

SKYLINE HEIGHTS (TTM NO. 36544R1)

TRAFFIC ANALYSIS

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
CA MUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
DIF	Development Impact Fee
E+P	Existing plus Project
EIR	Environmental Impact Report
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
PHF	Peak Hour Factor
Project	Skyline Heights
RCTC	Riverside County Transportation Commission
RTA	Riverside Transit Agency
TA	Traffic Analysis
TTM	Tentative Tract Map
TUMF	Transportation Uniform Mitigation Fee
v/c	Volume-to-Capacity
vphgpl	Vehicles per Hour Green per Lane
WRCOG	Western Riverside Council of Governments

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1 INTRODUCTION

This report presents the results of the Traffic Analysis (TA) for Skyline Heights (Project), which is located west of Foothill Parkway and north of Skyline Drive in the City of Corona, 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, provide an amendment to the previously approved Skyline Heights Environmental Impact Report (EIR) and tentative tract map (TTM 36544), and where necessary recommend improvements to achieve acceptable operations consistent with General Plan level of service goals and policies. This traffic study has been prepared in accordance with the City of Corona's [Traffic Impact Study Guidelines](#) and consultation with City staff during the traffic study scoping process. (1) The City approved Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TA.

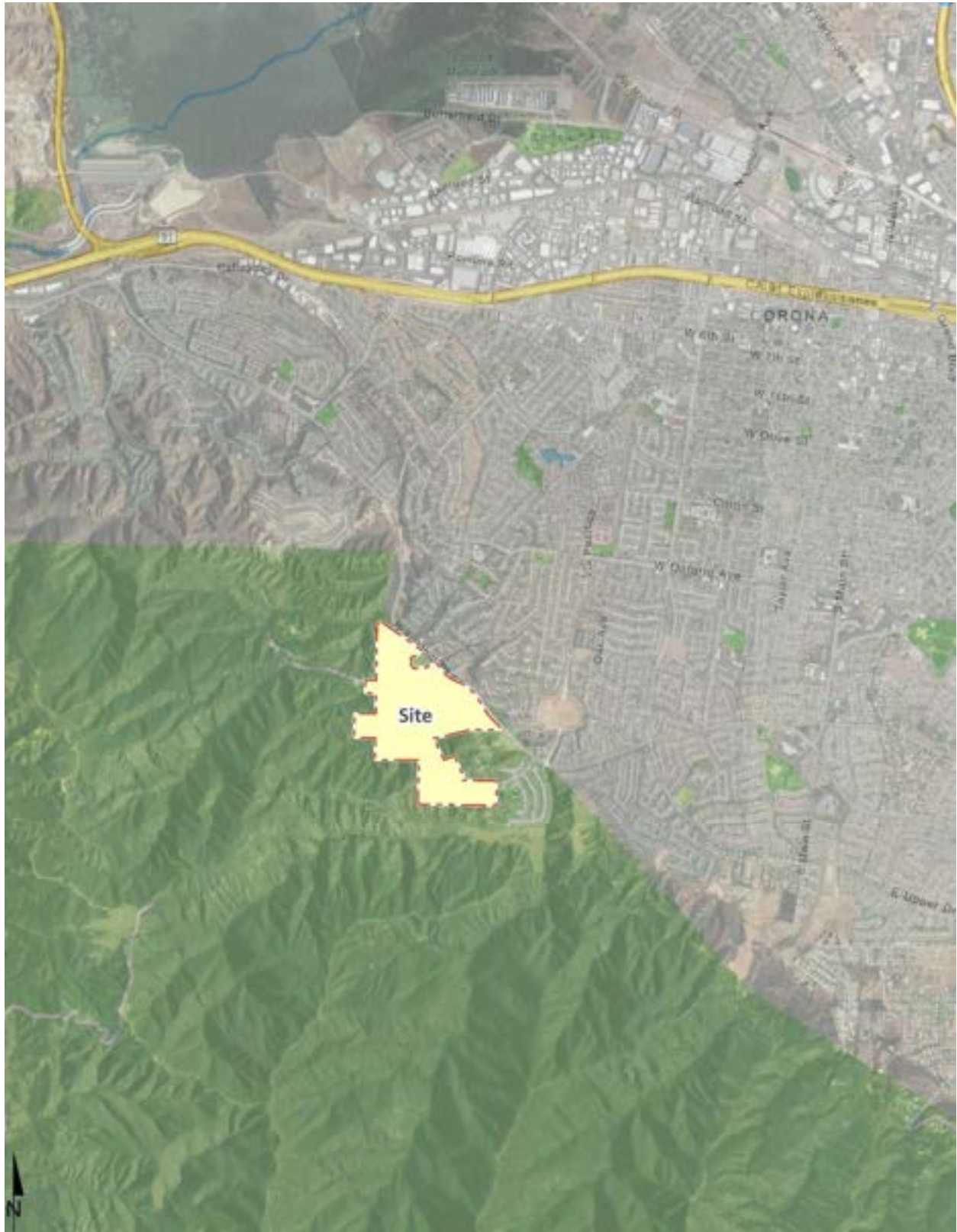
1.1 SUMMARY OF FINDINGS

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

- Project to construct a stop control for egress traffic at R Street & Foothill Parkway (#5).
- Project to construct egress and ingress lanes, to align with the existing traffic control and lane geometries, at B Street/Border Avenue & Foothill Parkway (#6), and modify the traffic signal as necessary to accommodate these changes.
- Project to construct traffic signals at Trudy Way & Foothill Parkway (#8) and Elysia Street & Foothill Parkway (#11).

Additional details and intersection lane geometrics are provided in Section 1.6 *Recommendations* of this report. The traffic study for the previously approved Skyline Heights TTM 36544 consists of the same design features as listed above.

EXHIBIT 1-1: LOCATION MAP



1.2 PROJECT OVERVIEW

The Project is proposing an amendment to the previously approved Skyline Heights EIR and TTM 36544 to revise the previously approved 292 single-family detached housing project, a revision to TTM 36544 (TTM 36544R1). The Project would continue to designate the Project site for development with up to 292 dwelling units, including 104 Low-Medium Density Residential (LMDR) dwelling units and 188 Low Density Residential (LDR) dwelling units. However, the Project's TTM applications would accommodate only up to 276 dwelling units (a reduction of 16 units from the approved Project). Specifically, TTM 36544R1 is a proposal to subdivide the 249.39-acre property into 95 numbered lots for development with single-family dwelling units, 49 lots that would be developed with 181 condominium units, and four lots for water quality/detention, slopes, open space, and parks. The TTM would create 181 residential units (104 8-cluster single-family detached housing units and 77 4-cluster single-family detached housing units) with a minimum lot area of 7,200 square feet on 122.4 gross acres within the northern and western portion of proposed TTM 36544R1 (i.e., within Phases I and III of TTM 36544R1).

A preliminary land use plan for the proposed Project is shown on Exhibit 1-2. Access to the Project site will be provided to Foothill Parkway via R Street, B Street (which aligns with Border Avenue), and an easterly connection that will join with the current westerly terminus of Trudy Way. The Project is proposed to be developed in a single phase with an anticipated opening year of 2028.

Regional access to the Project site is available from the SR-91 Freeway via Green River Road and Serfas Club Drive. Exhibit 1-2 depicts the location of the proposed Project in relation to the existing roadway network and the study area intersections.

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) for the Single Family Detached Housing land use category (ITE Land Use Code 210) have been utilized. (2) The Project is anticipated to generate a total of 2,604 two-way trip-ends per day with 194 AM peak hour trips, 260 PM peak hour trips, and 255 Saturday 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 LAND USE PLAN



1.3 ANALYSIS SCENARIOS

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

- Existing Conditions
- Existing plus Project (E+P)
- Opening Year Cumulative (2028) Without Project
- Opening Year Cumulative (2028) With Project

1.3.1 EXISTING CONDITIONS

Information for Existing conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared.

1.3.2 E+P CONDITIONS

The E+P analysis determines any potential circulation system deficiencies that would occur on the existing roadway system in the scenario of the Project being placed upon Existing conditions.

1.3.2 OPENING YEAR CUMULATIVE (2028) CONDITIONS

The Opening Year Cumulative (2028) conditions analysis determines the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth from Existing conditions of 10.41% is included for Opening Year Cumulative (2028) traffic conditions. This comprehensive list was compiled from information provided by both the City of Corona and County of Riverside and is consistent with other recent studies in the study area. Opening Year Cumulative (2028) traffic conditions have been evaluated.

1.4 STUDY AREA

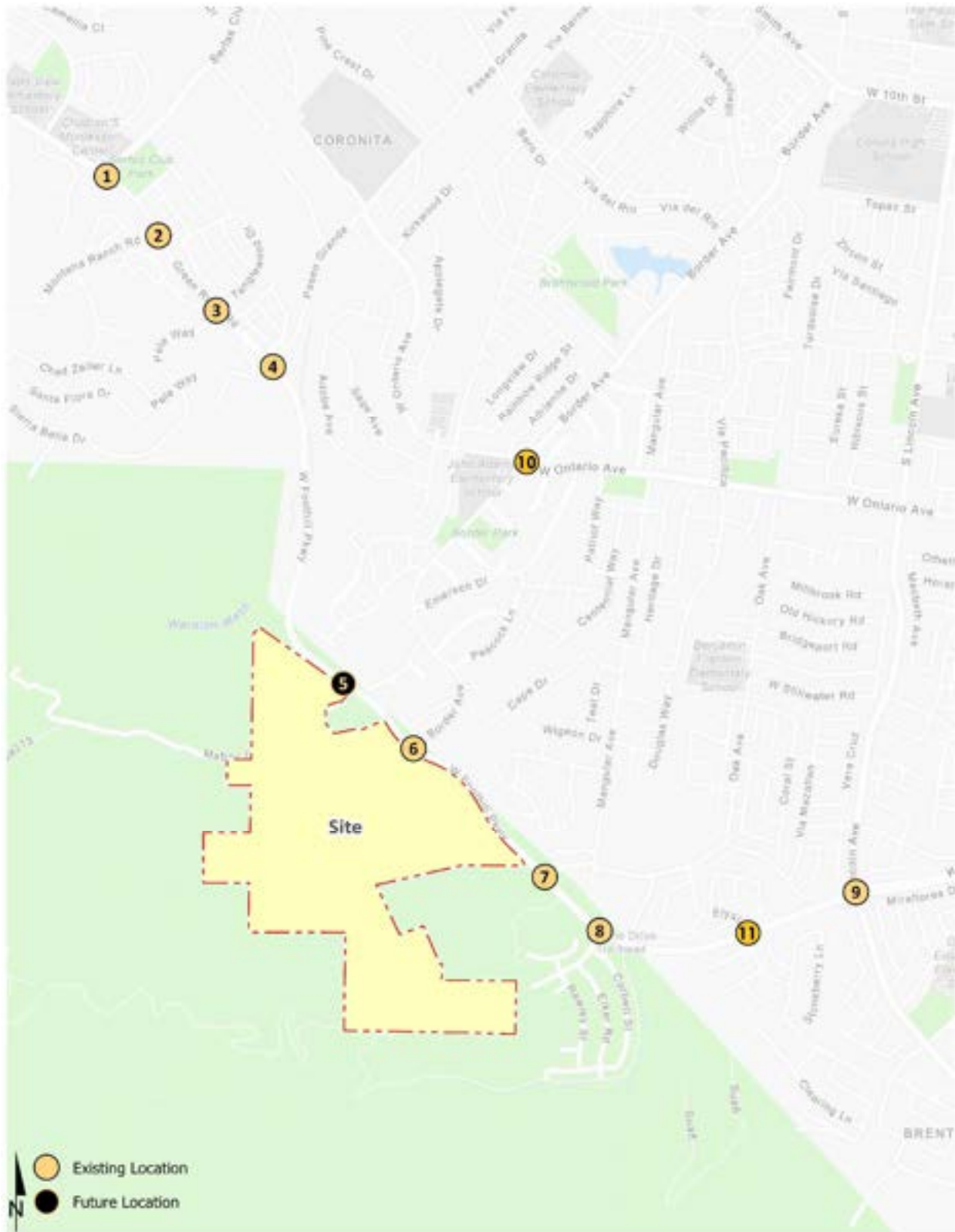
To ensure that this TA satisfies the City of Corona's traffic study requirements, Urban Crossroads, Inc. prepared a Project traffic study scoping package for review by City of Corona staff prior to the preparation of this report. This agreement provides an outline of the Project study area, trip generation,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

The 11 study area intersections shown on Exhibit 1-3 and listed in Table 1-1 were selected for evaluation in this TA based on consultation with City of Corona staff. At a minimum, the study area includes intersections where the Project is anticipated to contribute 50 or more peak hour trips per the City's traffic study guidelines. (1) The "50 peak hour trip" criteria represent a minimum number of trips at which a typical intersection would have the potential to be substantively affected by a given development proposal. The 50 peak hour trip criterion is a traffic engineering rule of thumb that is accepted and widely used within the City of Corona and throughout Riverside County for estimating a potential area of influence (i.e., study area).

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

#	Intersection	Jurisdiction
1	Serfas Club Dr. & Green River Rd.	City of Corona
2	Montana Ranch Rd. & Green River Rd.	City of Corona
3	Sierra Bella Dr./Tanglewood Dr. & Green River Rd.	City of Corona
4	Paseo Grande & Green River Rd.	City of Corona
5	R Street & Foothill Pkwy.	City of Corona
6	B Street/Border Av. & Foothill Pkwy.	City of Corona
7	Chase Dr. & Foothill Pkwy.	City of Corona
8	Trudy Wy. & Foothill Pkwy.	City of Corona
9	Lincoln Av. & Foothill Pkwy.	City of Corona
10	Border Av. & Ontario Av.	City of Corona
11	Elysia St. & Foothill Pkwy.	City of Corona

EXHIBIT 1-3: STUDY AREA



1.5 DEFICIENCIES

This section provides a summary of deficiencies by analysis scenario. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 3 *Area Conditions*, Section 5 *E+P Traffic Conditions* and Section 6 *Opening Year Cumulative (2028) Conditions* includes the detailed analysis. A summary of LOS results for all analysis scenarios is presented in Table 1-2.

