd.	Murrieta	Increase WB left turn storage to 250 feet	Same	Same	Not Analyzed[4]	No	Fair Share	4.5%
						Add 2nd NB left turn	No	Fair Share	
						Add 2nd SB left turn	No	Fair Share	
8	Briggs Rd. & Scott Rd.	Menifee, County	Increase EB left turn storage to 250 feet	Same	Same	Not Analyzed[4]	No	Fair Share	6.1%
						Add 3rd EB through	Yes (TUMF)	Fees	
						Add 3rd WB through	No	Fair Share	

TABLE 1-3: SUMMARY OF IMPROVEMENTS BY ANALYSIS SCENARIO (2 OF 4)

#	Intersection Location	Jurisdiction	Analysis Scenario				Improvements included in Fee Program?[1]	Project Responsibility[2]	Fair Share %[3]
			Existing (2024)	EAP (2028)	EAP (2030)	EAPC (2030)			
9	Leon Rd. & Scott Rd.	Menifee, County	Add SB right turn lane	Same	Same	Same	No	Construct[5]	6.0%
			Increase NB left turn storage to 500 feet	Same	Same	Not Analyzed[4]	No	Fair Share	
			Increase EB left turn storage to 500 feet	Same	Same	Not Analyzed[4]	No	Fair Share	
						Add 2nd EB through	No	Fair Share	
						Add 3rd EB through	No	Fair Share	
						Add 2nd WB through	No	Fair Share	
						Add 3rd WB through	No	Fair Share	
						Add 2nd NB left turn	No	Fair Share	
10	Leon Rd. & Keller Rd.	County of Riverside	Add NB left turn lane	Same	Same	Same	No	Construct[5]	--
			Add SB left turn lane	Same	Same	Same	No	Construct[5]	
			Add EB left turn lane	Same	Same	Same	No	Construct[5]	
			Add WB left turn lane	Same	Same	Same	No	Construct[5]	
						Install a traffic signal	Yes (DIF)	Fees	
11	Leon Rd. & Whisper Heights Pkwy.	County of Riverside	Increase SB left turn storage to 310 feet	Same	Same	Not Analyzed[4]	No	Fair Share	40.3%
			Increase WB left turn storage to 250 feet	Same	Same	Not Analyzed[4]	No	Fair Share	
12	Leon Rd. & Jean Nicholas Rd.	County of Riverside	Increase WB left turn storage to 250 feet	Same	Same	Not Analyzed[4]	No	Fair Share	18.7%
14	Leon Rd. & Clinton Keith Rd.	County of Riverside	Modify the traffic signal to implement overlap phasing for the WB right turn lane	Same	Same	Same	No	Construct[5]	8.5%

TABLE 1-3: SUMMARY OF IMPROVEMENTS BY ANALYSIS SCENARIO (3 OF 4)

#	Intersection Location	Jurisdiction	Analysis Scenario				Improvements included in Fee Program?[1]	Project Responsibility[2]	Fair Share %[3]
			Existing (2024)	EAP (2028)	EAP (2030)	EAPC (2030)			
19	Winchester Rd. (SR-79) & Domenigoni Pkwy.	County, Caltrans	Add 3rd EB through lane	Same	Same	Same	Yes (TUMF)	Fees	4.5%
			Modify the traffic signal to implement overlap phasing for the NB right turn lane	Same	Same	Same	No	Fair Share	
						Add 3rd NB through	Yes (TUMF)	Fees	
						Add 3rd SB through	No	Fair Share	
23	Winchester Rd. (SR-79) & Scott Rd.	County, Caltrans	None	None	None	Add 2nd EB left turn	No	Fair Share	2.4%
						Add 2nd NB left turn	No	Fair Share	
						Add 2nd SB left turn	No	Fair Share	
						Add 2nd EB through	No	Fair Share	
						Add 2nd WB left turn	No	Fair Share	
						Add 2nd WB through	No	Fair Share	
						Add 2nd WB right	No	Fair Share	
						Modify the traffic signal to implement overlap phasing for the WB and SB right turn lane	No	Fair Share	
25	Winchester Rd. (SR-79) & Abelia St.	County, Caltrans	None	None		Add 3rd NB through lane	Yes (TUMF)	Fees	5.6%
						Add 3rd SB through	Yes (TUMF)	Fees	
26	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	County, Caltrans				Add 3rd NB through	Yes (TUMF)	Fees	4.7%
						Add 3rd SB through	Yes (TUMF)	Fees	
27	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	County, Caltrans	Increase EB left turn storage to 250 feet	Same	Same	Not Analyzed[4]	No	Fair Share	4.8%
						Add 3rd NB through	Yes (TUMF)	Fees	
						Add 3rd SB through	Yes (TUMF)	Fees	

TABLE 1-3: SUMMARY OF IMPROVEMENTS BY ANALYSIS SCENARIO (4 OF 4)

#	Intersection Location	Jurisdiction	Analysis Scenario				Improvements included in Fee Program?[1]	Project Responsibility[2]	Fair Share %[3]
			Existing (2024)	EAP (2028)	EAP (2030)	EAPC (2030)			
28	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	County, Murrieta, Caltrans	Increase SB right turn storage to 170 feet	Same	Same	Not Analyzed[4]	No	Fair Share	4.4%
						Add 3rd NB through	Yes (TUMF)	Fees	
						Add 3rd SB through	Yes (TUMF)	Fees	
29	Winchester Rd. (SR-79) & Benton Rd.	County, Murrieta, Caltrans	None	None	None	Add 3rd NB through	Yes (TUMF)	Fees	3.9%
						Add 3rd SB through	Yes (TUMF)	Fees	
30	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	County, Murrieta, Caltrans	None	Increase WB left turn storage to 400 feet	Same	Not Analyzed[4]	No	Construct[5]	3.8%
						Add 3rd NB through	Yes (TUMF)	Fees	
						Add 3rd SB through	Yes (TUMF)	Fees	
31	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	County, Murrieta, Caltrans	None	None	None	Add 3rd NB through	Yes (TUMF)	Fees	2.8%
						Add 3rd SB through	Yes (TUMF)	Fees	

[1] Improvements included in TUMF Nexus or County DIF programs have been identified as such.

[2] Program improvements constructed by Project may be eligible for fee credit. In lieu fee payment is at discretion of County.

[3] Total project fair share is applicable to the improvements which are not already included in the County DIF/TUMF for those intersections wholly or partially within the County.

[4] A queuing analysis was not conducted for EAPC (2030) traffic conditions.

[5] Improvement is identified as a construct obligation pursuant to County Guidelines; however, the ultimate scope, timing, and implementation of the improvement shall be as determined and approved by the lead and/or controlling agency which may include construction, fair-share participation, alternative improvements, or other measures deemed acceptable by the agency.

TABLE 1-4: COMPARISON OF RECOMMENDED IMPROVEMENTS (1 OF 3)

#	Intersection Location	Jurisdiction	2024 Traffic Study	2022 Traffic Study
5	Antelope Rd. & Scott Rd.	Menifee, Murrieta, Caltrans	Add 3rd EB through lane	Same
			Add 2nd SB through lane	Same
				Add 2nd SB left turn lane
				Add 2nd SB right turn lane
				Add 2nd EB right turn lane
				Add 4th WB through lane
6	Menifee Rd. & Scott Rd.	Menifee, County	Add 3rd EB through lane	Same
			Add 3rd WB through lane	Same
			Add 2nd EB left turn lane	Same
			Add 2nd WB left turn lane	Same
			Add WB right turn lane	Same
			Restripe NB right turn lane as a shared through-right turn lane	Add 2nd NB through lane
				Add 2nd SB left turn lane
				Add WB right turn lane
				Add 2nd SB through lane
				Modify the traffic signal to implement overlap phasing for the NB right turn lane
7	Whitewood Rd. & Clinton Keith Rd	Murrieta	Add 2nd NB left turn lane	Same
			Add 2nd SB left turn lane	Same
				Add 2nd NB through lane
				Add 3rd EB through lane
				Add SB right turn lane
				Modify the traffic signal to implement overlap phasing for the SB right turn lane
8	Briggs Rd. & Scott Rd.	Menifee, County	Add 3rd EB through lane	Same
			Add 3rd WB through lane	Same
				Add NB left turn lane
				Restripe the SB right turn lane to a shared through-right turn lane
				Add 2nd NB left turn lanes
9	Leon Rd. & Scott Rd.	Menifee, County	Add SB right turn lane	Not Applicable
			Add 2nd EB through lane	Same
			Add 3rd EB through lane	Same
			Add 2nd WB through lane	Same
			Add 3rd WB through lane	Same
			Add 2nd NB left turn lane	Same
				Modify the traffic signal to implement overlap phasing for the NB right turn lane
				Add 2nd NB through lane
				Add 2nd SB through lane
10	Leon Rd. & Keller Rd.	County of Riverside	Add NB left turn lane	Same
			Add SB left turn lane	Same
			Add EB left turn lane	Not Applicable
			Add WB left turn lane	Not Applicable
			Install a Traffic Signal	Same
				Add 2nd NB through lane
				Add 2nd SB through lane

TABLE 1-4: COMPARISON OF RECOMMENDED IMPROVEMENTS (2 OF 3)

#	Intersection Location	Jurisdiction	2024 Traffic Study	2022 Traffic Study
14	Leon Rd. & Clinton Keith Rd.	County of Riverside	Modify the traffic signal to implement overlap phasing for the WB right turn lane	Not Applicable[1]
19	Winchester Rd. (SR-79) & Domenigoni Pkwy.	County, Caltrans	Add 3rd EB through lane	Same
			Modify the traffic signal to implement overlap phasing for the NB right turn lane	Same
			Add 3rd NB through lane	Same
			Add 3rd SB through lane	Same
				Add 2nd NB left turn lane
				Add 2nd SB left turn lane
23	Winchester Rd. (SR-79) & Scott Rd.	County, Caltrans	Add 2nd EB left turn lane	Same
			Add 2nd NB left turn lane	Same
			Add 2nd SB left turn lane	Same
			Add 2nd EB through lane	Same
			Add 2nd WB left turn lane	Same
			Add 2nd WB through lane	Same
			Add 2nd WB right turn lane	Same
			Modify the traffic signal to implement overlap phasing for the WB and SB right turn lane	Same
				Add 4th NB through lane
				Add 4th SB through lane
25	Winchester Rd. (SR-79) & Abelia St.	County, Caltrans	Add 3rd NB through lane	Same
			Add 3rd SB through lane	Same
				Restripe WB through lane to a 2nd left turn lane
				Add 4th NB through lane
				Add 4th SB through lane
26	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	County, Caltrans	Add 3rd NB through lane	Same
			Add 3rd SB through lane	Same
				Add 4th NB through lane
				Add 4th SB through lane
27	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	County, Caltrans	Add 3rd NB through lane	Same
			Add 3rd SB through lane	Same
				Add 4th NB through lane
				Add 4th SB through lane

TABLE 1-4: COMPARISON OF RECOMMENDED IMPROVEMENTS (3 OF 3)

#	Intersection Location	Jurisdiction	2024 Traffic Study	2022 Traffic Study
28	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	County, Murrieta, Caltrans	Add 3rd NB through lane	Same
			Add 3rd SB through lane	Same
				Add 2nd NB left turn lane
				Add NB right turn lane
				Add 2nd SB left turn lane
				Add 2nd EB left turn lane
				Add 2nd EB through lane
				Add 2nd WB left turn lane
				Add 2nd WB through lane
				Add 4th NB through lane
				Add 4th SB through lane
29	Winchester Rd. (SR-79) & Benton Rd.	County, Murrieta, Caltrans	Add 3rd NB through lane	Not Applicable[2]
			Add 3rd SB through lane	Same
				Add 4th NB through lane
				Add 2nd NB left turn lane
				Add 4th SB through lane
				Add 2nd EB left turn lane
				Add 2nd EB through lane
				Add EB right turn lane
				Add 2nd WB through lane
30	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	County, Murrieta, Caltrans	Add 3rd NB through lane	Same
			Add 3rd SB through lane	Same
				Add 4th NB through lane
				Add 4th SB through lane
				Add 2nd SB left turn lane
31	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	County, Murrieta, Caltrans	Add 3rd NB through lane	Same
			Add 3rd SB through lane	Same
				Add 4th NB through lane
				Add 4th SB through lane

[1] The configuration of the intersection has changed since the 2022 Traffic Study. As such, the improvements recommended in the 2022 Traffic Study are no longer applicable based on the intersection's current lane configuration.

[2] The interseciton previously had a 3rd northbound through lane and was analyzed as such in the 2022 Traffic Study. Therefore, a 3rd northbound through lane was not recommended as an improvement in the 2022 Traffic Study.

1.5.2 ON-SITE CIRCULATION RECOMMENDATIONS

The following recommendations, based on the improvements needed to accommodate site access and maintain acceptable peak hour LOS at site access and on-site intersections, are described below and shown on Exhibit 1-4. The site adjacent queuing analysis worksheets are provided in Appendix 1.2 for EAPC (2030) traffic conditions. No site adjacent queues are anticipated with the proposed improvements.

It should be noted that while the lane recommendations align with those in the 2022 Traffic Study, the recommended storage lengths at the intersection of Winchester Road (SR-79) and Keller Road (#26) are now shorter than previously recommended.

Recommendation 1 – Pourroy Road & Keller Road (#15) – The following improvement is necessary to accommodate site access:

- Project to construct a westbound left turn lane with a minimum of 100 feet of storage and a right turn lane (trap lane).

Recommendation 2 – Old Keller Rd./Street A & Keller Road (#17) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach and a southbound shared left-right turn lane (Project Driveway).
- Project to construct an eastbound left turn lane with a minimum of 100 feet of storage and a 2nd through lane.
- Project to construct a westbound right turn lane with a minimum of 100 feet of storage and a 2nd through lane.

Recommendation 3 – Street B & Keller Road (#18) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the southbound approach and a southbound shared left-right turn lane (Project Driveway).
- Project to construct an eastbound left turn lane with a minimum of 100 feet of storage and a 2nd through lane.
- Project to construct a westbound right turn lane with a minimum of 100 feet of storage and 2nd through lane.

Recommendation 4 – Winchester Road (SR-79) & Keller Road (#24) – The following improvement is necessary to accommodate site access:

- Project to construct an eastbound left turn lane with a minimum of 100 feet of storage and a trap right turn lane.

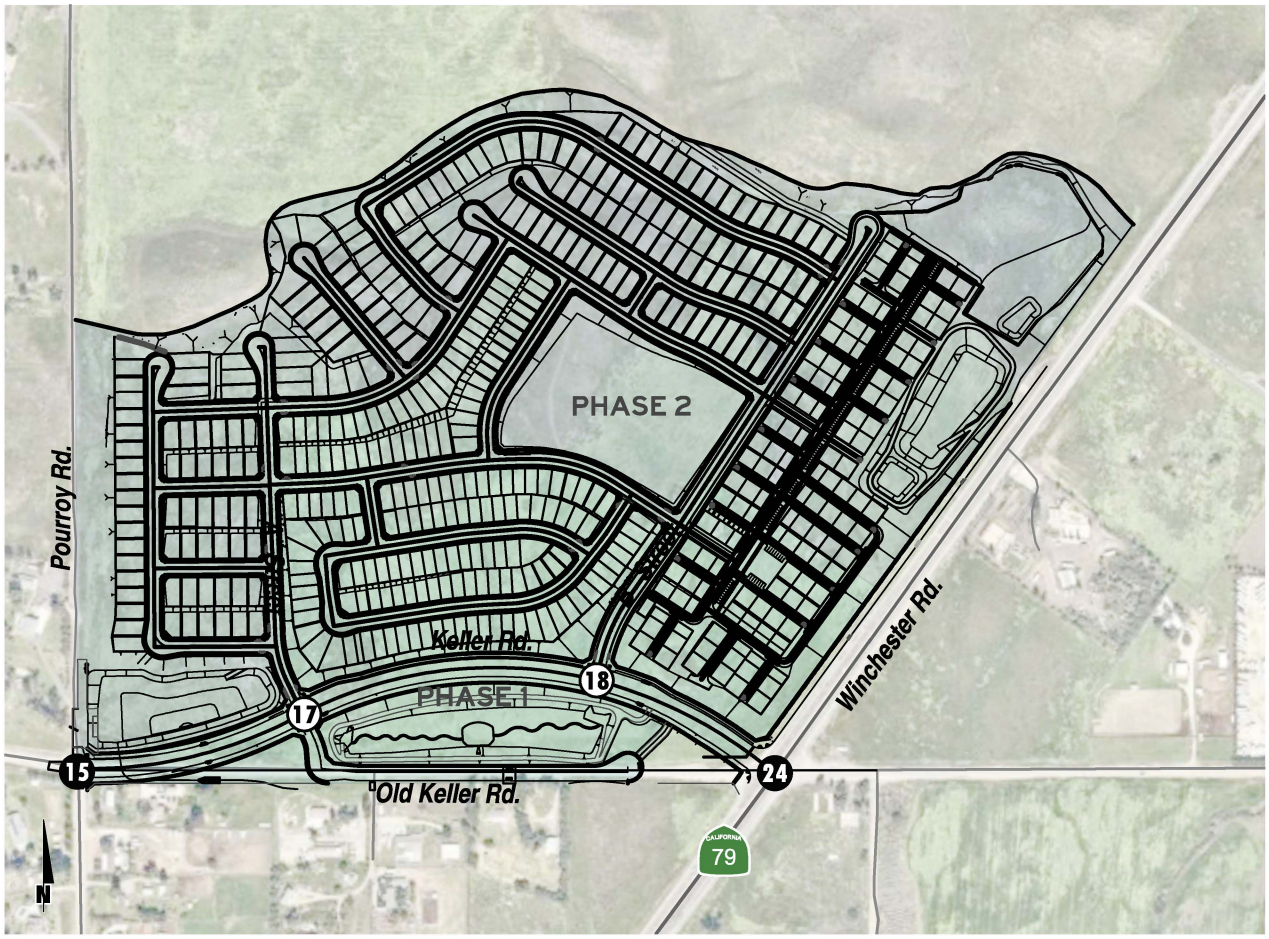
Recommendation 5 – Keller Road is an east-west oriented roadway located on the Project's southern boundary. Project to construct Keller Road at its ultimate full-width as a Secondary (100-foot right-of-way) from Pourroy Road to Winchester Road (SR-79) consistent with the County's standards.

Recommendation 6 – Winchester Road is a north-south oriented roadway located on the Project's eastern boundary. Project to construct Winchester Road (SR-79) at its ultimate half-width as an Expressway (220-foot right-of-way) from Keller Road to the northern Project boundary consistent with the County's standards.

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.

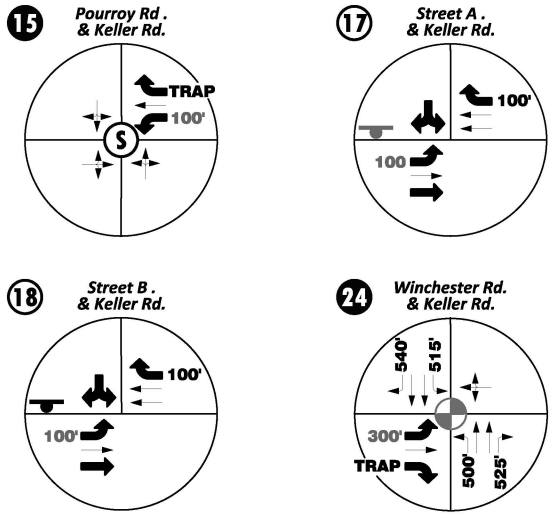
Sight distance at each Project access point should be reviewed with respect to standard Caltrans and County of Riverside sight distance standards at the time of preparation of final grading, landscape, and street improvement plans.

EXHIBIT 1-4 : SITE ACCESS RECOMMENDATIONS



LEGEND:

- 0 = Existing Intersection Analysis Location
- 0 = Future Intersection Analysis Location
- = Existing Traffic Signal
- = Proposed Stop Sign
- = Lane Improvement
- = Existing Lane
- 100' = Recommended Turn Pocket Length
- 100' = Minimum Turn Pocket Length
- TRAP = Trap Lane
- S = All Way Stop



1.6 QUEUING ANALYSIS

The traffic modeling and signal timing optimization software package SimTraffic has been utilized to assess the queues for on-site roadways (Project design features), off-site interchange off-ramps, and signalized intersections. 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. These random simulations generated by SimTraffic have been utilized to determine the 95th percentile queue lengths observed for each applicable turn lane. A SimTraffic simulation has been recorded up to 5 times, during the weekday AM and weekday PM peak hours, and has been seeded for 15-minute periods with 60-minute recording intervals.

1.6.1 OFF-SITE QUEUING

Existing (2024) Conditions

A queuing analysis has been conducted at both the Scott Road and Clinton Keith Road interchanges along the I-215 Freeway. Based on the results of this analysis, the following movements currently experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows:

- I-215 Northbound Ramps & Scott Road (#3), westbound through lane – AM and PM peak hours

A queuing analysis has also been conducted for all remaining signalized intersections in the study area, as requested by the County. The results of this analysis are presented in Section 3.9 *Existing (2024) Queuing Analysis*.

Opening Year Traffic Conditions – EAP (2028, 2030) and EAPC (2030)

The following additional movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows, in addition to the movements identified under Existing (2024) Conditions, under EAP (2028) and EAP (2030) traffic conditions:

- I-215 Northbound Ramps & Scott Road (#3), westbound through lane – AM and PM peak hours
- I-215 Northbound Ramps & Scott Road (#3), westbound right-turn lane – PM peak hour only
- I-215 Northbound Ramps & Clinton Keith Road (#4), westbound through lane – PM peak hour only

With the addition of the cumulative traffic, the following additional movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows under EAPC (2030) traffic conditions:

- I-215 Southbound Ramps & Scott Road (#1), eastbound through lane – PM peak hour only
- I-215 Southbound Ramps & Scott Road (#1), westbound through lane – AM and PM peak hours
- I-215 Southbound Ramps & Clinton Keith Road (#2), westbound through lane – PM peak hour only
- I-215 Northbound Ramps & Scott Road (#3), eastbound left-turn lane – AM and PM peak hours
- I-215 Northbound Ramps & Scott Road (#3), eastbound through lane – PM peak hour only
- I-215 Northbound Ramps & Scott Road (#3), westbound through lane – AM and PM peak hours
- I-215 Northbound Ramps & Scott Road (#3), westbound right-turn lane – AM and PM peak hours
- I-215 Northbound Ramps & Clinton Keith Road (#4), westbound through lane – AM and PM peak hours

A queuing analysis has also been conducted for all remaining signalized intersections in the study area, as requested by the County, for EAP (2028) and EAP (2030) traffic conditions. The results of these analyses are presented in Sections *5.5 EAP (2028) Queuing Analysis* and 6.5 *EAP (2030) Queuing Analysis*.

1.6.2 ON-SITE QUEUING

The results of the site adjacent queuing analysis worksheets for the weekday AM and PM peak hours are provided in Appendix 1.2 of this report for EAPC (2030) traffic conditions and have been used to verify the recommended pocket lengths for each of the future intersections anticipated to be completed as part of the Project, as discussed in Section 1.5.2 *On-Site Circulation Recommendations*. The queuing analysis includes the Project driveways (along Keller Road) and the intersections of Pourroy Road and Winchester Road (SR-79) along Keller Road. A summary of the queuing analysis results is shown in Table 1-5. As shown previously, Exhibit 1-4 provides the necessary turn pocket lengths, based on the results of the on-site queuing analysis.

TABLE 1-5: PEAK HOUR QUEUING ANALYSIS FOR SITE ADJACENT INTERSECTIONS

Intersection	Movement	Available Stacking Distance (Feet)	Synchro: 95th Percentile Queue (Feet)		Simtraffic: Maximum Queue (Feet)	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Pourroy Rd. & Keller Rd. (#15)	NBL/T/R	2,600	33	8	36	29
	SBL/T/R	2,600	0	0	22	0
	EBL/T/R	5,300	95	73	83	97
	WBL	100	8	3	45	32
	WBT	780	85	28	80	63
	WBR	780	0	0	0	0
Old Keller Rd./Street A & Keller Rd. (#17)	SBL/R	--[3]	13	8	58	51
	EBL	100	3	8	35	44
	EBT	780	0	0		0
	EBT	780	0	0		0
	WBT	1,000	0	0		0
	WBR	100	0	0		0
Street B & Keller Rd. (#18)	SBL/R	--[3]	20	18	68	69
	EBL	100	3	5	18	48
	EBT	1,000	0	0	0	0
	EBT	1,000	0	0	0	0
	WBT	670	0	0	0	0
	WBR	100	0	0	0	8
Winchester Rd. (SR-79) & Keller Rd. (#24)	NBL	500	40	107 [2]	35	63
	NBT	2,980	483	1,475 [2]	399	452
	NBT	2,980	483	1,475 [2]	400	490
	NBR	525	35	62	0	15
	SBL	515	13	27	6	7
	SBT	5,255	1,325 [2]	1,022 [2]	393	336
	SBT	5,255	1,325 [2]	1,022 [2]	412	339
	SBR	540	6	33	3	4
	EBL	300	73	63	76	75
	EBT	670	32	69	66	80
	EBR	670	20	9	59	64
	WBL/T/R	2,870	267	156	214	179

[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.

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

[3] Movement is part of the site (Project Driveway, new Project access road, etc.), so stacking distance has not been provided.

2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with County of Riverside's Traffic Study Guidelines.

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors, such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing 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. (5) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The County of Riverside, City of Menifee, City of Murrieta, and California Department of Transportation (Caltrans) require signalized intersection operations analysis based on the methodology described in the HCM. (5) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections, LOS is 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) has been utilized to analyze signalized intersections. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0[1]
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	A
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	B
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	C
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F

Source: HCM, 7th Edition

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

A saturation flow rate of 1900 has been utilized for all study area intersections located within the County of Riverside, City of Menifee, and City of Murrieta. 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 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (5)

2.2.2 UNSIGNALIZED INTERSECTIONS

The County of Riverside, City of Menifee, and City of Murrieta require 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 ≤ 1.0	Level of Service, V/C ≤ 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 determine the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD). (4)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (6) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions and for all future analysis scenarios for existing unsignalized intersections. 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. Rural warrants have been used on the major roadways with unsignalized intersections with posted speed limits over 40 miles per hour, while urban warrants have been used where speeds are 40 miles per hour or below.

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. Traffic signal warrant analyses were performed for the following study area intersections shown in Table 2-3.

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

#	Intersection
10	Leon Rd. & Keller Rd.
15	Pourroy Rd. & Keller Rd.
16	Pourroy Rd. & Pat Rd.
17	Old Keller Rd./Street A & Keller Rd.
18	Street B & Keller Rd.

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *EAP (2028) Traffic Conditions,* Section 6 *EAP (2030) Traffic Conditions,* and Section 7 *EAPC (2030) Traffic Conditions* of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 QUEUING ANALYSIS

Consistent with Caltrans requirements, the 95th percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing deficiencies at the freeway ramp intersections of the I-215 Freeway at the existing Scott Road and Clinton Keith Road interchanges. Specifically, the off-ramp queuing analysis is utilized to identify any potential queuing and "spill back" onto the I-215 Freeway mainline from the off-ramps and for both turn lanes and through lanes. Additionally, the County has requested a queuing analysis at all signalized study area intersections, for both turn lanes and through lanes. The results of these analyses are presented in the subsequent sections of this traffic study.

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential deficiencies/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95th percentile queue resulting from the Synchro progression analysis. The footnote from the Synchro output sheets indicates if the 95th percentile cycle exceeds capacity. Traffic is simulated for two complete cycles of the 95th percentile traffic in Synchro in order to account for the effects of spillover between cycles. In practice, the 95th percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. The 95th percentile queue is derived from the average queue plus 1.65 standard deviations.

At the request of the County of Riverside, the traffic modeling and signal timing optimization software package Synchro/SimTraffic (Version 12) has been utilized to assess queues at the Project access points. Synchro is a macroscopic traffic software program that is based on the signalized and unsignalized intersection capacity analyses as specified in the HCM. 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 not necessarily ever observed; it is simply based on statistical calculations (or Average Queue plus 1.65 standard deviations). Many jurisdictions utilize the 95th percentile queues for design purposes. SimTraffic simulations have been recorded 10 times, during the weekday AM and weekday PM peak hours, and has been seeded for 15-minute periods with 60-minute recording intervals. For the purposes of this traffic analysis, the County has requested the maximum queues be reported from the SimTraffic software. The results of the queuing analysis are presented in the subsequent sections. Queuing worksheets for the site adjacent queuing analysis are included in Appendix 1.2.

2.5 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

Minimum acceptable LOS and associated definitions of intersection deficiencies have been obtained from each of the applicable surrounding jurisdictions.

2.5.1 COUNTY OF RIVERSIDE

The definition of an intersection deficiency has been obtained from the County of Riverside General Plan. Riverside County General Plan Policy C 2.1 states that the County will maintain the following County-wide target LOS:

The following minimum target levels of service have been designated for the review of development proposals in the unincorporated areas of Riverside County with respect to transportation impacts on roadways designated in the Riverside County Circulation Plan which are currently County maintained, or are intended to be accepted into the County maintained roadway system:

- *LOS C shall apply to all development proposals in any area of the Riverside County not located within the boundaries of an Area Plan, as well as those areas located within the following Area Plans: REMAP, Eastern Coachella Valley, Desert Center, Palo Verde Valley, and those non-Community Development areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.*
- *LOS D shall apply to all development proposals located within any of the following Area Plans: Eastvale, Jurupa, Highgrove, Reche Canyon/Badlands, Lakeview/Nuevo, Sun City/Menifee Valley, Harvest Valley/Winchester, Southwest Area, The Pass, San Jacinto Valley, Western Coachella Valley and those Community Development Areas of the Elsinore, Lake Mathews/Woodcrest, Mead Valley and Temescal Canyon Area Plans.*
- *LOS E may be allowed by the Board of Supervisors within designated areas where transit-oriented development and walkable communities are proposed.*

The applicable minimum LOS utilized for the purposes of this analysis is LOS D per the County-wide target LOS for projects located within the Southwest Area Plan and Harvest Valley / Winchester Area Plan.

2.5.2 CITY OF MURRIETA

Consistent with the City's traffic study Guidelines, the following criteria will be applied for the traffic analysis.

Signalized Intersection Operating Requirements

- Any signalized study intersection operating at an acceptable LOS D or better without project traffic in which the addition of project traffic causes the intersection to degrade to a LOS E or F shall identify improvements to improve operations to LOS D or better.
- Any signalized study intersection that is operating at LOS E or F without project traffic where the project increases delay by 5.0 or more seconds shall identify improvements to offset the increase in delay.

Unsignalized Intersection General Plan Consistency Requirements

An operational improvement would be required if the study determines that either section a) or both sections b) and c) occur:

- a) The addition of project related traffic causes the intersection to degrade from an acceptable LOS D or better to LOS E or F.

OR

- b) The project adds 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at a LOS E or F,

AND

- c) The intersection meets the peak hour traffic signal warrant after the addition of project traffic.

If the conditions above are satisfied, improvements should be identified that achieve the following:

- LOS D or better for case a) above or to pre-project LOS and delay for case b) above.

2.5.3 CITY OF MENIFEE

Per Policy C-1.2 of the City of Menifee General Plan, the following LOS will be utilized for study area intersections located within the City:

Require development to mitigate its traffic impacts and achieve a peak hour Level of Service (LOS) D or better at intersections, except at constrained intersections at close proximity to the I-215 where LOS E may be permitted. Therefore, any intersection operating at LOS E or F will be considered deficient for the purposes of this analysis. (7)

2.5.4 CALTRANS

Senate Bill 743 (SB 743), approved in 2013, endeavors to change the way transportation impacts will be determined according to the California Environmental Quality Act (CEQA). The Office of Planning and Research (OPR) has recommended the use of vehicle miles traveled (VMT) as the replacement for automobile delay-based LOS. Caltrans acknowledges automobile delay will no longer be considered a CEQA impact for development projects and will use VMT as the metric for determining impacts on the State Highway System. However, LOS D has been utilized as the target LOS for Caltrans facilities, consistent with the County of Riverside.

