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TRANSPORTATION IMPACT ANALYSIS & LOCAL TRANSPORTATION ANALYSIS

LAS POSAS GAS STATION

San Marcos, California
June 23, 2022

LLG Ref. 3-20-3314

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LAS POSAS GAS STATION

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1.0 INTRODUCTION

Linscott, Law & Greenspan, Engineers (LLG) has prepared the following Transportation Impact Analysis & Local Transportation Analysis to determine and evaluate the potential impacts and effects to the local roadway system due to the proposed Las Posas Gas Station Project. The Project site is located at 200 Las Posas Road in the City of San Marcos.

The following items are included in this traffic study:

- Project Description
- Existing Conditions Discussion
- Analysis Approach and Methodology
- Significance Thresholds and Level of Service Standards
- Vehicle Miles Traveled (VMT) Assessment
- Local Transportation Analysis of Existing Conditions
- Trip Generation, Distribution, and Assignment
- Local Transportation Analysis of Near-Term (Year 2025) Conditions
- Local Transportation Analysis of Horizon Year (Year 2050) Conditions
- Site Access and Circulation Review
- Active Transportation Review
- Conclusions

2.0 PROJECT DESCRIPTION

The Project site is located at the southwest corner of the Las Posas Road / W. Mission Road intersection in the City of San Marcos. The Project site is currently vacant.

The Project proposes a 9-pump gas station, a 3,000 SF car wash and a 5,000 SF food mart/mini attached restaurant with a drive-through window. Access to the site is proposed via one right-in/right-out only driveway on Las Posas Road.

Figure 2–1 shows the vicinity map. ***Figure 2–2*** shows a more detailed project area map. ***Figure 2–3*** shows the Project's site plan.