1.5.1 EXISTING CONDITIONS

The intersection operations analysis results are summarized in Table 3-1, which indicates that the following study area intersection is anticipated to operate at an unacceptable LOS during the peak hours:

- Elysia Street & Foothill Parkway (#11) – LOS F AM and PM Weekday peak hours only

1.5.2 E+P CONDITIONS

With the addition of Project traffic, the following study area intersections are anticipated to operate at an unacceptable LOS during the peak hours under E+P traffic conditions:

- Trudy Way & Foothill Parkway (#8) – LOS E Weekday PM peak hour only
- Elysia Street & Foothill Parkway (#11) – LOS F AM and PM Weekday peak hours, LOS E Saturday mid-day peak hour

1.5.3 OPENING YEAR CUMULATIVE (2028) CONDITIONS

The following study area intersections are anticipated to continue to operate at an acceptable LOS during the peak hours under Opening Year Cumulative (2028) Without Project traffic conditions:

- Trudy Way & Foothill Parkway (#8) – LOS F Weekday PM peak hour only
- Elysia Street & Foothill Parkway (#11) – LOS F AM and PM Weekday peak hours, LOS F Saturday mid-day peak hour

With the addition of Project traffic, there are no additional study area intersections anticipated to operate at an unacceptable LOS during the peak hours, under Opening Year Cumulative (2028) With Project traffic conditions.

TABLE 1-2: SUMMARY OF INTERSECTION LOS

# Intersection	Existing				E+P				E+P With Improvements ¹				2028 Without Project				2028 With Project				2028 Without Project With Improvements ¹				2028 With Project With Improvements ¹							
	Weekday		Saturday		Weekday		Saturday		Weekday		Saturday		Weekday		Saturday		Weekday		Saturday		Weekday		Saturday		Weekday		Saturday		Weekday		Saturday	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
1 Serfas Club Dr. & Green River Rd.	C	B	B	B	C	C	B	B					C	C	C	B	D	C	C	B												
2 Montana Ranch Rd. & Green River Rd.	A	A	A	A	A	A	A	A					A	A	A	A	A	A	A	A												
3 Sierra Bella Dr./Tanglewood Dr. & Green River Rd.	A	A	A	A	A	A	A	A					A	A	A	A	A	B	A	A												
4 Paseo Grande & Green River Rd.	B	B	B	B	B	B	B	B					B	B	B	B	B	B	B	B												
5 R Street & Foothill Pkwy.	Future Intersection				B	D	B	C					Future Intersection				C	D	B	C												
6 B Street/Border Av. & Foothill Pkwy.	A	A	A	A	B	B	B	B					A	A	A	A	B	B	B	B												
7 Chase Dr. & Foothill Pkwy.	A	A	A	A	A	A	A	A					A	A	A	A	A	A	A	A												
8 Trudy Wy. & Foothill Pkwy.	B	D	A	B	B	E	A	B	A	A	A	A	C	F	A	B	C	F	A	C	A	A	A	A	A	A	A	A	A	A		
9 Lincoln Av. & Foothill Pkwy.	C	C	B	B	C	C	B	B					C	C	B	C	C	C	C	C												
10 Border Av. & Ontario Av.	B	B	N/A		C	B	N/A						D	B	N/A		D	B	N/A													
11 Elysia St. & Foothill Pkwy.	F	F	B	D	F	F	B	E	A	A	A	A	F	F	B	F	F	F	C	F	A	A	A	A	A	A	A	A	A	A		

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

¹ LOS results have been provided for intersections that have identified improvements.

1.5.4 COMPARISON TO THE PREVIOUSLY APPROVED TRAFFIC STUDY

It should also be noted that the traffic study findings (LOS results) in the latest analysis scenario for the previously approved Skyline Heights tentative tract map (TTM 36544) (Year 2035 With Project traffic conditions) are consistent with the LOS results presented in Table 1-2, with the exception of the following intersections which are no longer anticipated to operate at a deficient LOS:

- Serfas Club Drive & Green River Road (#1): Previously anticipated to operate at LOS E during the weekday PM peak hour only. It should be noted that this previously identified deficiency did not occur until 2035 traffic conditions, whereas the intersection was anticipated to operate at an acceptable LOS under the opening year traffic conditions.
- Lincoln Avenue & Foothill Parkway (#9): Previously anticipated to operate at LOS E during the weekday AM and PM peak hours. It should be noted that this previously identified deficiency did not occur until 2035 traffic conditions, whereas the intersection was anticipated to operate at an acceptable LOS under the opening year traffic conditions.
- Border Avenue & Ontario Avenue (#10): Previously anticipated to operate at LOS F during the weekday AM and PM peak hours.

1.6 RECOMMENDATIONS

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

1.6.1 SITE ADJACENT AND SITE ACCESS RECOMMENDATIONS

Recommendation 1 – R Street & Foothill Parkway (#5) – The following improvement is necessary to accommodate site access:

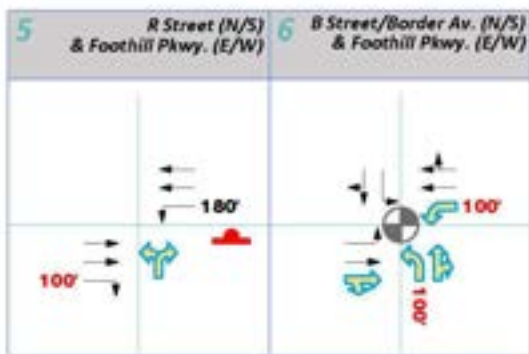
- Project to install a stop control on the northbound approach (Project driveway) and construct a shared left-right turn lane.

Recommendation 2 – B Street/Border Avenue & Foothill Parkway (#6) – The following improvements are necessary to accommodate site access:

- Project to construct a northbound left turn lane with a minimum of 100-feet of storage and a shared through-right turn lane.
- Project to modify a westbound left turn lane with a minimum of 100-feet of storage.
- Project to modify the traffic signal as necessary to accommodate these changes.

Recommendation 3 – Foothill Parkway is an east-west oriented roadway located along the Project's northern boundary. According to the City of Corona General Plan, Foothill Parkway is currently built to its ultimate half-section width along the Project's frontage. Roadway, curb and gutter, sidewalk, and landscaping improvements on the south side of Foothill Parkway shall be made as required by the final Conditions of Approval for the Project and the City of Corona standards.

EXHIBIT 1-4: SITE ACCESS RECOMMENDATIONS



- = Existing Intersection Analysis Location
- = Future Intersection Analysis Location
- = Existing Traffic Signal
- = Stop Sign Improvement
- = Existing Lane
- = Lane Improvement
- 100'** = Recommended Turn Pocket Length
- N/S** = North/South Roadway
- E/W** = East/West Roadway

1.6.2 OFF-SITE RECOMMENDATIONS

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

The traffic study for the previously approved Skyline Heights TTM 36544 consists of the same recommended improvements, with the exception of the previously recommended installation of a traffic signal at Border Avenue and Ontario Avenue (#10). This improvement is no longer recommended as the intersection is anticipated to operate at an acceptable LOS and does not warrant a traffic signal under any analysis scenarios.

1.6.3 QUEUING ANALYSIS

A queuing analysis was conducted at the study area intersections for Opening Year Cumulative (2028) With Project traffic conditions to determine the turn pocket lengths necessary to accommodate 95th percentile queues. The analysis was conducted for the weekday AM and weekday PM peak hours. The results have been provided in Appendix 1.2. Based on the results of the queuing analysis, no queuing issues are anticipated at the Project driveway 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. The 95th percentile queue is derived from the average queue plus 1.65 standard deviations. The 95th percentile queue is not necessarily ever observed; it is simply based on statistical calculations (or Average Queue plus 1.65 standard deviations). Many agencies utilize the 95th percentile queues for design purposes. A vehicle is considered queued whenever it is traveling at less than 10 feet/second. The random simulations generated by SimTraffic have been utilized to determine the 95th percentile queue lengths observed for each turn movement. A SimTraffic simulation has been recorded five (5) times, during the weekday AM and weekday PM peak hours, and has been seeded for 30-minute periods with 60-minute recording intervals.

1.6.4 SATURDAY TRAFFIC AND TRAIL ACTIVITY OBSERVATIONS

Traffic counts and field observations were conducted on a Saturday at Foothill Parkway near Trudy Way to evaluate activity associated with the Skyline Trailhead. Trail access is located just East of Trudy Way. During the peak observation period, 50–60 vehicles were parked along Foothill Parkway between Trudy Way and Elysia Street. Pedestrian and bicycle activity was observed throughout the area, with approximately 90% of this activity identified as trail-related. Trail users parked along the southern side of Foothill Parkway, from approximately 400 feet west of Chase Drive to approximately 400 feet west of Elysia Street.

Despite the high level of trail-related activity, vehicular traffic along Foothill Parkway remained clear, with no congestion or queuing observed at study area intersections during the counts.

TABLE 1-3: SUMMARY OF IMPROVEMENTS

#	Intersection Location	Jurisdiction	Existing (2023)	E+P	2028 Without Project	2028 With Project	Project Responsibility	Improvements in DIF ^{1,2}
5	R Street & Foothill Pkwy.	City of Corona	None	Install a stop control on the northbound approach (Project driveway)	Not Applicable	Same as E+P	Construct	No
				Construct a northbound shared left-right turn lane	Not Applicable	Same as E+P	Construct	No
6	B Street/Border Av. & Foothill Pkwy.	City of Corona	None	Construct a northbound left turn lane	Not Applicable	Same as E+P	Construct	No
				Construct a northbound shared through-right turn lane	Not Applicable	Same as E+P	Construct	No
				Construct a westbound left turn lane	Not Applicable	Same as E+P	Construct	No
				Restripe outside eastbound through lane as a shared through-right turn lane Modify the traffic signal as necessary to accommodate the other changes.	Not Applicable	Same as E+P	Construct	No
8	Trudy Wy. & Foothill Pkwy.	City of Corona	None	Construct a traffic signal	Same	Same	Construct	No
11	Elysia St. & Foothill Pkwy.	City of Corona	Construct a traffic signal	Same	Same	Same	Construct	No

¹ Improvements included in regional/City 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 the discretion of the City.

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2 METHODOLOGIES

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

2.1 LEVEL OF SERVICE

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

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The 6th Edition [Highway Capacity Manual](#) (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (4) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Corona and Caltrans require signalized intersection operations analysis based on the methodology described in the HCM. (4) Intersection LOS operations are based on an intersection's average control delay. Control delays include initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is related to the average control delay per vehicle and is correlated to a LOS designation as described in Table 2-1.

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

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

Source: HCM, 6th Edition

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

The traffic modeling and signal timing optimization software package Synchro (Version 11) 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.

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

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Corona requires the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (4) 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, 6th Edition

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

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by the California Department of Transportation (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). (5)

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

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

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

#	Intersection	Jurisdiction
5	R Street & Foothill Pkwy.	City of Corona
8	Trudy Wy. & Foothill Pkwy.	City of Corona
11	Elysia St. & Foothill Pkwy.	City of Corona

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

2.4 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

Per the City of Corona General Plan, intersections should maintain Level of Service D or better on arterial streets in the City. Develop and maintain a list of locations where LOS E or LOS F are considered acceptable and would be exempt from this level of service policy. (6) Considerations for LOS exemption includes lack of available right-of-way, environmental constraints, or other modes of travel (such as bicycle or pedestrians).

Key locations identified for LOS exemption are:

- Green River Road at SR-91
- Lincoln Avenue at SR-91
- Main Street at SR-91
- Sixth Street, between East Grand Boulevard and West Grand Boulevard
- McKinley Avenue at SR-91
- Hidden Valley Parkway at I-15
- Magnolia Avenue at I-15
- Ontario Avenue at I-15
- El Cerrito Road at I-15
- Cajalco Road at I-15
- Weirick Road at I-15

- Other locations as approved by the City

For the purposes of this traffic analysis, LOS D has been utilized as the acceptable LOS standard for study area intersections, including the SR-91 Freeway/Green River Road interchange in order to conduct a conservative analysis. However, the City’s General Plan identifies an LOS exemption at Green River Road at the SR-91 Freeway.

2.5 DEFICIENCY CRITERIA

This section outlines the methodology used in this analysis related to identifying circulation system deficiencies. The following deficiency criteria have been utilized. 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). 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.