2.6 DEFICIENCY CRITERIA

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

- A deficiency occurs at study area intersections if the pre-Project condition is at or better than LOS D (i.e., acceptable LOS), and the addition of project trips causes the peak hour LOS of the study area intersection to operate at unacceptable LOS (i.e., LOS E or F). Per the County of Riverside traffic study guidelines, for intersections currently operating at unacceptable LOS (LOS E or F), a deficiency will occur if the Project contributes peak hour trips to pre-project traffic conditions.

2.7 PROJECT FAIR SHARE CALCULATION METHODOLOGY

Improvements found to be included in the County TUMF and/or DIF programs will be identified as such. For improvements that do not appear to be in either of the pre-existing fee programs, a fair share contribution based on the Project's proportional share may be imposed in order to address the Project's share of deficiencies in lieu of construction. It should be noted that fair share calculations are for informational purposes only and the County Traffic Engineer will determine the appropriate improvements to be implemented by a project (to be identified in the conditions of approval). The Project's fair share cost of improvements would be determined based on the following equation, which is the ratio of Project traffic to new traffic, where new traffic is total future traffic less existing baseline traffic:

Project Fair Share % = Project Traffic / (EAPC (2030) Total Traffic – Existing (2024) Traffic)

However, fair share calculations for the new proposed Project will also be provided for Horizon Year (2045) traffic conditions as an update to the fair share percentages presented in the 2022 Traffic Study for the same overlapping intersections since the Project is proposing to develop less than that previously evaluated in the 2022 Traffic Study.

3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the County of Riverside 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 scoping agreement with County of Riverside staff (Appendix 1.1), the study area includes a total of 31 existing and future intersections as shown previously on Exhibit 1-3, where the Project is anticipated to contribute 50 or more peak hour trips or were added at the County's request during the scoping process. 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 COUNTY OF RIVERSIDE GENERAL PLAN CIRCULATION ELEMENT

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

Expressways are six-lane or eight-lane divided roadways (typically divided by a raised median or painted two-way turn-lane) with between a 184-foot to 220-foot right-of-way. These roadways are multi-modal highway corridors for through traffic to which access from abutting property is restricted. The following study area roadway within the County of Riverside is classified as an Expressway:

- Winchester Road (SR-79)

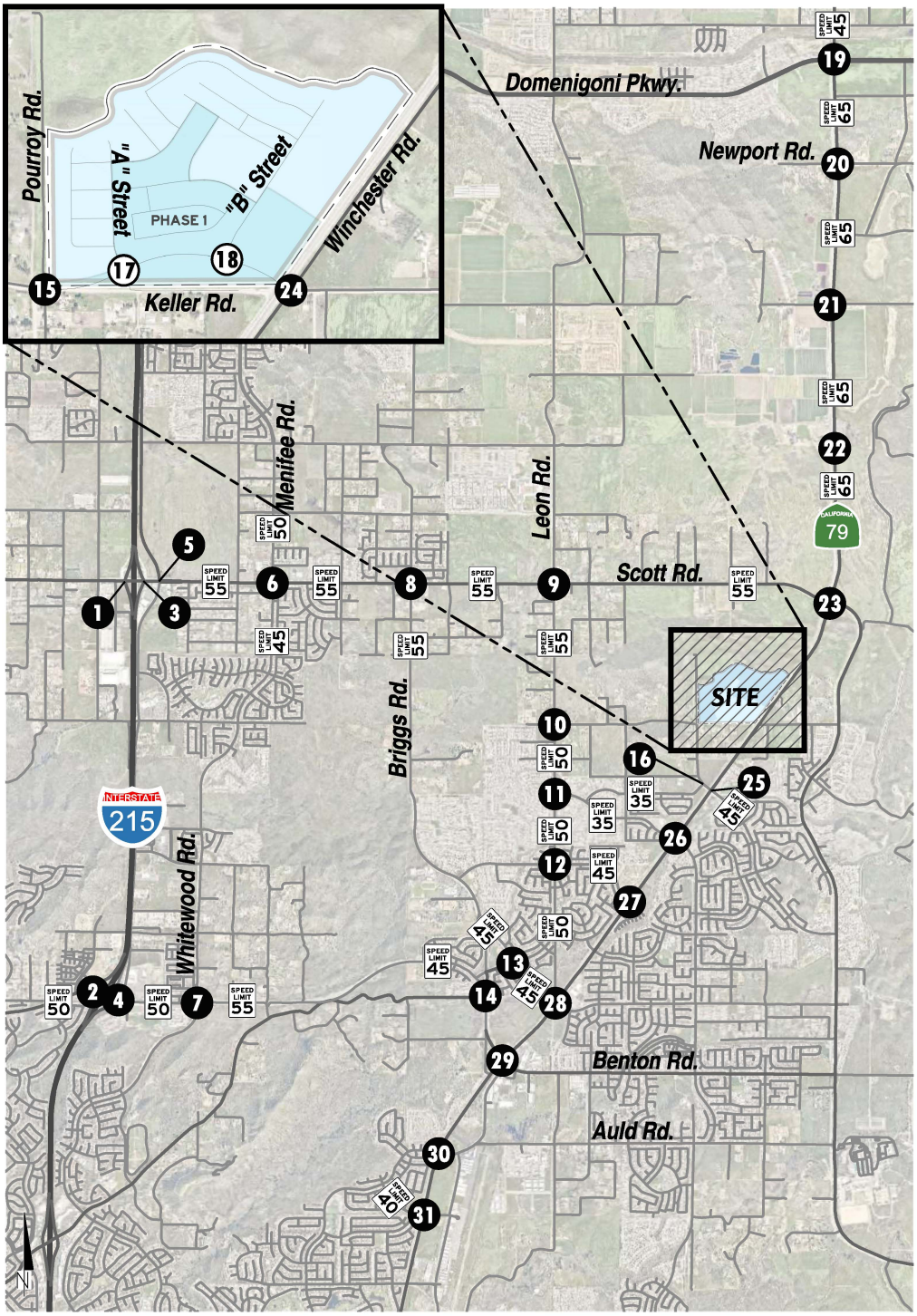
Urban Arterials are six-lane divided roadways (typically divided by a raised median or painted two-way turn-lane) with a 152-foot right-of-way and a 110-foot curb-to-curb measurement. These roadways serve both regional through-traffic and inter-city traffic and typically direct traffic onto and off of the freeways. The following study area roadways within the County of Riverside are classified as Urban Arterials:

- Scott Road
- Benton Road
- Clinton Keith Road

Major Roadways are four-lane roadways and may include a painted median. These roadways typically have a 118-foot right-of-way and a 76-foot curb-to-curb measurement. These roadways typically direct traffic through major development areas. The following study area roadways within the County of Riverside are classified as Major Roadways:

- Max Gilliss Boulevard
- Leon Road

EXHIBIT 3-1 : EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS (SHEET 1 OF 2)



LEGEND:

0 = *Existing Intersection Analysis Location*

(0) = *Future Intersection Analysis Location*

EXHIBIT 3-1 : EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS (SHEET 2 OF 2)

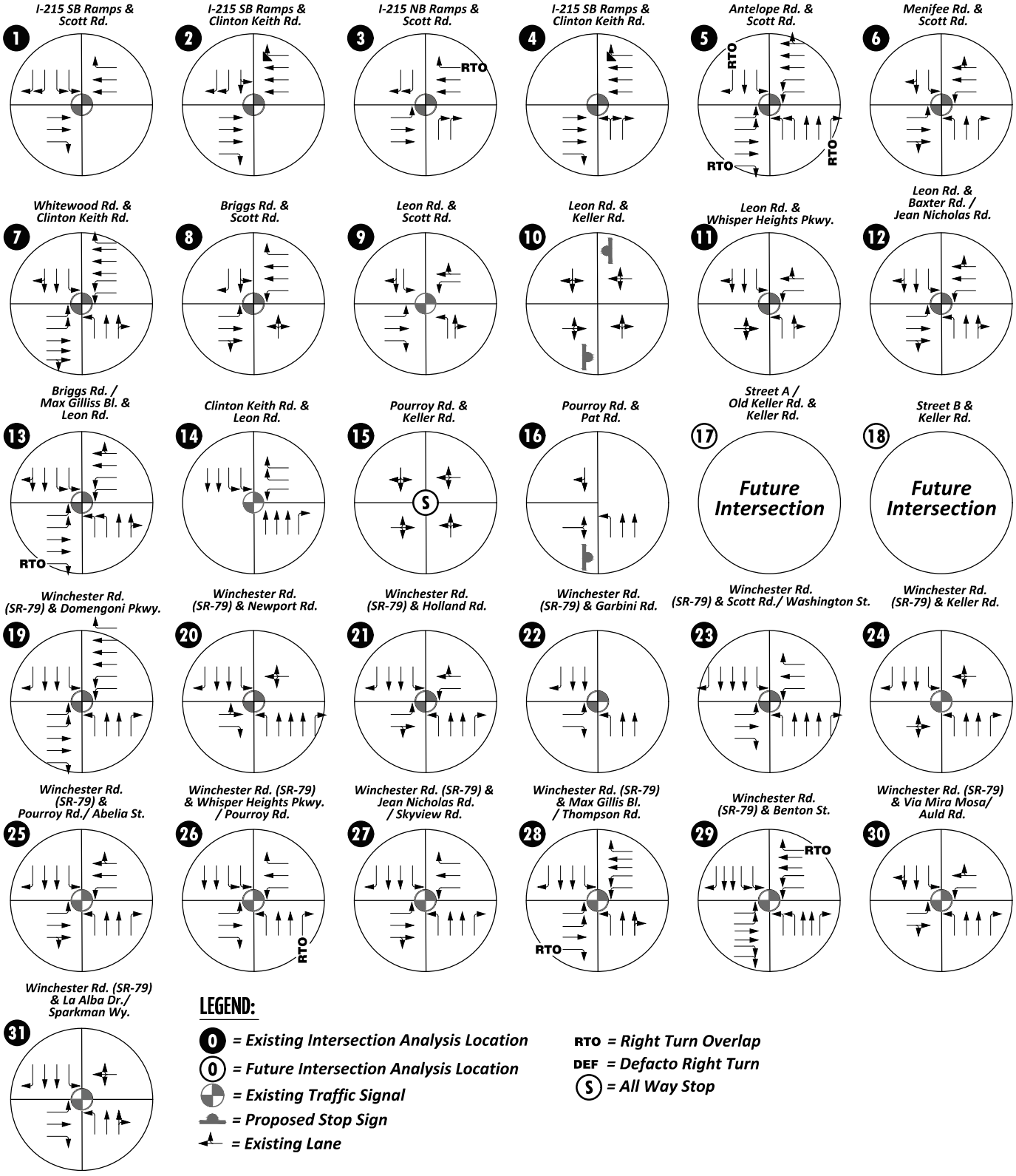
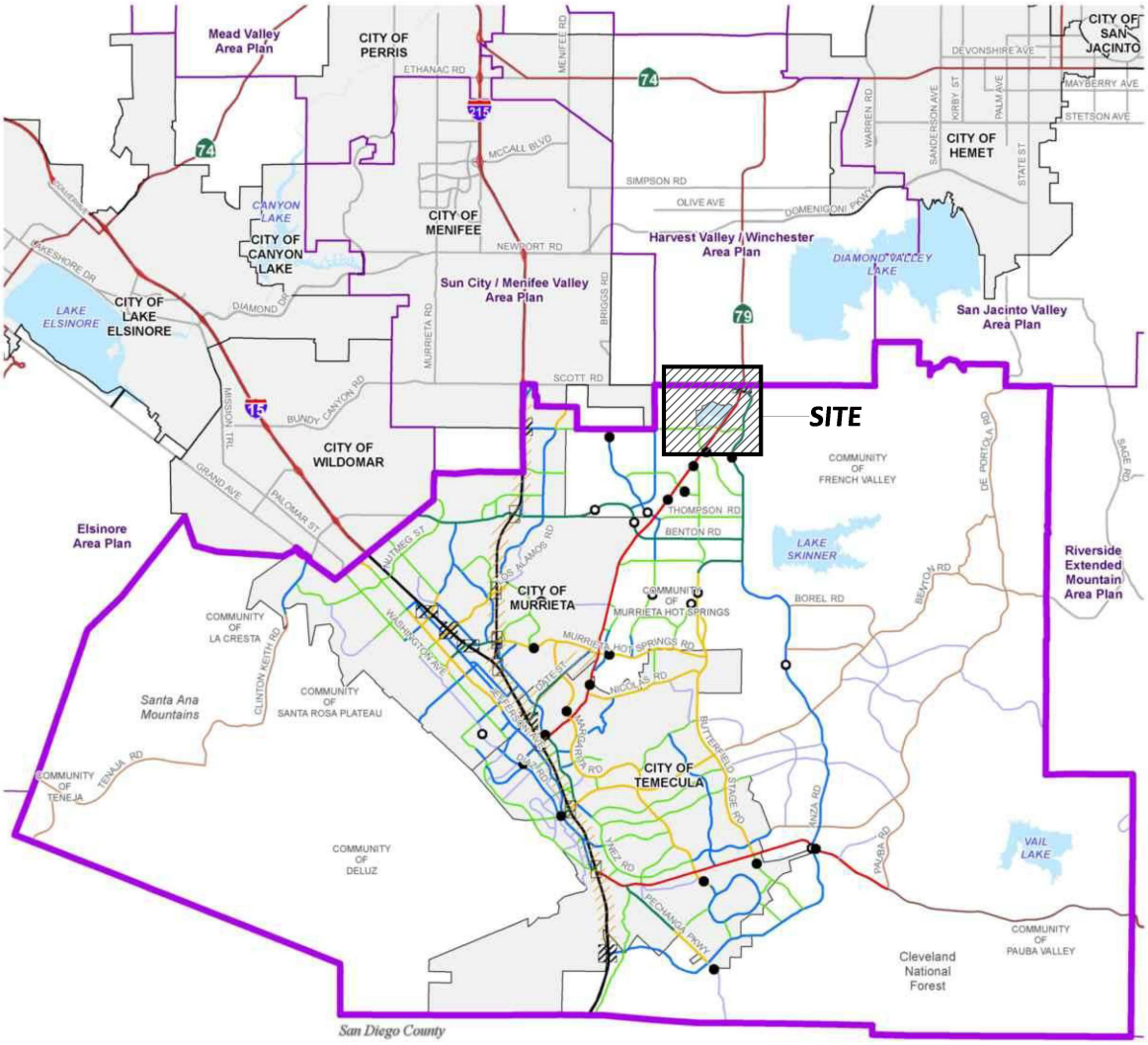


EXHIBIT 3-2 : COUNTY OF RIVERSIDE GENERAL PLAN ROADWAY NETWORK



Data Source: Riverside County Transportation

- Freeway (Variable ROW)
- Expressway (128' to 220' ROW)
- Urban Arterial (152' ROW)
- Arterial (128' ROW)
- Major (118' ROW)
- Secondary (100' ROW)
- Mountain Arterial 4 Ln (110' ROW)
- Mountain Arterial 2 Ln (110' ROW)
- Collector (74' ROW)
- Existing Interchange
- Proposed Interchange
- Winchester to Temecula CETAP
- Existing Bridge
- Proposed Bridge
- Highways
- Area Plan Boundary
- City Boundary
- Waterbodies

Secondary Streets are four-lane roadways and may include a painted median. These roadways typically have a 100-foot right-of-way and a 64-foot curb-to-curb measurement. These roadways typically direct traffic through major development areas and a lesser capacity than Major Roadways. The following study area roadways within the County of Riverside are classified as Secondary Streets:

- Keller Road
- Pourroy Road
- Whisper Heights Parkway
- Thompson Road
- Auld Road

3.3 CITY OF MENIFEE AND CITY OF MURRIETA GENERAL PLAN CIRCULATION ELEMENT

Exhibits 3-3 and 3-4 show the City of Menifee General Plan Roadway Network and City of Murietta General Plan Roadway Network, respectively.

3.4 BICYCLE & PEDESTRIAN FACILITIES

The County of Riverside, City of Menifee, and City of Murrieta bike networks are shown on Exhibits 3-5, 3-6, and 3-7, respectively. As shown on Exhibit 3-5, there is a proposed Regional Trail (Urban/Suburban) proposed in the vicinity of the Project site.

Exhibit 3-8 illustrates the existing crosswalks throughout the study area. As shown on Exhibit 3-8, there are limited pedestrian facilities in place in the vicinity of the Project site.

3.5 TRANSIT SERVICE

The study area is currently served by Riverside Transit Agency (RTA). Route 61 runs along portions of Winchester Road and Keller Road. The transit services are illustrated on Exhibit 3-9. Transit service is reviewed and updated by RTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

EXHIBIT 3-3 : CITY OF MENIFEE GENERAL PLAN ROADWAY NETWORK

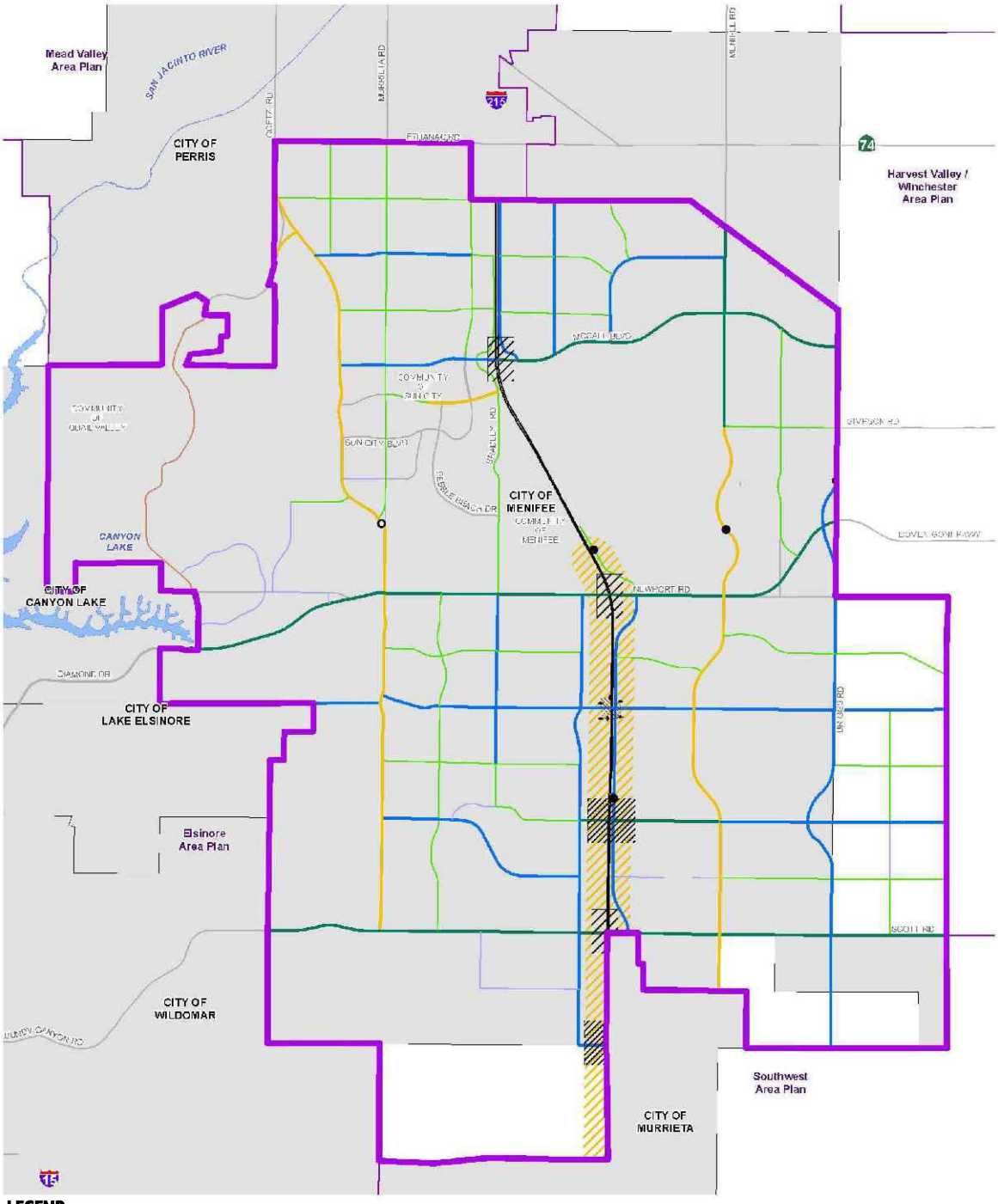


EXHIBIT 3-4 : CITY OF MURRIETA GENERAL PLAN ROADWAY NETWORK

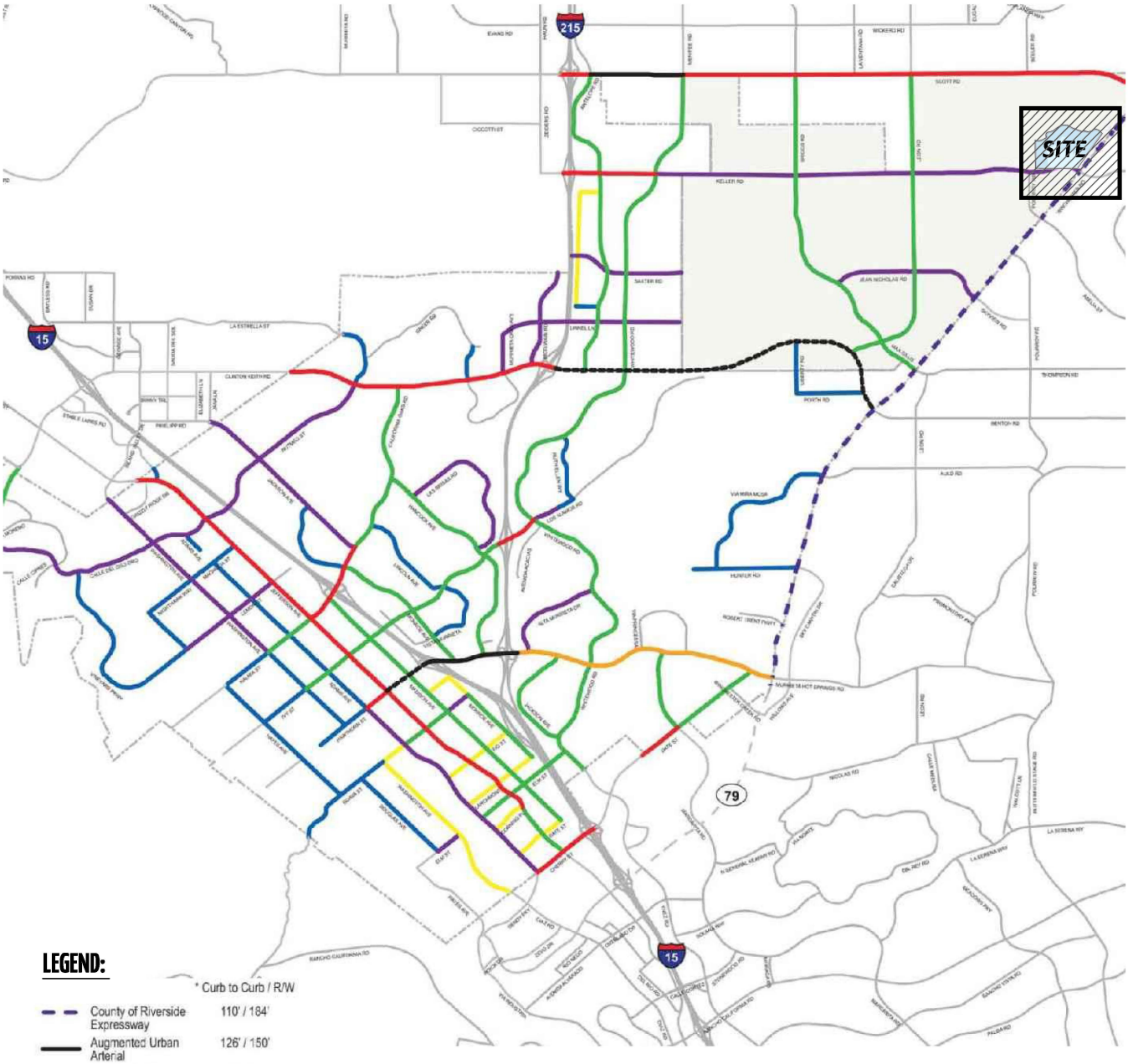
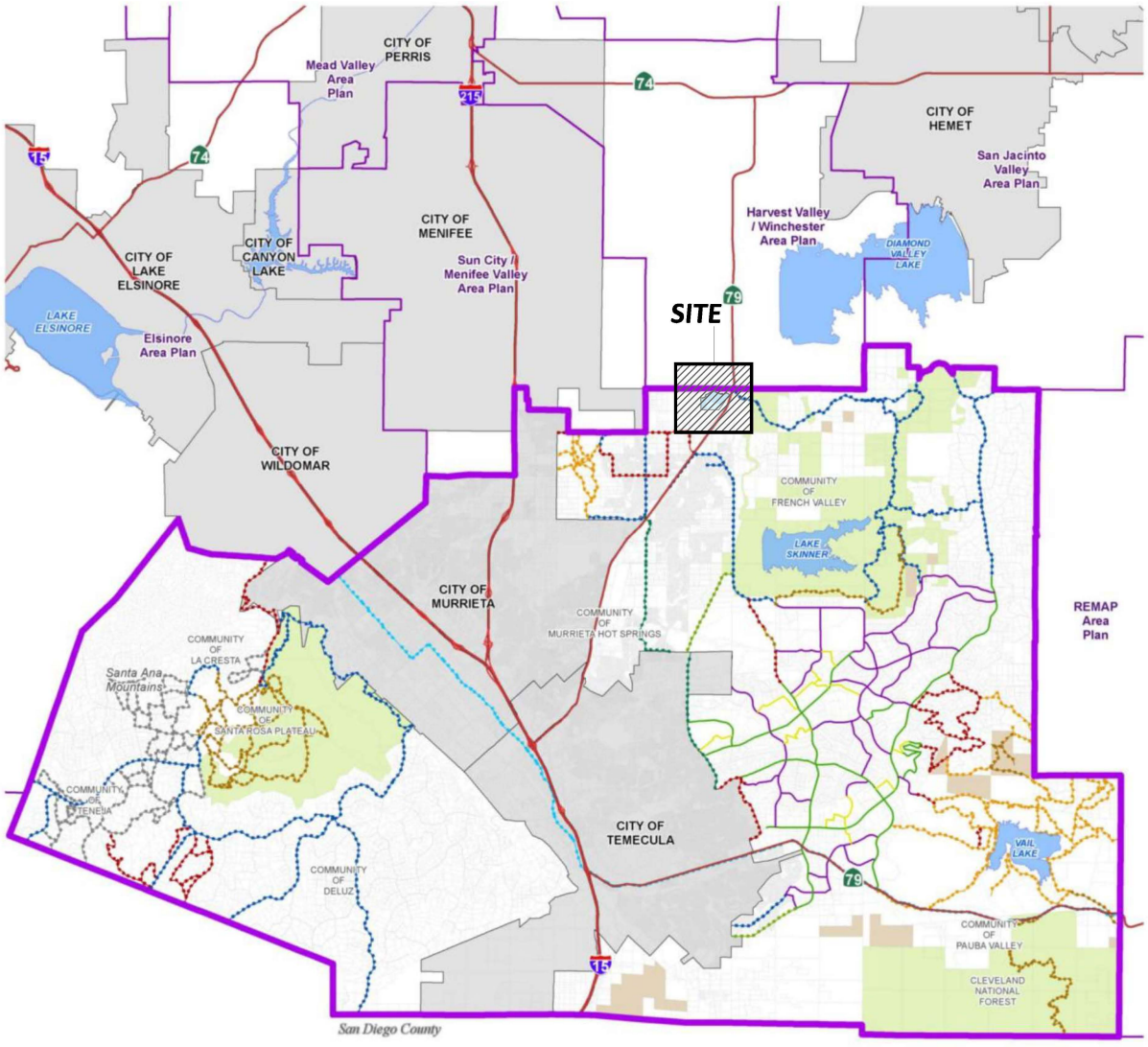


EXHIBIT 3-5 : COUNTY OF RIVERSIDE BIKE AND PEDESTRIAN MAP



Data Source: Riverside County Parks

- Wine Country Connector Trails
- Regional Open Space Trail
- Wine Country Roadside Trail
- Regional Trail: Urban/Suburban
- Community Trail
- Combination Trail (Regional Trail/Class I Bike Path)
- Class I Bike Path
- Class II Bike Path
- Regional Trail: Open Space
- Design Guidelines Trail
- Historic Trail (Southern Immigrant Trail, Juan Bautista De Anza National Historic Trail)
- Non-County Trail (Public and Quasi-Public Lands)
- Private Trail

- Highways
- Area Plan Boundary
- Waterbodies
- City Boundary
- Miscellaneous Public Lands
- Bureau of Land Management (BLM) Lands