2.6 PROJECT FAIR SHARE CALCULATION METHODOLOGY

Improvements found to be included in the Transportation Uniform Mitigation Fee (TUMF) and/or Development Impact Fee (DIF) program 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 contribution is determined based on the following equations, consistent with the City’s traffic study guidelines:

P = Project Fair Share (in percent)
D(p) = Project only delay increase (seconds/vehicle) of the intersection (or ADT for links) during the critical peak hour.
D(t) = Total delay of the intersection (or ADT for links) during the critical peak hour including that generated by the project.
D(a) = Total delay of the intersection (or ADT for links) during the critical peak hour under acceptable LOS condition as defined in Section 5.1 per the Highway Capacity Manual.

$$P = [D(p) / (D(t) - D(a))] * 100$$

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3 AREA CONDITIONS

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

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the scoping agreement with City of Corona staff (Appendix 1.1), the study area includes a total of 11 existing and future intersections as shown previously on Exhibit 1-3, where the Project is anticipated to contribute 50 or more peak hour trips. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF CORONA GENERAL PLAN CIRCULATION ELEMENTS

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

Major Arterials (4 Lane) are four-lane divided roadways (divided by a 14-foot raised median) with a 106-foot right-of-way and 82-foot curb-to-curb measurement. The following study area roadways are classified as a Major Arterial (4 Lane):

- Green River Road, from Palisades Drive to Paseo Grande
- Serfas Club Drive, south of SR-91
- Ontario Avenue, from Mangular Avenue to Buena Vista Avenue
- Lincoln Avenue, from Ontario Avenue to Mountain Gate Drive

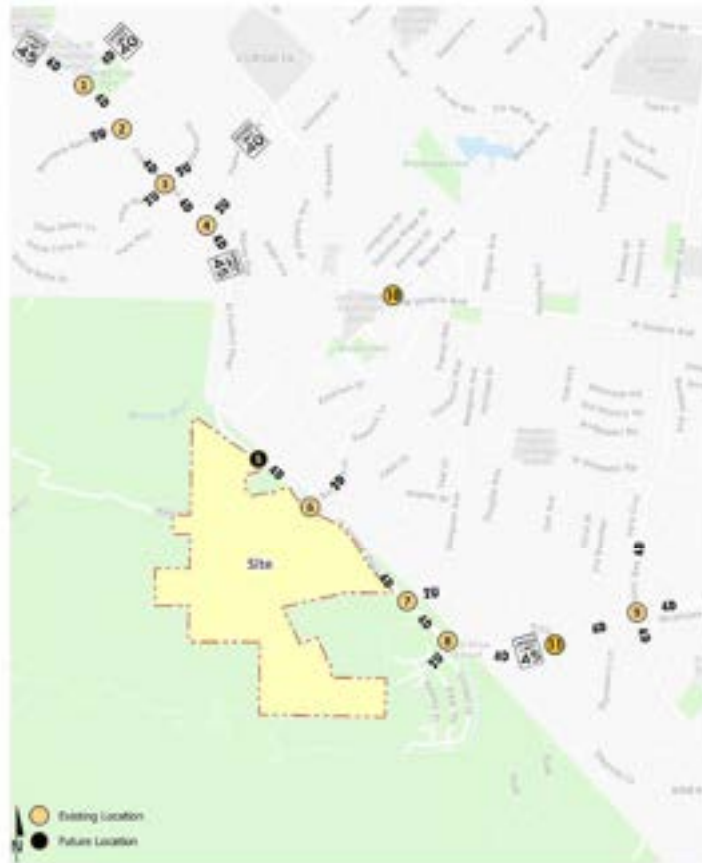
Secondary Arterials are four-lane roadways with a 88-foot right-of-way and 64-foot curb-to-curb measurement. The following study area roadways within the City of Corona are classified as Secondary Arterials:

- Foothill Parkway
- Lincoln Avenue, north of Ontario Avenue

Collector Streets are two-lane undivided roadways with a 68-foot right-of-way and 44-foot curb-to-curb measurement. The following study area roadways within the City of Corona are classified as Collector Streets:

- Palisades Drive
- Paseo Grande
- Border Avenue
- Serfas Club Drive
- Chase Drive

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



1	2	3	4	5
Serfas Club Dr. (N/S) & Green River Rd. (E/W)	Montana Ranch Rd. (N/S) & Green River Rd. (E/W)	Sierra Bella Dr. / Tangiewood Dr. (N/S) & Green River Rd. (E/W)	Paseo Grande (N/S) & Green River Rd. (E/W)	# Street (N/S) & Foothill Pkwy. (E/W)
6	7	8	9	10
# Street / Border Av. (N/S) & Foothill Pkwy. (E/W)	Chase Dr. (N/S) & Foothill Pkwy. (E/W)	Trudy Wy. (N/S) & Foothill Pkwy. (E/W)	Lincoln Av. (N/S) & Foothill Pkwy. (E/W)	Border Av. (N/S) & Ontario Av. (E/W)
11				
Elysia St. (N/S) & Foothill Pkwy. (E/W)	<ul style="list-style-type: none"> 1 = Number of Lanes ⊕ = Divided 45 = Speed Limit (MPH) ⊙ = Traffic Signal ⊞ = All Way Stop ⬢ = Existing Stop Sign — = Existing Lane N/S = North/South Roadway E/W = East/West Roadway 			

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

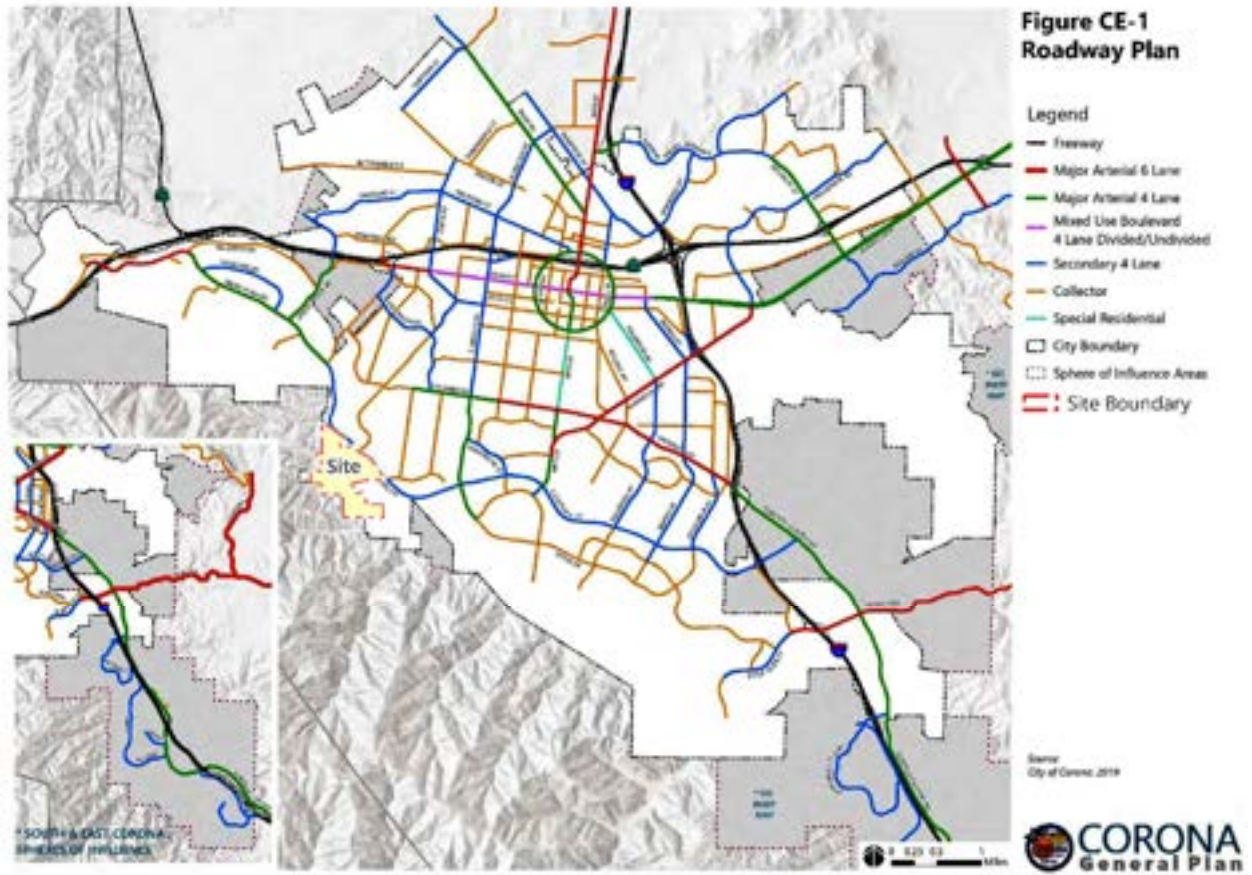


EXHIBIT 3-3: CITY OF CORONA GENERAL PLAN ROADWAY CROSS-SECTIONS (PAGE 1 OF 2)

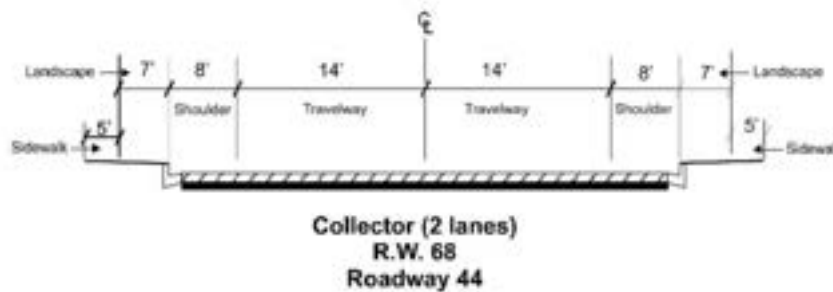
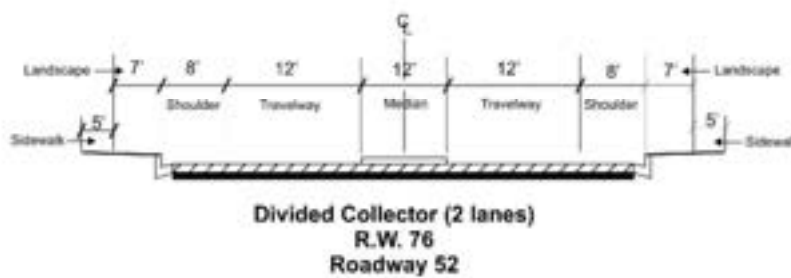
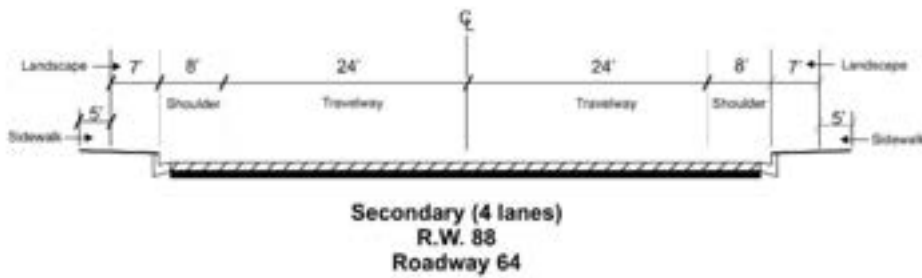
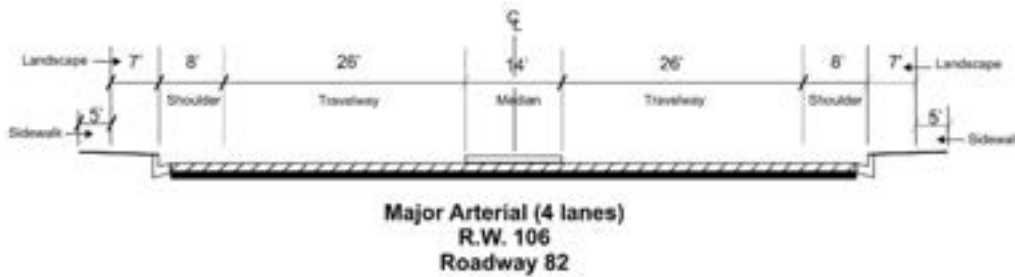
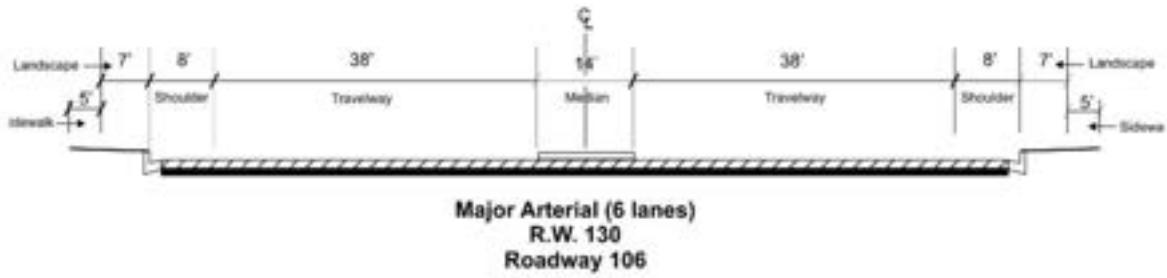
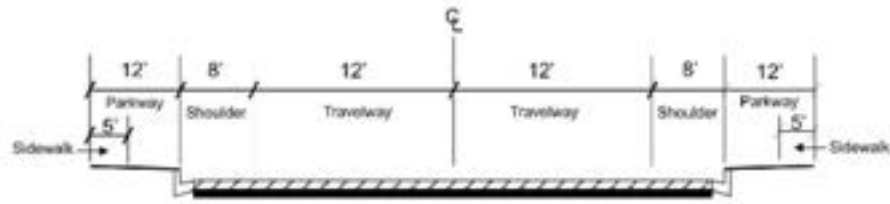
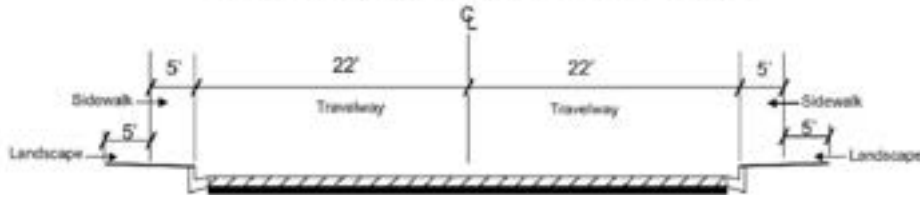


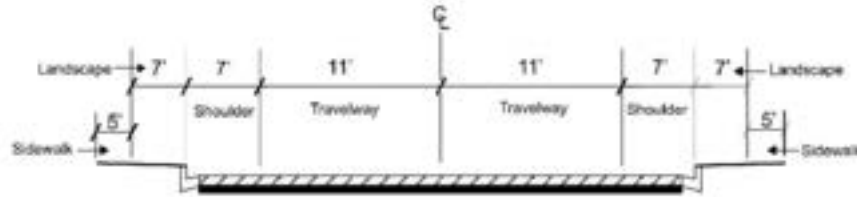
EXHIBIT 3-3: CITY OF CORONA GENERAL PLAN ROADWAY CROSS-SECTIONS (PAGE 2 OF 2)



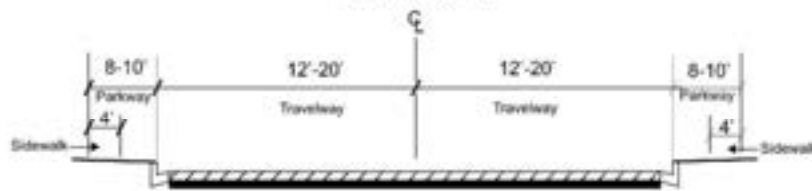
Local Street
R.W. 64
Roadway 40
 Note: See local residential street Planning Policy 6.1.10



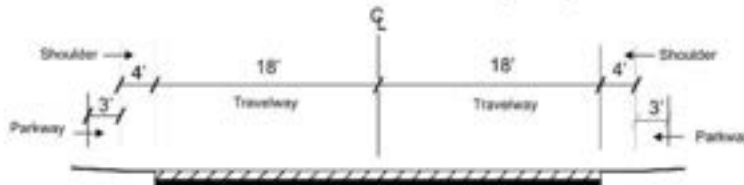
Local Industrial
R.W. 64
Roadway 44



Cul-De-Sac
R.W. 60
Roadway 36



Private Residential Street
R.W. 40-60
Roadway 24-40
 Note: See local residential street Planning Policy 6.1.10



Rural Road (Traffic Volume)
R.W. 50
Roadway 36
 Note: See local residential street Planning Policy 6.1.10

3.3 BICYCLE & PEDESTRIAN FACILITIES

The City of Corona existing and proposed bike trails are shown on Exhibit 3-4. There are existing Class II bike lanes along Green River Road and Foothill Parkway from Palisades Drive to Lincoln Avenue. Class II bike lanes are striped and signed, on-street bike lanes. Exhibit 3-5 illustrates the existing pedestrian facilities, including sidewalks and crosswalks. As shown on Exhibit 3-5, there are pedestrian and bicycle facilities within the vicinity of the Project site.

A high level of pedestrian and bicycle activity associated with the Skyline Trailhead was observed near Trudy Way throughout the area. Trail access is located just East of Trudy Way. Trail users parked along the southern side of Foothill Parkway, from approximately 400 feet west of Chase Drive to approximately 400 feet west of Elysia Street. Despite the high level of trail-related activity, vehicular traffic along Foothill Parkway remained clear, with no congestion or queuing observed at study area intersections during the counts.

3.4 TRANSIT SERVICE

The City of Corona is currently served by Riverside Transit Agency (RTA) and the Corona Cruiser. The transit services are illustrated on Exhibit 3-6. As shown on Exhibit 3-6, there are no RTA routes within the study area. The Corona Cruiser's Red Line runs partially along Border Avenue, north of Kroonen Drive, with its nearest bus stop approximately 1-mile north of the Project site. Transit service is reviewed and updated by RTA and the City of Corona 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.

3.5 EXISTING TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in April 2023 and September 2024. 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)
- Saturday AM Peak Hour (peak hour between 7:00 AM and 10:00 AM)
- Saturday mid-day Peak Hour (peak hour between 11:00 AM and 2:00 PM)

The existing weekday AM, weekday PM, Saturday AM, and Saturday mid-day peak hour count data is representative of typical peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules. As such, no additional adjustments were made to the traffic counts to establish the baseline condition. The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

EXHIBIT 3-4: CITY OF CORONA GENERAL PLAN EXISTING AND PROPOSED BIKE TRAILS

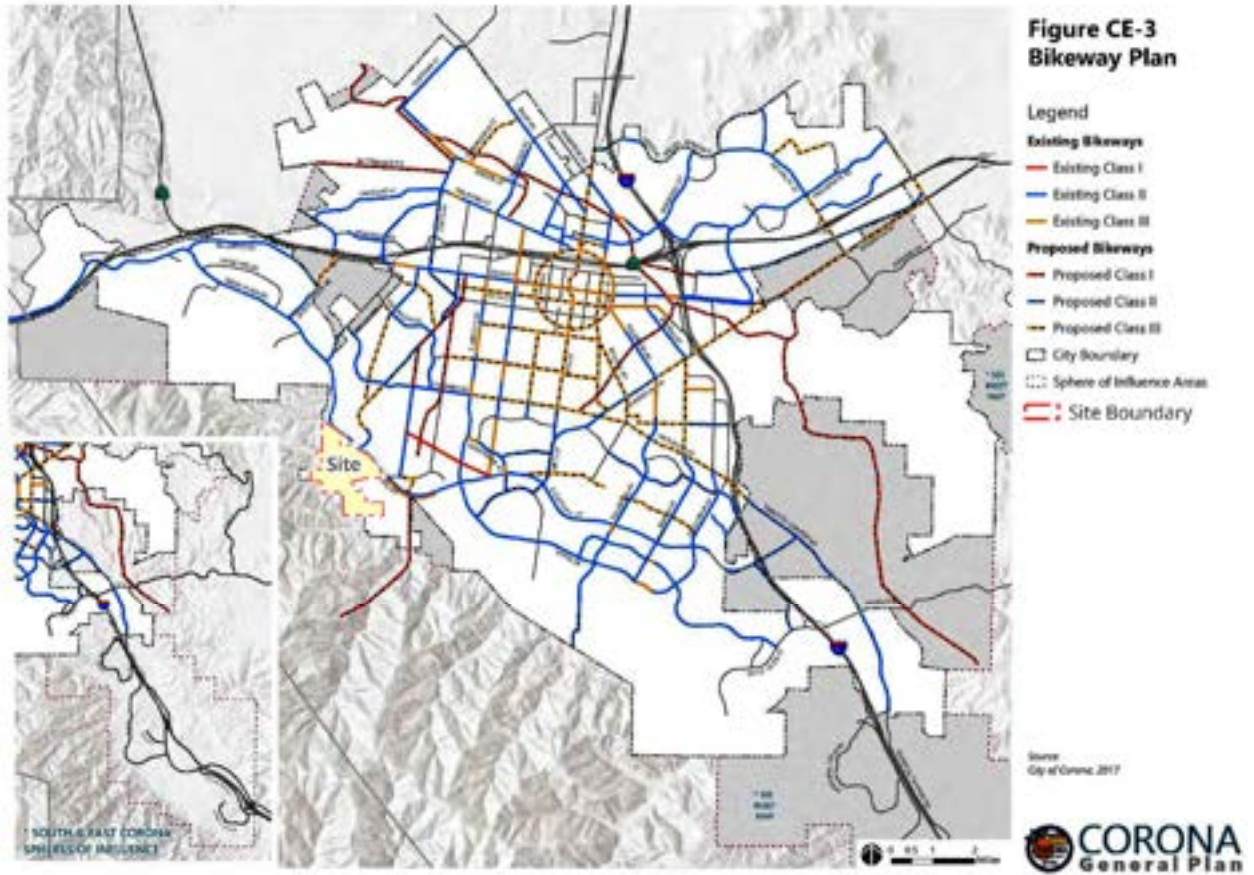


EXHIBIT 3-5: EXISTING PEDESTRIAN FACILITIES



EXHIBIT 3-6: EXISTING TRANSIT ROUTES



Existing weekday ADT volumes, in actual vehicles, are shown on Exhibit 3-7. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 10.23 = \text{Leg Volume}$$

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 9.77 percent. As such, the above equation utilizing a factor of 10.23 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 9.77 percent (i.e., $1/0.0977 = 10.23$) and was assumed to sufficiently estimate ADT volumes for planning-level analyses. Existing weekday peak hour intersection volumes are also shown on Exhibit 3-7. Existing Saturday peak hour intersection volumes are shown on Exhibit 3-8.

3.6 EXISTING 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 the following study area intersection is currently operating at an acceptable LOS during the peak hours:

- Elysia Street & Foothill Parkway (#11) – LOS F Weekday AM and PM peak hours

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

TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING CONDITIONS

# Intersection	Traffic Control ²	Weekday				Saturday			
		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
		AM	PM	AM	PM	AM	MD	AM	PM
1 Serfas Club Dr. & Green River Rd.	TS	24.6	19.6	C	B	18.7	18.0	B	B
2 Montana Ranch Rd. & Green River Rd.	TS	7.5	8.1	A	A	6.8	7.6	A	A
3 Sierra Bella Dr./Tanglewood Dr. & Green River Rd.	TS	9.4	9.1	A	A	8.7	7.6	A	A
4 Paseo Grande & Green River Rd.	TS	15.2	11.3	B	B	12.4	12.5	B	B
5 R Street & Foothill Pkwy.		Future Intersection				Future Intersection			
6 B Street/Border Av. & Foothill Pkwy.	TS	8.3	4.9	A	A	5.7	4.7	A	A
7 Chase Dr. & Foothill Pkwy.	TS	7.0	4.7	A	A	5.7	4.8	A	A
8 Trudy Wy. & Foothill Pkwy.	AWS	13.3	32.4	B	D	9.0	13.0	A	B
9 Lincoln Av. & Foothill Pkwy.	TS	23.1	23.9	C	C	18.9	19.7	B	B
10 Border Av. & Ontario Av.	AWS	21.1	12.7	B	B	Not Analyzed			
11 Elysia St. & Foothill Pkwy.	AWS	86.2	>100.0	F	F	12.2	32.7	B	D

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

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

EXHIBIT 3-7: EXISTING WEEKDAY TRAFFIC VOLUMES

1	Serfas Club Dr. (N/S) & Green River Rd. (E/W)	2	Montana Ranch Rd. (N/S) & Green River Rd. (E/W)	3	Sierra Bella Dr./Tanglewood Dr. (N/S)	4	Paseo Grande (N/S) & Green River Rd. (E/W)																																																																																																			
	<table border="1"> <tr> <td>141(220)</td> <td>↑</td> <td>249(109)</td> </tr> <tr> <td>↓</td> <td>←</td> <td>1167(440)</td> </tr> <tr> <td>14(38)</td> <td>←</td> <td>11(15)</td> </tr> <tr> <td>45(371)</td> <td>←</td> <td></td> </tr> <tr> <td>254(177)</td> <td>←</td> <td></td> </tr> <tr> <td>384(1191)</td> <td>→</td> <td></td> </tr> <tr> <td>3(11)</td> <td>↓</td> <td></td> </tr> <tr> <td></td> <td>↑</td> <td>5(10)</td> </tr> <tr> <td></td> <td>→</td> <td>40(15)</td> </tr> <tr> <td></td> <td>↑</td> <td>22(10)</td> </tr> </table>	141(220)	↑	249(109)	↓	←	1167(440)	14(38)	←	11(15)	45(371)	←		254(177)	←		384(1191)	→		3(11)	↓			↑	5(10)		→	40(15)		↑	22(10)		<table border="1"> <tr> <td></td> <td>↑</td> <td>1205(450)</td> </tr> <tr> <td></td> <td>↑</td> <td>16(24)</td> </tr> <tr> <td>424(1572)</td> <td>→</td> <td></td> </tr> <tr> <td>34(78)</td> <td>↓</td> <td></td> </tr> <tr> <td></td> <td>↑</td> <td>97(40)</td> </tr> <tr> <td></td> <td>↑</td> <td>40(25)</td> </tr> </table>		↑	1205(450)		↑	16(24)	424(1572)	→		34(78)	↓			↑	97(40)		↑	40(25)		<table border="1"> <tr> <td>11(6)</td> <td>↓</td> <td>18(19)</td> </tr> <tr> <td>0(2)</td> <td>↓</td> <td>1135(432)</td> </tr> <tr> <td>43(17)</td> <td>←</td> <td>17(30)</td> </tr> <tr> <td>4(8)</td> <td>←</td> <td></td> </tr> <tr> <td>430(1510)</td> <td>↓</td> <td></td> </tr> <tr> <td>27(66)</td> <td>↓</td> <td></td> </tr> <tr> <td></td> <td>↑</td> <td>80(38)</td> </tr> <tr> <td></td> <td>↑</td> <td>1(3)</td> </tr> <tr> <td></td> <td>↑</td> <td>24(22)</td> </tr> </table>	11(6)	↓	18(19)	0(2)	↓	1135(432)	43(17)	←	17(30)	4(8)	←		430(1510)	↓		27(66)	↓			↑	80(38)		↑	1(3)		↑	24(22)		<table border="1"> <tr> <td>197(121)</td> <td>↓</td> <td>54(7)</td> </tr> <tr> <td>30(32)</td> <td>←</td> <td>1060(363)</td> </tr> <tr> <td></td> <td>↑</td> <td>1(1)</td> </tr> <tr> <td>208(140)</td> <td>←</td> <td></td> </tr> <tr> <td>296(1368)</td> <td>↓</td> <td></td> </tr> <tr> <td>1(2)</td> <td>↓</td> <td></td> </tr> <tr> <td></td> <td>↑</td> <td>0(1)</td> </tr> <tr> <td></td> <td>↑</td> <td>1(0)</td> </tr> </table>	197(121)	↓	54(7)	30(32)	←	1060(363)		↑	1(1)	208(140)	←		296(1368)	↓		1(2)	↓			↑	0(1)		↑	1(0)
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##(##) AM(PM) Weekday Peak Hour Intersection Volumes