EXHIBIT 3-6 : CITY OF MENIFEE BIKEWAYS MAP

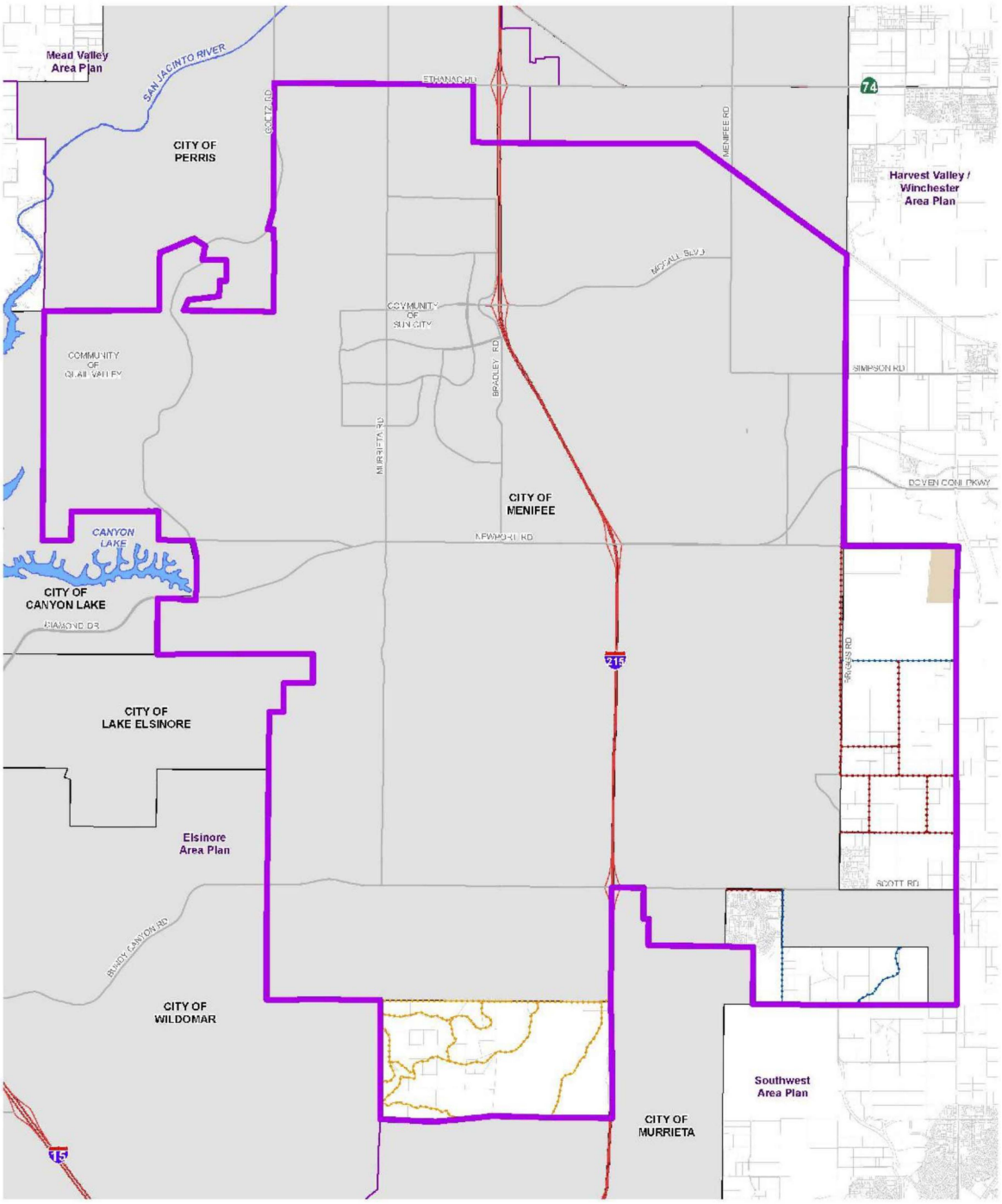
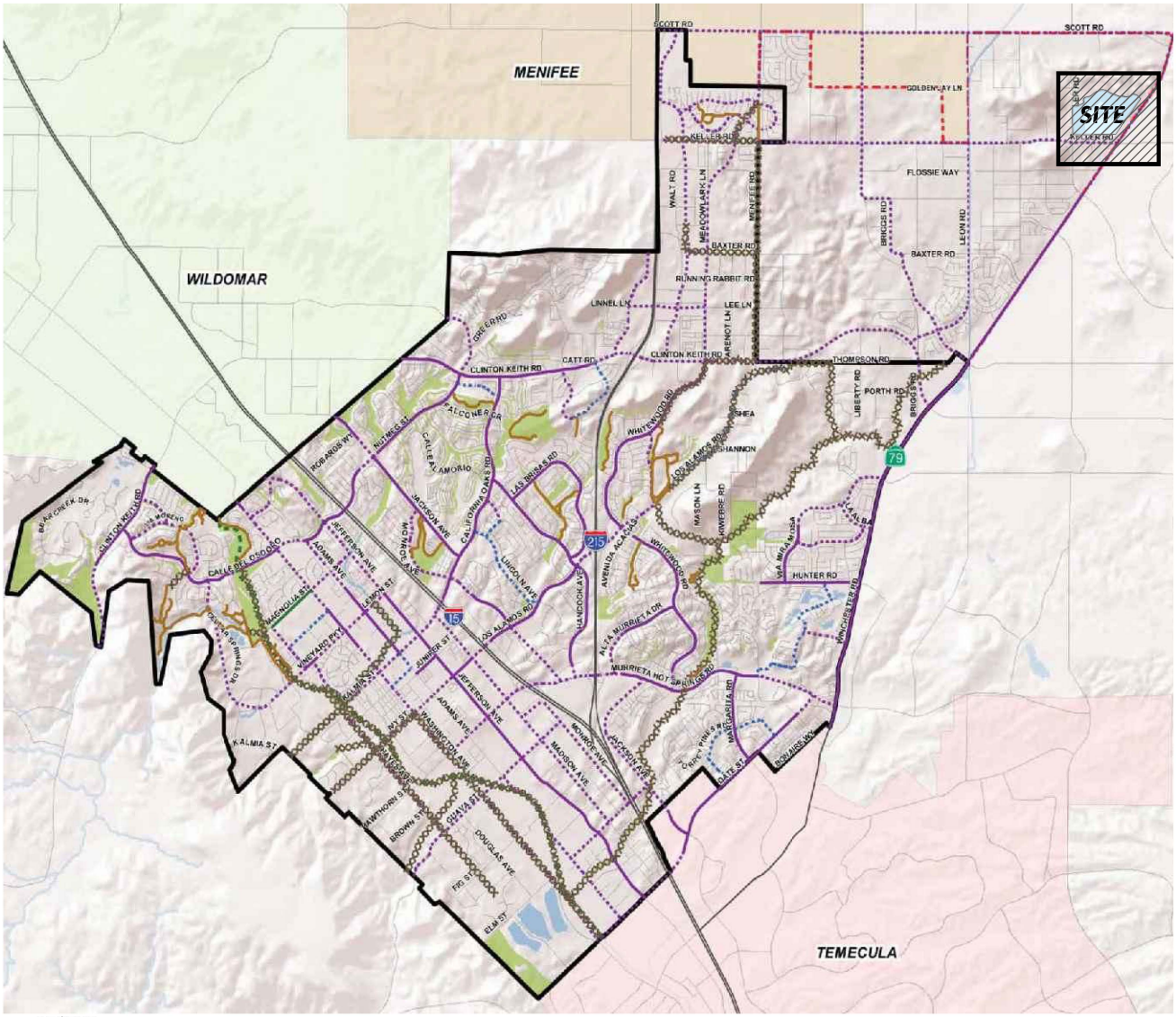


EXHIBIT 3-7 : CITY OF MURRIETA BIKEWAYS MAP



LEGEND:

Bikeways

Class I: Off-Road
Paved Bike Path

- Class I - Existing
- Class I - Proposed

Class II: On-Road
Striped Bike Lane

- Class II - Existing
- Class II - Proposed

Class III: On-Road
Bike Route (Signage Only)

- Class III - Proposed

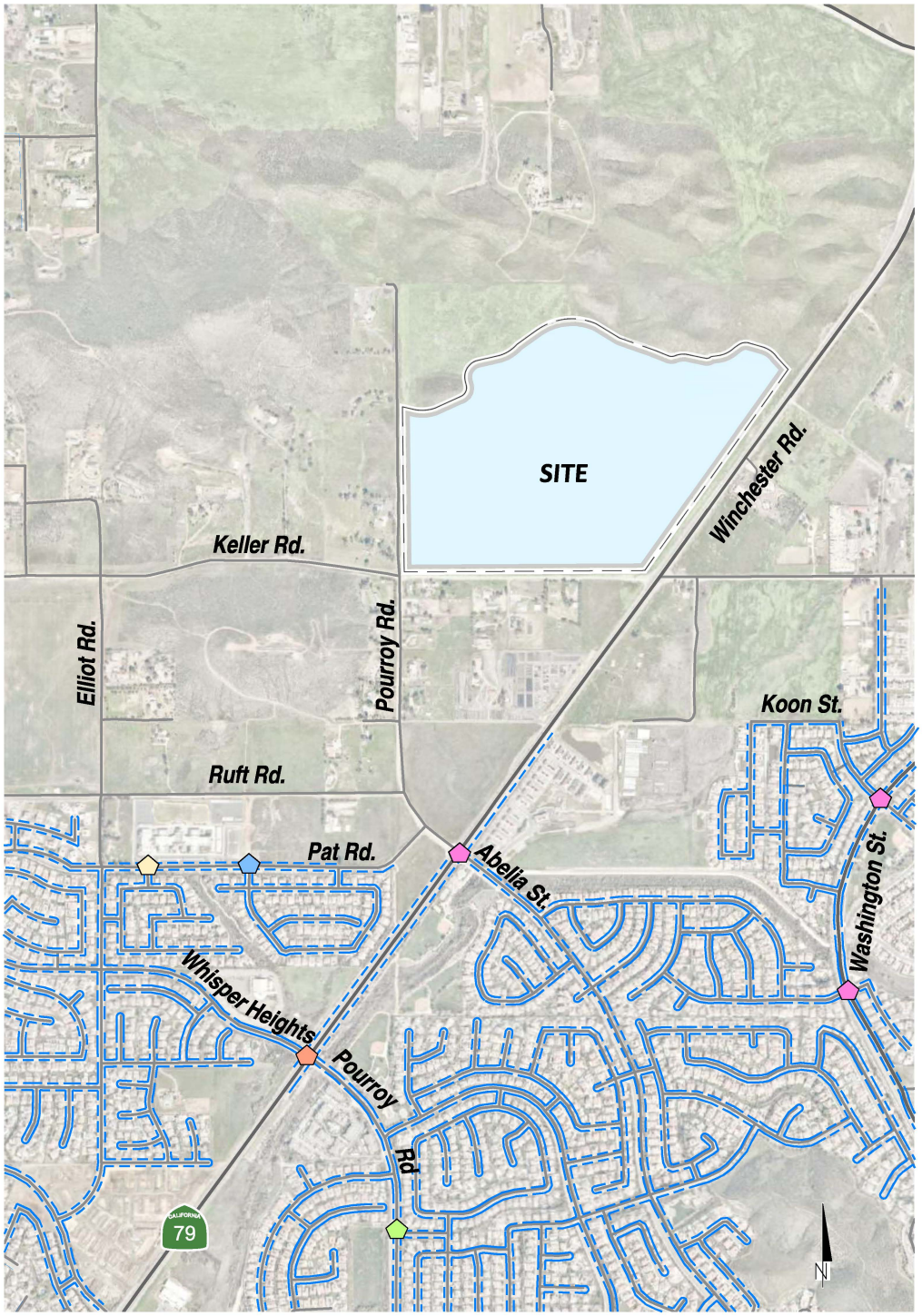
Multi-Purpose Trails

Open to horses, bikes and walking

- Existing
- Proposed

- Open Space
- Sphere of Influence
- City Boundary

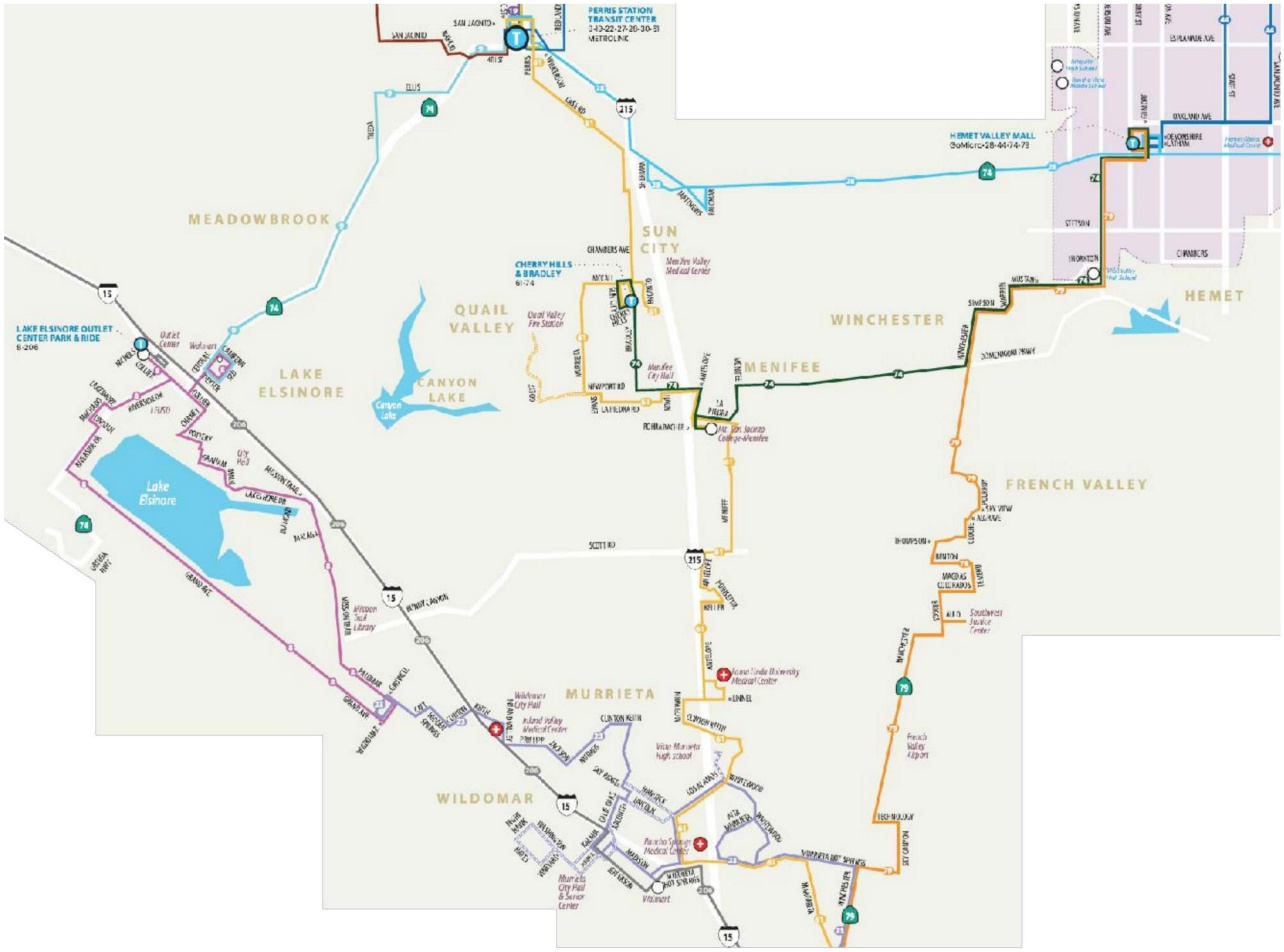
EXHIBIT 3-8 : PEDESTRIAN FACILITIES



LEGEND:

- = 1 Approach (School)
- = 2 Approaches
- = 3 Approaches
- = All Approaches
- = 2 Approaches (School)
- = Sidewalks

EXHIBIT 3-9 : EXISTING TRANSIT ROUTES



LEGEND:

- Route Number
- Route Path
- Commuter Routing
- Alternate Routing
- Point of Interest
- Medical Facility
- Transfer Point
- Metrolink Station
- Interstate
- State Highway
- Main Road
- Water

3.6 EXISTING (2024) TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in August 2024 when local schools were in session and operating on normal bell schedules. 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)

Local schools were in session and operating on normal bell schedules at the time traffic counts were collected. 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. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

Existing weekday ADT volumes on arterial highways throughout the study area are shown on Exhibit 3-10. Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 12.17 = 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 8.21 percent. As such, the above equation utilizing a factor of 12.17 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 8.21 percent (i.e., 1/0.0821 = 12.17) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. This factor is consistent with that used for other traffic studies within the study area. Existing weekday AM and weekday PM peak hour intersection volumes are shown on Exhibit 3-10.

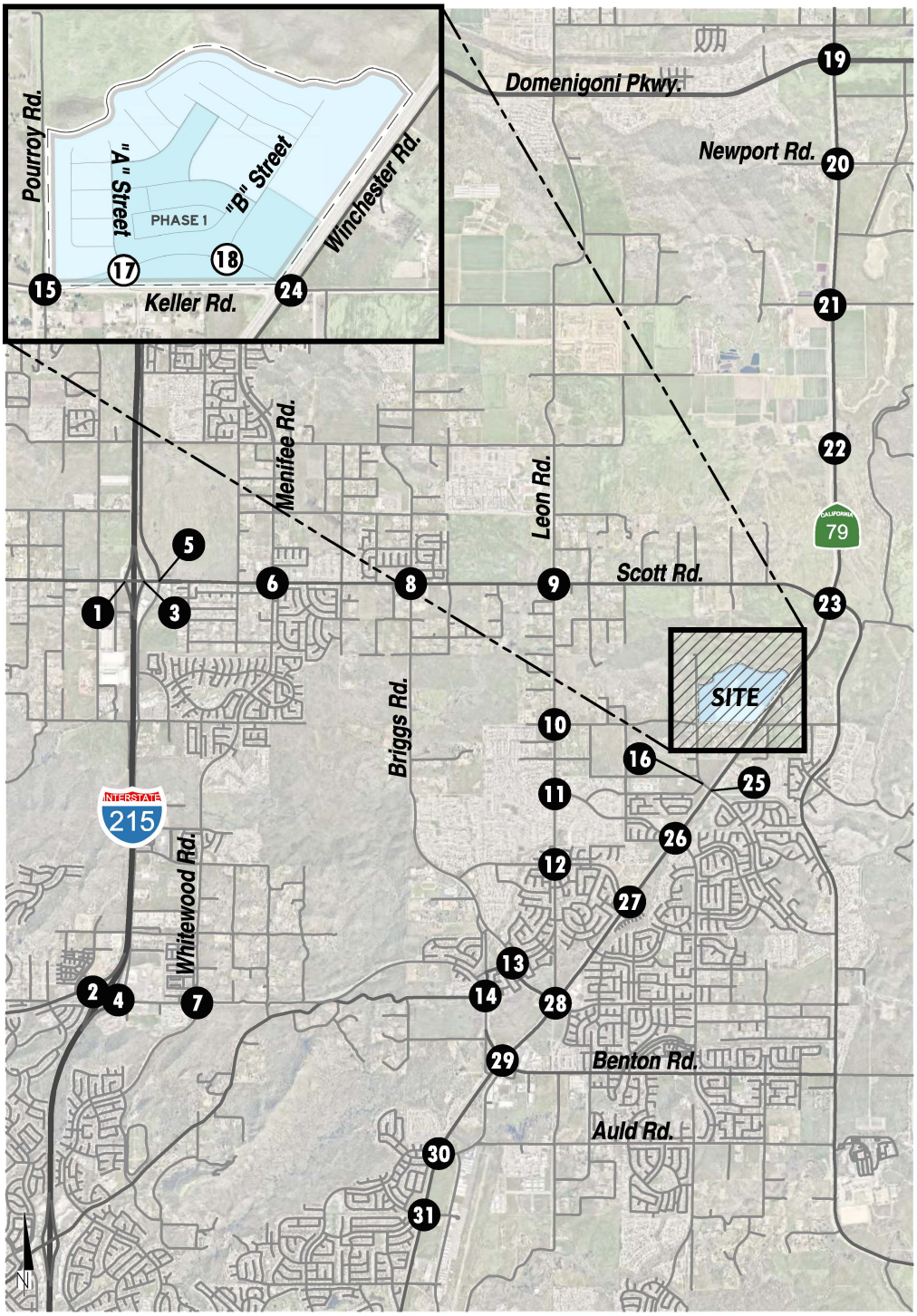
3.7 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized in Table 3-1, which indicates that all existing study area intersections are currently operating at acceptable LOS during the peak hours, with the exception of the following intersections:

- Leon Road & Keller Road (#10) – LOS E AM peak hour only
- Leon Road & Keller Road (#10) – LOS E AM peak hour only
- Leon Road & Clinton Keith Road (#14) – LOS E AM peak hour only
- Winchester Road (SR-79) & Domenigoni Parkway (#19) – LOS F AM and PM peak hours

The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

EXHIBIT 3-10 : EXISTING (2024) TRAFFIC VOLUMES (SHEET 1 OF 2)

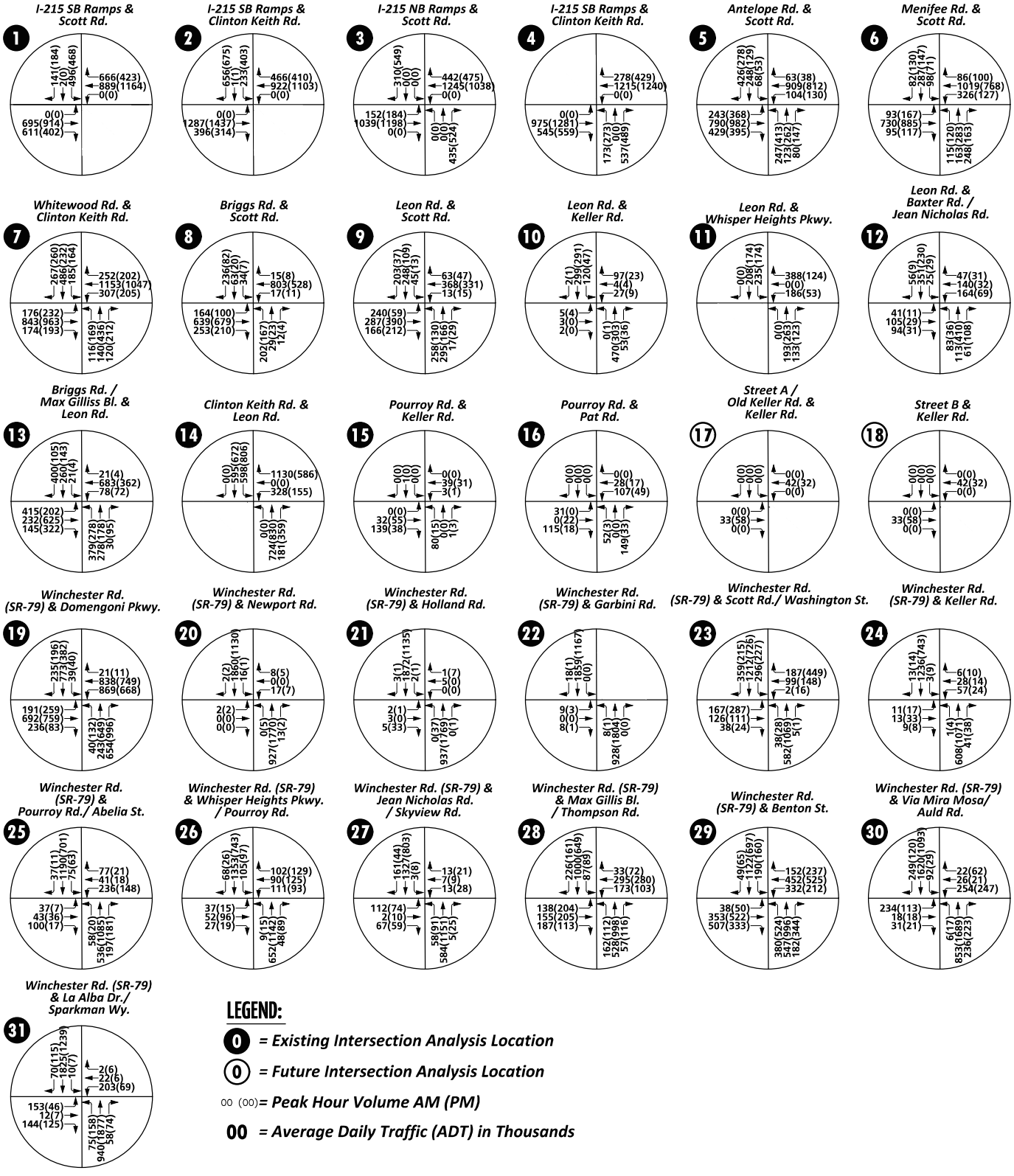


LEGEND:

0 = *Existing Intersection Analysis Location*

(0) = *Future Intersection Analysis Location*

EXHIBIT 3-10 : EXISTING (2024) TRAFFIC VOLUMES (SHEET 2 OF 2)



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*

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

#	Intersection	Traffic Control[2]	Delay[1] (secs.) AM	Delay[1] (secs.) PM	Level of Service AM	Level of Service PM
1	I-215 SB Ramps & Scott Rd.	TS	7.8	7.9	A	A
2	I-215 SB Ramps & Clinton Keith Rd.	TS	9.8	14.4	A	B
3	I-215 NB Ramps & Scott Rd.	TS	4.4	4.3	A	A
4	I-215 NB Ramps & Clinton Keith Rd.	TS	11.2	12.1	B	B
5	Antelope Rd. & Scott Rd.	TS	28.3	29.4	C	C
6	Menifee Rd. & Scott Rd.	TS	42.8	33.2	D	C
7	Whitewood Rd. & Clinton Keith Rd.	TS	33.8	29.8	C	C
8	Briggs Rd. & Scott Rd.	TS	18.0	13.8	B	B
9	Leon Rd. & Scott Rd.	TS	**58.6**	21.2	**E**	C
10	Leon Rd. & Keller Rd.	CSS	**37.4**	20.0	**E**	C
11	Leon Rd. & Whisper Heights Pkwy.	TS	17.1	12.3	B	B
12	Leon Rd. & Jean Nicholas Rd.	TS	21.8	16.7	C	B
13	Briggs Rd. & Leon Rd.	TS	38.1	20.6	D	C
14	Leon Rd. & Clinton Keith Rd.	TS	**71.6**	21.6	**E**	C
15	Pourroy Rd. & Keller Rd.	AWS	8.4	7.3	A	A
16	Pourroy Rd. & Pat Rd.	CSS	13.9	8.7	B	A
17	Old Keller Rd./Street A & Keller Rd.		Future Intersection			
18	Street B & Keller Rd.		Future Intersection			
19	Winchester Rd. (SR-79) & Domenigoni Pkwy.	TS	**128.8**	**143.3**	**F**	**F**
20	Winchester Rd. (SR-79) & Newport Rd.	TS	4.9	5.0	A	A
21	Winchester Rd. (SR-79) & Holland Rd.	TS	8.0	7.6	A	A
22	Winchester Rd. (SR-79) & Garbani Rd.	TS	5.3	3.3	A	A
23	Winchester Rd. (SR-79) & Scott Rd.	TS	25.0	37.3	C	D
24	Winchester Rd. (SR-79) & Keller Rd.	TS	10.1	9.6	B	A
25	Winchester Rd. (SR-79) & Abelia St.	TS	34.0	18.2	C	B
26	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	TS	20.2	19.3	C	B
27	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	TS	17.4	14.6	B	B
28	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	TS	25.6	26.1	C	C
29	Winchester Rd. (SR-79) & Benton Rd.	TS	41.3	34.0	D	D
30	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	TS	27.7	22.9	C	C
31	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	TS	25.2	15.0	C	B

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

[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; AWS = All-way Stop

3.8 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. The following unsignalized study area intersection currently meets a peak hour traffic signal under Existing traffic conditions:

- Leon Road & Keller Road (#10)

Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

3.9 EXISTING (2024) QUEUING ANALYSIS

A queuing analysis was performed at both the Scott Road and Clinton Keith Road interchanges along the I-215 Freeway. Queuing analysis findings are presented in Table 3-2. As shown in Table 3-2, the following movements currently experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows:

- I-215 Northbound Ramps & Scott Road (#3), westbound through lane – AM and PM peak hours

A queuing analysis has also been conducted for all remaining signalized intersections in the study area, as requested by the County. The results of this analysis are also presented in Table 3-2. Worksheets for Existing (2024) traffic conditions off-ramp queuing analysis are provided in Appendix 3.4.

TABLE 3-2: QUEUING SUMMARY FOR EXISTING (2024) CONDITIONS (1 OF 6)

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2024) Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Existing (2024) Simtraffic: Maximum Queue (Feet)	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
I-215 SB Ramps & Clinton Keith Rd. (#1)	SBL	1,470	143	135	Yes	Yes	211	202
	SBR	1,470	22	36	Yes	Yes	103	131
	EBT	740	107	153	Yes	Yes	202	210
	EBR	460	38	32	Yes	Yes	232	81
	WBT	680	144	213	Yes	Yes	333	450
	WBR	530	0	0	Yes	Yes	162	138
I-215 NB Ramps & Scott Rd. (#2)	SBL	1,900	176	338	Yes	Yes	193	347
	SBR	1,200	230	280	Yes	Yes	170	184
	EBT	570	263	356	Yes	Yes	292	306
	EBR	390	49	49	Yes	Yes	97	103
	WBT	680	268	366	Yes	Yes	274	408
I-215 NB Ramps & Clinton Keith Rd. (#3)	NBR	1,425	128	273	Yes	Yes	234	257
	SBR	1,750	0	241	Yes	Yes	253	317
	EBL	445	174	215	Yes	Yes	237	242
	EBT	680	172	335	Yes	Yes	408	266
	WBT	360	**440**	**456**	**No**	**No**	457	428
	WBR	360	53	320	Yes	Yes	336	257
Antelope Rd. & Scott Rd. (#4)	NBL	1,540	273	352	Yes	Yes	223	334
	NBR	950	257	333	Yes	Yes	179	290
	EBT	680	186	286	Yes	Yes	252	365
	EBR	900	0	0	Yes	Yes	0	128
	WBT	470	311	397	Yes	Yes	314	333
Antelope Rd & Scott Rd. (#5)	NBL	245	136	217	Yes	Yes	223	265
	NBR	220	13	55	Yes	Yes	74	82
	SBL	165	119 [2]	96 [2]	Yes	Yes	338	134
	SBR	165	**276**	**170**	**No**	**No**	217	173
	EBL	185	138	**237** [2]	Yes	**No**	241	290
	EBR	205	115	47	Yes	Yes	246	315
	WBL	310	70	94 [2]	Yes	Yes	99	110

TABLE 3-2: QUEUING SUMMARY FOR EXISTING (2024) CONDITIONS (2 OF 6)

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2024) Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Existing (2024) Simtraffic: Maximum Queue (Feet)	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
Menifee Rd. & Scott Rd. (#6)	NBL	250	194 [2]	186 [2]	Yes	Yes	173	185
	NBR	575	67	52	Yes	Yes	149	141
	SBL	150	135	126 [2]	Yes	Yes	225	224
	EBL	200	150 [2]	**241 [2]**	Yes	**No**	300	297
	WBL	200	**431 [2]**	194 [2]	**No**	Yes	315	163
Whitewood Rd. & Clinton Keith Rd. (#7)	NBL	370	154	195	Yes	Yes	210	230
	SBL	150	**283 [2]**	**212 [2]**	**No**	**No**	209	192
	EBL	325	123 [2]	140 [2]	Yes	Yes	141	167
	WBL	190	**215 [2]**	123 [2]	**No**	Yes	243	185
	WBR	195	107	76	Yes	Yes	159	116
Briggs Rd. & Scott Rd. (#8)	SBR	145	57	22	Yes	Yes	116	54
	EBL	150	**194**	110	**No**	Yes	214	192
	WBL	200	38	25	Yes	Yes	56	31
	WBR	960	0	0	Yes	Yes	25	26
Leon Rd. & Scott Rd. (#9)	NBL	225	**391 [2]**	159	**No**	Yes	394	155
	SBL	230	77	31	Yes	Yes	530	45
	EBL	300	**368 [2]**	91	**No**	Yes	360	95
	EBR	300	50	50	Yes	Yes	116	74
	WBL	110	33	35	Yes	Yes	399	47
Leon Rd. & Whisper Heights Blvd. (#11)	NBL	190	0	0	Yes	Yes	0	0
	SBL	200	**261**	179	**No**	Yes	217	161
	WBL	150	**219**	74	**No**	Yes	167	90

TABLE 3-2: QUEUING SUMMARY FOR EXISTING (2024) CONDITIONS (3 OF 6)

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2024) Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Existing (2024) Simtraffic: Maximum Queue (Feet)	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
Leon Rd. & Baxter Rd./Jean Nicholas Rd. (#12)	NBL	250	110	50	Yes	Yes	144	72
	SBL	250	47	43	Yes	Yes	59	67
	EBL	220	66	22	Yes	Yes	85	38
	WBL	150	**183**	79	**No**	Yes	132	97
Max Gilliss Blvd. & Leon Rd. (#13)	NBL	240	**256** [2]	149	**No**	Yes	232	159
	SBL	150	23	7	Yes	Yes	47	35
	EBL	305	279 [2]	117	Yes	Yes	248	124
	WBL	250	61	53	Yes	Yes	113	80
Leon Rd. & Clinton Keith Rd. (#14)	NBR	410	83	187	Yes	Yes	121	265
	SBL	395	278	315	Yes	Yes	404	335
	WBL	145	**341**	**159**	**No**	**No**	265	150
Winchester Rd. (SR-79) & Domenigoni Pkwy. (#19)	NBL	350	70	231 [2]	Yes	Yes	100	245
	NBR	525	**537** [2]	**1,154** [2]	**No**	**No**	538	680
	SBL	240	70	70	Yes	Yes	105	90
	SBR	365	54	50	Yes	Yes	140	104
	EBL	385	118	204 [2]	Yes	Yes	145	297
	EBR	700	128	21	Yes	Yes	158	59
	WBL	290	**740** [2]	**580** [2]	**No**	**No**	435	435
	WBR	280	0	0	Yes	Yes	19	18
Winchester Rd. (SR-79) & Newport Rd. (#20)	NBL	230	0	17	Yes	Yes	0	33
	NBR	565	0	0	Yes	Yes	21	0
	SBL	560	34	7	Yes	Yes	36	5
	SBR	560	0	0	Yes	Yes	5	0

TABLE 3-2: QUEUING SUMMARY FOR EXISTING (2024) CONDITIONS (4 OF 6)

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2024) Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Existing (2024) Simtraffic: Maximum Queue (Feet)	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
Winchester Rd. (SR-79) & Holland Rd. (#21)	NBL	555	0	67	Yes	Yes	0	90
	NBR	460	0	0	Yes	Yes	0	11
	SBL	415	10	7	Yes	Yes	24	15
	SBR	425	0	0	Yes	Yes	12	11
	EBL	50	7	5	Yes	Yes	15	5
	WBL	50	0	0	Yes	Yes	0	0
Winchester Rd. (SR-79) & Garbani Rd. (#22)	NBL	805	24	6	Yes	Yes	31	20
	SBR	445	10	2	Yes	Yes	27	5
	EBL	50	22	10	Yes	Yes	30	34
	EBR	50	15	5	Yes	Yes	27	18
Winchester Rd. (SR-79) & Scott Rd. (#23)	NBL	640	68	54	Yes	Yes	96	102
	NBR	440	0	0	Yes	Yes	12	6
	SBL	650	519 [2]	333 [2]	Yes	Yes	341	316
	SBR	520	64	52	Yes	Yes	144	95
	EBL	115	**204**	**400** [2]	**No**	**No**	211	224
	EBR	120	0	0	Yes	Yes	47	155
	WBL	100	11	36	Yes	Yes	21	52
	WBR	100	60	**339** [2]	Yes	**No**	90	197
Winchester Rd. (SR-79) & Keller Rd. (#24)	NBL	505	7	15	Yes	Yes	5	6
	NBR	525	10	8	Yes	Yes	3	4
	SBL	520	13	26	Yes	Yes	6	17
	SBR	540	0	0	Yes	Yes	0	0
Winchester Rd. (SR-79) & Abelia St. (#25)	NBL	245	111 [2]	44	Yes	Yes	167	295
	NBR	335	45	48	Yes	Yes	99	383
	SBL	240	111	123 [2]	Yes	Yes	305	218
	SBR	240	0	0	Yes	Yes	378	19
	EBL	100	67	23	Yes	Yes	0	46
	WBL	100	**400** [2]	**250** [2]	**No**	**No**	184	170

TABLE 3-2: QUEUING SUMMARY FOR EXISTING (2024) CONDITIONS (5 OF 6)

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2024) Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Existing (2024) Simtraffic: Maximum Queue (Feet)	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd. (#26)	NBL	255	24	34	Yes	Yes	47	200
	NBR	330	15	22	Yes	Yes	51	131
	SBL	430	71	66	Yes	Yes	161	118
	SBR	300	0	0	Yes	Yes	206	43
	EBL	145	64	34	Yes	Yes	74	42
	EBR	145	0	0	Yes	Yes	53	29
	WBL	230	142	123	Yes	Yes	174	133
	WBR	190	37	44	Yes	Yes	78	132
Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd. (#27)	NBL	250	112 [2]	132	Yes	Yes	103	242
	NBR	250	0	0	Yes	Yes	26	41
	SBL	560	14	24	Yes	Yes	23	24
	SBR	240	70	0	Yes	Yes	280	193
	EBL	155	**213** [2]	122 [2]	**No**	Yes	143	111
	WBL	150	32	55	Yes	Yes	40	75
	WBR	150	0	0	Yes	Yes	31	42
Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd. (#28)	NBL	410	242 [2]	145	Yes	Yes	216	168
	SBL	305	119	156 [2]	Yes	Yes	130	170
	SBR	105	**139**	39	**No**	Yes	180	180
	EBL	350	87	120	Yes	Yes	94	139
	EBR	350	103	52	Yes	Yes	160	81
	WBL	215	129 [2]	71	Yes	Yes	159	96
	WBR	195	0	0	Yes	Yes	48	56
Winchester Rd. (SR-79) & Benton Rd. (#29)	NBL	555	310 [2]	441 [2]	Yes	Yes	634	536
	NBR	470	52	148	Yes	Yes	94	197
	SBL	240	117	111 [2]	Yes	Yes	311	143
	SBR	375	0	0	Yes	Yes	49	56
	EBL	445	34	41	Yes	Yes	60	68
	EBR	370	134	38	Yes	Yes	211	139
	WBL	230	182	127	Yes	Yes	298	240
	WBR	230	38	109	Yes	Yes	86	124

TABLE 3-2: QUEUING SUMMARY FOR EXISTING (2024) CONDITIONS (6 OF 6)

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2024) Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Existing (2024) Simtraffic: Maximum Queue (Feet)	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd. (#30)	NBL	200	19	39	Yes	Yes	27	212
	NBR	320	38	34	Yes	Yes	112	402
	SBL	165	126	58	Yes	Yes	259	110
	EBL	100	**265**	**140**	**No**	**No**	135	132
	WBL	335	313 [2]	330 [2]	Yes	Yes	315	265
Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy. (#31)	NBL	290	142 [2]	225 [2]	Yes	Yes	126	274
	SBL	320	26	21	Yes	Yes	45	23
	SBR	320	25	33	Yes	Yes	40	194
	EBL	185	163	59	Yes	Yes	170	97
	EBR	145	70	46	Yes	Yes	134	113

[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.