Average Daily Trips

(N/S) North/South Roadway

(E/W) East/West Roadway

EXHIBIT 3-8: EXISTING SATURDAY TRAFFIC VOLUMES

<p>1 Serfas Club Dr. (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>↓ 143(174)</td> <td>← 10(21)</td> <td>↖ 88(260)</td> <td>↑ 172(136)</td> </tr> <tr> <td>↙ 171(177)</td> <td>↘ 303(783)</td> <td>↗ 3(7)</td> <td>↖ 2(5)</td> </tr> <tr> <td>↖ 10(8)</td> <td>↗ 29(21)</td> <td>↘ 14(10)</td> <td>↙ 505(511)</td> </tr> </table>	↓ 143(174)	← 10(21)	↖ 88(260)	↑ 172(136)	↙ 171(177)	↘ 303(783)	↗ 3(7)	↖ 2(5)	↖ 10(8)	↗ 29(21)	↘ 14(10)	↙ 505(511)	<p>2 Montana Ranch Rd. (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>↑ 583(553)</td> <td>↖ 13(32)</td> </tr> <tr> <td>↙ 351(1007)</td> <td>↘ 35(44)</td> </tr> <tr> <td>↗ 63(49)</td> <td>↖ 22(17)</td> </tr> </table>	↑ 583(553)	↖ 13(32)	↙ 351(1007)	↘ 35(44)	↗ 63(49)	↖ 22(17)	<p>3 Sierra Bella Dr./Tanglewood Dr. (N/S)</p> <table border="1"> <tr> <td>↓ 5(7)</td> <td>← 0(1)</td> <td>↖ 20(9)</td> <td>↑ 11(15)</td> </tr> <tr> <td>↙ 5(7)</td> <td>↘ 328(934)</td> <td>↗ 29(40)</td> <td>↖ 54(30)</td> </tr> <tr> <td>↖ 10(22)</td> <td>↗ 1(1)</td> <td>↘ 12(20)</td> <td>↙ 526(550)</td> </tr> </table>	↓ 5(7)	← 0(1)	↖ 20(9)	↑ 11(15)	↙ 5(7)	↘ 328(934)	↗ 29(40)	↖ 54(30)	↖ 10(22)	↗ 1(1)	↘ 12(20)	↙ 526(550)	<p>4 Paseo Grande (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>↓ 107(114)</td> <td>← 0(1)</td> <td>↖ 25(26)</td> <td>↑ 11(11)</td> </tr> <tr> <td>↙ 72(102)</td> <td>↘ 312(879)</td> <td>↗ 1(2)</td> <td>↖ 1(1)</td> </tr> <tr> <td>↖ 1(1)</td> <td>↗ 0(1)</td> <td>↘ 456(466)</td> <td>↙ 11(11)</td> </tr> </table>	↓ 107(114)	← 0(1)	↖ 25(26)	↑ 11(11)	↙ 72(102)	↘ 312(879)	↗ 1(2)	↖ 1(1)	↖ 1(1)	↗ 0(1)	↘ 456(466)	↙ 11(11)
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##(##) AM(Mid Day) Saturday Peak Hour Intersection Volumes
 (N/S) North/South Roadway
 (E/W) East/West Roadway

3.7 EXISTING 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 warrants a traffic signal for Existing traffic conditions:

- Elysia St. & Foothill Pkwy. (#11)

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

3.8 DEFICIENCIES AND IMPROVEMENTS

Improvement strategies have been identified at intersections that have been identified as deficient under Existing traffic conditions in an effort to achieve an acceptable LOS. The effectiveness of the recommended improvement strategies to address Existing traffic deficiencies are presented in Table 3-2. Worksheets for Existing traffic conditions, with improvements, HCM calculation worksheets are provided in Appendix 3.4.

TABLE 3-2: INTERSECTION ANALYSIS FOR EXISTING CONDITIONS WITH IMPROVEMENTS

	Traffic Control ³	Intersection Approach Lanes ¹												Weekday		Saturday					
		Northbound			Southbound			Eastbound			Westbound			Delay ¹ (secs.)		Level of Service					
		L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM				
11 Elysia St. & Foothill Pkwy.	TS	0	1	0	1	1	0	1	2	1	1	2	0	6.6	8.1	A	A	5.0	4.8	A	A

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

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

L = Left; T = Through; R = Right

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

³ CSS = Cross-street Stop; **CSS** = Improvement

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4 PROJECTED FUTURE TRAFFIC

The Project is proposing an amendment to the previously approved Skyline Heights EIR and tentative tract map (TTM 36544) to revise the previously approved 292 single family detached housing project with 95 single family detached housing units (on 7,200 square foot lots), 104 8-cluster single family detached housing units and 77 4-cluster single family detached housing units for a total of 276 units or a reduction of 16 units from the approved Project.

A preliminary land use plan for the proposed Project is shown previously on Exhibit 1-2. Access to the Project site will be provided to Foothill Parkway via R Street, B Street (which aligns with Border Avenue), and an easterly connection that will join with the current westerly terminus of Trudy Way. The Project is proposed to be developed in a single phase with an anticipated opening year of 2028.

4.1 PROJECT TRIP GENERATION

4.1.1 PROPOSED PROJECT

Trip generation represents the amount of traffic that is attracted and produced by a development and is based upon the specific land uses planned for a given project. Trips generated by the Project’s proposed land uses have been calculated based on trip generation rates collected by the ITE Trip Generation Manual, 11th Edition, 2021 for the Single Family Detached Housing land use category (ITE Land Use Code 210). (2)

The Project consists of 181 multi-family dwelling units; however, the single-family detached housing rate has been applied. Since the dwelling units are detached, the Single-Family Detached Housing ITE rate (ITE Land Use Code 210) is the most appropriate rate to use. It should also be noted that this rate is more conservative than the ITE rates for other types of multi-family housing.

The proposed Project trip generation rates are shown in Table 4-1. The Project is anticipated to generate a total of 2,604 trip-ends per day with 194 AM peak hour trips, 260 PM peak hour trips, and 255 Saturday peak hour trips, as shown in Table 4-1.

TABLE 4-1: PROJECT TRIP GENERATION SUMMARY

Land Use ¹	ITE LU Code	Units ²	AM Peak Hour			Weekday PM Peak Hour			Daily	Saturday Peak Hour		
			In	Out	Total	In	Out	Total		In	Out	Total
Trip Generation Rates:												
Single Family Detached Housing	210	DU	0.18	0.52	0.70	0.59	0.35	0.94	9.43	0.50	0.42	0.92
Land Use	Quantity	Units ²	AM Peak Hour			Weekday PM Peak Hour			Daily	Saturday Peak Hour		
Project Trip Generation:												
TTM No. 36544R1	276	DU	51	143	194	164	96	260	2,604	138	117	255

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

² DU = Dwelling Unit

4.1.2 CURRENTLY APPROVED PROJECT

The trip generation anticipated for the proposed Project, as discussed in Section 4.1.1 *Proposed Project*, has been compared to the trip generation from the currently approved project for informational purposes. The Skyline Heights Environmental Impact Report (EIR) (certified February 1, 2017, hereafter referred to as the "Approved Project") assumed the development of 292 single family residential dwelling units.

The trip-generation for the Approved Project is obtained from the Skyline Heights Traffic Impact Analysis Report, July 16, 2013, prepared by Linscott, Law & Greenspan, Engineers (LLG), hereafter referred to as the "2013 Traffic Study." Based on the 2013 Traffic Study, the Approved Project is anticipated to generate 2,780 trip-ends per day, with 219 AM peak hour trips and 292 PM peak hour trips

4.1.3 TRIP GENERATION COMPARISON

Table 4-2 shows the trip generation comparison between the proposed Project uses and the Approved Project for the Weekday AM and PM peak hours. The resulting net change in trips are identified in Table 4-2. As shown in Table 4-2, the proposed Project is anticipated to generate 176 fewer two-way trips per day, with 25 fewer AM peak hour trips and 32 fewer PM peak hour trips as compared to the currently Approved Project.

TABLE 4-2: TRIP GENERATION COMPARISON

Land Use	Quantity Units ²	In	Out	Total	In	Out	Total	Daily
Trip Generation:								
Approved Project ¹	292 DU	55	164	219	184	108	292	2,780
Proposed Project	276 DU	51	143	194	164	96	260	2,604
Difference in Trips		-4	-21	-25	-20	-12	-32	-176

¹ Trip Generation Source: Skyline Heights Traffic Impact Analysis Report, July 16, 2013, prepared by Linscott, Law & Greenspan, Engineers (LLG).

² DU = Dwelling Unit

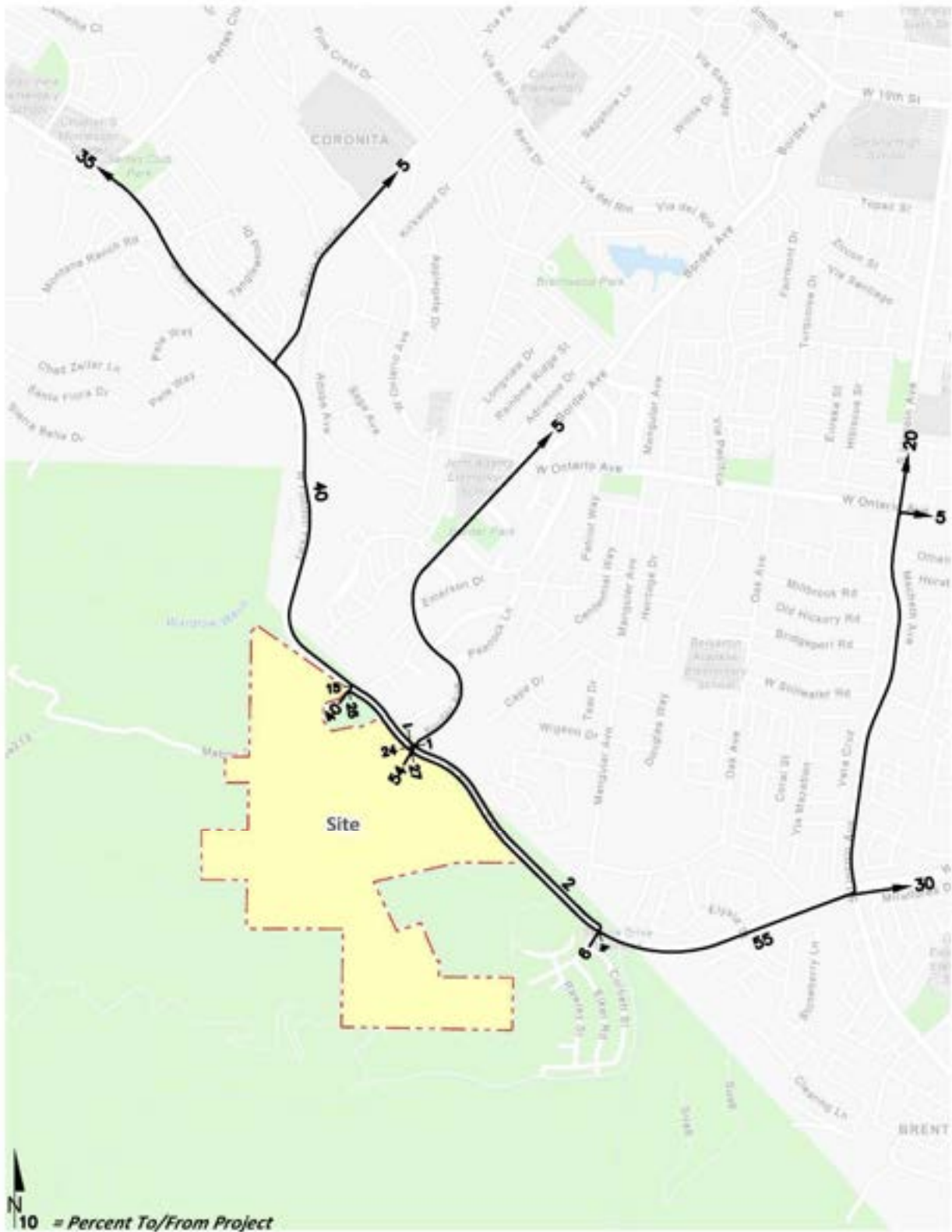
4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. The Project trip distribution patterns were developed based on recent studies in the area and through consultation with City of Corona staff. The Project trip distribution patterns are provided on Exhibit 4-1.

4.3 MODAL SPLIT

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

EXHIBIT 4-1: PROJECT TRIP DISTRIBUTION



4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project Only traffic volumes (weekday and Saturday) are provided on Exhibits 4-2 and 4-3, respectively.

4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 2% per year, compounded annually, for 2028 traffic conditions. The total ambient growth for traffic counts collected in 2023 is 10.41% and for 2028 traffic conditions. 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 conjunction with 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. 2028 traffic volumes are provided in Section 6 of this report. The traffic generated by the proposed Project was then manually added to the base volume to determine With Project forecasts.

EXHIBIT 4-3: PROJECT ONLY (SATURDAY) TRAFFIC VOLUMES

<p>1 Serfas Club Dr. (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>143(174)</td> <td>↑</td> <td>172(136)</td> </tr> <tr> <td>↓</td> <td>↑</td> <td>↑</td> </tr> <tr> <td>10(21)</td> <td>↑</td> <td>569(575)</td> </tr> <tr> <td>88(260)</td> <td>↑</td> <td>10(8)</td> </tr> <tr> <td>↓</td> <td>↑</td> <td>↑</td> </tr> <tr> <td>171(177)</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>379(839)</td> <td>→</td> <td>2(5)</td> </tr> <tr> <td>3(7)</td> <td>↓</td> <td>29(21)</td> </tr> <tr> <td></td> <td></td> <td>14(10)</td> </tr> </table>	143(174)	↑	172(136)	↓	↑	↑	10(21)	↑	569(575)	88(260)	↑	10(8)	↓	↑	↑	171(177)	↓	↑	379(839)	→	2(5)	3(7)	↓	29(21)			14(10)	<p>2 Montana Ranch Rd. (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td></td> <td>↑</td> <td>647(617)</td> </tr> <tr> <td></td> <td>↑</td> <td>13(32)</td> </tr> <tr> <td></td> <td>↓</td> <td>↑</td> </tr> <tr> <td>427(1083)</td> <td>→</td> <td>↑</td> </tr> <tr> <td>35(44)</td> <td>↓</td> <td>63(49)</td> </tr> <tr> <td></td> <td></td> <td>22(17)</td> </tr> </table>		↑	647(617)		↑	13(32)		↓	↑	427(1083)	→	↑	35(44)	↓	63(49)			22(17)	<p>3 Sierra Bella Dr./Tanglewood Dr. (N/S)</p> <table border="1"> <tr> <td>5(7)</td> <td>↑</td> <td>11(15)</td> </tr> <tr> <td>↓</td> <td>↑</td> <td>↑</td> </tr> <tr> <td>0(1)</td> <td>↑</td> <td>590(614)</td> </tr> <tr> <td>20(9)</td> <td>↑</td> <td>10(22)</td> </tr> <tr> <td>↓</td> <td>↑</td> <td>↑</td> </tr> <tr> <td>5(7)</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>404(1010)</td> <td>→</td> <td>3(1)</td> </tr> <tr> <td>29(40)</td> <td>↓</td> <td>54(30)</td> </tr> <tr> <td></td> <td></td> <td>3(1)</td> </tr> <tr> <td></td> <td></td> <td>12(20)</td> </tr> </table>	5(7)	↑	11(15)	↓	↑	↑	0(1)	↑	590(614)	20(9)	↑	10(22)	↓	↑	↑	5(7)	↓	↑	404(1010)	→	3(1)	29(40)	↓	54(30)			3(1)			12(20)	<p>4 Paseo Grande (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>107(114)</td> <td>↑</td> <td>17(17)</td> </tr> <tr> <td>↓</td> <td>↑</td> <td>↑</td> </tr> <tr> <td>0(1)</td> <td>↑</td> <td>520(530)</td> </tr> <tr> <td>32(33)</td> <td>↑</td> <td>1(1)</td> </tr> <tr> <td>↓</td> <td>↑</td> <td>↑</td> </tr> <tr> <td>72(102)</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>388(955)</td> <td>→</td> <td>3(1)</td> </tr> <tr> <td>1(2)</td> <td>↓</td> <td>0(1)</td> </tr> </table>	107(114)	↑	17(17)	↓	↑	↑	0(1)	↑	520(530)	32(33)	↑	1(1)	↓	↑	↑	72(102)	↓	↑	388(955)	→	3(1)	1(2)	↓	0(1)
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##(##) AM(Mid Day) Saturday Peak Hour Intersection Volumes
(N/S) North/South Roadway
(E/W) East/West Roadway

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Corona and the County of Riverside. The cumulative projects listed are those that would generate traffic and would contribute traffic to study area intersections. Exhibit 4-4 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown in Table 4-3. If applicable, the traffic generated by individual cumulative projects was manually added to the Without Project forecasts to ensure that traffic generated by the listed cumulative development projects in Table 4-3 are reflected as part of the background traffic. In an effort to conduct a conservative analysis, the cumulative projects are added in conjunction with the ambient growth identified in Section 4.5 *Background Traffic*. Although it is unlikely that all of these cumulative projects would be fully built and occupied by the Year 2028, they have been included in an effort to conduct a conservative analysis and overstate as opposed to understate potential traffic deficiencies. Any other cumulative projects located beyond the cumulative study area that are not expected to contribute measurable traffic to study area intersections have not been included since the traffic would dissipate due to the distance from the Project site and study area intersections. Cumulative Only ADT and weekday peak hour intersection turning movement volumes are shown on Exhibit 4-5. Cumulative Only Saturday peak hour intersection turning movement volumes are shown on Exhibit 4-6.

4.7 NEAR-TERM TRAFFIC CONDITIONS

The “buildup” approach combines existing traffic counts with a background ambient growth factor to forecast Opening Year (2028) traffic conditions. An ambient growth factor accounts for background (area-wide) traffic increases that occur over time up to the year 2028 from the year 2023. Traffic volumes generated by the Project are then added to assess the near-term traffic conditions. The 2028 roadway network is similar to the Existing conditions roadway network, with the exception of future driveways proposed to be developed by the Project.

The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- Opening Year Cumulative (2028) Without Project
 - Existing 2023 counts
 - Ambient growth traffic (10.41%)
 - Cumulative Development Traffic

- Opening Year Cumulative (2028) With Project
 - Existing 2023 counts
 - Ambient growth traffic (10.41%)
 - Cumulative Development Traffic
 - Project Traffic

TABLE 4-3: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

TAZ	Project Name	Land Use	Quantity Units ¹
City of Corona			
C1	148 Mult-Family Units	Multi-Family Housing	148 DU
C2	45 Townhomes	Residential Condo/Townhouse	45 DU
C3	86 Affordable Units	Single Family Detached	86 DU
C4	Corona Regional Medical Expansion	Hospital	212.000 TSF
C5	4 Industrial Buildings	General Light Industrial	95.500 TSF
C6	Sierra Bella	Single Family Detached	237 DU
C7	PP2018-0005	Health/Fitness Center	37.000 TSF
C8	3 Industrial Buildings	General Light Industrial	731.000 TSF
C9	4 Industrial Buildings	General Light Industrial	47.643 TSF
C10	Starbucks	Coffee Shop with Drive-Through	0.922 TSF
C11	Peppermint Ridge Expansion	Assisted Living	3.840 TSF
C12	Drive-Thru Restaurant	Fast Food with Drive Thru	2.400 TSF
C13	Green River Specific Plan	Industrial Park	634.242 TSF
		High-Cube Cold Storage Warehouse	111.925 TSF
		Super Convenience Market with Gas Station	12 VFP
		Fast-Food Restaurant with Drive-Through Window	2.500 TSF
		Single Family Detached Residential	32 DU
C14	Skyline Village	Multi-Family Housing	78 DU
		Shopping Center	27.334 TSF
C15	TTM No. 33135	Single Family Detached Residential	62 DU
C16	TTM No. 36608	Single Family Detached Residential	23 DU
C17	DPR2020-0014	Gas Station with Convenience Market	2.959 TSF
County of Riverside			
RC1	Prado Raceway	Racetrack	163.0 AC
RC2	TPM 38715	Shopping Center & Fast-Food With Drive Thru	51.675 TSF
RC3	Trails at Corona	Senior Adult Housing - Detached	193 DU
		Senior Adult Housing - Attached	116 DU
		Neighborhood Shopping	10.000 TSF

1 DU = Dwelling Units; TSF = Thousand Square Feet; VFP = Vehicle Fueling Position; AC = Acres; RM = Rooms

EXHIBIT 4-4: CUMULATIVE DEVELOPMENT LOCATION MAP



EXHIBIT 4-5: CUMULATIVE ONLY (WEEKDAY) TRAFFIC VOLUMES

1	Serfes Club Dr. (N/S) & Green River Rd. (E/W)	2	Montana Ranch Rd. (N/S) & Green River Rd. (E/W)	3	Sierra Bella Dr./Tanglewood Dr. (N/S)	4	Paseo Grande (N/S) & Green River Rd. (E/W)
5	R Street (N/S) & Foothill Pkwy. (E/W)	6	B Street/Border Av. (N/S) & Foothill Pkwy. (E/W)	7	Chase Dr. (N/S) & Foothill Pkwy. (E/W)	8	Trudy Wy. (N/S) & Foothill Pkwy. (E/W)
9	Lincoln Av. (N/S) & Foothill Pkwy. (E/W)	10	Border Av. (N/S) & Ontario Av. (E/W)	11	Elysis St. (N/S) & Foothill Pkwy. (E/W)		

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

Average Daily Trips

(N/S) North/South Roadway

(E/W) East/West Roadway

EXHIBIT 4-6: CUMULATIVE ONLY (SATURDAY) TRAFFIC VOLUMES

<p>1 Serfas Club Dr. (N/S) & Green River Rd. (E/W)</p> <pre> 168(201) ↓ 11(23) ↓ 119(306) ↓ ↑ 222(183) ↑ 583(589) ↑ 11(9) ----- 200(207) ↓ 350(870) ↓ 3(8) ↓ ↑ 2(5) ↑ 31(23) ↑ 15(11) </pre>	<p>2 Montana Ranch Rd. (N/S) & Green River Rd. (E/W)</p> <pre> ↑ 703(671) ↑ 14(35) ----- 426(1136) ↓ 38(48) ↓ 68(53) ↓ 24(18) </pre>	<p>3 Sierra Bella Dr./Tanglewood Dr. (N/S)</p> <pre> 5(8) ↓ 0(1) ↓ 22(10) ↓ ↑ 12(16) ↑ 641(667) ↑ 11(24) ----- 5(8) ↓ 401(1057) ↓ 31(43) ↓ 58(32) ↓ 1(1) ↓ 13(22) </pre>	<p>4 Paseo Grande (N/S) & Green River Rd. (E/W)</p> <pre> 146(154) ↓ 0(1) ↓ 33(34) ↓ ↑ 19(19) ↑ 513(528) ↑ 1(1) ----- 123(157) ↓ 348(961) ↓ 1(2) ↓ 1(1) ↓ 0(1) </pre>
<p>5 R Street (N/S) & Foothill Pkwy. (E/W)</p> <pre> ↑ 533(543) ----- 381(996) ↓ </pre>	<p>6 B Street/Border Av. (N/S) & Foothill Pkwy. (E/W)</p> <pre> 28(24) ↓ 31(31) ↓ 349(964) ↓ ↑ 16(25) ↑ 504(520) ----- 21(17) ↓ </pre>	<p>7 Chase Dr. (N/S) & Foothill Pkwy. (E/W)</p> <pre> 68(45) ↓ 28(54) ↓ 342(927) ↓ ↑ 8(13) ↑ 452(499) ↑ 0(1) ----- 12(10) ↓ </pre>	<p>8 Trudy Wy. (N/S) & Foothill Pkwy. (E/W)</p> <pre> ↑ 437(496) ↑ 41(42) ----- 385(925) ↓ 18(12) ↓ 23(17) ↓ 45(29) </pre>
<p>9 Lincoln Av. (N/S) & Foothill Pkwy. (E/W)</p> <pre> 61(60) ↓ 75(133) ↓ 26(75) ↓ ↑ 40(34) ↑ 272(381) ↑ 16(26) ----- 88(59) ↓ 281(704) ↓ 68(241) ↓ ↑ 175(150) ↑ 140(94) ↑ 15(16) </pre>	<p>10 Border Av. (N/S) & Ontario Av. (E/W)</p> <p style="text-align: center;"><i>Not Analyzed for Saturday Peak Hour</i></p>	<p>11 Elysia St. (N/S) & Foothill Pkwy. (E/W)</p> <pre> 5(1) ↓ 4(3) ↓ 50(52) ↓ ↑ 37(42) ↑ 454(513) ↑ 17(36) ----- 14(5) ↓ 355(933) ↓ 12(16) ↓ 19(24) ↓ 5(0) ↓ 32(19) </pre>	

##(##) AM(Mid Day) Saturday Peak Hour Intersection Volumes
(N/S) North/South Roadway
(E/W) East/West Roadway

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5 E+P TRAFFIC CONDITIONS

This section discusses the traffic forecasts for E+P conditions and the resulting intersection operations and traffic signal warrant analyses.

5.1 ROADWAY IMPROVEMENTS

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

5.2 E+P GROWTH TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus the addition of Project traffic. This analysis scenario does not include the addition of any ambient background growth or traffic associated with cumulative development projects. The weekday ADT volumes and peak hour volumes which can be expected for E+P traffic conditions are shown on Exhibit 5-1. The Saturday peak hour volumes which can be expected for E+P traffic conditions are shown on Exhibit 5-2.

5.3 INTERSECTION OPERATIONS ANALYSIS

E+P peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection analysis results are summarized in Table 5-1, which indicate that with the addition of Project traffic, the following study area intersection is anticipated to operate at an unacceptable LOS during the peak hours under E+P traffic conditions:

- Trudy Way & Foothill Parkway (#8) – LOS E Weekday PM peak hour only
- Elysia Street & Foothill Parkway (#11) – LOS F Weekday AM and PM peak hours, LOS E Saturday mid-day peak hour

The intersection operations analysis worksheets for E+P traffic conditions are included in Appendix 5.1.

EXHIBIT 5-1: E+P WEEKDAY TRAFFIC VOLUMES

<p>1 Serfas Club Dr. (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>141(220)</td> <td>↑</td> <td>249(109)</td> </tr> <tr> <td>↓</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>14(38)</td> <td>↑</td> <td>1246(493)</td> </tr> <tr> <td>↓</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>45(371)</td> <td>↑</td> <td>11(15)</td> </tr> <tr> <td>↓</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>254(177)</td> <td>↓</td> <td>5(10)</td> </tr> <tr> <td>↓</td> <td>↓</td> <td>40(15)</td> </tr> <tr> <td>412(1281)</td> <td>↓</td> <td>22(10)</td> </tr> <tr> <td>↓</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>9(11)</td> <td>↓</td> <td>↑</td> </tr> </table>	141(220)	↑	249(109)	↓	↓	↑	14(38)	↑	1246(493)	↓	↓	↑	45(371)	↑	11(15)	↓	↓	↑	254(177)	↓	5(10)	↓	↓	40(15)	412(1281)	↓	22(10)	↓	↓	↑	9(11)	↓	↑	<p>2 Montana Ranch Rd. (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>↑</td> <td>1284(503)</td> </tr> <tr> <td>↓</td> <td>16(24)</td> </tr> <tr> <td>↑</td> <td>↑</td> </tr> <tr> <td>452(1662)</td> <td>↑</td> </tr> <tr> <td>↓</td> <td>97(40)</td> </tr> <tr> <td>34(78)</td> <td>↓</td> </tr> <tr> <td>↑</td> <td>40(25)</td> </tr> <tr> <td>↓</td> <td>↑</td> </tr> </table>	↑	1284(503)	↓	16(24)	↑	↑	452(1662)	↑	↓	97(40)	34(78)	↓	↑	40(25)	↓	↑	<p>3 Sierra Bella Dr./Tanglewood Dr. (N/S)</p> <table border="1"> <tr> <td>11(6)</td> <td>↑</td> <td>18(19)</td> </tr> <tr> <td>↓</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>0(2)</td> <td>↑</td> <td>1214(485)</td> </tr> <tr> <td>↓</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>43(17)</td> <td>↑</td> <td>17(30)</td> </tr> <tr> <td>↓</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>4(8)</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>458(1600)</td> <td>↓</td> <td>80(38)</td> </tr> <tr> <td>↓</td> <td>↓</td> <td>1(3)</td> </tr> <tr> <td>27(66)</td> <td>↓</td> <td>24(22)</td> </tr> <tr> <td>↑</td> <td>↑</td> <td>↑</td> </tr> </table>	11(6)	↑	18(19)	↓	↓	↑	0(2)	↑	1214(485)	↓	↓	↑	43(17)	↑	17(30)	↓	↓	↑	4(8)	↓	↑	458(1600)	↓	80(38)	↓	↓	1(3)	27(66)	↓	24(22)	↑	↑	↑	<p>4 Paseo Grande (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>197(121)</td> <td>↑</td> <td>61(12)</td> </tr> <tr> <td>↓</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>33(40)</td> <td>↑</td> <td>1139(416)</td> </tr> <tr> <td>↓</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>1(1)</td> <td>↑</td> <td>1(1)</td> </tr> <tr> <td>↓</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>208(140)</td> <td>↓</td> <td>0(1)</td> </tr> <tr> <td>↓</td> <td>↓</td> <td>1(0)</td> </tr> <tr> <td>324(1458)</td> <td>↓</td> <td>↑</td> </tr> <tr> <td>1(2)</td> <td>↓</td> <td>↑</td> </tr> </table>	197(121)	↑	61(12)	↓	↓	↑	33(40)	↑	1139(416)	↓	↓	↑	1(1)	↑	1(1)	↓	↓	↑	208(140)	↓	0(1)	↓	↓	1(0)	324(1458)	↓	↑	1(2)	↓	↑
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##(##) AM(PM) Weekday Peak Hour Intersection Volumes