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

[3] **BOLD** = 95th percentile queue exceeds the available storage

3.10 EXISTING DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of Project deficiencies and recommended improvements based on the County of Riverside deficiency criteria discussed in Section 2.6 *Deficiency Criteria*.

3.10.1 INTERSECTIONS

Intersection improvements necessary to improve existing traffic deficiencies are shown in Table 3-3. The improvements have been identified to improve the deficiencies back to acceptable levels. Worksheets for Existing (2024) conditions, with improvements, HCM calculation worksheets are provided in Appendix 3.5.

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

			Intersection Approach Lanes[1]											Delay[2] (secs.)		Level of Service	
		Traffic	Northbound			Southbound			Eastbound			Westbound					
#	Intersection	Control[3]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
9	Leon Rd. & Scott Rd.																	
	- Without Improvements	TS	1	1	0	1	1	0	1	1	1	1	1	0	**81.9**	22.8	**F**	C
	- With Improvements	TS	1	1	0	1	1	**1**	1	1	1	1	1	0	41.1	21.2	D	C
10	Leon Rd. & Keller Rd.																	
	- Without Improvements	CSS	0	1	0	0	1	0	0	1	0	0	1	0	**37.4**	20.0	**E**	C
	- With Improvements	CSS	**1**	1	0	**1**	1	0	**1**	1	0	**1**	1	0	19.1	13.6	C	B
14	Leon Rd. & Clinton Keith Rd.																	
	- Without Improvements	TS	0	3	1>	2	3	0	0	0	0	1	0	2	**71.6**	21.6	**E**	C
	- With Improvements	TS	0	3	1>	2	3	0	0	0	0	1	0	**2>**	25.3	15.6	C	B
19	Winchester Rd. (SR-79) & Domenigoni Pkwy.																	
	- Without Improvements	TS	1	2	1	1	2	1	2	2	1	2	3	1	**128.8**	**143.3**	**F**	**F**
	- With Improvements	TS	1	2	**1>**	1	2	1	2	**3**	1	2	3	1	42.1	42.7	D	D

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

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

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; **1** = Improvement

[2] 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.

[3] TS = Traffic Signal; CSS = Cross-Street Stop; **TS** = Improvement

3.10.2 QUEUES

A queuing analysis was conducted for signalized study area intersections with the recommended improvements shown in Table 3-3. The results of this analysis are shown in Table 3-4. Worksheets for this analysis are provided in Appendix 3.6.

Improvements to address queuing deficiencies have been identified where feasible and are shown in Table 3-4. Improvements have not been identified at the following movements, as improvements are not considered feasible due to physical constraints on the existing roadways:

- I-215 Northbound Ramps & Scott Road (#3), westbound through lane
- Whitewood Road & Clinton Keith Road (#7), southbound left turn lane
- Max Gilliss Boulevard & Leon Road (#13), northbound left turn lane
- Winchester Road (SR-79) & Domenigoni Parkway (#19), northbound left turn lane
- Winchester Road (SR-79) & Domenigoni Parkway (#19), westbound left turn lane
- Winchester Road (SR-79) & Scott Road (#23), eastbound left turn lane
- Winchester Road (SR-79) & Scott Road (#23), westbound right turn lane
- Winchester Road (SR-79) & Abelia Street (#25), westbound left turn lane
- Winchester Road (SR-79) & Via Mira Mosa/Auld Road (#30), eastbound left turn lane

TABLE 3-4: SIGNALIZED QUEUING SUMMARY FOR EXISTING (2024) CONDITIONS WITH IMPROVEMENTS

Intersection	Movement	Recommended Stacking Distance (Feet)	Existing (2024) Synchro: 95th Percentile Queue (Feet) AM Peak Hour	PM Peak Hour	Acceptable?[1] AM	PM
Antelope Rd & Scott Rd. (#5)	SBR	250	**276**	170	**No**	Yes
	EBL	320	138	237 [2]	Yes	Yes
Menifee Rd. & Scott Rd. (#6)	EBL	325	150 [2]	241 [2]	Yes	Yes
	WBL	500	431 [2]	194 [2]	Yes	Yes
Whitewood Rd. & Clinton Keith Rd. (#7)	SBL	150	**283** [2]	**212** [2]	**No**	**No**
	WBL	250	215 [2]	123 [2]	Yes	Yes
Briggs Rd. & Scott Rd. (#8)	EBL	250	194	110	Yes	Yes
Leon Rd. & Scott Rd. (#9)	NBL	550	362 [2]	162	Yes	Yes
	SBL	230	77	31	Yes	Yes
	EBL	500	337 [2]	91	Yes	Yes
	EBR	300	46	50	Yes	Yes
	WBL	110	33	36	Yes	Yes
Leon Rd. & Whisper Heights Blvd. (#11)	SBL	310	261	179	Yes	Yes
	WBL	250	219	74	Yes	Yes
Leon Rd. & Baxter Rd./Jean Nicholas Rd. (#12)	WBL	250	183	79	Yes	Yes
Max Gilliss Blvd. & Leon Rd. (#13)	NBL	240	**256** [2]	149	**No**	Yes
Leon Rd. & Clinton Keith Rd. (#14)	NBR	410	84	189	Yes	Yes
	SBL	395	282	304	Yes	Yes
	WBL	400	346	162	Yes	Yes
Winchester Rd. (SR-79) & Domenigoni Pkwy. (#19)	NBL	350	71	266 [2]	Yes	Yes
	NBR	525	421 [2]	**1,253** [2]	Yes	**No**
	SBL	240	71	71	Yes	Yes
	SBR	365	56	52	Yes	Yes
	EBL	385	118	152	Yes	Yes
	EBR	700	129	22	Yes	Yes
	WBL	290	**735** [2]	**536** [2]	**No**	**No**
	WBR	280	0	0	Yes	Yes
Winchester Rd. (SR-79) & Scott Rd. (#23)	EBL	115	**204**	**400** [2]	**No**	**No**
	WBR	100	60	**339** [2]	Yes	**No**
Winchester Rd. (SR-79) & Abelia St. (#25)	WBL	100	**400** [2]	**250** [2]	**No**	**No**
Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd. (#27)	EBL	250	213 [2]	122 [2]	Yes	Yes
Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd. (#28)	SBR	170	**139**	39	**Yes**	Yes
Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd. (#30)	EBL	100	**265**	**140**	**No**	**No**

[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.

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

[3] **BOLD** = 95th percentile queue exceeds the available storage

[4] Underline = Improvement

4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. The Project consists of the development of 384 Single Family Detached Residential dwelling units, 230 Multifamily (Low-Rise) Residential dwelling units, 80 Senior Housing (Detached) units, and 8.97 acres of Active Park use. The Project is proposed to be evaluated in two phases with the first phase having an anticipated Opening Year of 2028 and Project Buildout anticipated in 2030. The first phase of development (2028) will include the development of 179 Single Family Detached Residential dwelling units and 98 Multifamily (Low-Rise) Residential dwelling units.

Primary access to the Project site will be accommodated via a new alignment of Keller Road (via Street A and Street B). Both Street A and Street B will allow for full access onto Keller Road. No direct access is proposed from the Project to Winchester Road (SR-79) except via Keller Road. Access to the I-215 Freeway is presumed to occur via Scott Road and Clinton Keith Road. It should be noted that the extension of Clinton Keith Road has been completed between Leon Road and Winchester Road (SR-79).

4.1 PROJECT TRIP GENERATION

4.1.1 PROPOSED PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development. In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021) were used to estimate the Project's trip generation based on the Single Family Detached Housing (ITE Land Use Code 210), Multifamily (Low-Rise) Residential (ITE Land Use Code 220), and Senior Adult Housing – Single Family (ITE Land Use Code 251) land use categories. (2) The trip generation rates for the Active Park are based on the San Diego Municipal Code's Land Development Code Trip Generation Manual (May 2003). (3) Trip generation rates are summarized in Table 4-1.

TABLE 4-1: PROJECT TRIP GENERATION RATES

Land Use[1]	Units[2]	ITE LU Code	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Daily
Single Family Detached Residential	DU	210	0.18	0.52	0.70	0.59	0.35	0.94	9.43
Multifamily (Low-Rise) Residential	DU	220	0.10	0.30	0.40	0.32	0.19	0.51	6.74
Senior Adult Housing - Single Family	DU	251	0.08	0.16	0.24	0.18	0.12	0.30	4.31
Active Park	Acres	--[3]	1.00	1.00	2.00	2.00	2.00	4.00	50.00

[1] Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, Eleventh Edition (2021).

[2] DU = Dwelling Units

[3] Trip Generation Source: San Diego Municipal Code (Land Development Code) Trip Generation Manual, May 2003.

The trip generation summary illustrating daily and peak hour trip generation estimates for the proposed Project are shown in Table 4-2 (both Phase 1 and Project Buildout). The Project (at Phase 1) is anticipated to generate 2,350 two-way trip-ends per day with 165 AM peak hour trips and 217 PM peak hour trips. At Project Buildout, the Project is anticipated to generate 5,720 two-way trip-ends per day with 382 AM peak hour trips and 514 PM peak hour trips (see Table 4-2).

TABLE 4-2: PROJECT TRIP GENERATION SUMMARY

			AM Peak Hour			PM Peak Hour			
Land Use	Quantity	Units[1]	In	Out	Total	In	Out	Total	Daily
Phase 1: Single Family Residential	180	DU	33	93	126	107	63	170	1,697
Phase 1: Multifamily (Low-Rise) Residential	98	DU	9	30	39	31	18	49	662
Phase 1 Total			**42**	**123**	**165**	**138**	**81**	**219**	**2,359**
Phase 2: Single Family Residential	384	DU	70	199	269	227	134	361	3,622
Phase 2: Multifamily (Low-Rise) Residential	230	DU	22	70	92	74	43	117	1,550
Phase 2: Senior Adult Housing - Single Family	80	DU	6	13	19	15	9	24	346
Phase 2: Active Park	8.97	Acres	9	9	18	18	18	36	450
Project Buildout Total			**107**	**291**	**398**	**334**	**204**	**538**	**5,968**

[1] DU = Dwelling Units

4.1.2 TRIP GENERATION COMPARISON

Table 4-3 summarizes a trip generation comparison of the proposed Project to the trip generation evaluated in the 2022 Traffic Study. As shown in Table 4-3, the proposed Project is anticipated to generate a net reduction in trips as compared to the approved Specific Plan uses.

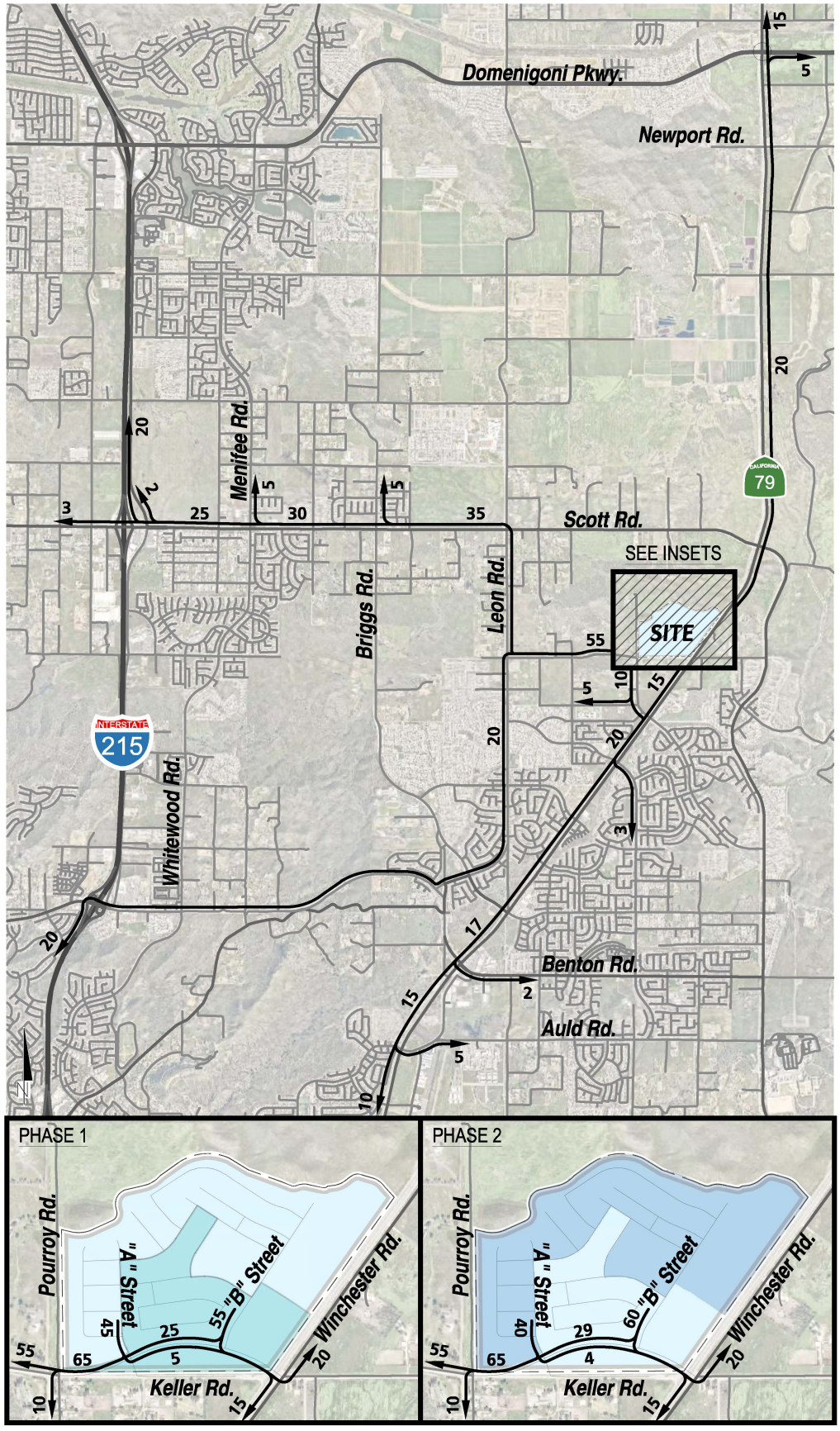
TABLE 4-3: PROJECT TRIP GENERATION SUMMARY

	AM Peak Hour			PM Peak Hour			
	In	Out	Total	In	Out	Total	Daily
Proposed Project (TTM 38163)	107	291	398	334	204	538	5,968
Approved Project (Specific Plan)	278	368	646	332	241	573	6,298
Net Change in Trips	**-171**	**-77**	**-248**	**2**	**-37**	**-35**	**-330**

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. Exhibit 4-1 shows the Project trip distribution patterns. Project trip distribution patterns are consistent with the near-term residential distributions evaluated in the 2022 Traffic Study.

EXHIBIT 4-1 : PROJECT TRIP DISTRIBUTION



4.3 MODAL SPLIT

The potential for Project trips (non-truck) 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, the Project only ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-2 for Phase 1 and on Exhibit 4-3 for Project Buildout.

4.5 BACKGROUND TRAFFIC

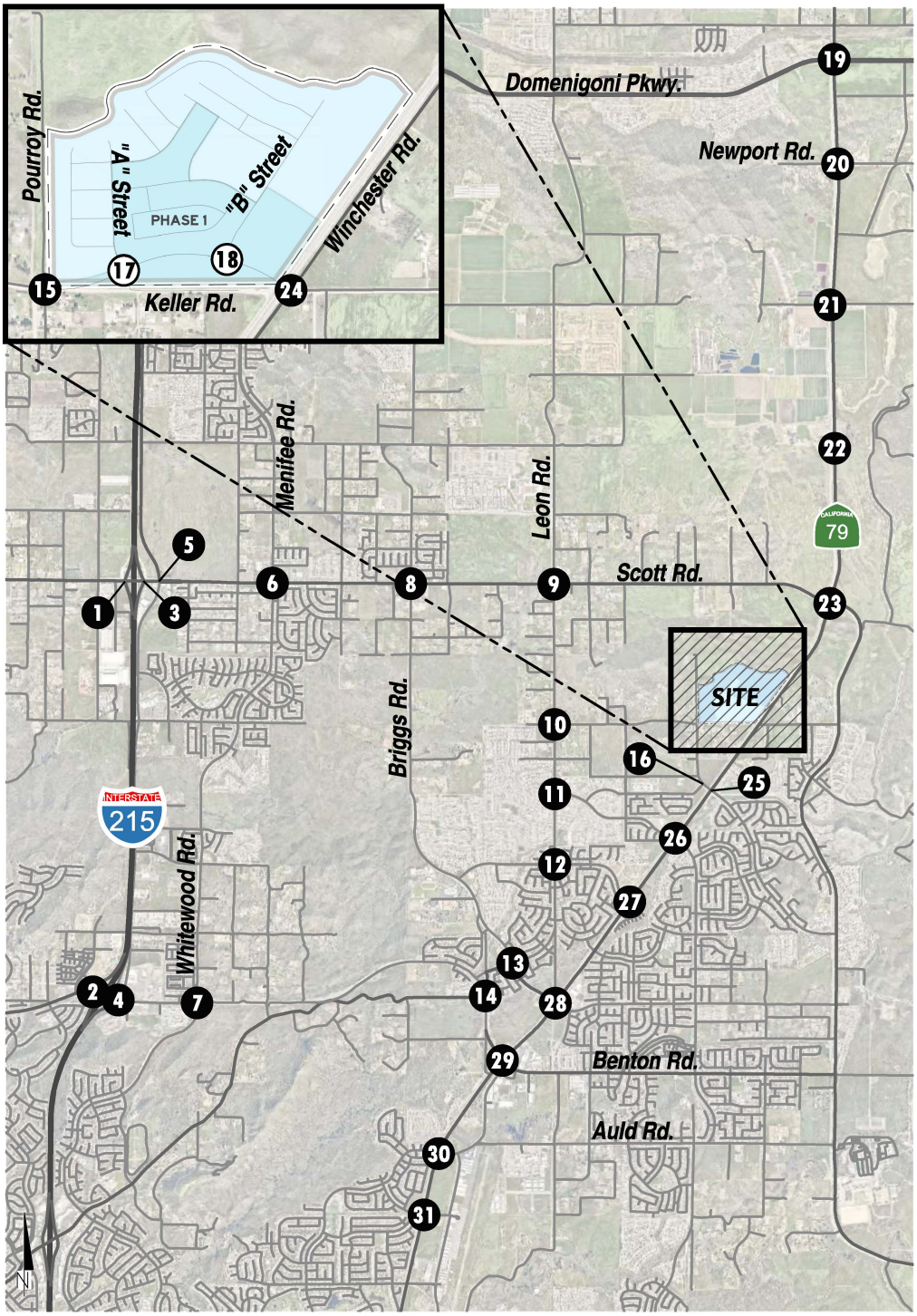
Future year traffic forecasts have been based upon background (ambient) growth at 2% per year, compounded annually, for 2028 and 2030 conditions. The total ambient growth is 8.24% for Phase 1 (2028) traffic conditions (2% per year, compounded over 4 years) and 12.62% for Project Buildout (2030) traffic conditions (2% per year, compounded over 6 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.

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the County of Riverside, City of Murrieta, and City of Menifee. 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 EAPC forecasts. In other words, this list of cumulative development projects has been reviewed to determine which projects would likely contribute measurable traffic through the study area intersections (e.g., those cumulative projects in close proximity to the proposed Project). For the purposes of this analysis, the cumulative projects that were determined to affect one or more of the study area intersections are shown on Exhibit 4-4, listed in Table 4-3, 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 are shown on Exhibit 4-5.

EXHIBIT 4-2 : PROJECT ONLY (PHASE 1) TRAFFIC VOLUMES (SHEET 1 OF 2)



LEGEND:

0 = *Existing Intersection Analysis Location*

(0) = *Future Intersection Analysis Location*

EXHIBIT 4-2 : PROJECT ONLY (PHASE 1) TRAFFIC VOLUMES (SHEET 2 OF 2)

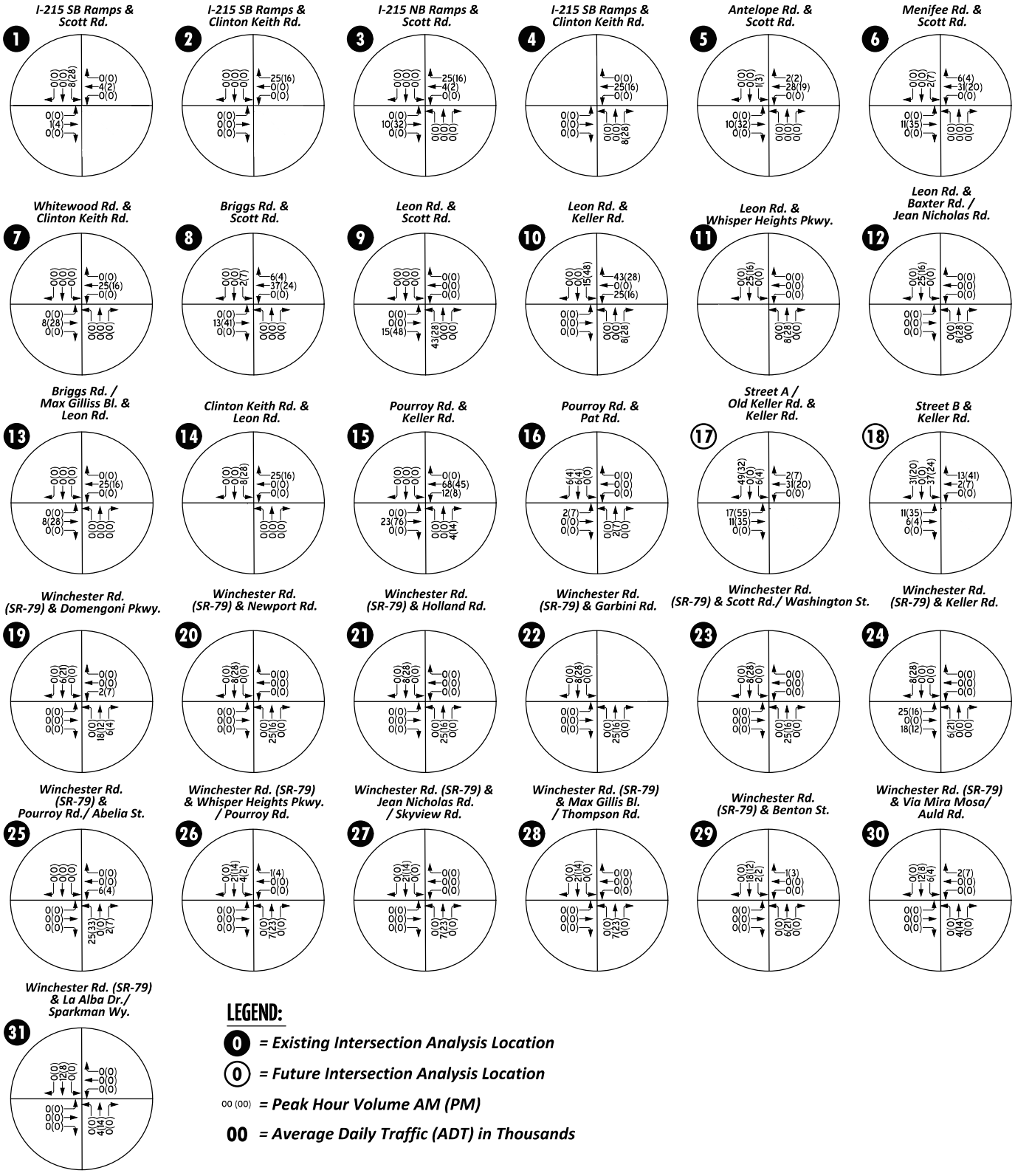
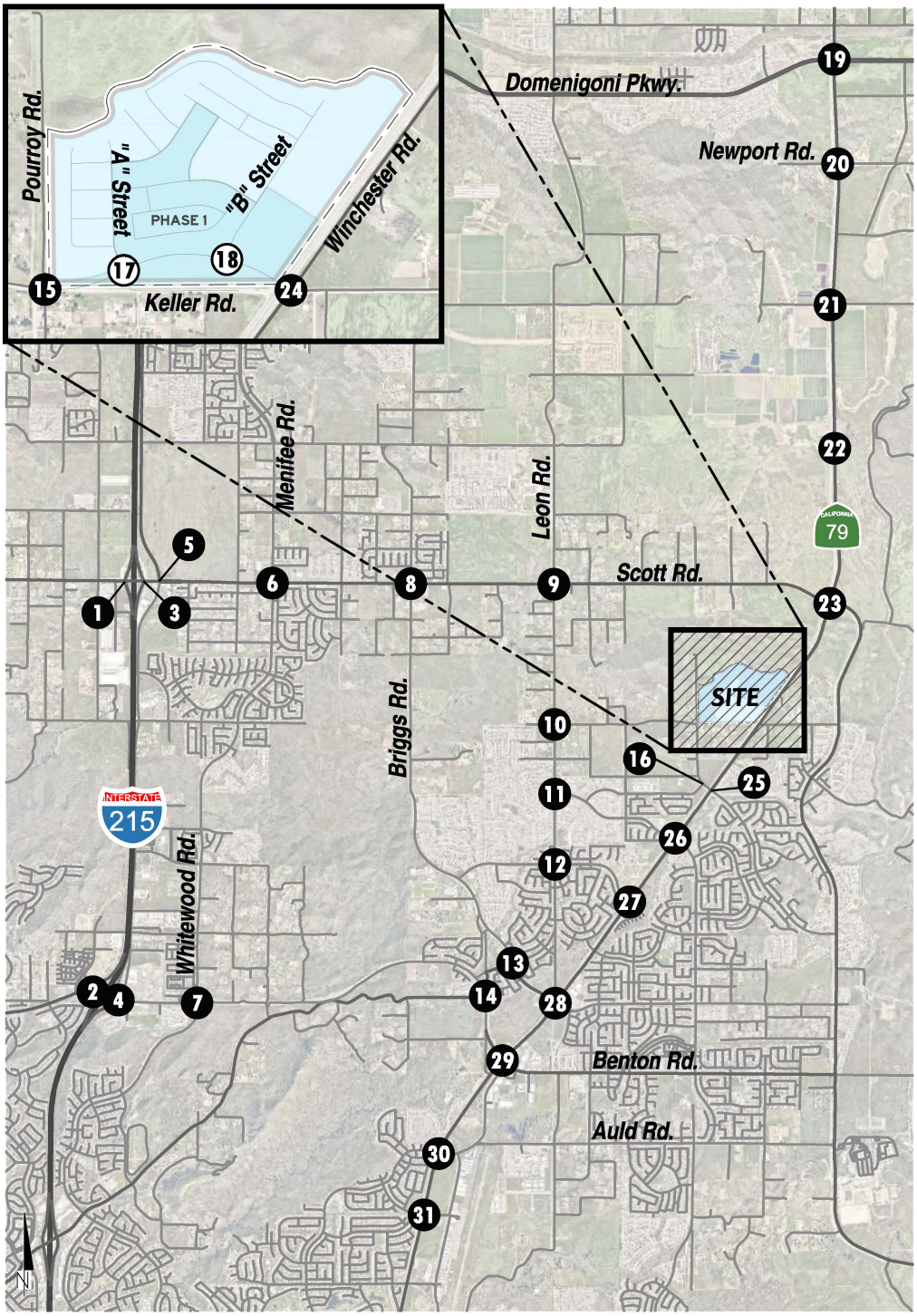


EXHIBIT 4-3 : PROJECT ONLY (PHASE 1) TRAFFIC VOLUMES (SHEET 1 OF 2)



LEGEND:

0 = *Existing Intersection Analysis Location*

(0) = *Future Intersection Analysis Location*

EXHIBIT 4-3 : PROJECT ONLY (PROJECT BUILDOUT) TRAFFIC VOLUMES (SHEET 2 OF 2)

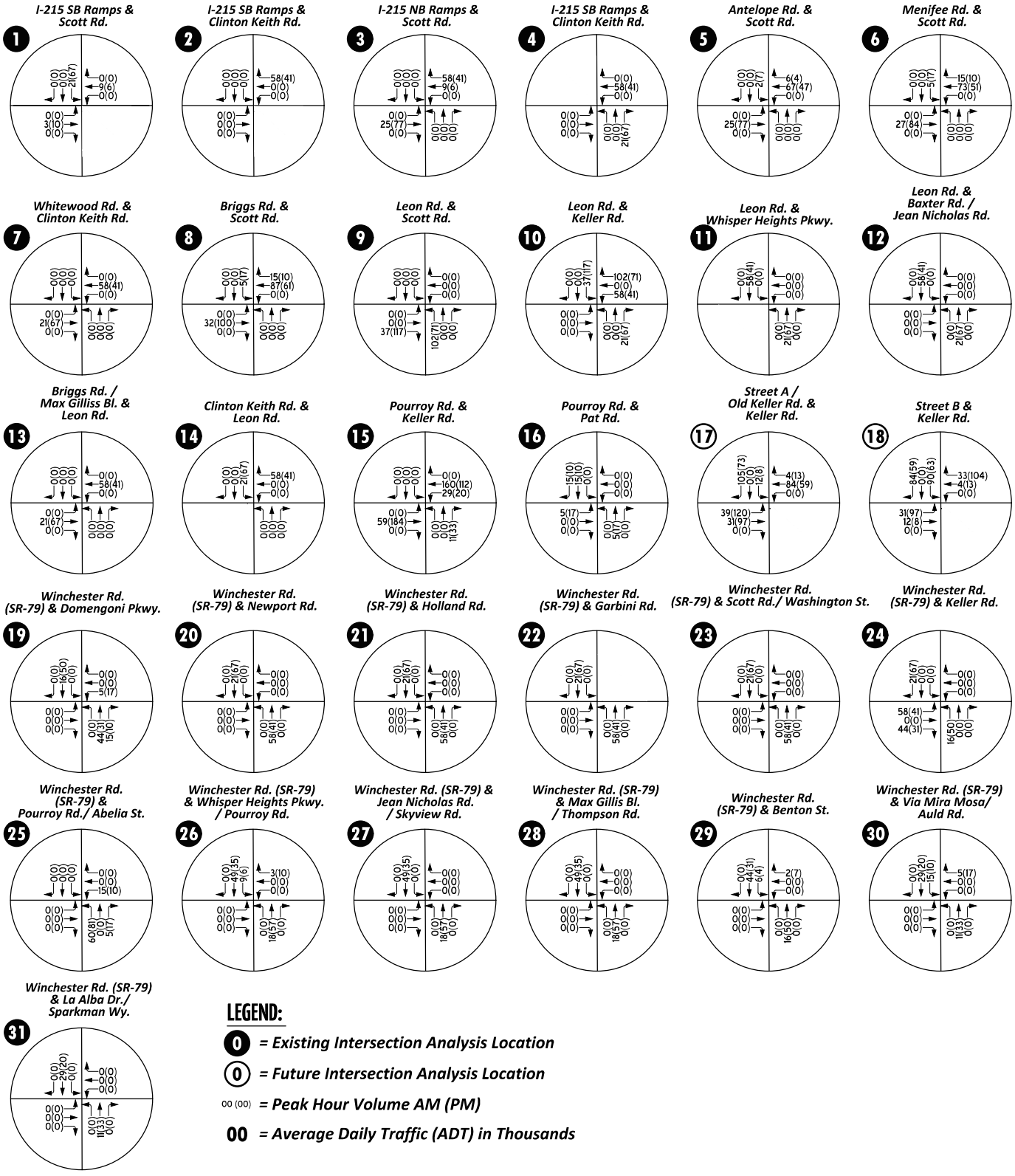


TABLE 4-3: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

#	Project Name	Land Use	Quantity	Units[1]
County of Riverside:				
RC1	PPT220048	RV Storage Yard	255	Spaces
RC2	TR37089	Single Family Housing	21	DU
RC3	TR36687R1	SFDR	69	DU
RC4	Frederick's Ridge	Single Family Housing	422	DU
RC5	TTM38738	Single Family Housing	189	DU
RC6	CUP190012	Self-Storage	185.468	TSF
RC7	TR36722 (SP 286A6)	SFDR	146	DU
RC8	Belle Terre Specific Plan (SP00382)	Single Family Housing	1282	DU
	TTM37449	Single Family Housing	372	DU
	TTM38175	Single Family Housing	98	DU
	TTM38263	Condominium	140	DU
	PPT220020	Condominium	157	DU
RC9	PP19442R01	Condominium	180	DU
RC10	Domenigoni - Barton Properties (SP00310)	SFDR	2823	DU
		Mixed Use	200.8	AC
		Commercial Retail	42.4	AC
		Commercial Recreation	117.9	AC
		School	44.0	AC
		Passive Park	37.6	AC
RC11	TTM37078	Condominium	164	DU
RC12	PPT170003	Condominium	154	DU
RC13	TR37089	Single Family Housing	21	DU
City of Murrieta:				
MUR1	Murrieta Marketplace	Retail Center	492.717	TSF
		Restaurant Space	26.100	TSF
MUR2	Lee Lane Apartments (DP-2022-2536)	Multi-Family Residential	258	DU
MUR3	Greenberg Apartments (DP-2022-2634)	Multi-Family Residential	162	DU
MUR4	Whitewood & Clinton Keith (DP-2022-2737)	Multi-Family Residential	262	DU
MUR5	Whitewood South (DP-2021-2347)	Multi-Family Residential	322	DU
MUR6	Vintage Farms (DP-2021-2355)	Multi-Family Residential	483	DU
MUR7	Hotel and Conference Building (DP 2019-1887)	Hotel	120	RM
		Conference/Event Building	15.295	TSF
MUR8	The Orchard (DPO-0030-161)	Retail Center	460.000	TSF
		Gas Station	12	VFP
		Home Depot	107.891	TSF
		Ross	25.000	TSF
		Target	186.000	TSF
MUR9	Kaiser Permanente (Phase II) (DP-2014-348)	Medical Office Building	90.000	TSF
MUR10	Adobe Springs (DP-2015-616)	Single Family Housing	287	DU
		Business Park	208.500	TSF
MUR11	Vineyard Commercial Center (Phase IV) (DP-2018-1656)	Commercial Center	72.000	TSF
MUR12	La Alba Learning Center/Day Care (DP-2020-2191)	Day Care Center	9.900	TSF
MUR13	La Alba Gas Station (DP-2019-1850)	Gas Station with Convenience Market	16	VFP
MUR14	Makena Hills (DP-2021-2271)	Medical Dentist Office Building	106.000	TSF
		Hotel	206	RM
		High-Turnover Restaurant	9.300	TSF

#	Project Name	Land Use	Quantity	Units[1]
MUR15	Murrieta Hills SP (TTM 35853)	Single Family Housing	578	DU
		Multi-Family Residential	172	DU
		Retail Center	346.302	TSF
MUR16	Linnel Lane Self-Storage (DP-2023-00061)	Self-Storage	107.005	TSF
MUR17	Discovery Village (DP-2024-00078)	Single Family Housing	72	DU
		Condominium	293	DU
City of Menifee:				
MEN1	Menifee Village TTM	Residential	91	DU
MEN2	Nautical Cove	Single Family Housing	239	DU
MEN3	Rockport Ranch (50% Complete)	Single Family Housing	305	DU
MEN4	Salt Creek TTM 38625	Single Family Housing	325	DU
MEN5	Cantelena	Single Family Housing	296	DU
	TTM 38372 & TTM 38682	Single Family Housing	406	DU
MEN6	TTM 37671	Single Family Housing	182	DU
MEN7	Del Ortho North	Apartment	238	DU
		Independent Senior Living	100	DU
MEN8	Adler Ranch (Tricon) (30% Complete)	Residential Condo	327	DU
MEN9	Diamond Bros	Single Family Housing	197	DU
MEN10	Fitwell Health	Office Building	9.000	TSF
		Fitness Club	35.000	TSF
		Multipurpose Center	34.200	TSF
MEN11	Holiday Inn	Hotel	98	RM
MEN12	Haun and Garbani	Mixed-Use Light Manufacturing and Retail	291.020	TSF
MEN13	Walmart	Fast Food Restaurants	6.200	TSF
		Gas Station/Convenience Store	2.800	TSF
		Sit-Down Restaurant	6.500	TSF
		Auto Service & Repair	6.680	TSF
		Major Retail Building	240.980	TSF
		Retail Shops	13.800	TSF
MEN14	The Junction	Hotel	85.282	TSF
		Senior Living and Memory Care Facility	304	DU
		Fitness Center	37.000	TSF
		Restaurant	19.480	TSF
		Anchor Building	157.844	TSF
		Retail Shops	54.500	TSF
MEN15	Freedom Business Park	Light Industrial and Warehousing	283.300	TSF
MEN16	Bailey Park Irrigation Supply	Warehouse	19.603	TSF
MEN17	Commerce Pointe	Industrial	151.147	TSF
MEN18	PEMCOR	Commercial and Industrial Business Park	337.000	TSF

[1] AC = Acres; DU = Dwelling Units; TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions; STU = Students; RMS = Rooms

EXHIBIT 4-4 : CUMULATIVE MAP

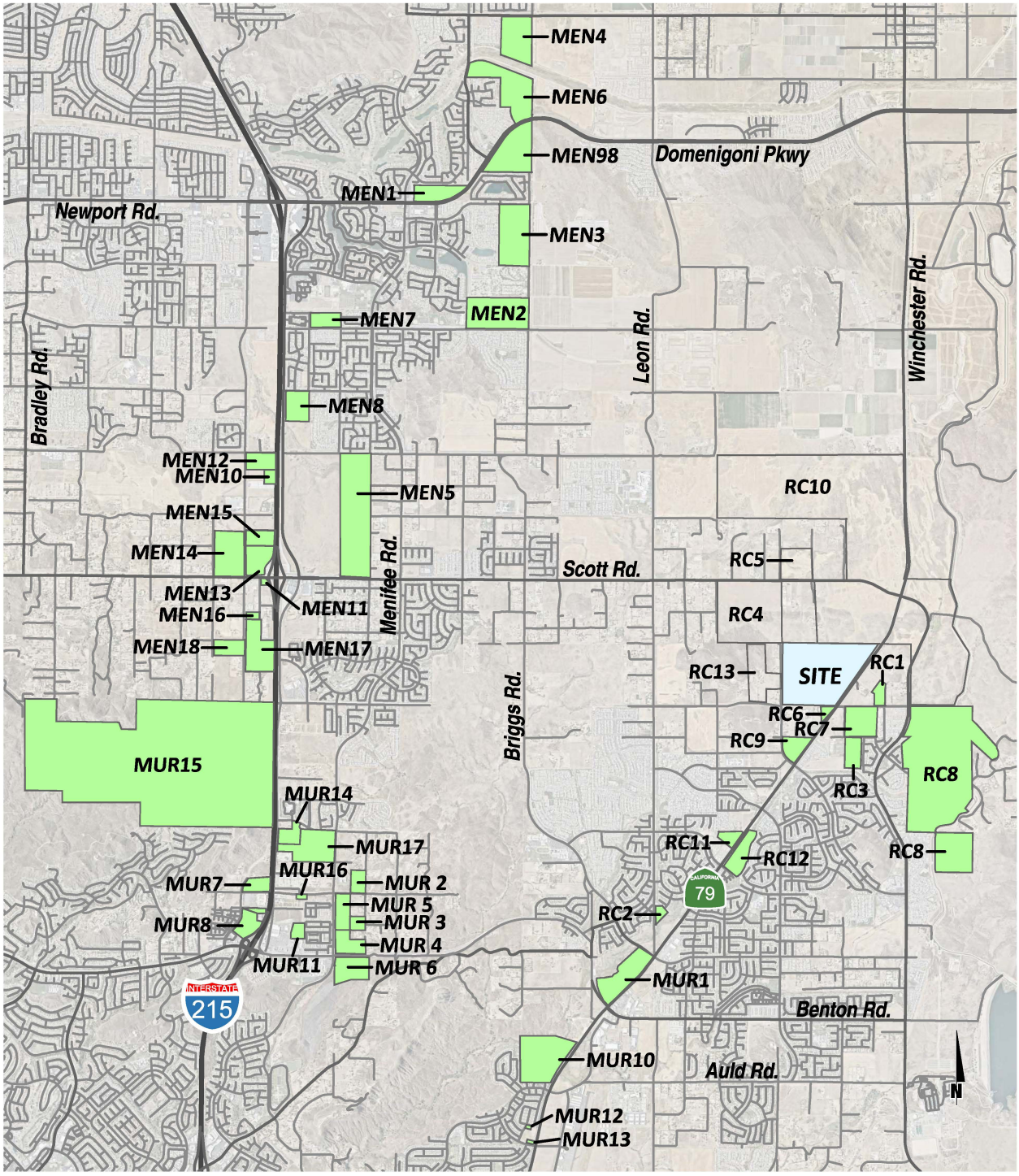
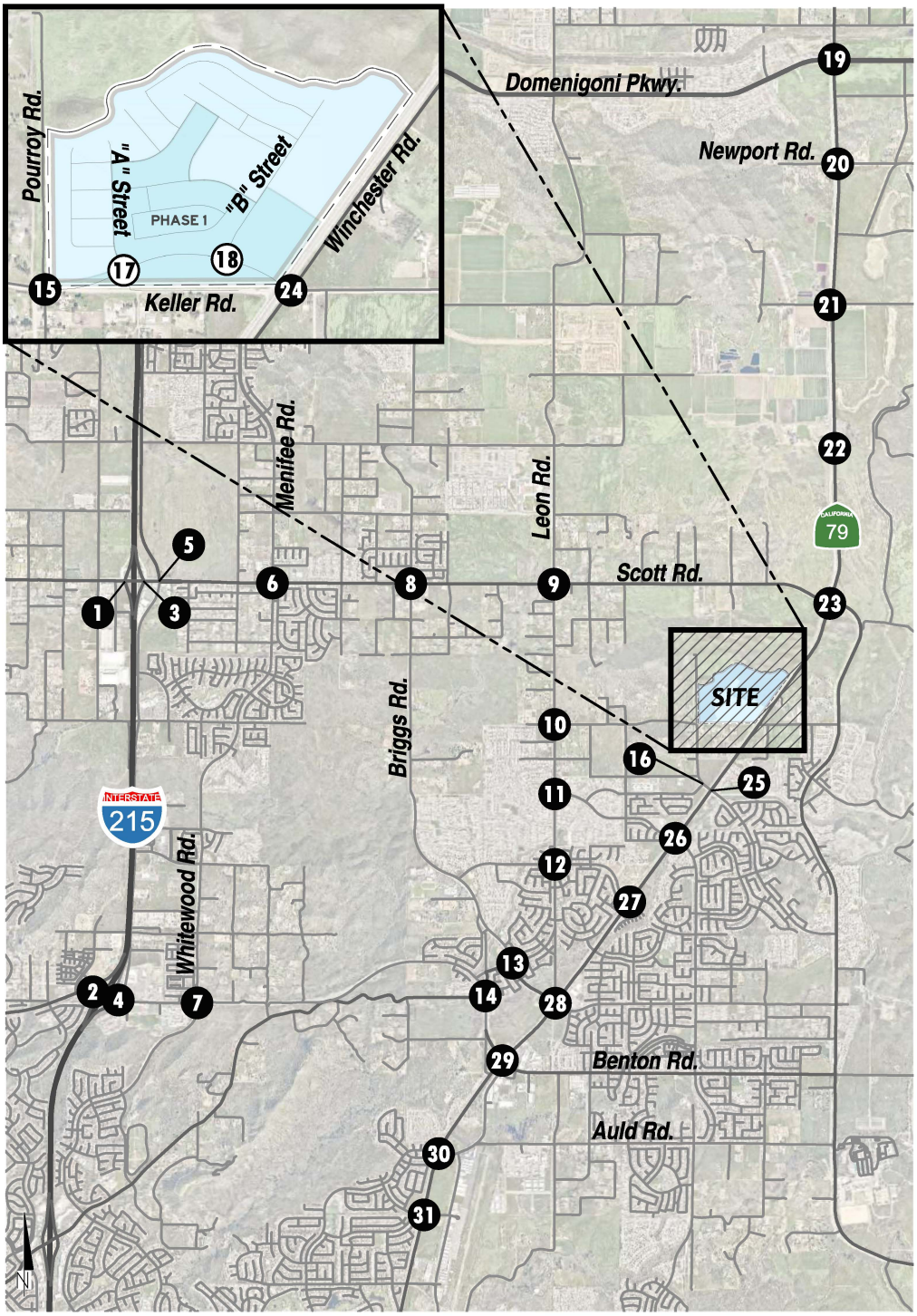


EXHIBIT 4-5 : CUMULATIVE ONLY TRAFFIC VOLUMES (SHEET 1 OF 2)

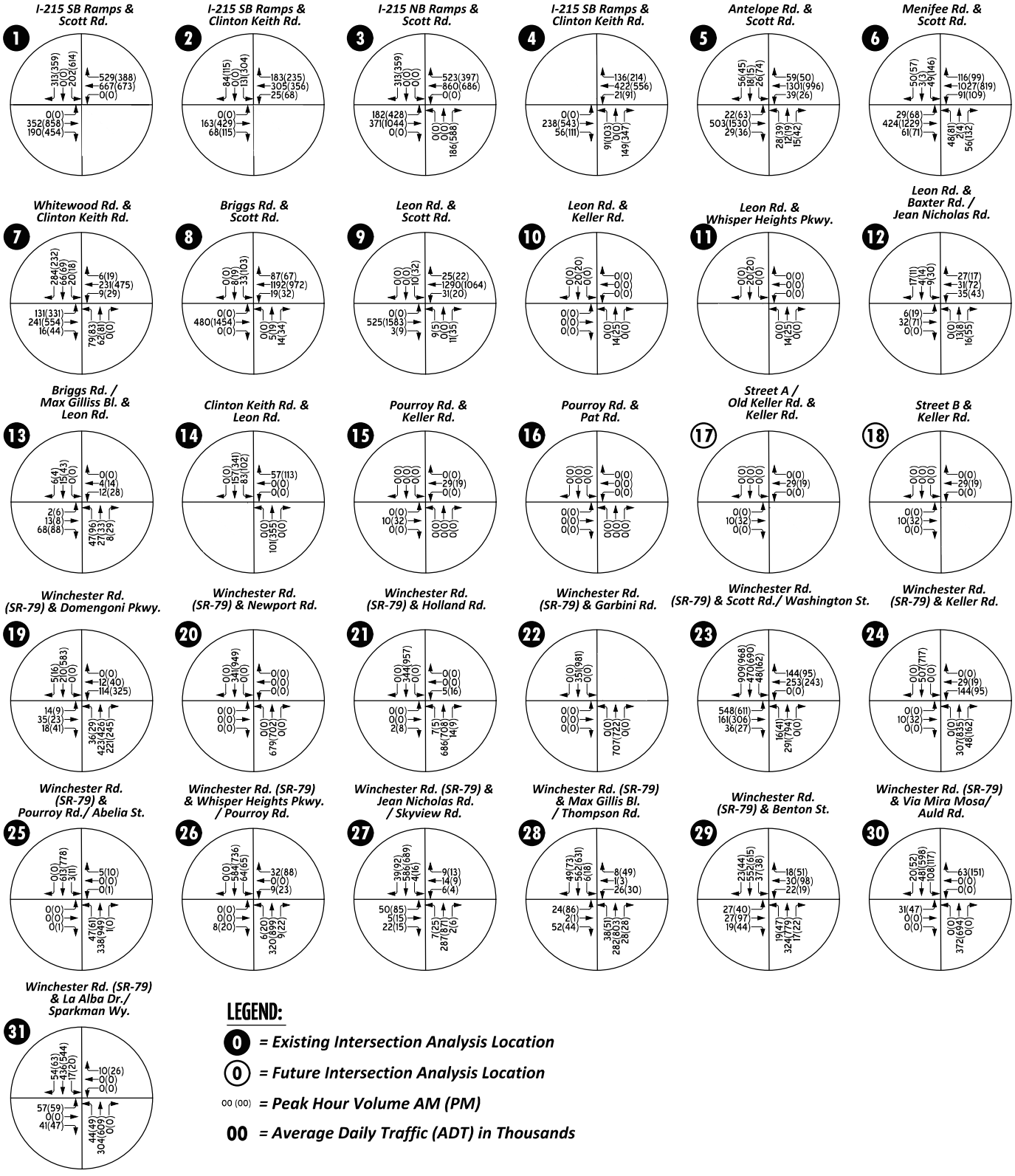


LEGEND:

0 = *Existing Intersection Analysis Location*

(0) = *Future Intersection Analysis Location*

EXHIBIT 4-5 : CUMULATIVE ONLY TRAFFIC VOLUMES (SHEET 2 OF 2)



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*

5 EAP (2028) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAP (2028) conditions and the resulting intersection operations, traffic signal warrant, and queuing analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAP (2028) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

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

5.2 EAP (2028) TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2024) traffic volumes plus an ambient growth factor of 8.24% and the addition of Project (Phase 1) traffic. The weekday ADT volumes and peak hour volumes which can be expected for EAP (2028) traffic conditions are shown on Exhibit 5-1.

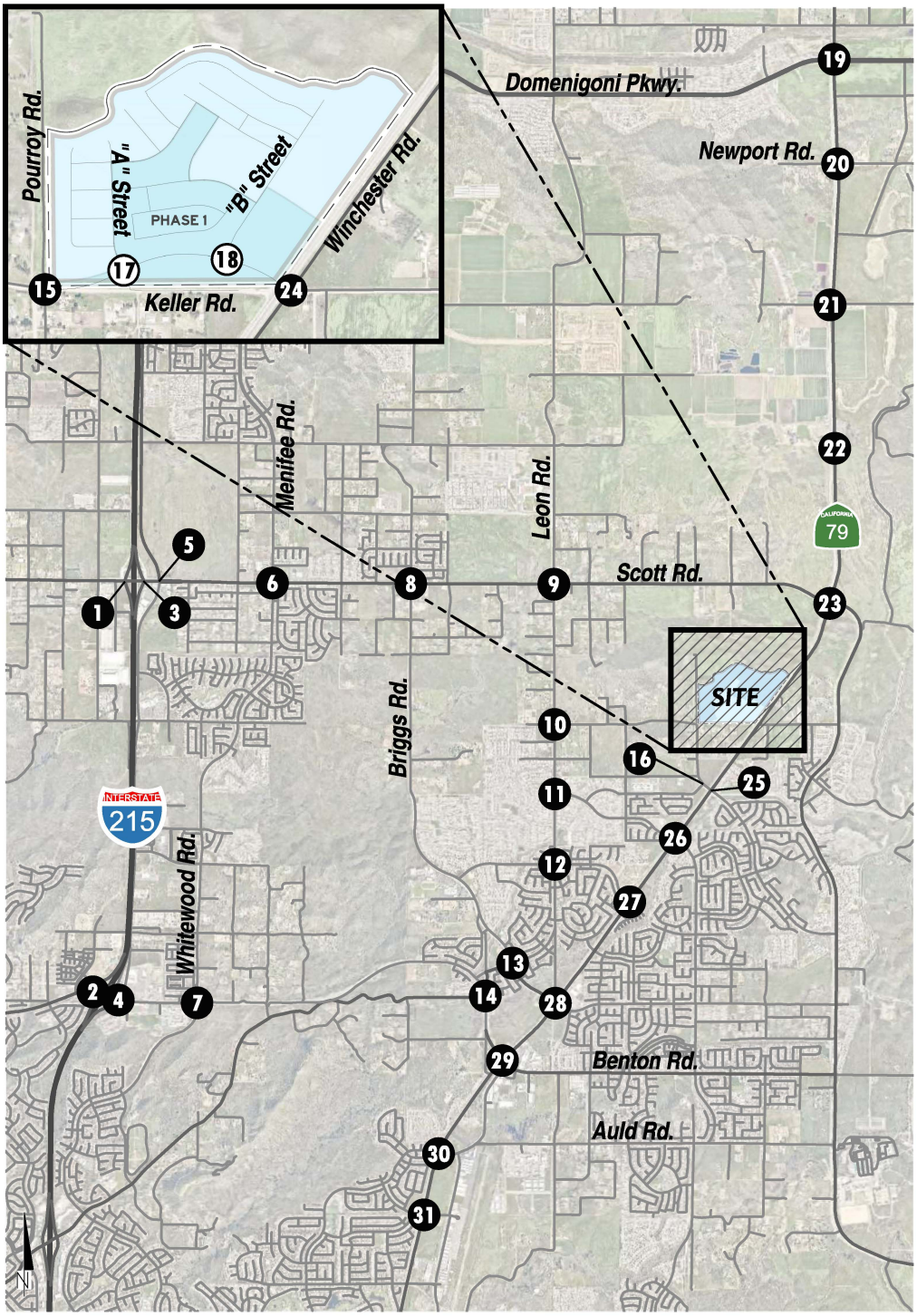
5.3 INTERSECTION OPERATIONS ANALYSIS

EAP (2028) 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 EAP traffic conditions, which indicate that all of the study area intersections are anticipated to continue to operate at an acceptable LOS under EAP (2028) traffic conditions, with the exception of the following intersections:

- Leon Road & Scott Road (#9) – LOS F AM peak hour only
- Leon Road & Keller Road (#10) – LOS F AM peak hour only
- Leon Road & Clinton Keith Road (#14) – LOS F AM peak hour only
- Winchester Road (SR-79) & Domenigoni Parkway (#19) – LOS F AM and PM peak hours

The intersection operations analysis worksheets for EAP (2028) traffic conditions are included in Appendix 5.1 of this TA.

EXHIBIT 5-1 : EAP (2028) TRAFFIC VOLUMES (SHEET 1 OF 2)

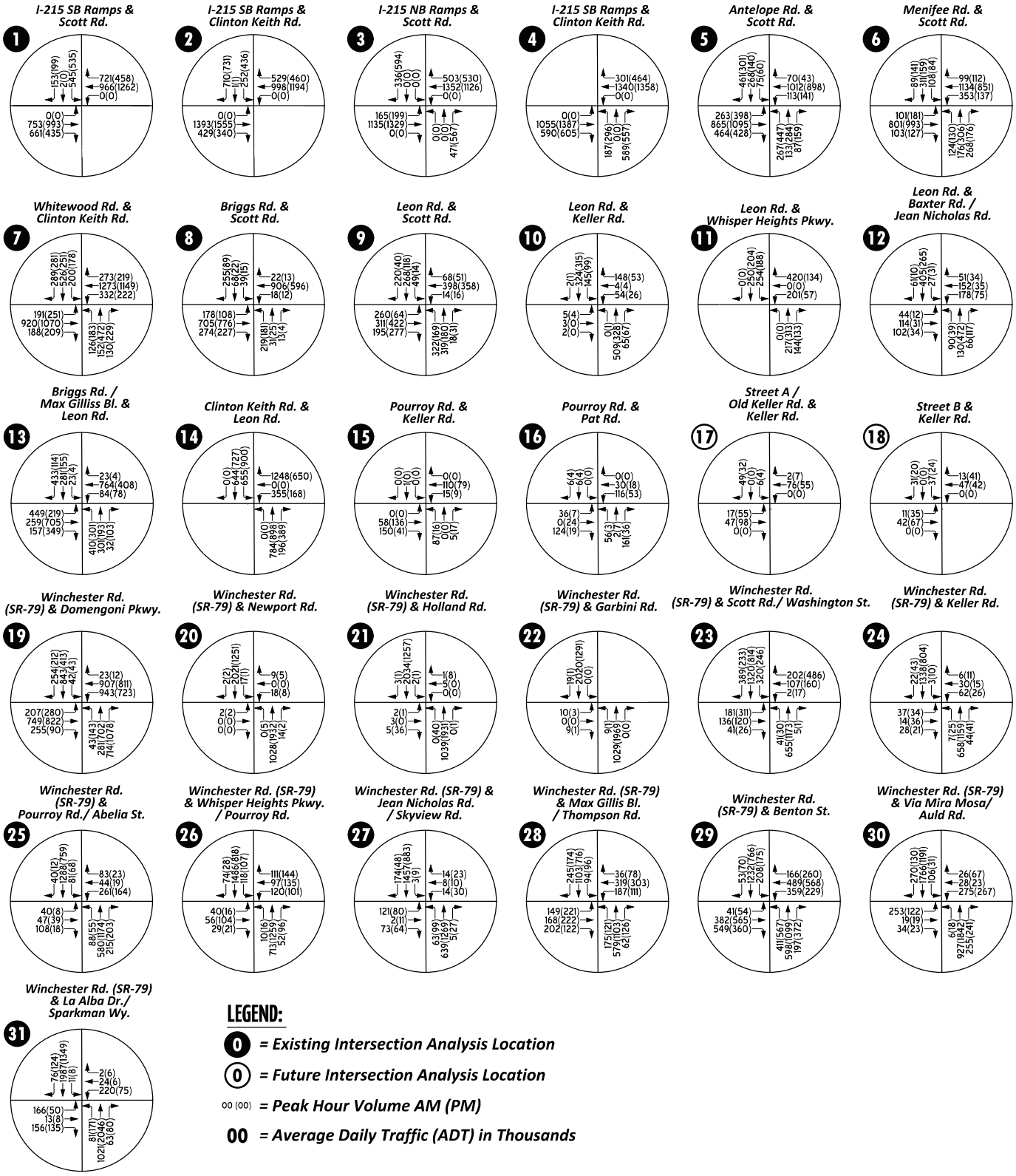


LEGEND:

0 = *Existing Intersection Analysis Location*

(0) = *Future Intersection Analysis Location*

EXHIBIT 5-1 : EAP (2028) TRAFFIC VOLUMES (SHEET 2 OF 2)



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*

TABLE 5-1: INTERSECTION ANALYSIS FOR EAP (2028) CONDITIONS

#	Intersection	Traffic Control[2]	Existing (2024) Delay[1] (secs.) AM	Existing (2024) Delay[1] (secs.) PM	Existing (2024) Level of Service AM	Existing (2024) Level of Service PM	EAP (2028) (Project Phase 1) Delay[1] (secs.) AM	EAP (2028) (Project Phase 1) Delay[1] (secs.) PM	EAP (2028) (Project Phase 1) Level of Service AM	EAP (2028) (Project Phase 1) Level of Service PM
1	I-215 SB Ramps & Scott Rd.	TS	7.8	7.9	A	A	8.6	8.9	A	A
2	I-215 SB Ramps & Clinton Keith Rd.	TS	9.8	14.4	A	B	10.8	16.2	B	B
3	I-215 NB Ramps & Scott Rd.	TS	4.4	4.3	A	A	4.5	4.4	A	A
4	I-215 NB Ramps & Clinton Keith Rd.	TS	11.2	12.1	B	B	12.6	13.9	B	B
5	Antelope Rd. & Scott Rd.	TS	28.3	29.4	C	C	31.8	33.8	C	C
6	Menifee Rd. & Scott Rd.	TS	42.8	33.2	D	C	49.7	43.7	D	D
7	Whitewood Rd. & Clinton Keith Rd.	TS	33.8	29.8	C	C	38.7	34.7	D	C
8	Briggs Rd. & Scott Rd.	TS	18.0	13.8	B	B	21.1	15.2	C	B
9	Leon Rd. & Scott Rd.	TS	**58.6**	21.2	**E**	C	**81.9**	22.8	**F**	C
10	Leon Rd. & Keller Rd.	CSS	**37.4**	20.0	**E**	C	**>100**	29.1	**F**	D
11	Leon Rd. & Whisper Heights Pkwy.	TS	17.1	12.3	B	B	19.0	12.9	B	B
12	Leon Rd. & Jean Nicholas Rd.	TS	21.8	16.7	C	B	22.9	17.1	C	B
13	Briggs Rd. & Leon Rd.	TS	38.1	20.6	D	C	48.0	21.4	D	C
14	Leon Rd. & Clinton Keith Rd.	TS	**71.6**	21.6	**E**	C	**104.5**	26.1	**F**	C
15	Pourroy Rd. & Keller Rd.	AWS	8.4	7.3	A	A	10.4	8.0	B	A
16	Pourroy Rd. & Pat Rd.	CSS	13.9	8.7	B	A	15.1	8.8	C	A
17	Old Keller Rd./Street A & Keller Rd.	CSS	Future Intersection				9.0	9.0	A	A
18	Street B & Keller Rd.	CSS	Future Intersection				9.2	9.5	A	A
19	Winchester Rd. (SR-79) & Domenigoni Pkwy.	TS	**128.8**	**143.3**	**F**	**F**	**170.8**	**176.5**	**F**	**F**
20	Winchester Rd. (SR-79) & Newport Rd.	TS	4.9	5.0	A	A	5.7	4.9	A	A
21	Winchester Rd. (SR-79) & Holland Rd.	TS	8.0	7.6	A	A	8.9	10.8	A	B
22	Winchester Rd. (SR-79) & Garbani Rd.	TS	5.3	3.3	A	A	6.1	3.1	A	A
23	Winchester Rd. (SR-79) & Scott Rd.	TS	25.0	37.3	C	D	35.0	47.3	D	D
24	Winchester Rd. (SR-79) & Keller Rd.	TS	10.1	9.6	B	A	11.1	11.2	B	B
25	Winchester Rd. (SR-79) & Abelia St.	TS	34.0	18.2	C	B	45.6	21.1	D	C
26	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	TS	20.2	19.3	C	B	24.2	20.6	C	C
27	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	TS	17.4	14.6	B	B	21.2	15.5	C	B
28	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	TS	25.6	26.1	C	C	28.6	29.2	C	C
29	Winchester Rd. (SR-79) & Benton Rd.	TS	41.3	34.0	D	D	53.1	40.2	D	D
30	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	TS	27.7	22.9	C	C	38.0	29.1	D	C
31	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	TS	25.2	15.0	C	B	37.3	17.7	D	B

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

[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; AWS = All-way Stop; TS = Improvement

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAP (2028) traffic conditions are based on the peak hour intersection turning volumes or planning level ADT volume-based traffic signal warrants. No additional unsignalized study area intersections are anticipated to meet either peak hour volume or ADT volume-based warrants under EAP (2028) conditions (see Appendix 5.2).