Average Daily Trips

(N/S) North/South Roadway

(E/W) East/West Roadway

EXHIBIT 5-2: E+P SATURDAY TRAFFIC VOLUMES

<p>1 Serfas Club Dr. (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>168(201)</td> <td>11(23)</td> <td>119(306)</td> <td>222(183)</td> <td>647(653)</td> <td>11(9)</td> </tr> <tr> <td>200(207)</td> <td>426(946)</td> <td>3(8)</td> <td>2(5)</td> <td>31(23)</td> <td>15(11)</td> </tr> </table>	168(201)	11(23)	119(306)	222(183)	647(653)	11(9)	200(207)	426(946)	3(8)	2(5)	31(23)	15(11)	<p>2 Montana Ranch Rd. (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>767(735)</td> <td>14(35)</td> <td>502(1212)</td> <td>38(48)</td> <td>68(53)</td> <td>24(18)</td> </tr> </table>	767(735)	14(35)	502(1212)	38(48)	68(53)	24(18)	<p>3 Sierra Bella Dr./Tanglewood Dr. (N/S)</p> <table border="1"> <tr> <td>5(8)</td> <td>0(1)</td> <td>22(10)</td> <td>12(16)</td> <td>705(731)</td> <td>11(24)</td> </tr> <tr> <td>5(8)</td> <td>477(1133)</td> <td>31(43)</td> <td>58(32)</td> <td>1(1)</td> <td>13(22)</td> </tr> </table>	5(8)	0(1)	22(10)	12(16)	705(731)	11(24)	5(8)	477(1133)	31(43)	58(32)	1(1)	13(22)	<p>4 Paseo Grande (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>146(154)</td> <td>0(1)</td> <td>40(41)</td> <td>25(25)</td> <td>577(587)</td> <td>1(1)</td> </tr> <tr> <td>123(157)</td> <td>424(1037)</td> <td>1(2)</td> <td>1(1)</td> <td>0(1)</td> <td></td> </tr> </table>	146(154)	0(1)	40(41)	25(25)	577(587)	1(1)	123(157)	424(1037)	1(2)	1(1)	0(1)	
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<p>5 R Street (N/S) & Foothill Pkwy. (E/W)</p> <table border="1"> <tr> <td>569(579)</td> <td>15(15)</td> <td>424(1039)</td> <td>40(40)</td> <td>34(34)</td> <td>13(11)</td> </tr> </table>	569(579)	15(15)	424(1039)	40(40)	34(34)	13(11)	<p>6 B Street/Border Av. (N/S) & Foothill Pkwy. (E/W)</p> <table border="1"> <tr> <td>28(24)</td> <td>6(6)</td> <td>22(18)</td> <td>17(26)</td> <td>520(536)</td> <td>28(28)</td> </tr> <tr> <td>31(31)</td> <td>363(978)</td> <td>41(41)</td> <td>35(35)</td> <td>5(5)</td> <td>23(23)</td> </tr> </table>	28(24)	6(6)	22(18)	17(26)	520(536)	28(28)	31(31)	363(978)	41(41)	35(35)	5(5)	23(23)	<p>7 Chase Dr. (N/S) & Foothill Pkwy. (E/W)</p> <table border="1"> <tr> <td>68(45)</td> <td>12(10)</td> <td>8(13)</td> <td>497(544)</td> <td>0(1)</td> <td></td> </tr> <tr> <td>28(54)</td> <td>381(966)</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	68(45)	12(10)	8(13)	497(544)	0(1)		28(54)	381(966)					<p>8 Trudy Wy. (N/S) & Foothill Pkwy. (E/W)</p> <table border="1"> <tr> <td>480(539)</td> <td>47(48)</td> <td>371(961)</td> <td>21(15)</td> <td>25(19)</td> <td>50(34)</td> </tr> </table>	480(539)	47(48)	371(961)	21(15)	25(19)	50(34)						
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##(##) AM(Mid Day) Saturday Peak Hour Intersection Volumes
 (N/S) North/South Roadway
 (E/W) East/West Roadway

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

# Intersection	Traffic Control ²	Existing (2023)								E+P							
		Weekday				Saturday				Weekday				Saturday			
		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM		
1 Serfas Club Dr. & Green River Rd.	TS	24.6	19.6	C	B	18.7	18.0	B	B	26.1	20.4	C	C	18.7	18.2	B	B
2 Montana Ranch Rd. & Green River Rd.	TS	7.5	8.1	A	A	6.8	7.6	A	A	7.5	8.1	A	A	7.1	7.5	A	A
3 Sierra Bella Dr./Tanglewood Dr. & Green River Rd.	TS	9.4	9.1	A	A	8.7	7.6	A	A	9.4	9.2	A	A	8.8	7.5	A	A
4 Paseo Grande & Green River Rd.	TS	15.2	11.3	B	B	12.4	12.5	B	B	15.4	11.6	B	B	12.5	12.7	B	B
5 R Street & Foothill Pkwy.	CSS	Future Intersection				Future Intersection				14.9	32.2	B	D	12.3	19.3	B	C
6 B Street/Border Av. & Foothill Pkwy.	TS	8.3	4.9	A	A	5.7	4.7	A	A	15.6	15.2	B	B	15.0	14.1	B	B
7 Chase Dr. & Foothill Pkwy.	TS	7.0	4.7	A	A	5.7	4.8	A	A	6.8	4.8	A	A	5.7	4.9	A	A
8 Trudy Wy. & Foothill Pkwy.	AWS	13.3	32.4	B	D	9.0	13.0	A	B	14.2	41.1	B	E	9.4	13.9	A	B
9 Lincoln Av. & Foothill Pkwy.	TS	23.1	23.9	C	C	18.9	19.7	B	B	23.8	24.3	C	C	19.3	20.0	B	B
10 Border Av. & Ontario Av.	AWS	21.1	12.7	B	B	Not Analyzed				21.6	13.0	C	B	Not Analyzed			
11 Elysia St. & Foothill Pkwy.	AWS	86.2	>100.0	F	F	12.2	32.7	B	D	99.0	>100.0	F	F	13.3	41.0	B	E

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

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

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

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed (based on CA MUTCD) for E+P traffic conditions based on ADT volumes. There are no unsignalized study area intersections anticipated to meet a traffic signal warrant under E+P (see Appendix 5.2).

5.5 DEFICIENCIES AND IMPROVEMENTS

Improvement strategies have been identified at intersections that have been identified as deficient under E+P traffic conditions in an effort to achieve an acceptable LOS. The effectiveness of the recommended improvement strategies to address E+P traffic deficiencies are presented in Table 5-2. Worksheets for E+P traffic conditions, with improvements, HCM calculation worksheets are provided in Appendix 5.3.

TABLE 5-2: INTERSECTION ANALYSIS FOR E+P CONDITIONS WITH IMPROVEMENTS

Traffic Control ³	Intersection Approach Lanes ¹												Weekday		Saturday					
	Northbound			Southbound			Eastbound			Westbound			Delay ¹ (secs.)	Level of Service	Delay ¹ (secs.)	Level of Service				
	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	AM	PM		
8 Trudy Wy. & Foothill Pkwy.																				
Existing:	Not Applicable																			
E+P: TS	0	1	0	0	0	0	0	2	1	1	2	0	4.4	3.7	A	A	4.3	3.9	A	A
11 Elysia St. & Foothill Pkwy.																				
Existing: TS	0	1	0	1	1	0	1	2	1	1	2	0	6.6	8.1	A	A	5.0	4.8	A	A
E+P: TS	0	1	0	1	1	0	1	2	1	1	2	0	6.6	8.1	A	A	5.1	4.8	A	A

² **BOLD** = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

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

L = Left; T = Through; R = Right

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

³ CSS = Cross-street Stop; TS = Traffic Signal; **TS** = Improvement

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6 OPENING YEAR CUMULATIVE (2028) TRAFFIC CONDITIONS

This section discusses the methods used to develop Opening Year Cumulative (2028) Without and With Project traffic forecasts, and the resulting intersection operations and traffic signal warrant analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Opening Year Cumulative (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 Opening Year Cumulative (2028) With Project conditions (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 Opening Year Cumulative (2028) conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages).

6.2 OPENING YEAR CUMULATIVE (2028) WITHOUT PROJECT GROWTH TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor and the addition of traffic from cumulative development traffic. The weekday ADT volumes and peak hour volumes which can be expected for Opening Year Cumulative (2028) Without Project traffic conditions are shown on Exhibit 6-1. The Saturday peak hour volumes which can be expected for Opening Year Cumulative (2028) Without Project traffic conditions are shown on Exhibit 6-2.

6.3 OPENING YEAR CUMULATIVE (2028) WITH PROJECT GROWTH TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor, the addition of traffic from cumulative development traffic, and the addition of Project traffic. The weekday ADT volumes and peak hour volumes which can be expected for Opening Year Cumulative (2028) With Project traffic conditions are shown on Exhibit 6-3. The Saturday peak hour volumes which can be expected for Opening Year Cumulative (2028) Without Project traffic conditions are shown on Exhibit 6-4.

EXHIBIT 6-1: OPENING YEAR CUMULATIVE (2028) WITHOUT PROJECT WEEKDAY TRAFFIC VOLUMES

1	Serfas Club Dr. (N/S) & Green River Rd. (E/W)	2	Montana Ranch Rd. (N/S) & Green River Rd. (E/W)	3	Sierra Bella Dr./Tanglewood Dr. (N/S)	4	Paseo Grande (N/S) & Green River Rd. (E/W)																																																																																																																	
	<table border="1"> <tr> <td>178(257)</td> <td>↑</td> <td>308(158)</td> </tr> <tr> <td>15(42)</td> <td>↑</td> <td>1311(521)</td> </tr> <tr> <td>80(435)</td> <td>↑</td> <td>12(17)</td> </tr> <tr> <td>300(213)</td> <td>↓</td> <td></td> </tr> <tr> <td>458(1337)</td> <td>→</td> <td></td> </tr> <tr> <td>3(12)</td> <td>↓</td> <td></td> </tr> <tr> <td></td> <td>6(11)</td> <td>↑</td> </tr> <tr> <td></td> <td>44(17)</td> <td>↑</td> </tr> <tr> <td></td> <td>24(11)</td> <td>↑</td> </tr> </table>	178(257)	↑	308(158)	15(42)	↑	1311(521)	80(435)	↑	12(17)	300(213)	↓		458(1337)	→		3(12)	↓			6(11)	↑		44(17)	↑		24(11)	↑		<table border="1"> <tr> <td></td> <td>↑</td> <td>1386(570)</td> </tr> <tr> <td></td> <td>↑</td> <td>18(26)</td> </tr> <tr> <td>533(1783)</td> <td>→</td> <td></td> </tr> <tr> <td>38(86)</td> <td>↓</td> <td></td> </tr> <tr> <td></td> <td>107(44)</td> <td>→</td> </tr> <tr> <td></td> <td>44(28)</td> <td>↑</td> </tr> </table>		↑	1386(570)		↑	18(26)	533(1783)	→		38(86)	↓			107(44)	→		44(28)	↑		<table border="1"> <tr> <td>12(7)</td> <td>↓</td> <td>↑</td> <td>20(21)</td> </tr> <tr> <td>0(2)</td> <td>↓</td> <td>↑</td> <td>1309(550)</td> </tr> <tr> <td>47(19)</td> <td>↓</td> <td>↑</td> <td>19(33)</td> </tr> <tr> <td>4(9)</td> <td>↓</td> <td>↑</td> <td></td> </tr> <tr> <td>540(1714)</td> <td>→</td> <td>↑</td> <td></td> </tr> <tr> <td>30(73)</td> <td>↓</td> <td>↑</td> <td></td> </tr> <tr> <td></td> <td>88(42)</td> <td>↑</td> <td></td> </tr> <tr> <td></td> <td>1(3)</td> <td>↑</td> <td></td> </tr> <tr> <td></td> <td>26(24)</td> <td>↑</td> <td></td> </tr> </table>	12(7)	↓	↑	20(21)	0(2)	↓	↑	1309(550)	47(19)	↓	↑	19(33)	4(9)	↓	↑		540(1714)	→	↑		30(73)	↓	↑			88(42)	↑			1(3)	↑			26(24)	↑			<table border="1"> <tr> <td>269(163)</td> <td>↓</td> <td>↑</td> <td>70(16)</td> </tr> <tr> <td></td> <td>↓</td> <td>↑</td> <td>1180(421)</td> </tr> <tr> <td></td> <td>↓</td> <td>↑</td> <td>1(1)</td> </tr> <tr> <td>268(201)</td> <td>↓</td> <td>↑</td> <td></td> </tr> <tr> <td>346(1520)</td> <td>→</td> <td>↑</td> <td></td> </tr> <tr> <td>1(2)</td> <td>↓</td> <td>↑</td> <td></td> </tr> <tr> <td></td> <td>0(1)</td> <td>↑</td> <td></td> </tr> <tr> <td></td> <td>1(0)</td> <td>↑</td> <td></td> </tr> </table>	269(163)	↓	↑	70(16)		↓	↑	1180(421)		↓	↑	1(1)	268(201)	↓	↑		346(1520)	→	↑		1(2)	↓	↑			0(1)	↑			1(0)	↑	
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##(##) AM(PM) Weekday Peak Hour Intersection Volumes