5.5 QUEUING ANALYSIS

Off-Ramp queuing analysis findings are presented in Table 5-2. As shown in Table 5-2, the following movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows under EAP (2028) conditions, in addition to the movements identified under Existing (2024) Conditions:

- I-215 Northbound Ramps & Scott Road (#3), westbound through lane – AM and PM peak hours
- I-215 Northbound Ramps & Scott Road (#3), westbound right-turn lane – PM peak hour only
- I-215 Northbound Ramps & Clinton Keith Road (#4), westbound through lane – PM peak hour only

A queuing analysis has also been conducted for all remaining signalized intersections in the study area, as requested by the County. The results of this analysis are also presented in Table 5-2. Worksheets for EAP (2028) traffic conditions queuing analysis are provided in Appendix 5.3.

TABLE 5-2: QUEUING SUMMARY FOR EAP (2028) CONDITIONS (1 OF 4)

			Existing (2024)						EAP (2028)					
			Synchro: 95th Percentile Queue (Feet)		Acceptable?[2]		Simtraffic: Maximum Queue (Feet)		Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Simtraffic: Maximum Queue (Feet)	
Intersection	Movement	Available Stacking Distance (Feet)	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
I-215 SB Ramps & Clinton Keith Rd. (#1)	SBR	1,470	22	36	Yes	Yes	103	131	157	161	Yes	Yes	264	241
	SBR	1,470	107	153	Yes	Yes	202	210	22	50	Yes	Yes	95	149
	EBT	740	38	32	Yes	Yes	232	81	128	193	Yes	Yes	229	262
	EBR	460	144	213	Yes	Yes	333	450	42	37	Yes	Yes	214	103
	WBT	680	0	0	Yes	Yes	162	138	176	273	Yes	Yes	350	405
	WBR	530	0	0	0	0	0	0	0	0	Yes	Yes	230	100
I-215 NB Ramps & Scott Rd. (#2)	SBL	1,900	230	280	Yes	Yes	170	184	207	370	Yes	Yes	271	331
	SBR	1,200	263	356	Yes	Yes	292	306	289	318	Yes	Yes	177	209
	EBT	570	49	49	Yes	Yes	97	103	330	414	Yes	Yes	282	295
	EBR	390	268	366	Yes	Yes	274	408	53	52	Yes	Yes	113	110
	WBT	680	0	0	0	0	0	0	348	436	Yes	Yes	271	343
I-215 NB Ramps & Clinton Keith Rd. (#3)	NBR	1,425	0	241	Yes	Yes	253	317	171	301	Yes	Yes	279	411
	SBR	1,750	174	215	Yes	Yes	237	242	0	269	Yes	Yes	249	349
	EBL	445	172	335	Yes	Yes	408	266	196	233	Yes	Yes	216	311
	EBT	680	440	456	No	No	457	428	226	391	Yes	Yes	240	429
	WBT	360	**53**	**320**	**Yes**	**Yes**	336	257	**545**	**504**	**No**	**No**	446	439
	WBR	360	0	0	0	0	0	0	84	**386**	Yes	**No**	304	374
Antelope Rd. & Scott Rd. (#4)	NBL	1,540	257	333	Yes	Yes	179	290	341	406	Yes	Yes	266	390
	NBR	950	186	286	Yes	Yes	252	365	325	387	Yes	Yes	223	338
	EBT	680	0	0	Yes	Yes	0	128	227	339	Yes	Yes	230	332
	EBR	900	311	397	Yes	Yes	314	333	0	0	Yes	Yes	0	64
	WBT	470	0	0	0	0	0	0	397	**488**	Yes	**No**	317	377
Antelope Rd & Scott Rd. (#5)	NBL	245	136	217	Yes	Yes	223	265	144	231	Yes	Yes	223	301
	NBR	220	13	55	Yes	Yes	74	82	17	63	Yes	Yes	66	74
	SBL	165	119 [2]	96 [2]	Yes	Yes	338	134	123 [2]	113	Yes	Yes	663	245
	SBR	165	**276**	**170**	**No**	**No**	217	173	**319**	**195**	**No**	**No**	217	214
	EBL	185	138	**237** [2]	Yes	**No**	241	290	149	**264** [2]	Yes	**No**	286	290
	EBR	205	115	47	Yes	Yes	246	315	170	81	Yes	Yes	314	315
	WBL	310	70	94 [2]	Yes	Yes	99	110	76	108 [2]	Yes	Yes	93	105
Menifee Rd. & Scott Rd. (#6)	NBL	250	194 [2]	186 [2]	Yes	Yes	173	185	219 [2]	228 [2]	Yes	Yes	190	237
	NBR	575	67	52	Yes	Yes	149	141	74	55	Yes	Yes	208	160
	SBL	150	135	126 [2]	Yes	Yes	225	224	144	145 [2]	Yes	Yes	225	224
	EBL	200	150 [2]	**241** [2]	Yes	**No**	300	297	183 [2]	**281** [2]	Yes	**No**	300	300
	WBL	200	**431** [2]	194 [2]	**No**	Yes	315	163	**474** [2]	**235** [2]	**No**	**No**	314	274
Whitewood Rd. & Clinton Keith Rd. (#7)	NBL	370	154	195	Yes	Yes	210	230	191 [2]	214	Yes	Yes	222	290
	SBL	150	**283** [2]	**212** [2]	**No**	**No**	209	192	**313** [2]	**248** [2]	**No**	**No**	210	206
	EBL	325	123 [2]	140 [2]	Yes	Yes	141	167	151 [2]	169 [2]	Yes	Yes	157	226
	WBL	190	**215** [2]	123 [2]	**No**	Yes	243	185	**227** [2]	154 [2]	**No**	Yes	255	270
	WBR	195	107	76	Yes	Yes	159	116	125	89	Yes	Yes	148	182

TABLE 5-2: QUEUING SUMMARY FOR EAP (2028) CONDITIONS (2 OF 4)

			Existing (2024)						EAP (2028)					
			Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Simtraffic: Maximum Queue (Feet)		Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Simtraffic: Maximum Queue (Feet)	
Intersection	Movement	Available Stacking Distance (Feet)	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
Briggs Rd. & Scott Rd. (#8)	SBR	145	57	22	Yes	Yes	116	54	57	28	Yes	Yes	146	65
	EBL	150	**194**	110	**No**	Yes	214	192	**218**	133	**No**	Yes	239	237
	WBL	200	38	25	Yes	Yes	56	31	40	30	Yes	Yes	51	46
	WBR	960	0	0	Yes	Yes	25	26	0	0	Yes	Yes	32	26
Leon Rd. & Scott Rd. (#9)	NBL	225	**370** [2]	65	**No**	Yes	438	124	**498** [2]	104	**No**	Yes	525	158
	SBL	230	43	11	Yes	Yes	86	37	46	15	Yes	Yes	78	50
	EBL	300	**347** [2]	32	**No**	Yes	427	92	**431** [2]	37	**No**	Yes	520	83
	EBR	300	40	30	Yes	Yes	105	84	45	34	Yes	Yes	317	92
	WBL	110	19	12	Yes	Yes	42	42	21	13	Yes	Yes	108	34
Leon Rd. & Whisper Heights Blvd. (#11)	NBL	190	0	0	Yes	Yes	0	0	0	0	Yes	Yes	0	0
	SBL	200	**261**	179	**No**	Yes	217	161	**292**	**203**	**No**	**No**	215	193
	WBL	150	**219**	74	**No**	Yes	167	90	**240**	82	**No**	Yes	194	96
Leon Rd. & Baxter Rd./Jean Nicholas Rd. (#12)	NBL	250	110	50	Yes	Yes	144	72	124	55	Yes	Yes	146	82
	SBL	250	47	43	Yes	Yes	59	67	53	47	Yes	Yes	68	75
	EBL	220	66	22	Yes	Yes	85	38	74	26	Yes	Yes	77	40
	WBL	150	**183**	79	**No**	Yes	132	97	**205**	88	**No**	Yes	163	84
Max Gilliss Blvd. & Leon Rd. (#13)	NBL	240	**256** [2]	149	**No**	Yes	232	159	**286** [2]	162	**No**	Yes	236	154
	SBL	150	23	7	Yes	Yes	47	35	24	7	Yes	Yes	56	33
	EBL	305	279 [2]	117	Yes	Yes	248	124	308 [2,3]	126	Yes	Yes	282	166
	WBL	250	61	53	Yes	Yes	113	80	64	56	Yes	Yes	192	77
Leon Rd. & Clinton Keith Rd. (#14)	NBR	410	83	187	Yes	Yes	121	265	97	235	Yes	Yes	170	360
	SBL	395	278	315	Yes	Yes	404	335	309	389	Yes	Yes	375	331
	WBL	145	**341**	**159**	**No**	**No**	265	150	**374**	**187**	**No**	**No**	266	182
Winchester Rd. (SR-79) & Domenigoni Pkwy. (#19)	NBL	350	70	231 [2]	Yes	Yes	100	245	74	247 [2]	Yes	Yes	121	262
	NBR	525	**537** [2]	**1154** [2]	**No**	**No**	538	680	**690** [2]	**1330** [2]	**No**	**No**	662	680
	SBL	240	70	70	Yes	Yes	105	90	74	74	Yes	Yes	148	96
	SBR	365	54	50	Yes	Yes	140	104	57	63	Yes	Yes	124	126
	EBL	385	118	204 [2]	Yes	Yes	145	297	140 [2]	242 [2]	Yes	Yes	200	416
	EBR	700	128	21	Yes	Yes	158	59	150	27	Yes	Yes	211	62
	WBL	290	**740** [2]	**580** [2]	**No**	**No**	435	435	**807** [2]	**629** [2]	**No**	**No**	435	435
	WBR	280	0	0	Yes	Yes	19	18	0	0	Yes	Yes	19	13

TABLE 5-2: QUEUING SUMMARY FOR EAP (2028) CONDITIONS (3 OF 4)

			Existing (2024)						EAP (2028)					
			Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Simtraffic: Maximum Queue (Feet)		Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Simtraffic: Maximum Queue (Feet)	
Intersection	Movement	Available Stacking Distance (Feet)	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
Winchester Rd. (SR-79) & Newport Rd. (#20)	NBL	230	0	17	Yes	Yes	0	33	0	17	Yes	Yes	0	29
	NBR	565	0	0	Yes	Yes	21	0	0	0	Yes	Yes	22	0
	SBL	560	34	7	Yes	Yes	36	5	36	7	Yes	Yes	242	10
	SBR	560	0	0	Yes	Yes	5	0	0	0	Yes	Yes	16	9
Winchester Rd. (SR-79) & Holland Rd. (#21)	NBL	555	0	67	Yes	Yes	0	90	0	70	Yes	Yes	0	85
	NBR	460	0	0	Yes	Yes	0	11	0	0	Yes	Yes	0	0
	SBL	415	10	7	Yes	Yes	24	15	10	7	Yes	Yes	14	10
	SBR	425	0	0	Yes	Yes	12	11	0	0	Yes	Yes	8	4
	EBL	50	7	5	Yes	Yes	15	5	7	5	Yes	Yes	25	0
	WBL	50	0	0	Yes	Yes	0	0	0	0	Yes	Yes	0	0
Winchester Rd. (SR-79) & Garbani Rd. (#22)	NBL	805	24	6	Yes	Yes	31	20	26	7	Yes	Yes	41	15
	SBR	445	10	2	Yes	Yes	27	5	10	2	Yes	Yes	134	5
	EBL	50	22	10	Yes	Yes	30	34	24	11	Yes	Yes	39	26
	EBR	50	15	5	Yes	Yes	27	18	15	5	Yes	Yes	31	18
Winchester Rd. (SR-79) & Scott Rd. (#23)	NBL	640	68	54	Yes	Yes	96	102	74	57	Yes	Yes	72	72
	NBR	440	0	0	Yes	Yes	12	6	0	0	Yes	Yes	16	7
	SBL	650	519 [2]	333 [2]	Yes	Yes	341	316	586 [2]	361 [2]	Yes	Yes	411	327
	SBR	520	64	52	Yes	Yes	144	95	66	54	Yes	Yes	151	136
	EBL	115	**204**	**400 [2]**	**No**	**No**	211	224	**218**	**428 [2]**	**No**	**No**	222	225
	EBR	120	0	0	Yes	Yes	47	155	0	0	Yes	Yes	42	76
	WBL	100	11	36	Yes	Yes	21	52	11	38	Yes	Yes	21	125
	WBR	100	60	**339 [2]**	Yes	**No**	90	197	63	**408 [2]**	Yes	**No**	99	222
Winchester Rd. (SR-79) & Keller Rd. (#24)	NBL	505	7	15	Yes	Yes	5	6	22	53	Yes	Yes	35	55
	NBR	525	10	8	Yes	Yes	3	4	12	10	Yes	Yes	7	1
	SBL	520	13	26	Yes	Yes	6	17	13	27	Yes	Yes	6	12
	SBR	540	0	0	Yes	Yes	0	0	0	11	Yes	Yes	0	8
Winchester Rd. (SR-79) & Abelia St. (#25)	NBL	245	111 [2]	44	Yes	Yes	167	295	183 [2]	104 [2]	Yes	Yes	234	299
	NBR	335	45	48	Yes	Yes	99	383	46	51	Yes	Yes	129	240
	SBL	240	111	123 [2]	Yes	Yes	305	218	118	136 [2]	Yes	Yes	359	140
	SBR	240	0	0	Yes	Yes	378	19	0	0	Yes	Yes	242	90
	EBL	100	67	23	Yes	Yes	0	46	71	24	Yes	Yes	0	38
	WBL	100	**400 [2]**	**250 [2]**	**No**	**No**	184	170	**449 [2]**	**283 [2]**	**No**	**No**	185	181
Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd. (#26)	NBL	255	24	34	Yes	Yes	47	200	27	35	Yes	Yes	46	114
	NBR	330	15	22	Yes	Yes	51	131	16	22	Yes	Yes	43	310
	SBL	430	71	66	Yes	Yes	161	118	77	72	Yes	Yes	83	92
	SBR	300	0	0	Yes	Yes	206	43	3	0	Yes	Yes	202	112
	EBL	145	64	34	Yes	Yes	74	42	69	35	Yes	Yes	86	55
	EBR	145	0	0	Yes	Yes	53	29	0	0	Yes	Yes	37	20
	WBL	230	142	123	Yes	Yes	174	133	150	129	Yes	Yes	152	117
	WBR	190	37	44	Yes	Yes	78	132	38	47	Yes	Yes	91	146

TABLE 5-2: QUEUING SUMMARY FOR EAP (2028) CONDITIONS (4 OF 4)

			Existing (2024)						EAP (2028)					
			Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Simtraffic: Maximum Queue (Feet)		Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Simtraffic: Maximum Queue (Feet)	
Intersection	Movement	Available Stacking Distance (Feet)	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd. (#27)	NBL	250	112 [2]	132	Yes	Yes	103	242	125 [2]	165 [2]	Yes	Yes	110	233
	NBR	250	0	0	Yes	Yes	26	41	0	0	Yes	Yes	20	44
	SBL	560	14	24	Yes	Yes	23	24	14	26	Yes	Yes	19	40
	SBR	240	70	0	Yes	Yes	280	193	82	0	Yes	Yes	280	93
	EBL	155	213 [2]	122 [2]	No	Yes	143	111	**230** [2]	**160** [2]	**No**	**No**	164	101
	WBL	150	32	55	Yes	Yes	40	75	34	60	Yes	Yes	51	78
	WBR	150	0	0	Yes	Yes	31	42	0	0	Yes	Yes	26	42
Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd. (#28)	NBL	410	242 [2]	145	Yes	Yes	216	168	273 [2]	170 [2]	Yes	Yes	303	271
	SBL	305	119	156 [2]	Yes	Yes	130	170	126	176 [2]	Yes	Yes	126	236
	SBR	105	**139**	39	**No**	Yes	180	180	**156**	46	**No**	Yes	180	180
	EBL	350	87	120	Yes	Yes	94	139	92	127	Yes	Yes	111	142
	EBR	350	103	52	Yes	Yes	160	81	114	61	Yes	Yes	123	74
	WBL	215	129 [2]	71	Yes	Yes	159	96	141 [2]	76	Yes	Yes	150	126
	WBR	195	0	0	Yes	Yes	48	56	0	0	Yes	Yes	40	60
Winchester Rd. (SR-79) & Benton Rd. (#29)	NBL	555	310 [2]	441 [2]	Yes	Yes	634	536	340 [2]	480 [2]	Yes	Yes	735	712
	NBR	470	52	148	Yes	Yes	94	197	54	173	Yes	Yes	246	329
	SBL	240	117	111 [2]	Yes	Yes	311	143	126	137 [2]	Yes	Yes	354	279
	SBR	375	0	0	Yes	Yes	49	56	0	0	Yes	Yes	158	67
	EBL	445	34	41	Yes	Yes	60	68	36	43	Yes	Yes	71	69
	EBR	370	134	38	Yes	Yes	211	139	165	39	Yes	Yes	240	152
	WBL	230	182	127	Yes	Yes	298	240	195	135	Yes	Yes	287	232
	WBR	230	38	109	Yes	Yes	86	124	56	127	Yes	Yes	74	121
Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd. (#30)	NBL	200	19	39	Yes	Yes	27	212	19	41	Yes	Yes	30	241
	NBR	320	38	34	Yes	Yes	112	402	41	40	Yes	Yes	132	405
	SBL	165	126	58	Yes	Yes	259	110	139	60	Yes	Yes	259	183
	EBL	100	**265**	**140**	**No**	**No**	135	132	**312** [2]	**150**	**No**	**No**	135	131
	WBL	335	313 [2]	330 [2]	Yes	Yes	315	265	**354** [2]	**372** [2]	**No**	**No**	351	303
Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy. (#31)	NBL	290	142 [2]	225 [2]	Yes	Yes	126	274	159 [2]	241 [2]	Yes	Yes	132	394
	SBL	320	26	21	Yes	Yes	45	23	28	23	Yes	Yes	271	31
	SBR	320	25	33	Yes	Yes	40	194	29	34	Yes	Yes	343	60
	EBL	185	163	59	Yes	Yes	170	97	177	63	Yes	Yes	188	92
	EBR	145	70	46	Yes	Yes	134	113	84	48	Yes	Yes	167	119

BOLD = 95th percentile queue exceeds the available storage

[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.

[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 transition area has sufficient storage to accommodate any spillover without spilling back and affecting the through movement.

5.6 DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of deficiencies and recommended improvements based on the County of Riverside deficiency criteria discussed in Section 2.6 *Deficiency Criteria*.

5.6.1 INTERSECTIONS

Intersection improvements necessary to improve project-related traffic deficiencies are shown in Table 5-3. The improvements have been identified to improve the deficiencies back to acceptable levels. Worksheets for EAP (2028) conditions, with improvements, HCM calculation worksheets are provided in Appendix 5.4.

TABLE 5-3: INTERSECTION ANALYSIS FOR EAP (2028) CONDITIONS WITH IMPROVEMENTS

			Intersection Approach Lanes[1]												Delay[2] (secs.)		Level of Service	
		Traffic	Northbound			Southbound			Eastbound			Westbound						
#	Intersection	Control[3]	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM
9	Leon Rd. & Scott Rd.																	
	- Without Improvements	TS	1	1	0	1	1	0	1	1	1	1	1	0	**81.9**	22.8	**F**	C
	- With Improvements	TS	1	1	0	1	1	**1**	1	1	1	1	1	0	50.4	22.6	D	C
10	Leon Rd. & Keller Rd.																	
	- Without Improvements	CSS	0	1	0	0	1	0	0	1	0	0	1	0	**>100**	29.1	**F**	D
	- With Improvements	CSS	**1**	1	0	**1**	1	0	**1**	1	0	**1**	1	0	24.9	16.6	C	C
14	Leon Rd. & Clinton Keith Rd.																	
	- Without Improvements	TS	0	3	1>	2	3	0	0	0	0	1	0	2	**104.5**	26.1	**F**	C
	- With Improvements	TS	0	3	1>	2	3	0	0	0	0	1	0	**2>**	28.5	17.6	C	B
19	Winchester Rd. (SR-79) & Domenigoni Pkwy.																	
	- Without Improvements	TS	1	2	1	1	2	1	2	2	1	2	3	1	**170.8**	**176.5**	**F**	**F**
	- With Improvements	TS	1	2	**1>**	1	2	1	2	**3**	1	2	3	1	49.1	45.2	D	D

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

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

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; **1** = Improvement

[2] 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.

[3] TS = Traffic Signal; CSS = Cross-Street Stop; **TS** = Improvement

5.6.2 SIGNALIZED QUEUES

A queuing analysis was conducted for signalized study area intersections with the recommended improvements shown in Table 5-3. The results of this analysis are shown in Table 5-4. Worksheets for this analysis are provided in Appendix 5.5.

Improvements to address queuing deficiencies have been identified where feasible and are also shown in Table 5-4.

The recommended improvement for the northbound right-turn lane at Leon Road and Scott Road (Intersection #9), which consists of extending the storage length to 550 feet, is to be provided by the Project.

Improvements have not been identified at the following movements, as improvements are not considered feasible due to physical constraints on the existing roadways:

- I-215 Northbound Ramps & Scott Road (#3), westbound through lane
- I-215 Northbound Ramps & Scott Road (#3), westbound right turn lane
- Whitewood Road & Clinton Keith Road (#7), southbound left turn lane
- Max Gilliss Boulevard & Leon Road (#13), northbound left turn lane
- Winchester Road (SR-79) & Domenigoni Parkway (#19), northbound left turn lane
- Winchester Road (SR-79) & Domenigoni Parkway (#19), westbound left turn lane
- Winchester Road (SR-79) & Scott Road (#23), eastbound left turn lane
- Winchester Road (SR-79) & Scott Road (#23), westbound right turn lane
- Winchester Road (SR-79) & Abelia Street (#25), westbound left turn lane
- Winchester Road (SR-79) & Via Mira Mosa/Auld Road (#30), eastbound left turn lane

TABLE 5-4: QUEUING SUMMARY FOR EAP (2028) CONDITIONS WITH IMPROVEMENTS

Intersection	Movement	Recommended Stacking Distance (Feet)	EAP (2028) Synchro: 95th Percentile Queue (Feet) AM Peak Hour	EAP (2028) Synchro: 95th Percentile Queue (Feet) PM Peak Hour	Acceptable?[1] AM	Acceptable?[1] PM
I-215 NB Ramps & Scott Rd. (#3)	WBR	360	84	**386**	Yes	**No**
Antelope Rd & Scott Rd. (#5)	SBR	250	**319**	195	**No**	Yes
	EBL	320	149	264 [2]	Yes	Yes
Menifee Rd. & Scott Rd. (#6)	EBL	325	183 [2]	281 [2]	Yes	Yes
	WBL	500	474 [2]	235 [2]	Yes	Yes
Whitewood Rd. & Clinton Keith Rd. (#7)	SBL	150	**313 [2]**	**248 [2]**	**No**	**No**
	WBL	250	227 [2]	154 [2]	Yes	Yes
Briggs Rd. & Scott Rd. (#8)	EBL	250	218	133	Yes	Yes
Leon Rd. & Scott Rd. (#9)	NBL	500	498 [2]	104	Yes	Yes
	EBL	500	431 [2]	37	Yes	Yes
Leon Rd. & Whisper Heights Blvd. (#11)	SBL	310	292	203	Yes	Yes
	WBL	250	240	82	Yes	Yes
Leon Rd. & Baxter Rd./Jean Nicholas Rd. (#12)	WBL	250	205	88	Yes	Yes
Max Gilliss Blvd. & Leon Rd. (#13)	NBL	240	**286 [2]**	162	**No**	Yes
Leon Rd. & Clinton Keith Rd. (#14)	WBL[5]	315	**374**	187	**No**	Yes
Winchester Rd. (SR-79) & Domenigoni Pkwy. (#19)	NBR	525	**690 [2]**	**1330 [2]**	**No**	**No**
	WBL	290	**807 [2]**	**629 [2]**	**No**	**No**
Winchester Rd. (SR-79) & Scott Rd. (#23)	EBL	115	**218**	**428 [2]**	**No**	**No**
	WBR	100	63	**408 [2]**	Yes	**No**
Winchester Rd. (SR-79) & Abelia St. (#25)	WBL	100	**449 [2]**	**283 [2]**	**No**	**No**
Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd. (#27)	EBL	250	230 [2]	160 [2]	Yes	Yes
Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd. (#28)	SBR	170	156	46	Yes	Yes
Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd. (#30)	EBL	100	**312 [2]**	**150**	**No**	**No**
	WBL	400	354 [2]	372 [2]	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.

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

[3] **BOLD** = 95th percentile queue exceeds the available storage

[4] Underline = Improvement

[5] The existing turn pocket and transition area provide the storage to accommodate the identified stacking distance of 315 feet.

6 EAP (2030) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAP (2030) conditions and the resulting intersection operations, traffic signal warrant, and queuing analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAP (2030) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

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

6.2 EAP (2030) TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2024) traffic volumes plus an ambient growth factor of 12.62% and the addition of Project (Project Buildout) traffic. The weekday ADT volumes and peak hour volumes which can be expected for EAP (2030) traffic conditions are shown on Exhibit 6-1.

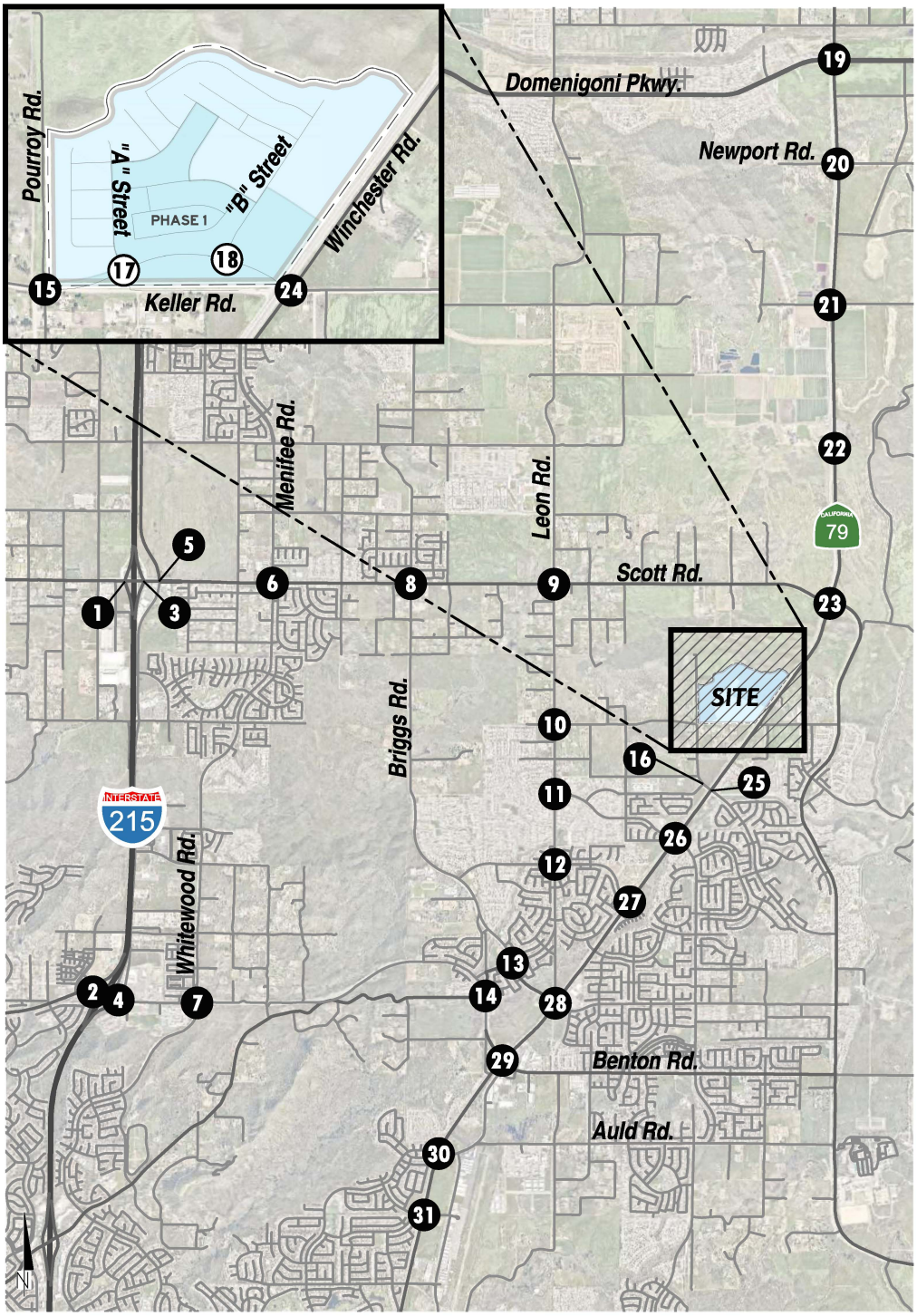
6.3 INTERSECTION OPERATIONS ANALYSIS

EAP (2030) 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 EAP traffic conditions, which indicate that all of the study area intersections are anticipated to continue to operate at an acceptable LOS under EAP (2030) traffic conditions, with the exception of the following intersections:

- Leon Road & Scott Road (#9) – LOS F AM peak hour only
- Leon Road & Keller Road (#10) – LOS F AM and PM peak hours
- Leon Road & Clinton Keith Road (#14) – LOS F AM peak hour only
- Winchester Road (SR-79) & Domenigoni Parkway (#19) – LOS F AM and PM peak hours

The intersection operations analysis worksheets for EAP (2030) traffic conditions are included in Appendix 6.1 of this TA.

EXHIBIT 6-1 : EAP (2030) TRAFFIC VOLUMES (SHEET 1 OF 2)

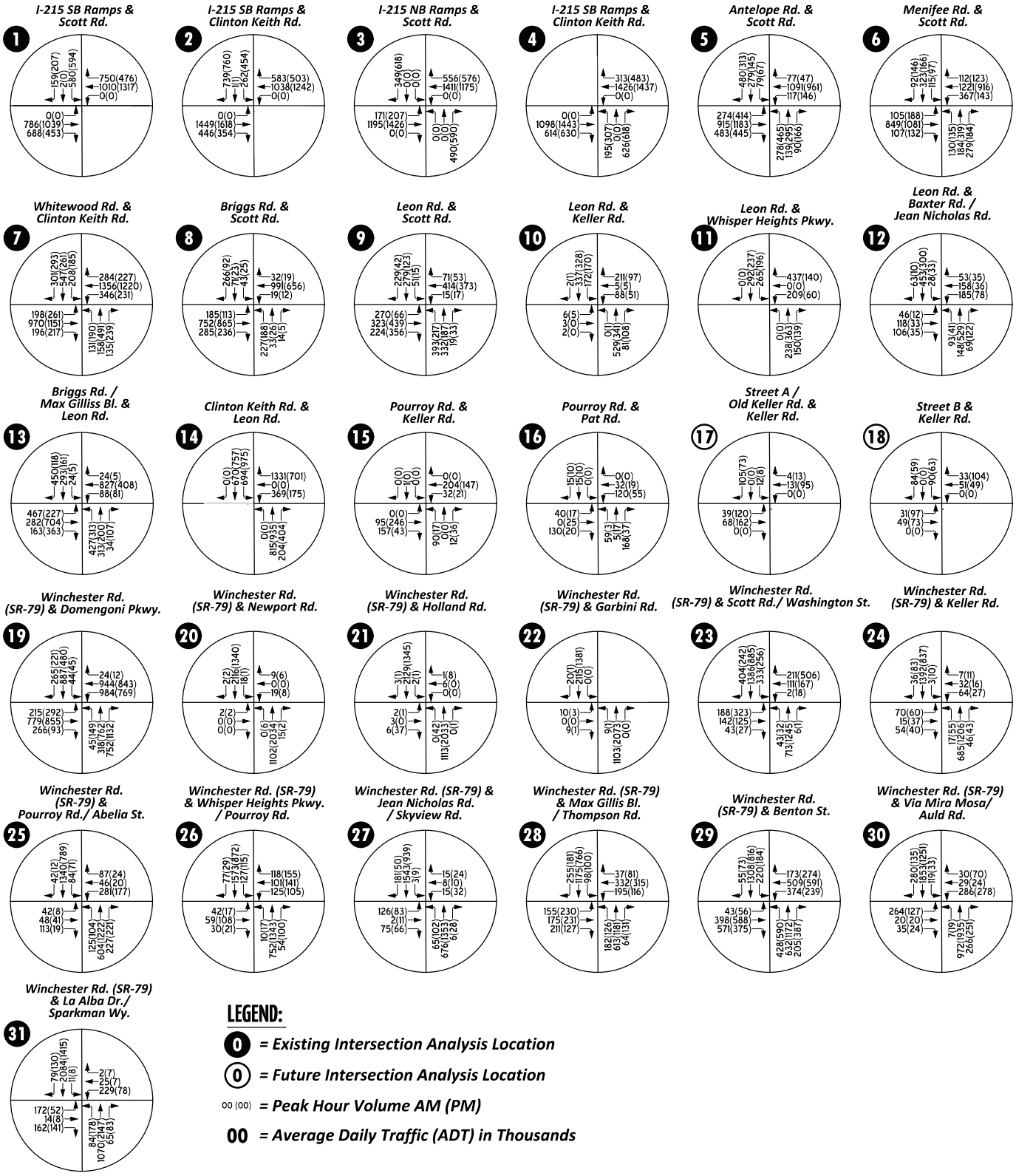


LEGEND:

0 = *Existing Intersection Analysis Location*

(0) = *Future Intersection Analysis Location*

EXHIBIT 6-1 : EAP (2030) TRAFFIC VOLUMES (SHEET 2 OF 2)



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

TABLE 6-1: INTERSECTION ANALYSIS FOR EAP (2030) CONDITIONS

#	Intersection	Traffic Control[2]	Existing (2024) Delay[1] (secs.) AM	Existing (2024) Delay[1] (secs.) PM	Existing (2024) Level of Service AM	Existing (2024) Level of Service PM	EAP (2030) (Project Buildout) Delay[1] (secs.) AM	EAP (2030) (Project Buildout) Delay[1] (secs.) PM	EAP (2030) (Project Buildout) Level of Service AM	EAP (2030) (Project Buildout) Level of Service PM
1	I-215 SB Ramps & Scott Rd.	TS	7.8	7.9	A	A	9.1	9.7	A	A
2	I-215 SB Ramps & Clinton Keith Rd.	TS	9.8	14.4	A	B	11.4	17.3	B	B
3	I-215 NB Ramps & Scott Rd.	TS	4.4	4.3	A	A	4.5	4.5	A	A
4	I-215 NB Ramps & Clinton Keith Rd.	TS	11.2	12.1	B	B	13.7	15.6	B	B
5	Antelope Rd. & Scott Rd.	TS	28.3	29.4	C	C	34.7	37.4	C	D
6	Menifee Rd. & Scott Rd.	TS	42.8	33.2	D	C	54.6	53.4	D	D
7	Whitewood Rd. & Clinton Keith Rd.	TS	33.8	29.8	C	C	42.2	38.2	D	D
8	Briggs Rd. & Scott Rd.	TS	18.0	13.8	B	B	24.0	16.4	C	B
9	Leon Rd. & Scott Rd.	TS	**58.6**	21.2	**E**	C	**101.3**	24.5	**F**	C
10	Leon Rd. & Keller Rd.	CSS	**37.4**	20.0	**E**	C	**>100**	**85.2**	**F**	**F**
11	Leon Rd. & Whisper Heights Pkwy.	TS	17.1	12.3	B	B	20.5	13.3	C	B
12	Leon Rd. & Jean Nicholas Rd.	TS	21.8	16.7	C	B	23.6	17.3	C	B
13	Briggs Rd. & Leon Rd.	TS	38.1	20.6	D	C	53.8	21.7	D	C
14	Leon Rd. & Clinton Keith Rd.	TS	**71.6**	21.6	**E**	C	**125.3**	32.2	**F**	C
15	Pourroy Rd. & Keller Rd.	AWS	8.4	7.3	A	A	11.8	9.5	B	A
16	Pourroy Rd. & Pat Rd.	CSS	13.9	8.7	B	A	16.1	8.8	C	A
17	Old Keller Rd./Street A & Keller Rd.	CSS	Future Intersection				9.8	9.7	A	A
18	Street B & Keller Rd.	CSS	Future Intersection				10.3	11.4	B	B
19	Winchester Rd. (SR-79) & Domenigoni Pkwy.	TS	**128.8**	**143.3**	**F**	**F**	**163.6**	**198.6**	**F**	**F**
20	Winchester Rd. (SR-79) & Newport Rd.	TS	4.9	5.0	A	A	6.2	5.0	A	A
21	Winchester Rd. (SR-79) & Holland Rd.	TS	8.0	7.6	A	A	9.9	11.6	A	B
22	Winchester Rd. (SR-79) & Garbani Rd.	TS	5.3	3.3	A	A	6.6	3.1	A	A
23	Winchester Rd. (SR-79) & Scott Rd.	TS	25.0	37.3	C	D	43.8	53.3	D	D
24	Winchester Rd. (SR-79) & Keller Rd.	TS	10.1	9.6	B	A	12.7	12.7	B	B
25	Winchester Rd. (SR-79) & Abelia St.	TS	34.0	18.2	C	B	54.2	24.1	D	C
26	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	TS	20.2	19.3	C	B	29.0	21.8	C	C
27	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	TS	17.4	14.6	B	B	25.0	16.1	C	B
28	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	TS	25.6	26.1	C	C	30.8	32.1	C	C
29	Winchester Rd. (SR-79) & Benton Rd.	TS	41.3	34.0	D	D	54.8	44.8	D	D
30	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	TS	27.7	22.9	C	C	46.7	36.2	D	D
31	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	TS	25.2	15.0	C	B	49.7	20.2	D	C

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

[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; AWS = All-way Stop; TS = Improvement

6.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAP (2030) traffic conditions are based on the peak hour intersection turning volumes or planning level ADT volume-based traffic signal warrants. No additional unsignalized study area intersections are anticipated to meet either peak hour volume or ADT volume-based warrants under EAP (2030) conditions (see Appendix 6.2).

6.5 QUEUING ANALYSIS

Off-Ramp queuing analysis findings are presented in Table 6-2. As shown in Table 6-2, the following additional movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows under EAP (2030) conditions, in addition to the movements identified under Existing (2024) Conditions:

- I-215 Northbound Ramps & Scott Road (#3), westbound through lane – AM and PM peak hours
- I-215 Northbound Ramps & Scott Road (#3), westbound right-turn lane – PM peak hour only
- I-215 Northbound Ramps & Clinton Keith Road (#4), westbound through lane – PM peak hour only

A queuing analysis has also been conducted for all remaining signalized intersections in the study area, as requested by the County. The results of this analysis are also presented in Table 6-2. Worksheets for EAP (2030) traffic conditions queuing analysis are provided in Appendix 6.3.

TABLE 6-2: QUEUING SUMMARY FOR EAP (2030) CONDITIONS (1 OF 4)

			Existing (2024)						EAP (2030)					
			Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Simtraffic: Maximum Queue (Feet)		Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Simtraffic: Maximum Queue (Feet)	
Intersection	Movement	Available Stacking Distance (Feet)	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
I-215 SB Ramps & Clinton Keith Rd. (#1)	SBR	1,470	22	36	Yes	Yes	103	131	161	195	Yes	Yes	269	296
	SBR	1,470	107	153	Yes	Yes	202	210	23	60	Yes	Yes	95	143
	EBT	740	38	32	Yes	Yes	232	81	248	227	Yes	Yes	244	301
	EBR	460	144	213	Yes	Yes	333	450	68	39	Yes	Yes	257	80
	WBT	680	0	0	Yes	Yes	162	138	341	322	Yes	Yes	396	407
	WBR	530	0	0	0	0	0	0	0	0	Yes	Yes	165	93
I-215 NB Ramps & Scott Rd. (#2)	SBL	1,900	230	280	Yes	Yes	170	184	214	404	Yes	Yes	254	381
	SBR	1,200	263	356	Yes	Yes	292	306	310	348	Yes	Yes	180	228
	EBT	570	49	49	Yes	Yes	97	103	362	423	Yes	Yes	332	365
	EBR	390	268	366	Yes	Yes	274	408	55	51	Yes	Yes	152	183
	WBT	680	0	0	0	0	0	0	395	457	Yes	Yes	304	402
I-215 NB Ramps & Clinton Keith Rd. (#3)	NBR	1,425	0	241	Yes	Yes	253	317	193	314	Yes	Yes	268	402
	SBR	1,750	174	215	Yes	Yes	237	242	0	284	Yes	Yes	262	381
	EBL	445	172	335	Yes	Yes	408	266	204	257 [2]	Yes	Yes	283	380
	EBT	680	440	456	No	No	457	428	252	438	Yes	Yes	318	441
	WBT	360	**53**	**320**	**Yes**	**Yes**	336	257	**584**	**528**	**No**	**No**	449	427
	WBR	360	0	0	0	0	0	0	110	**447**	Yes	**No**	402	314
Antelope Rd. & Scott Rd. (#4)	NBL	1,540	257	333	Yes	Yes	179	290	367	495 [2]	Yes	Yes	279	474
	NBR	950	186	286	Yes	Yes	252	365	354	475 [2]	Yes	Yes	259	390
	EBT	680	0	0	Yes	Yes	0	128	253	326	Yes	Yes	319	382
	EBR	900	311	397	Yes	Yes	314	333	0	0	Yes	Yes	0	129
	WBT	470	0	0	0	0	0	0	460	**483**	Yes	**No**	413	451
Antelope Rd & Scott Rd. (#5)	NBL	245	136	217	Yes	Yes	223	265	150	239	Yes	Yes	256	304
	NBR	220	13	55	Yes	Yes	74	82	19	67	Yes	Yes	63	69
	SBL	165	119 [2]	96 [2]	Yes	Yes	338	134	133 [2]	129 [2]	Yes	Yes	532	237
	SBR	165	**276**	**170**	**No**	**No**	217	173	**344**	**209**	**No**	**No**	218	217
	EBL	185	138	**237 [2]**	Yes	**No**	241	290	164 [2]	**281 [2]**	Yes	**No**	290	290
	EBR	205	115	47	Yes	Yes	246	315	190	101	Yes	Yes	315	315
	WBL	310	70	94 [2]	Yes	Yes	99	110	78	114 [2]	Yes	Yes	85	124
Menifee Rd. & Scott Rd. (#6)	NBL	250	194 [2]	186 [2]	Yes	Yes	173	185	232 [2]	237 [2]	Yes	Yes	226	250
	NBR	575	67	52	Yes	Yes	149	141	73	57	Yes	Yes	170	152
	SBL	150	135	126 [2]	Yes	Yes	225	224	**174 [2]**	**190 [2]**	**No**	**No**	225	224
	EBL	200	150 [2]	**241 [2]**	Yes	**No**	300	297	190 [2]	**302 [2]**	Yes	**No**	300	300
	WBL	200	**431 [2]**	194 [2]	**No**	Yes	315	163	**500 [2]**	**250 [2]**	**No**	**No**	315	314
Whitewood Rd. & Clinton Keith Rd. (#7)	NBL	370	154	195	Yes	Yes	210	230	195 [2]	298 [2]	Yes	Yes	237	353
	SBL	150	**283 [2]**	**212 [2]**	**No**	**No**	209	192	**328 [2]**	**324 [2]**	**No**	**No**	210	210
	EBL	325	123 [2]	140 [2]	Yes	Yes	141	167	154 [2]	142	Yes	Yes	165	182
	WBL	190	**215 [2]**	123 [2]	**No**	Yes	243	185	**241 [2]**	**130**	**No**	Yes	255	274
	WBR	195	107	76	Yes	Yes	159	116	143	101	Yes	Yes	166	145

TABLE 6-2: QUEUING SUMMARY FOR EAP (2030) CONDITIONS (2 OF 4)

			Existing (2024)						EAP (2030)					
			Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Simtraffic: Maximum Queue (Feet)		Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Simtraffic: Maximum Queue (Feet)	
Intersection	Movement	Available Stacking Distance (Feet)	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
Briggs Rd. & Scott Rd. (#8)	SBR	145	57	22	Yes	Yes	116	54	61	32	Yes	Yes	162	67
	EBL	150	**194**	110	**No**	Yes	214	192	**226**	**152**	**No**	**No**	240	238
	WBL	200	38	25	Yes	Yes	56	31	41	31	Yes	Yes	55	105
	WBR	960	0	0	Yes	Yes	25	26	0	0	Yes	Yes	39	25
Leon Rd. & Scott Rd. (#9)	NBL	225	**370** [2]	65	**No**	Yes	438	124	**634** [2]	150	**No**	Yes	525	175
	SBL	230	43	11	Yes	Yes	86	37	46	17	Yes	Yes	78	47
	EBL	300	**347** [2]	32	**No**	Yes	427	92	**469** [2]	47	**No**	Yes	570	103
	EBR	300	40	30	Yes	Yes	105	84	48	44	Yes	Yes	243	132
	WBL	110	19	12	Yes	Yes	42	42	22	16	Yes	Yes	39	56
Leon Rd. & Whisper Heights Blvd. (#11)	NBL	190	0	0	Yes	Yes	0	0	0	0	Yes	Yes	0	0
	SBL	200	**261**	179	**No**	Yes	217	161	**304**	**219**	**No**	**No**	248	195
	WBL	150	**219**	74	**No**	Yes	167	90	**249**	89	**No**	Yes	202	89
Leon Rd. & Baxter Rd./Jean Nicholas Rd. (#12)	NBL	250	110	50	Yes	Yes	144	72	128	59	Yes	Yes	141	81
	SBL	250	47	43	Yes	Yes	59	67	54	50	Yes	Yes	94	89
	EBL	220	66	22	Yes	Yes	85	38	78	27	Yes	Yes	81	47
	WBL	150	**183**	79	**No**	Yes	132	97	**215**	93	**No**	Yes	154	113
Max Gilliss Blvd. & Leon Rd. (#13)	NBL	240	**256** [2]	149	**No**	Yes	232	159	**304** [2]	168	**No**	Yes	264	153
	SBL	150	23	7	Yes	Yes	47	35	25	8	Yes	Yes	106	30
	EBL	305	279 [2]	117	Yes	Yes	248	124	329 [2,3]	130	Yes	Yes	337	156
	WBL	250	61	53	Yes	Yes	113	80	67	58	Yes	Yes	266	87
Leon Rd. & Clinton Keith Rd. (#14)	NBR	410	83	187	Yes	Yes	121	265	105	263	Yes	Yes	182	316
	SBL	395	278	315	Yes	Yes	404	335	331	**425**	Yes	**No**	411	452
	WBL	145	**341**	**159**	**No**	**No**	265	150	**387**	**199**	**No**	**No**	302	202
Winchester Rd. (SR-79) & Domenigoni Pkwy. (#19)	NBL	350	70	231 [2]	Yes	Yes	100	245	77	263 [2]	Yes	Yes	110	324
	NBR	525	**537** [2]	**1154** [2]	**No**	**No**	538	680	**759** [2]	**1430** [2]	**No**	**No**	659	680
	SBL	240	70	70	Yes	Yes	105	90	76	76	Yes	Yes	84	100
	SBR	365	54	50	Yes	Yes	140	104	56	73	Yes	Yes	146	118
	EBL	385	118	204 [2]	Yes	Yes	145	297	144 [2]	253 [2]	Yes	Yes	208	425
	EBR	700	128	21	Yes	Yes	158	59	166	29	Yes	Yes	209	62
	WBL	290	**740** [2]	**580** [2]	**No**	**No**	435	435	**843** [2]	**671** [2]	**No**	**No**	435	435
	WBR	280	0	0	Yes	Yes	19	18	0	0	Yes	Yes	19	13
Winchester Rd. (SR-79) & Newport Rd. (#20)	NBL	230	0	17	Yes	Yes	0	33	0	19	Yes	Yes	0	221
	NBR	565	0	0	Yes	Yes	21	0	0	0	Yes	Yes	56	8
	SBL	560	34	7	Yes	Yes	36	5	38	7	Yes	Yes	46	5
	SBR	560	0	0	Yes	Yes	5	0	0	0	Yes	Yes	10	10

TABLE 6-2: QUEUING SUMMARY FOR EAP (2030) CONDITIONS (3 OF 4)

			Existing (2024)						EAP (2030)					
			Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Simtraffic: Maximum Queue (Feet)		Synchro: 95th Percentile Queue (Feet)		Acceptable?[1]		Simtraffic: Maximum Queue (Feet)	
Intersection	Movement	Available Stacking Distance (Feet)	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
Winchester Rd. (SR-79) & Holland Rd. (#21)	NBL	555	0	67	Yes	Yes	0	90	0	72	Yes	Yes	0	98
	NBR	460	0	0	Yes	Yes	0	11	0	0	Yes	Yes	0	5
	SBL	415	10	7	Yes	Yes	24	15	10	7	Yes	Yes	19	15
	SBR	425	0	0	Yes	Yes	12	11	0	0	Yes	Yes	12	8
	EBL	50	7	5	Yes	Yes	15	5	7	5	Yes	Yes	20	5
	WBL	50	0	0	Yes	Yes	0	0	0	0	Yes	Yes	0	0
Winchester Rd. (SR-79) & Garbani Rd. (#22)	NBL	805	24	6	Yes	Yes	31	20	26	7	Yes	Yes	41	15
	SBR	445	10	2	Yes	Yes	27	5	10	2	Yes	Yes	134	5
	EBL	50	22	10	Yes	Yes	30	34	24	11	Yes	Yes	40	20
	EBR	50	15	5	Yes	Yes	27	18	15	5	Yes	Yes	33	14
Winchester Rd. (SR-79) & Scott Rd. (#23)	NBL	640	68	54	Yes	Yes	96	102	76	60	Yes	Yes	89	213
	NBR	440	0	0	Yes	Yes	12	6	0	0	Yes	Yes	12	4
	SBL	650	519 [2]	333 [2]	Yes	Yes	341	316	625 [2]	378 [2]	Yes	Yes	471	335
	SBR	520	64	52	Yes	Yes	144	95	68	54	Yes	Yes	222	121
	EBL	115	**204**	**400 [2]**	**No**	**No**	211	224	**223**	**453 [2]**	**No**	**No**	200	225
	EBR	120	0	0	Yes	Yes	47	155	0	0	Yes	Yes	79	89
	WBL	100	11	36	Yes	Yes	21	52	11	40	Yes	Yes	11	96
	WBR	100	60	**339 [2]**	Yes	**No**	90	197	65	**446 [2]**	Yes	**No**	73	238
Winchester Rd. (SR-79) & Keller Rd. (#24)	NBL	505	7	15	Yes	Yes	5	6	40	92	Yes	Yes	55	91
	NBR	525	10	8	Yes	Yes	3	4	14	11	Yes	Yes	5	5
	SBL	520	13	26	Yes	Yes	6	17	13	27	Yes	Yes	13	23
	SBR	540	0	0	Yes	Yes	0	0	6	34	Yes	Yes	4	22
Winchester Rd. (SR-79) & Abelia St. (#25)	NBL	245	111 [2]	44	Yes	Yes	167	295	266 [2,3]	217 [2]	Yes	Yes	259	344
	NBR	335	45	48	Yes	Yes	99	383	45	55	Yes	Yes	116	460
	SBL	240	111	123 [2]	Yes	Yes	305	218	135 [2]	141 [2]	Yes	Yes	360	231
	SBR	240	0	0	Yes	Yes	378	19	0	0	Yes	Yes	318	96
	EBL	100	67	23	Yes	Yes	0	46	74	24	Yes	Yes	0	73
	WBL	100	**400 [2]**	**250 [2]**	**No**	**No**	184	170	**489 [2]**	**309 [2]**	**No**	**No**	185	184
Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd. (#2	NBL	255	24	34	Yes	Yes	47	200	27	37	Yes	Yes	42	100
	NBR	330	15	22	Yes	Yes	51	131	15	23	Yes	Yes	125	304
	SBL	430	71	66	Yes	Yes	161	118	84	76	Yes	Yes	163	134
	SBR	300	0	0	Yes	Yes	206	43	5	0	Yes	Yes	55	28
	EBL	145	64	34	Yes	Yes	74	42	71	37	Yes	Yes	77	51
	EBR	145	0	0	Yes	Yes	53	29	0	0	Yes	Yes	44	25
	WBL	230	142	123	Yes	Yes	174	133	154	134	Yes	Yes	165	148
	WBR	190	37	44	Yes	Yes	78	132	39	49	Yes	Yes	70	134

TABLE 6-2: QUEUING SUMMARY FOR EAP (2030) CONDITIONS (4 OF 4)

Intersection	Movement	Available Stacking Distance (Feet)	Existing (2024) Synchro: 95th Percentile Queue (Feet) AM Peak Hour	Existing (2024) Synchro: 95th Percentile Queue (Feet) PM Peak Hour	Existing (2024) Acceptable?[1] AM	Existing (2024) Acceptable?[1] PM	Existing (2024) Simtraffic: Maximum Queue (Feet) AM Peak Hour	Existing (2024) Simtraffic: Maximum Queue (Feet) PM Peak Hour	EAP (2030) Synchro: 95th Percentile Queue (Feet) AM Peak Hour	EAP (2030) Synchro: 95th Percentile Queue (Feet) PM Peak Hour	EAP (2030) Acceptable?[1] AM	EAP (2030) Acceptable?[1] PM	EAP (2030) Simtraffic: Maximum Queue (Feet) AM Peak Hour	EAP (2030) Simtraffic: Maximum Queue (Feet) PM Peak Hour
Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd. (#27)	NBL	250	112 [2]	132	Yes	Yes	103	242	128 [2]	167 [2]	Yes	Yes	116	274
	NBR	250	0	0	Yes	Yes	26	41	0	0	Yes	Yes	25	38
	SBL	560	14	24	Yes	Yes	23	24	14	26	Yes	Yes	23	45
	SBR	240	70	0	Yes	Yes	280	193	88	0	Yes	Yes	280	277
	EBL	155	213 [2]	122 [2]	No	Yes	143	111	**240** [2]	**170** [2]	**No**	**No**	168	107
	WBL	150	32	55	Yes	Yes	40	75	36	61	Yes	Yes	52	72
	WBR	150	0	0	Yes	Yes	31	42	0	0	Yes	Yes	36	49
Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd. (#28)	NBL	410	242 [2]	145	Yes	Yes	216	168	289 [2]	178 [2]	Yes	Yes	308	326
	SBL	305	119	156 [2]	Yes	Yes	130	170	129	183 [2]	Yes	Yes	134	173
	SBR	105	**139**	39	**No**	Yes	180	180	**165**	51	**No**	Yes	180	180
	EBL	350	87	120	Yes	Yes	94	139	95	131	Yes	Yes	107	145
	EBR	350	103	52	Yes	Yes	160	81	121	64	Yes	Yes	159	75
	WBL	215	129 [2]	71	Yes	Yes	159	96	150 [2]	78	Yes	Yes	168	132
	WBR	195	0	0	Yes	Yes	48	56	0	0	Yes	Yes	44	56
Winchester Rd. (SR-79) & Benton Rd. (#29)	NBL	555	310 [2]	441 [2]	Yes	Yes	634	536	356 [2]	503 [2]	Yes	Yes	735	735
	NBR	470	52	148	Yes	Yes	94	197	55	188	Yes	Yes	234	620
	SBL	240	117	111 [2]	Yes	Yes	311	143	131	144 [2]	Yes	Yes	355	254
	SBR	375	0	0	Yes	Yes	49	56	0	0	Yes	Yes	332	68
	EBL	445	34	41	Yes	Yes	60	68	37	45	Yes	Yes	59	108
	EBR	370	134	38	Yes	Yes	211	139	169	50	Yes	Yes	290	194
	WBL	230	182	127	Yes	Yes	298	240	224 [2]	139	Yes	Yes	339	226
	WBR	230	38	109	Yes	Yes	86	124	66	138	Yes	Yes	79	154
Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd. (#30)	NBL	200	19	39	Yes	Yes	27	212	22	42	Yes	Yes	36	250
	NBR	320	38	34	Yes	Yes	112	402	42	45	Yes	Yes	138	405
	SBL	165	126	58	Yes	Yes	259	110	153	63	Yes	Yes	259	192
	EBL	100	**265**	**140**	**No**	**No**	135	132	**335** [2]	**158**	**No**	**No**	135	134
	WBL	335	313 [2]	330 [2]	Yes	Yes	315	265	**376** [2]	**397** [2]	**No**	**No**	377	341
Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy. (#31)	NBL	290	142 [2]	225 [2]	Yes	Yes	126	274	165 [2]	282 [2]	Yes	Yes	128	395
	SBL	320	26	21	Yes	Yes	45	23	28	23	Yes	Yes	120	37
	SBR	320	25	33	Yes	Yes	40	194	31	34	Yes	Yes	420	272
	EBL	185	163	59	Yes	Yes	170	97	182	65	Yes	Yes	180	91
	EBR	145	70	46	Yes	Yes	134	113	89	49	Yes	Yes	172	122

BOLD = 95th percentile queue exceeds the available storage

[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.

[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 transition area has sufficient storage to accommodate any spillover without spilling back and affecting the through movement.

6.6 DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of deficiencies and recommended improvements based on the County of Riverside deficiency criteria discussed in Section 2.6 Deficiency Criteria.

6.6.1 INTERSECTIONS

Intersection improvements necessary to improve project-related traffic deficiencies are shown in Table 6-3. The improvements have been identified to improve the deficiencies back to acceptable levels. Worksheets for EAP (2030) conditions, with improvements, HCM calculation worksheets are provided in Appendix 6.4.

TABLE 6-3: INTERSECTION ANALYSIS FOR EAP (2030) CONDITIONS WITH IMPROVEMENTS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1] Northbound L	T	R	Southbound L	T	R	Eastbound L	T	R	Westbound L	T	R	Delay[2] (secs.) AM	PM	Level of Service AM	PM
9	Leon Rd. & Scott Rd.																	
	- Without Improvements	TS	1	1	0	1	1	0	1	1	1	1	1	0	**101.3**	24.5	**F**	C
	- With Improvements	TS	1	1	0	1	1	**1**	1	1	1	1	1	0	54.5	22.6	D	C
10	Leon Rd. & Keller Rd.																	
	- Without Improvements	CSS	0	1	0	0	1	0	0	1	0	0	1	0	**>100**	**85.2**	**F**	**F**
	- With Improvements	CSS	**1**	1	0	**1**	1	0	**1**	1	0	**1**	1	0	34.1	23.5	D	C
14	Leon Rd. & Clinton Keith Rd.																	
	- Without Improvements	TS	0	3	1>	2	3	0	0	0	0	1	0	2	**125.3**	32.2	**F**	C
	- With Improvements	TS	0	3	1>	2	3	0	0	0	0	1	0	**2>**	31.5	19.2	C	B
19	Winchester Rd. (SR-79) & Domenigoni Pkwy.																	
	- Without Improvements	TS	1	2	1	1	2	1	2	2	1	2	3	1	**163.6**	**198.6**	**F**	**F**
	- With Improvements	TS	1	2	**1>**	1	2	1	2	**3**	1	2	3	1	48.6	42.1	D	D

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

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

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; **1** = Improvement

[2] 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.

[3] TS = Traffic Signal; CSS = Cross-Street Stop; **TS** = Improvement

6.6.2 QUEUES

A queuing analysis was conducted for signalized study area intersections with the recommended improvements shown in Table 6-3. The results of this analysis are shown in Table 6-4. Worksheets for this analysis are provided in Appendix 6.5.

Improvements to address queuing deficiencies have been identified where feasible and are also shown in Table 6-4.

The recommended improvement for the northbound right-turn lane at Leon Road and Scott Road (Intersection #9), which consists of extending the storage length to 550 feet, is to be provided by the Project.

Improvements have not been identified at the following movements, as improvements are not considered feasible due to physical constraints on the existing roadways:

- I-215 NB Ramps & Scott Road (#3), westbound right turn lane
- Whitewood Road & Clinton Keith Road (#7), southbound left turn lane
- Max Gilliss Boulevard & Leon Road (#13), northbound left turn lane
- Winchester Road (SR-79) & Domenigoni Parkway (#19), northbound left turn lane
- Winchester Road (SR-79) & Domenigoni Parkway (#19), westbound left turn lane
- Winchester Road (SR-79) & Scott Road (#23), eastbound left turn lane
- Winchester Road (SR-79) & Scott Road (#23), westbound right turn lane
- Winchester Road (SR-79) & Abelia Street (#25), westbound left turn lane
- Winchester Road (SR-79) & Via Mira Mosa/Auld Road (#30), eastbound left turn lane

TABLE 6-4: QUEUING SUMMARY FOR EAP (2030) CONDITIONS WITH IMPROVEMENTS

Intersection	Movement	Recommended Stacking Distance (Feet)	EAP (2030) Synchro: 95th Percentile Queue (Feet) AM Peak Hour	EAP (2030) Synchro: 95th Percentile Queue (Feet) PM Peak Hour	Acceptable?[1] AM	Acceptable?[1] PM
I-215 NB Ramps & Scott Rd. (#3)	WBR	360	110	**447**	Yes	**No**
Antelope Rd & Scott Rd. (#5)	SBR	250	**344**	209	**No**	Yes
	EBL	320	164 [2]	281 [2]	Yes	Yes
Menifee Rd. & Scott Rd. (#6)	SBL	200	174 [2]	190 [2]	Yes	Yes
	EBL	325	190 [2]	302 [2]	Yes	Yes
	WBL	500	500 [2]	250 [2]	Yes	Yes
Whitewood Rd. & Clinton Keith Rd. (#7)	SBL	150	**328 [2]**	**324 [2]**	**No**	**No**
	WBL	250	241 [2]	130	Yes	Yes
Briggs Rd. & Scott Rd. (#8)	EBL	250	226	152	Yes	Yes
Leon Rd. & Scott Rd. (#9)	NBL	500	**634 [2]**	150	**No**	Yes
	EBL	500	469 [2]	47	Yes	Yes
Leon Rd. & Whisper Heights Blvd. (#11)	SBL	310	304	219	Yes	Yes
	WBL	250	249	89	Yes	Yes
Leon Rd. & Baxter Rd./Jean Nicholas Rd. (#12)	WBL	250	215	93	Yes	Yes
Max Gilliss Blvd. & Leon Rd. (#13)	NBL	240	**304 [2]**	168	**No**	Yes
Leon Rd. & Clinton Keith Rd. (#14)	WBL[5]	315	**387**	199	**No**	Yes
Winchester Rd. (SR-79) & Domenigoni Pkwy. (#19)	NBR	525	**759 [2]**	**1430 [2]**	**No**	**No**
	WBL	290	**843 [2]**	**671 [2]**	**No**	**No**
Winchester Rd. (SR-79) & Scott Rd. (#23)	EBL	115	**223**	**453 [2]**	**No**	**No**
	WBR	100	65	**446 [2]**	Yes	**No**
Winchester Rd. (SR-79) & Abelia St. (#25)	WBL	100	**489 [2]**	**309 [2]**	**No**	**No**
Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd. (#27)	EBL	250	240 [2]	170 [2]	Yes	Yes
Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd. (#28)	SBR	170	165	51	Yes	Yes
Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd. (#30)	EBL	100	**335 [2]**	**158**	**No**	**No**
	WBL	400	376 [2]	397 [2]	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.