Average Daily Trips

(N/S) North/South Roadway

(E/W) East/West Roadway

EXHIBIT 6-2: OPENING YEAR CUMULATIVE (2028) WITHOUT PROJECT SATURDAY TRAFFIC VOLUMES

1	Serfas Club Dr. (N/S) & Green River Rd. (E/W)	2	Montana Ranch Rd. (N/S) & Green River Rd. (E/W)	3	Sierra Bella Dr./Tanglewood Dr. (N/S)	4	Paseo Grande (N/S) & Green River Rd. (E/W)
	← 64(64) 76(76) →		← 64(64) 76(76) →		← 64(64) 76(76) →		↑ 7(7) ← 64(64) ↓ 6(6)
5	R Street (N/S) & Foothill Pkwy. (E/W)	6	B Street/Border Av. (N/S) & Foothill Pkwy. (E/W)	7	Chase Dr. (N/S) & Foothill Pkwy. (E/W)	8	Trudy Wy. (N/S) & Foothill Pkwy. (E/W)
	← 36(36) ↑ 15(15) ↓ 43(43) → ↓ 40(40) ↓ ↑ 34(34) ↑ ↑ 13(13) ↑		↓ 6(6) ↓ 1(1) ↑ 1(1) ↑ 16(16) ↑ 28(28) ↓ 14(14) → ↓ 41(41) ↓ ↑ 35(35) ↑ ↑ 5(5) ↑ ↑ 23(23) ↑		← 45(45) 39(39) →		← 43(43) ↑ 6(6) ↓ 36(36) → ↓ 3(3) ↓ ↑ 2(2) ↑ ↑ 5(5) ↑
9	Lincoln Av. (N/S) & Foothill Pkwy. (E/W)	10	Border Av. (N/S) & Ontario Av. (E/W)	11	Elysia St. (N/S) & Foothill Pkwy. (E/W)		
	↓ 21(21) ← 28(28) ↑ 18(18) → ↑ 23(23) →		<i>Not Analyzed for Saturday Peak Hour</i>		← 48(48) 41(41) →		

##(##) AM(Mid Day) Saturday Peak Hour Intersection Volumes
 (N/S) North/South Roadway
 (E/W) East/West Roadway

EXHIBIT 6-3: OPENING YEAR CUMULATIVE (2028) WITH PROJECT WEEKDAY TRAFFIC VOLUMES

<p>1 Serfas Club Dr. (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>178(257)</td> <td>15(42)</td> <td>80(435)</td> <td>308(158)</td> <td>1390(574)</td> <td>12(17)</td> </tr> <tr> <td>300(213)</td> <td>486(1427)</td> <td>3(12)</td> <td>6(11)</td> <td>44(17)</td> <td>24(11)</td> </tr> </table>	178(257)	15(42)	80(435)	308(158)	1390(574)	12(17)	300(213)	486(1427)	3(12)	6(11)	44(17)	24(11)	<p>2 Montana Ranch Rd. (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>1465(623)</td> <td>18(26)</td> <td>44(28)</td> </tr> <tr> <td>561(1873)</td> <td>38(86)</td> <td>107(44)</td> </tr> </table>	1465(623)	18(26)	44(28)	561(1873)	38(86)	107(44)	<p>3 Sierra Bella Dr./Tanglewood Dr. (N/S)</p> <table border="1"> <tr> <td>12(7)</td> <td>0(2)</td> <td>47(19)</td> <td>20(21)</td> <td>1388(603)</td> <td>19(33)</td> </tr> <tr> <td>4(9)</td> <td>568(1804)</td> <td>30(73)</td> <td>88(42)</td> <td>1(3)</td> <td>26(24)</td> </tr> </table>	12(7)	0(2)	47(19)	20(21)	1388(603)	19(33)	4(9)	568(1804)	30(73)	88(42)	1(3)	26(24)	<p>4 Paseo Grande (N/S) & Green River Rd. (E/W)</p> <table border="1"> <tr> <td>269(163)</td> <td>46(49)</td> <td>77(21)</td> <td>1259(474)</td> <td>1(1)</td> </tr> <tr> <td>268(201)</td> <td>374(1610)</td> <td>1(2)</td> <td>0(1)</td> <td>1(0)</td> </tr> </table>	269(163)	46(49)	77(21)	1259(474)	1(1)	268(201)	374(1610)	1(2)	0(1)	1(0)
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<p>5 R Street (N/S) & Foothill Pkwy. (E/W)</p> <table border="1"> <tr> <td>1295(468)</td> <td>6(18)</td> </tr> <tr> <td>405(1613)</td> <td>15(48)</td> </tr> </table>	1295(468)	6(18)	405(1613)	15(48)	<p>6 B Street/Border Av. (N/S) & Foothill Pkwy. (E/W)</p> <table border="1"> <tr> <td>70(21)</td> <td>2(7)</td> <td>43(23)</td> <td>18(39)</td> <td>1188(443)</td> <td>10(33)</td> </tr> <tr> <td>22(55)</td> <td>383(1519)</td> <td>15(49)</td> <td>43(29)</td> <td>6(4)</td> <td>29(19)</td> </tr> </table>	70(21)	2(7)	43(23)	18(39)	1188(443)	10(33)	22(55)	383(1519)	15(49)	43(29)	6(4)	29(19)	<p>7 Chase Dr. (N/S) & Foothill Pkwy. (E/W)</p> <table border="1"> <tr> <td>112(99)</td> <td>9(10)</td> <td>7(13)</td> <td>1106(476)</td> </tr> <tr> <td>13(84)</td> <td>441(1477)</td> <td></td> <td></td> </tr> </table>	112(99)	9(10)	7(13)	1106(476)	13(84)	441(1477)			<p>8 Trudy Wy. (N/S) & Foothill Pkwy. (E/W)</p> <table border="1"> <tr> <td>1078(473)</td> <td>51(69)</td> </tr> <tr> <td>432(1464)</td> <td>18(23)</td> </tr> </table>	1078(473)	51(69)	432(1464)	18(23)												
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##(##) AM(PM) Weekday Peak Hour Intersection Volumes

Average Daily Trips

(N/S) North/South Roadway

(E/W) East/West Roadway

EXHIBIT 6-4: OPENING YEAR CUMULATIVE (2028) WITH PROJECT SATURDAY TRAFFIC VOLUMES

1	Serfas Club Dr. (N/S) & Green River Rd. (E/W)	2	Montana Ranch Rd. (N/S) & Green River Rd. (E/W)	3	Sierra Bella Dr./Tanglewood Dr. (N/S)	4	Paseo Grande (N/S) & Green River Rd. (E/W)
5	R Street (N/S) & Foothill Pkwy. (E/W)	6	B Street/Border Av. (N/S) & Foothill Pkwy. (E/W)	7	Chase Dr. (N/S) & Foothill Pkwy. (E/W)	8	Trudy Wy. (N/S) & Foothill Pkwy. (E/W)
9	Lincoln Av. (N/S) & Foothill Pkwy. (E/W)	10	Border Av. (N/S) & Ontario Av. (E/W)	11	Elysia St. (N/S) & Foothill Pkwy. (E/W)		
		<p style="text-align: center;"><i>Not Analyzed for Saturday Peak Hour</i></p>					

##(##) AM(Mid Day) Saturday Peak Hour Intersection Volumes
 (N/S) North/South Roadway
 (E/W) East/West Roadway

6.4 INTERSECTION OPERATIONS ANALYSIS

Opening Year Cumulative (2028) 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 analysis results are summarized in Table 6-1, which indicates that the following study area intersection is anticipated to continue to operate at an acceptable LOS during the peak hours under Opening Year Cumulative (2028) Without Project traffic conditions:

- Trudy Way & Foothill Parkway (#8) – LOS F PM peak hour only
- Elysia Street & Foothill Parkway (#11) – LOS F Weekday AM and PM peak hours, LOS F Saturday mid-day peak hour

With the addition of Project traffic, there are no additional study area intersections anticipated to operate at an unacceptable LOS during the peak hours, under Opening Year Cumulative (2028) With Project traffic conditions. The intersection operations analysis worksheets for Opening Year Cumulative (2028) Without Project and With Project traffic conditions are included in Appendices 6.1 and 6.2, respectively.

6.5 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants have been performed (based on CA MUTCD) for Opening Year Cumulative (2028) traffic conditions based on ADT volumes. There are no unsignalized study area intersections anticipated to meet a traffic signal warrant under Opening Year Cumulative (2028) Without Project and With Project traffic conditions (see Appendices 6.3 and 6.4, respectively).

6.6 DEFICIENCIES AND IMPROVEMENTS

Improvement strategies have been identified at intersections that have been identified as deficient under Opening Year Cumulative (2028) traffic conditions in an effort to achieve an acceptable LOS. The effectiveness of the recommended improvement strategies to address Opening Year Cumulative (2028) traffic deficiencies are presented in Table 6-2. Worksheets for Opening Year Cumulative (2028) Without Project and With Project traffic conditions, with improvements, HCM calculation worksheets are provided in Appendices 6.5 and 6.6, respectively.

TABLE 6-1: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2028) CONDITIONS

# Intersection	Traffic Control ²	2028 Without Project								2028 With Project							
		Weekday				Saturday				Weekday				Saturday			
		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1 Serfas Club Dr. & Green River Rd.	TS	33.7	23.5	C	C	20.1	18.9	C	B	37.6	24.9	D	C	20.2	19.2	C	B
2 Montana Ranch Rd. & Green River Rd.	TS	7.7	8.6	A	A	7.2	7.8	A	A	7.7	9.2	A	A	7.5	7.7	A	A
3 Sierra Bella Dr./Tanglewood Dr. & Green River Rd.	TS	9.6	9.8	A	A	9.0	7.8	A	A	9.6	10.3	A	B	9.0	7.8	A	A
4 Paseo Grande & Green River Rd.	TS	18.0	13.6	B	B	13.9	13.9	B	B	18.6	13.9	B	B	14.0	14.1	B	B
5 R Street & Foothill Pkwy.	CSS	Future Intersection				Future Intersection				16.3	34.4	C	D	12.8	21.4	B	C
6 B Street/Border Av. & Foothill Pkwy.	TS	8.8	5.1	A	A	6.0	4.9	A	A	16.0	16.5	B	B	15.2	14.2	B	B
7 Chase Dr. & Foothill Pkwy.	TS	7.4	5.0	A	A	6.1	5.1	A	A	7.4	5.0	A	A	6.2	5.2	A	A
8 Trudy Wy. & Foothill Pkwy.	AWS	17.6	60.5	C	F	9.5	14.9	A	B	19.3	70.2	C	F	10.0	16.2	A	C
9 Lincoln Av. & Foothill Pkwy.	TS	25.4	27.8	C	C	19.7	20.8	B	C	26.1	29.2	C	C	20.1	21.1	C	C
10 Border Av. & Ontario Av.	AWS	33.2	14.6	D	B	Not Analyzed				34.3	14.9	D	B	Not Analyzed			
11 Elysia St. & Foothill Pkwy.	AWS	>100.0	>100.0	F	F	13.6	51.0	B	F	>100.0	>100.0	F	F	15.3	62.2	C	F

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

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

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

TABLE 6-2: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2028) CONDITIONS WITH IMPROVEMENTS

Traffic Control ³	Intersection Approach Lanes ¹												Weekday		Saturday					
	Northbound			Southbound			Eastbound			Westbound			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service	
	L	T	R	L	T	R	L	T	R	L	T	R	AM	PM	AM	PM	AM	PM	AM	PM
8 Trudy Wy. & Foothill Pkwy.																				
Without Project: TS	0	1	0	0	0	0	0	2	1	1	2	0	4.3	3.7	A	A	8.2	9.6	A	A
With Project: TS	0	1	0	0	0	0	0	2	1	1	2	0	4.4	3.8	A	D	8.4	9.9	A	A
11 Elysia St. & Foothill Pkwy.																				
Without Project: TS	0	1	0	1	1	0	1	2	1	1	2	0	6.9	8.5	A	A	5.2	4.9	A	A
With Project: TS	0	1	0	1	1	0	1	2	1	1	2	0	6.9	8.6	A	A	5.3	4.9	A	A

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

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

L = Left; T = Through; R = Right

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

³ CSS = Cross-street Stop; TS = Traffic Signal; **TS** = Improvement

7 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the City of Corona are funded through a combination of improvements constructed by the Project, development impact fee programs or fair share contributions. Fee programs applicable to the Project are described below.

7.1 CITY OF CORONA DEVELOPMENT IMPACT FEE (DIF) PROGRAM

The Project will also be subject to City of Corona's DIF program which includes a component for streets and signals. A City-wide impact fee is necessary to finance the projects necessary to support local new development and not supported by the TUMF schedule. The latest City of Corona DIF fee schedule is effective May 16, 2022.

7.2 TRANSPORTATION UNIFORM MITIGATION FEE (TUMF) PROGRAM

The TUMF program is administered by the WRCOG based upon a regional Nexus Study most recently updated in 2016 to address major changes in right of way acquisition and improvement cost factors. (7) This regional program was put into place to ensure that development pays its fair share, and that funding is in place for construction of facilities needed to maintain the requisite level of service and critical to mobility in the region. TUMF is a truly regional fee program and is imposed and implemented in every jurisdiction in Western Riverside County. TUMF guidelines empower a local zone committee to prioritize and arbitrate certain projects. The Project is located in the Northwest Zone. The zone has developed a 5-year capital improvement program to prioritize public construction of certain roads. TUMF is focused on improvements necessitated by regional growth.

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8 REFERENCES

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3. **VRPA Technologies, Inc. for Riverside County Transportation Commission.** *Riverside County Long Range Transportation Study.* County of Riverside : VRPA Technologies, Inc., December 2019.
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6. **City of Corona.** *2020-2040 General Plan.* Corona : s.n., 2020.
7. **Western Riverside Council of Governments.** *Transportation Uniform Mitigation Fee Nexus Study.* County of Riverside : s.n., 2016 Update.

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