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

[3] **BOLD** = 95th percentile queue exceeds the available storage

[4] Underline = Improvement

[5] The existing turn pocket and transition area provide the storage to accommodate the identified stacking distance of 315 feet.

7 EAPC (2030) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for EAPC (2030) conditions and the resulting intersection operations, traffic signal warrant, and queuing analyses.

7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAPC (2030) conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAPC (2030) conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for EAPC (2030) conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages).

7.2 EAPC (2030) TRAFFIC VOLUME FORECASTS

This scenario includes Existing (2024) traffic volumes plus an ambient growth factor of 12.62%, the addition of Project traffic, plus the addition of traffic generated by known cumulative development projects. The weekday ADT volumes and peak hour volumes which can be expected for EAPC (2030) traffic conditions are shown on Exhibit 7-1.

EXHIBIT 7-1 : EAPC (2030) TRAFFIC VOLUMES (SHEET 1 OF 2)

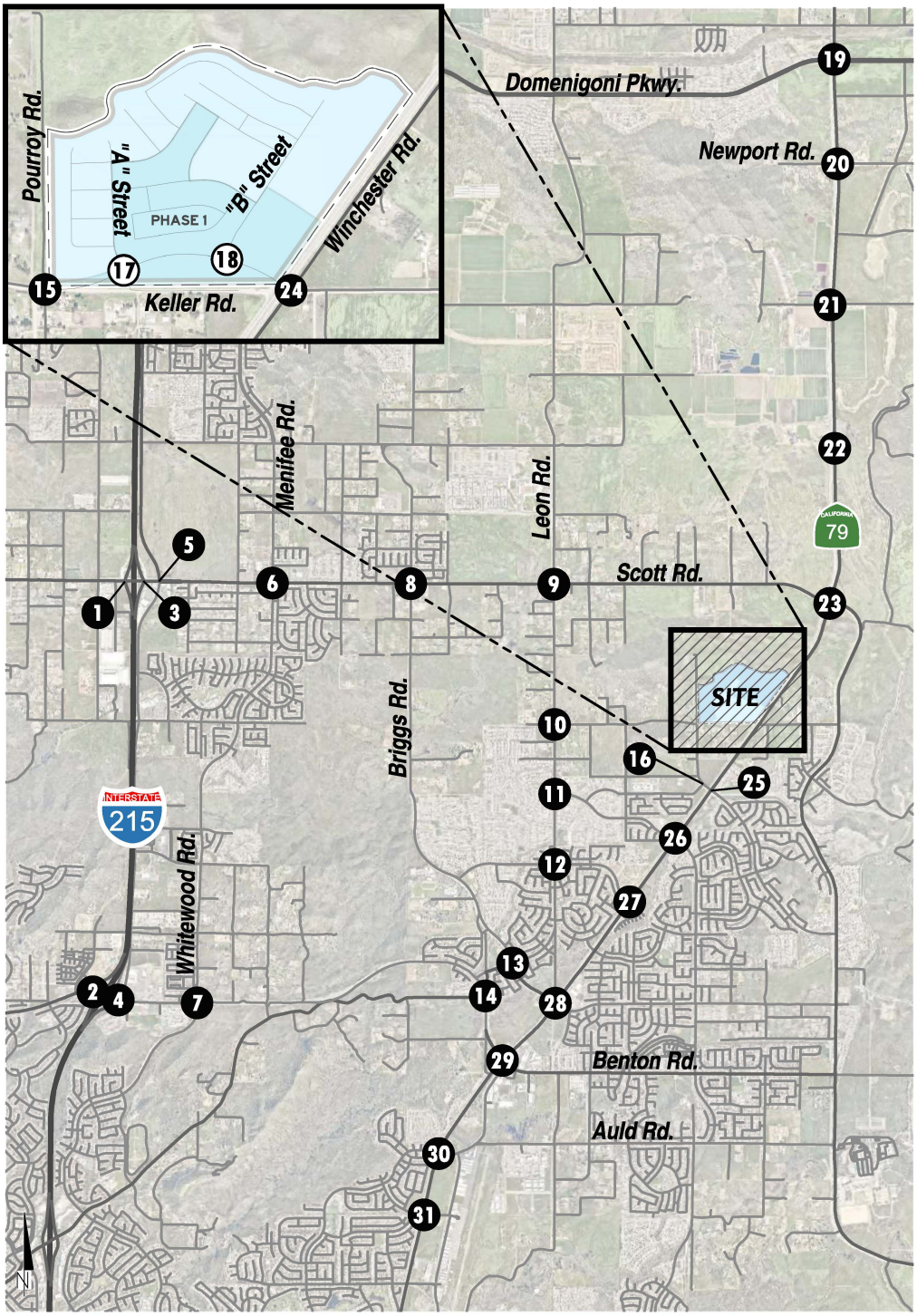
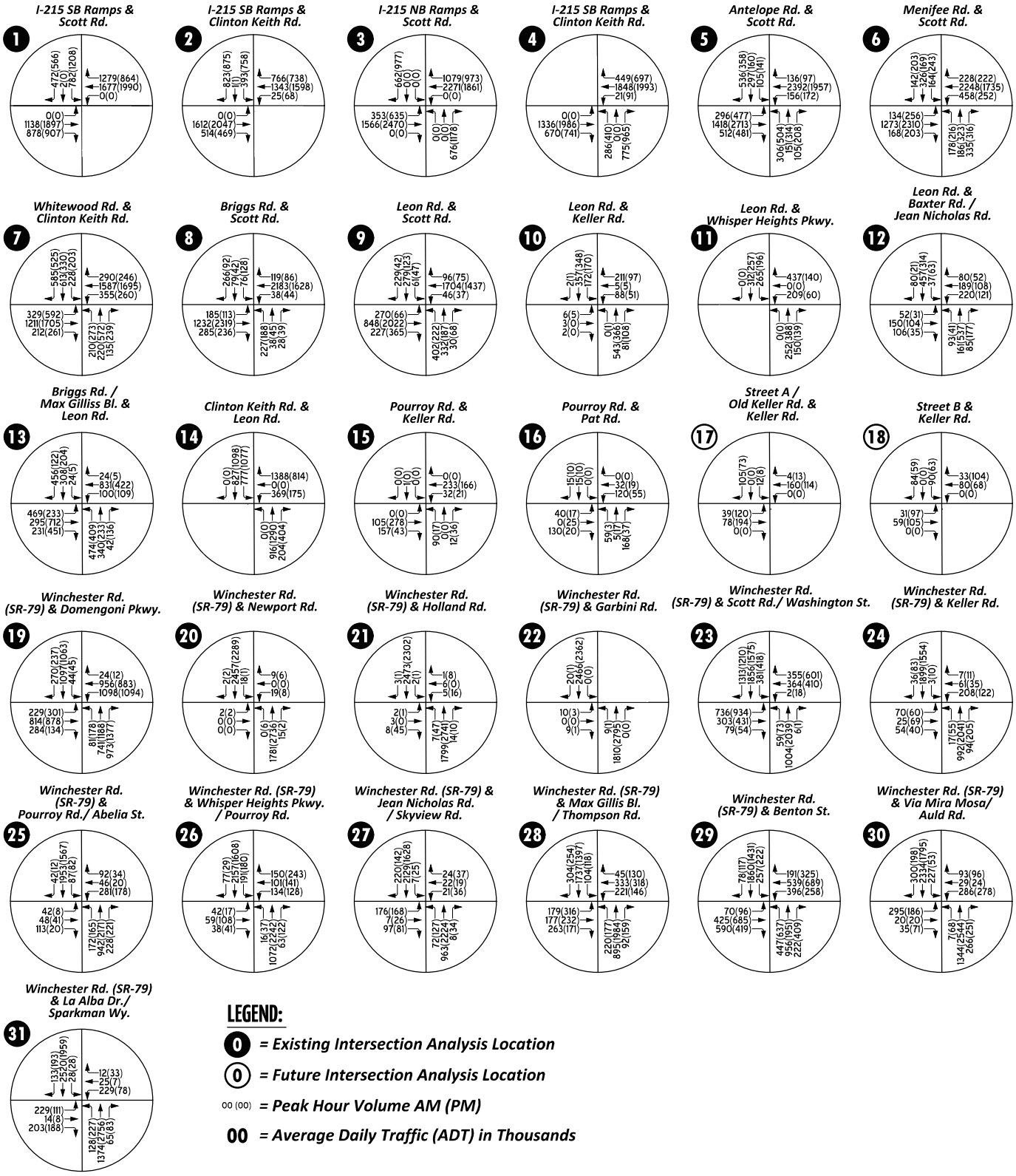


EXHIBIT 7-1 : EAPC (2030) TRAFFIC VOLUMES (SHEET 2 OF 2)



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

7.3 INTERSECTION OPERATIONS ANALYSIS

EAPC (2030) 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 7-1 for EAPC traffic conditions, which indicate that the following study area intersections are anticipated to operate at an unacceptable LOS under EAPC (2030) traffic conditions:

- Antelope Road & Scott Road (#5) – LOS F AM and PM peak hours
- Menifee Road & Scott Road (#6) – LOS F AM and PM peak hours
- Whitewood Road & Clinton Keith Road (#7) – LOS E AM peak hour; LOS F PM peak hour
- Briggs Road & Scott Road (#8) – LOS F AM and PM peak hours
- Leon Road & Scott Road (#9) – LOS F AM and PM peak hours
- Leon Road & Keller Road (#10) – LOS F AM and PM peak hours
- Leon Road & Clinton Keith Road (#14) – LOS F AM peak hour; LOS E PM peak hour
- Winchester Road (SR-79) & Domenigoni Parkway (#19) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Scott Road (#23) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Abelia St. (#25) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Whisper Heights Parkway/Pourroy Road (#26) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Jean Nicholas Road/Skyview Road (#27) – LOS F AM peak hour; LOS E PM peak hour
- Winchester Road (SR-79) & Max Gilliss Boulevard/Thompson Road (#28) – LOS F PM peak hour only
- Winchester Road (SR-79) & Benton Road (#29) – LOS F AM and PM peak hours
- Winchester Road (SR-79) & Via Mira Mosa/Auld Road (#30) – LOS E AM peak hour; LOS F PM peak hour
- Winchester Road (SR-79) & La Alba Drive/Sparkman Way (#31) – LOS F AM peak hour; LOS E PM peak hour

The intersection operations analysis worksheets for EAPC traffic conditions are included in Appendix 7.1 of this TA.

7.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for EAPC (2030) traffic conditions are based on the peak hour intersection turning volumes or planning level ADT volume-based traffic signal warrants. No additional unsignalized study area intersections are anticipated to meet either peak hour volume or ADT volume-based warrants under EAPC (2030) conditions (see Appendix 7.2).

TABLE 7-1: INTERSECTION ANALYSIS FOR EAPC (2030) CONDITIONS

#	Intersection	Traffic Control[2]	Delay[1] (secs.) AM	Delay[1] (secs.) PM	Level of Service AM	Level of Service PM
1	I-215 SB Ramps & Scott Rd.	TS	18.3	48.8	B	D
2	I-215 SB Ramps & Clinton Keith Rd.	TS	15.1	54.3	B	D
3	I-215 NB Ramps & Scott Rd.	TS	20.1	30.6	C	C
4	I-215 NB Ramps & Clinton Keith Rd.	TS	24.3	50.9	C	D
5	Antelope Rd. & Scott Rd.	TS	**144.5**	**>200**	**F**	**F**
6	Menifee Rd. & Scott Rd.	TS	**>200**	**>200**	**F**	**F**
7	Whitewood Rd. & Clinton Keith Rd.	TS	**65.7**	**93.2**	**E**	**F**
8	Briggs Rd. & Scott Rd.	TS	**96.0**	**151.7**	**F**	**F**
9	Leon Rd. & Scott Rd.	TS	**>200**	**>200**	**F**	**F**
10	Leon Rd. & Keller Rd.	CSS	**755.6**	**110.6**	**F**	**F**
11	Leon Rd. & Whisper Heights Pkwy.	TS	20.7	13.3	C	B
12	Leon Rd. & Jean Nicholas Rd.	TS	24.9	20.3	C	C
13	Briggs Rd. & Leon Rd.	TS	54.6	23.2	D	C
14	Leon Rd. & Clinton Keith Rd.	TS	**132.5**	**60.6**	**F**	**E**
15	Pourroy Rd. & Keller Rd.	AWS	14.3	11.1	B	B
16	Pourroy Rd. & Pat Rd.	CSS	16.1	8.8	C	A
17	Old Keller Rd./Street A & Keller Rd.	CSS	9.6	9.5	A	A
18	Street B & Keller Rd.	CSS	10.3	11.0	B	B
19	Winchester Rd. (SR-79) & Domenigoni Pkwy.	TS	**>200**	**>200**	**F**	**F**
20	Winchester Rd. (SR-79) & Newport Rd.	TS	10.3	7.3	B	A
21	Winchester Rd. (SR-79) & Holland Rd.	TS	37.5	42.1	D	D
22	Winchester Rd. (SR-79) & Garbani Rd.	TS	12.1	7.0	B	A
23	Winchester Rd. (SR-79) & Scott Rd.	TS	**>200**	**>200**	**F**	**F**
24	Winchester Rd. (SR-79) & Keller Rd.	TS	54.1	47.9	D	D
25	Winchester Rd. (SR-79) & Abelia St.	TS	**154.3**	**92.7**	**F**	**F**
26	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.	TS	**107.2**	**99.9**	**F**	**F**
27	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.	TS	**113.5**	**62.3**	**F**	**E**
28	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.	TS	**65.3**	**107.7**	**E**	**F**
29	Winchester Rd. (SR-79) & Benton Rd.	TS	**121.3**	**169.4**	**F**	**F**
30	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.	TS	**79.8**	**83.0**	**E**	**F**
31	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.	TS	**97.2**	**64.6**	**F**	**E**

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

[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; AWS = All-way Stop; TS = Improvement

7.5 QUEUING ANALYSIS

Off-Ramp queuing analysis findings are presented in Table 7-2. As shown in Table 7-2, the following movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows:

- I-215 Southbound Ramps & Scott Road (#1), eastbound through lane – PM peak hour only
- I-215 Southbound Ramps & Scott Road (#1), westbound through lane – AM and PM peak hours
- I-215 Southbound Ramps & Clinton Keith Road (#2), westbound through lane – PM peak hour only
- I-215 Northbound Ramps & Scott Road (#3), eastbound left-turn lane – AM and PM peak hours
- I-215 Northbound Ramps & Scott Road (#3), eastbound through lane – PM peak hour only
- I-215 Northbound Ramps & Scott Road (#3), westbound through lane – AM and PM peak hours
- I-215 Northbound Ramps & Scott Road (#3), westbound right-turn lane – AM and PM peak hours
- I-215 Northbound Ramps & Clinton Keith Road (#4), westbound through lane – AM and PM peak hours

Worksheets for EAPC (2030) traffic conditions off-ramp queuing analysis are provided in Appendix 7.3.

7.6 DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

This section provides a summary of deficiencies and recommended improvements based on the County of Riverside deficiency criteria discussed in Section 2.6 *Deficiency Criteria*.

7.6.1 INTERSECTIONS

Intersection improvements necessary to improve project-related traffic deficiencies are shown in Table 7-3. The improvements have been identified to improve the deficiencies back to acceptable levels. Worksheets for EAPC (2030) conditions, with improvements, HCM calculation worksheets are provided in Appendix 7.4.

7.6.2 QUEUES

Improvements have not been identified at the movements anticipated to experience queuing issues as they are not considered feasible due to physical constraints on the existing roadways.

TABLE 7-2: PEAK HOUR QUEUING SUMMARY FOR EAPC (2030) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)		EAPC (2030) Acceptable? [1]		Simtraffic: Maximum Queue (Feet)	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour
I-215 SB Ramps & Scott Rd. (#1)	SBL	1,470	311	654 [2]	Yes	Yes	780	780
	SBR	1,470	201	265	Yes	Yes	1,459	1,483
	EBT	740	404	**948** [2]	Yes	**No**	930	934
	EBR	460	62	56	Yes	Yes	610	610
	WBT	680	**822** [2]	**1,028** [2]	**No**	**No**	283	432
	WBR	530	0	0	Yes	Yes	186	112
I-215 SB Ramps & Clinton Keith Rd. (#2)	SBL	1,900	389	1,033 [2]	Yes	Yes	389	1,861
	SBR	1,200	466 [2]	558 [2]	Yes	Yes	299	1,866
	EBT	570	347	501	Yes	Yes	331	817
	EBR	390	48	46	Yes	Yes	207	324
	WBT	680	599	**1,004** [2]	Yes	**No**	432	593
I-215 NB Ramps & Scott Rd. (#3)	NBR	1,425	461 [2]	926 [2]	Yes	Yes	1,571	1,584
	SBR	1,750	175	656 [2]	Yes	Yes	1,659	1,722
	EBL	445	**540** [2]	**995** [2]	**No**	**No**	515	515
	EBT	680	340	**1,322** [2]	Yes	**No**	796	795
	WBT	360	**1,306** [2]	**1,160** [2]	**No**	**No**	475	480
	WBR	360	**898** [2]	**1,187** [2]	**No**	**No**	473	491
I-215 NB Ramps & Clinton Keith Rd. (#4)	NBL	1,540	697 [2]	989 [2]	Yes	Yes	570	1,520
	NBR	950	656 [2]	937 [2]	Yes	Yes	533	1,515
	EBT	680	270	407	Yes	Yes	320	625
	EBR	900	0	0	Yes	Yes	64	195
	WBT	470	**766** [2]	**1,126** [2]	**No**	**No**	552	1,187

[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.

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

[3] **BOLD** = 95th percentile queue exceeds the available storage

TABLE 7-3: INTERSECTION ANALYSIS FOR EAPC (2030) CONDITIONS WITH IMPROVEMENTS

#	Intersection	Traffic Control[3]	Intersection Approach Lanes[1] Northbound L	T	R	Southbound L	T	R	Eastbound L	T	R	Westbound L	T	R	Delay[2] (secs.) AM	PM	Level of Service AM	PM
5	Antelope Rd. & Scott Rd.																	
	- Without Improvements	TS	2	2	1>	1	1	1>	2	2	1	2	3	0	**144.5**	**>200**	**F**	**F**
	- With Improvements	TS	2	2	1>	1	**2**	1>	2	**3**	1	2	3	0	55.0	54.9	D	D
6	Menifee Rd. & Scott Rd.																	
	- Without Improvements	TS	1	1	1	1	1	0	1	2	0	1	2	0	**>200**	**>200**	**F**	**F**
	- With Improvements	TS	1	**2**	**0**	1	1	0	**2**	**3**	0	**2**	**3**	**1**	50.4	54.9	D	D
7	Whitewood Rd. & Clinton Keith Rd.																	
	- Without Improvements	TS	1	2	0	1	2	0	2	3	0	2	3	1	**65.7**	**93.2**	**E**	**F**
	- With Improvements	TS	**2**	2	0	**2**	2	0	2	3	0	2	3	1	44.7	49.5	D	D
8	Briggs Rd. & Scott Rd.																	
	- Without Improvements	TS	0	1	0	0	1	1	1	2	0	1	2	1	**96.0**	**151.7**	**F**	**F**
	- With Improvements	TS	0	1	0	0	1	0	1	**3**	0	1	**3**	1	33.4	33.0	C	C
9	Leon Rd. & Scott Rd.																	
	- Without Improvements	TS	1	1	0	1	1	0	1	1	1	1	1	0	**>200**	**>200**	**F**	**F**
	- With Improvements	TS	**2**	1	0	1	1	**1**	1	**3**	0	1	**3**	0	43.6	17.7	D	B
10	Leon Rd. & Keller Rd.																	
	- Without Improvements	CSS	0	1	0	0	1	0	0	1	0	0	1	0	**755.6**	**110.6**	**F**	**F**
	- With Improvements	**TS**	**1**	1	0	**1**	1	0	**1**	1	0	**1**	1	0	24.6	16.5	C	B
14	Leon Rd. & Clinton Keith Rd.																	
	- Without Improvements	TS	0	3	1>	2	3	0	0	0	0	1	0	2	**132.5**	60.6	**F**	E
	- With Improvements	TS	0	3	1>	2	3	0	0	0	0	1	0	**2>**	31.4	25.5	C	C
19	Winchester Rd. (SR-79) & Domenigoni Pkwy.																	
	- Without Improvements	TS	1	2	1	1	2	1	2	2	1	2	3	1	**>200**	**>200**	**F**	**F**
	- With Improvements	TS	1	**3**	**1>**	1	**3**	1	2	**3**	1	2	3	1	53.9	53.8	D	D
23	Winchester Rd. (SR-79) & Scott Rd.																	
	- Without Improvements	TS	1	3	1	1	3	1	1	1	1	1	1	1	**>200**	**>200**	**F**	**F**
	- With Improvements	TS	**2**	3	1	**2**	3	**1>**	**2**	**2**	1	**2**	**2**	**2>**	33.7	55.0	C	D
25	Winchester Rd. (SR-79) & Abelia St.																	
	- Without Improvements	TS	1	2	1	1	2	1	1	2	0	1	2	0	**154.3**	**92.7**	**F**	**F**
	- With Improvements	TS	1	**3**	1	1	**3**	**0**	1	2	0	1	2	0	52.9	26.4	D	C
26	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.																	
	- Without Improvements	TS	1	2	1>	2	2	1	1	1	1	1	1	1	**107.2**	**99.9**	**F**	**F**
	- With Improvements	TS	1	**3**	1>	2	**3**	1	1	1	1	1	1	1	18.7	19.1	B	B
27	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.																	
	- Without Improvements	TS	1	2	1	**1**	2	1	1	2	0	1	1	1	**113.5**	**62.3**	**F**	**E**
	- With Improvements	TS	1	**3**	1	1	**3**	1	1	2	0	1	1	1	21.4	14.5	C	B
28	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.																	
	- Without Improvements	TS	1	2	0	1	2	1	2	1	1>	2	2	1	65.3	**107.7**	E	**F**
	- With Improvements	TS	1	**3**	0	1	**3**	**0**	2	1	1>	2	2	0	35.3	35.3	D	D
29	Winchester Rd. (SR-79) & Benton Rd.																	
	- Without Improvements	TS	2	2	1	2	2	1	2	2	2	2	2	1>	**121.3**	**169.4**	**F**	**F**
	- With Improvements	TS	2	**3**	**0**	2	**3**	**0**	2	2	2	2	2	1>	52.2	54.3	D	D
30	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.																	
	- Without Improvements	TS	1	2	1	1	2	0	1	1	0	1	1	0	**79.8**	**83.0**	**E**	**F**
	- With Improvements	TS	1	**3**	**0**	1	**3**	0	1	1	0	1	1	0	27.1	23.3	C	C
31	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.																	
	- Without Improvements	TS	1	2	0	**1**	2	1	1	1	1	0	1	0	**97.2**	64.6	**F**	E
	- With Improvements	TS	1	**3**	0	1	**3**	1	1	1	1	0	1	0	21.9	20.8	C	C

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

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

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; **1** = Improvement

[2] 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.

[3] TS = Traffic Signal; CSS = Cross-Street Stop; **TS** = Improvement

8 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the County of Riverside are funded through a combination of improvements constructed by the Project, and development impact fee programs. Fee programs applicable to the Project are described below.

8.1 RIVERSIDE COUNTY TRANSPORTATION UNIFORM MITIGATION FEE (TUMF)

The TUMF program is administered by the Western Riverside Council of Governments (WRCOG) based upon a regional Nexus Study most recently updated in 2024 to address major changes in right of way acquisition and improvement cost factors. (8) This regional program was put into place to ensure that development pays its fair share, and that funding is in place for construction of facilities needed to maintain the requisite level of service and critical to mobility in the region. TUMF is a truly regional mitigation fee program and is imposed and implemented in every jurisdiction in Western Riverside County.

8.2 RIVERSIDE COUNTY DEVELOPMENT IMPACT FEE (DIF) PROGRAM

The Project is located within the County's Southwest Area Plan and therefore will be subject to County of Riverside DIF in an effort by the County to address development throughout its unincorporated area. The DIF program consists of two separate transportation components: the Roads, Bridges, and Major Improvements component and the Traffic Signals component. Eligible facilities for funding by the County DIF program are identified on the County's Public Needs List, which currently extends through the year 2020. (7) A comprehensive review of the DIF program is now planned in order to update the nexus study. This will result in development of a revised "needs list" extending the program time horizon from 2010 to 2030.

The cost of signalizing DIF network intersections is identified under the Traffic Signals component of the DIF program. County staff generally defines DIF eligible intersections as those consisting of two intersecting general plan roadways. If the intersection meets this requirement, it is potentially eligible for up to $235,000 of credit, which is subject to negotiations with the County.

8.3 MEASURE A

Measure A, Riverside County's half-cent sales tax for transportation, was adopted by voters in 1988 and extended in 2002. It will continue to fund transportation improvements through 2038. Measure A funds a wide variety of transportation projects and services throughout the County. RCTC is responsible for administering the program. Measure A dollars are spent in accordance with a voter-approved expenditure plan that was adopted as part of the 1988 election.

8.4 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. 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 8-1 for the applicable deficient study area intersections. 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.

Detailed fair share calculations, for each peak hour, have been provided in Table 8-2 for the applicable deficient study area intersections and for Horizon Year traffic conditions in an effort to provide updated fair share percentages based on the proposed changes to the Specific Plan area and also to reflect the associated reductions in Project trip generation. 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 8-1: PROJECT FAIR SHARE CALCULATIONS

#	Intersection		Existing (2024)	Project	EAPC (2030)	Total New Traffic	Project % of New Traffic[1]
5	Antelope Rd. & Scott Rd.						
		AM:	3,730	100	6,409	2,679	3.7%
		PM:	4,007	135	7,583	3,576	**3.8%**
6	Menifee Rd. & Scott Rd.						
		AM:	3,342	120	5,840	2,498	4.8%
		PM:	3,078	162	6,446	3,368	**4.8%**
7	Whitewood Rd. & Clinton Keith Rd.						
		AM:	4,219	79	5,975	1,756	**4.5%**
		PM:	4,315	108	6,902	2,587	4.2%
8	Briggs Rd. & Scott Rd.						
		AM:	2,467	139	4,755	2,288	**6.1%**
		PM:	1,839	188	4,959	3,120	6.0%
9	Leon Rd. & Scott Rd.						
		AM:	2,203	139	4,524	2,321	**6.0%**
		PM:	1,538	188	4,690	3,152	6.0%
11	Leon Rd. & Whisper Heights Pkwy.						
		AM:	1,343	79	1,625	282	28.0%
		PM:	911	108	1,179	268	**40.3%**
12	Leon Rd. & Jean Nicholas Rd.						
		AM:	1,280	79	1,710	430	18.4%
		PM:	1,025	108	1,602	577	**18.7%**
14	Leon Rd. & Clinton Keith Rd.						
		AM:	3,556	79	4,482	926	**8.5%**
		PM:	3,408	108	4,857	1,449	7.5%
19	Winchester Rd. (SR-79) & Domenigoni Pkwy.						
		AM:	4,831	80	6,608	1,777	**4.5%**
		PM:	4,924	108	7,390	2,466	4.4%
23	Winchester Rd. (SR-79) & Scott Rd.						
		AM:	3,111	79	6,458	3,347	2.4%
		PM:	3,301	108	7,762	4,461	**2.4%**
25	Winchester Rd. (SR-79) & Abelia St.						
		AM:	2,627	80	4,045	1,418	**5.6%**
		PM:	2,308	108	4,518	2,210	4.9%
26	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.						
		AM:	4,654	79	4,100	-554	-14.3%
		PM:	2,589	108	4,897	2,308	**4.7%**
27	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.						
		AM:	2,352	67	3,747	1,395	**4.8%**
		PM:	2,323	92	4,548	2,225	4.1%
28	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.						
		AM:	3,041	67	4,570	1,529	**4.4%**
		PM:	3,102	92	5,402	2,300	4.0%
29	Winchester Rd. (SR-79) & Benton Rd.						
		AM:	4,304	68	6,030	1,726	**3.9%**
		PM:	4,665	92	7,240	2,575	3.6%
30	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.						
		AM:	3,641	60	5,235	1,594	**3.8%**
		PM:	3,653	53	5,584	1,931	2.7%
31	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.						
		AM:	3,514	40	4,960	1,446	**2.8%**
		PM:	3,729	53	5,669	1,940	2.7%

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

TABLE 8-2: SPECIFIC PLAN FAIR SHARE CALCULATIONS

#	Intersection		Existing (2024)	Project	2040 With Project[2]	Total New Traffic	Project % of New Traffic[1]
5	Antelope Rd. & Scott Rd.						
		AM:	3,730	100	5,769	2,039	**4.9%**
		PM:	4,007	135	8,067	4,060	3.3%
6	Menifee Rd. & Scott Rd.						
		AM:	3,342	120	6,232	2,890	**4.2%**
		PM:	3,078	162	7,677	4,599	3.5%
7	Whitewood Rd. & Clinton Keith Rd.						
		AM:	4,219	79	6,857	2,638	**3.0%**
		PM:	4,315	108	8,434	4,119	2.6%
8	Briggs Rd. & Scott Rd.						
		AM:	2,467	139	6,245	3,778	3.7%
		PM:	1,839	188	6,719	4,880	**3.9%**
9	Leon Rd. & Scott Rd.						
		AM:	2,203	139	4,787	2,584	**5.4%**
		PM:	1,538	188	5,656	4,118	4.6%
11	Leon Rd. & Whisper Heights Pkwy.						
		AM:	1,343	79	1,827	484	**16.3%**
		PM:	911	108	2,409	1,498	7.2%
12	Leon Rd. & Jean Nicholas Rd.						
		AM:	1,280	79	2,917	1,637	**4.8%**
		PM:	1,025	108	3,479	2,454	4.4%
14	Leon Rd. & Clinton Keith Rd.[3]						
		AM:	3,556	79	4,482	926	**8.5%**
		PM:	3,408	108	4,857	1,449	7.5%
19	Winchester Rd. (SR-79) & Domenigoni Pkwy.						
		AM:	4,831	80	7,017	2,186	3.7%
		PM:	4,924	108	7,729	2,805	**3.9%**
23	Winchester Rd. (SR-79) & Scott Rd.						
		AM:	3,111	79	8,103	4,992	1.6%
		PM:	3,301	108	9,348	6,047	**1.8%**
25	Winchester Rd. (SR-79) & Abelia St.						
		AM:	2,627	80	6,096	3,469	2.3%
		PM:	2,308	108	6,920	4,612	**2.3%**
26	Winchester Rd. (SR-79) & Whisper Heights Pkwy./Pourroy Rd.						
		AM:	4,654	79	5,609	955	**8.3%**
		PM:	2,589	108	6,475	3,886	2.8%
27	Winchester Rd. (SR-79) & Jean Nicholas Rd./Skyview Rd.						
		AM:	2,352	67	5,171	2,819	**2.4%**
		PM:	2,323	92	6,355	4,032	2.3%
28	Winchester Rd. (SR-79) & Max Gilliss Bl./Thompson Rd.						
		AM:	3,041	67	8,797	5,756	1.2%
		PM:	3,102	92	10,460	7,358	**1.3%**
29	Winchester Rd. (SR-79) & Benton Rd.						
		AM:	4,304	68	9,550	5,246	1.3%
		PM:	4,665	92	11,323	6,658	**1.4%**
30	Winchester Rd. (SR-79) & Via Mira Mosa/Auld Rd.						
		AM:	3,641	60	8,008	4,367	**1.4%**
		PM:	3,653	53	9,180	5,527	1.0%
31	Winchester Rd. (SR-79) & La Alba Dr./Sparkman Wy.						
		AM:	3,514	40	6,540	3,026	**1.3%**
		PM:	3,729	53	8,674	4,945	1.1%

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

[2] 2040 With Project traffic volumes are from the 2022 Traffic Study.

[3] The configuration of the intersection has changed since the 2022 Traffic Study. EAPC (2030) volumes have been used instead of the 2022 Traffic Study's 2040 With Project volumes for the fair share calculations.

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