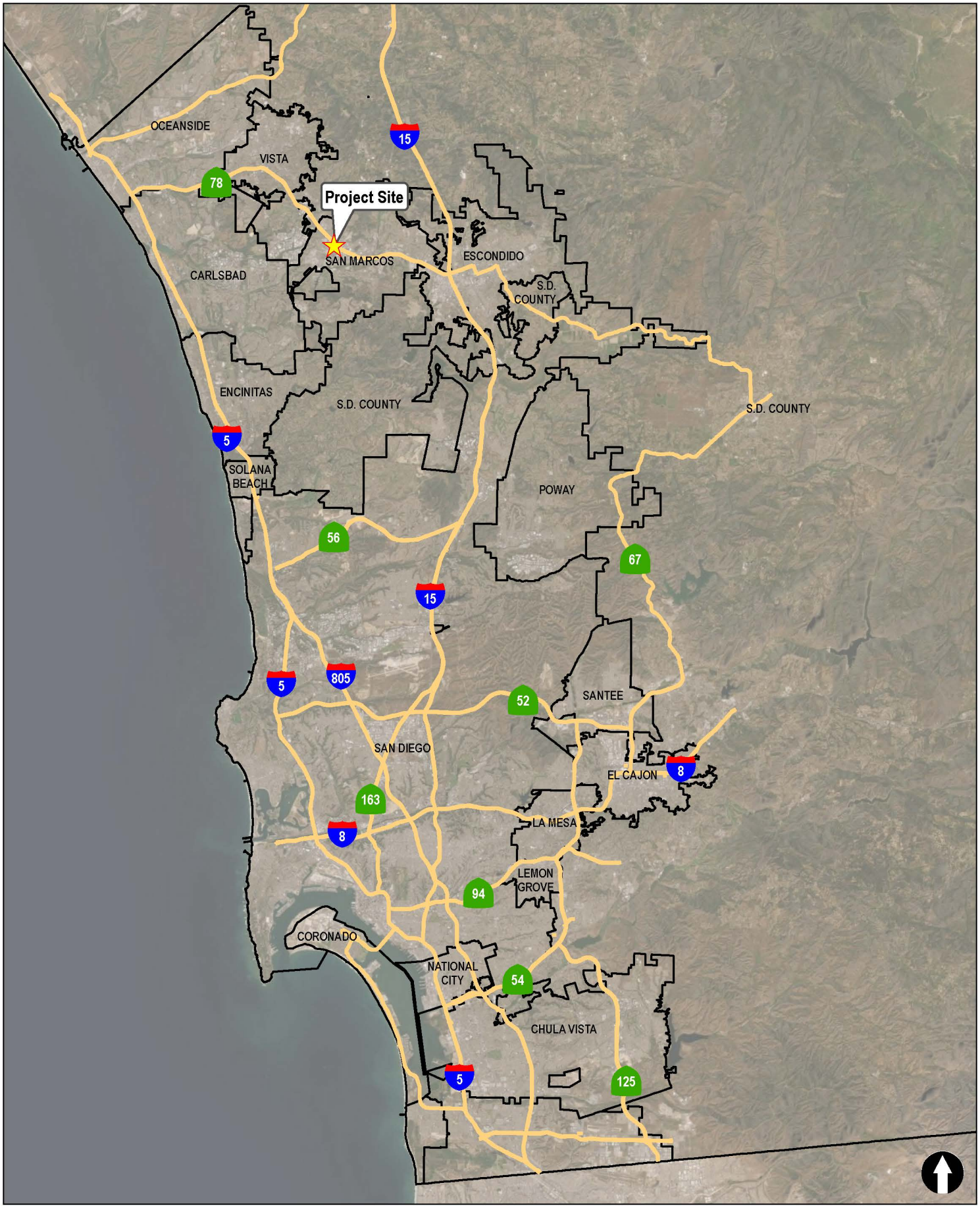

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Figure 2-1

Vicinity Map

LAS POSAS STATION

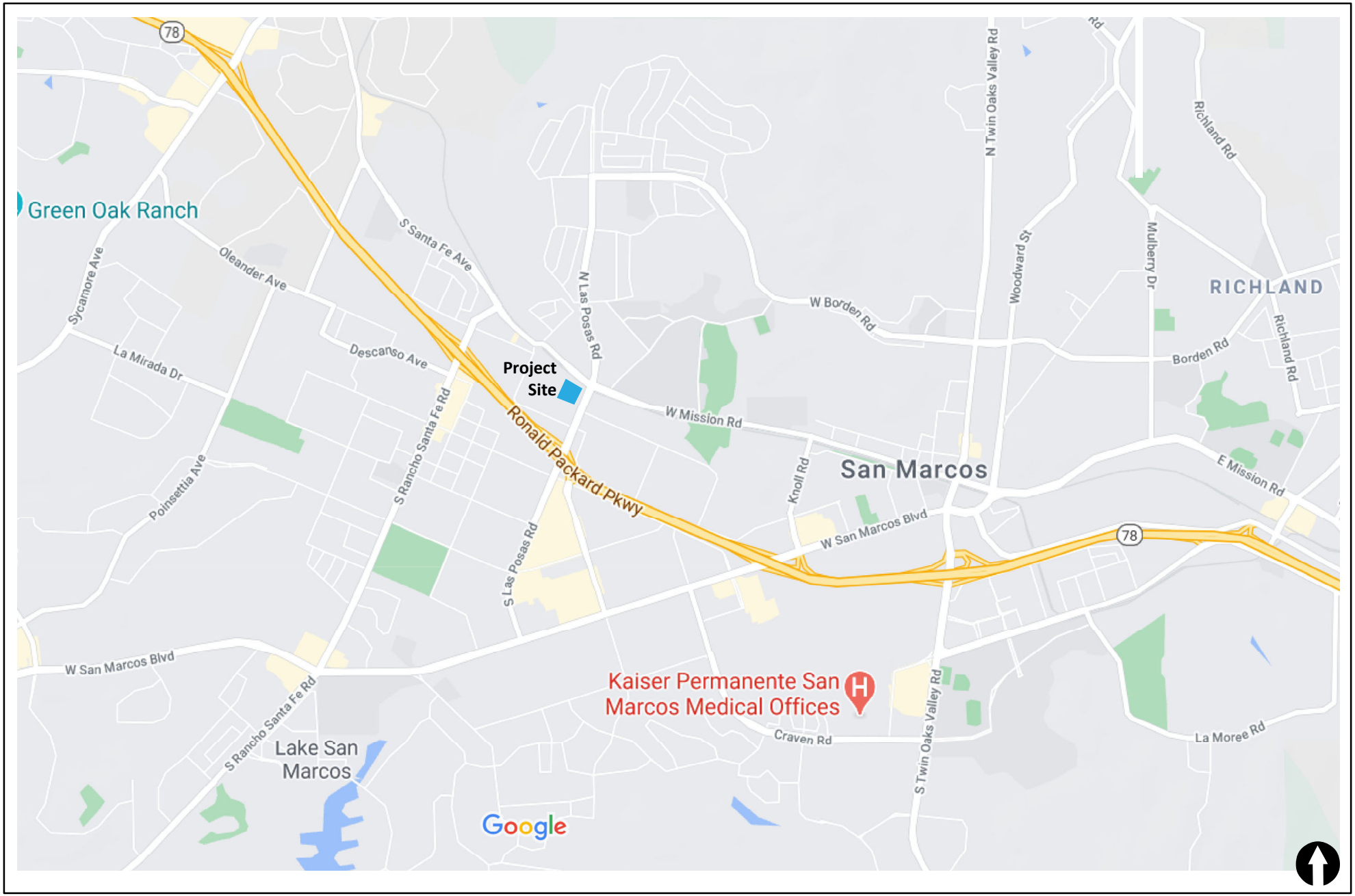

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Figure 2-2

Project Area Map

LAS POSAS GAS STATION

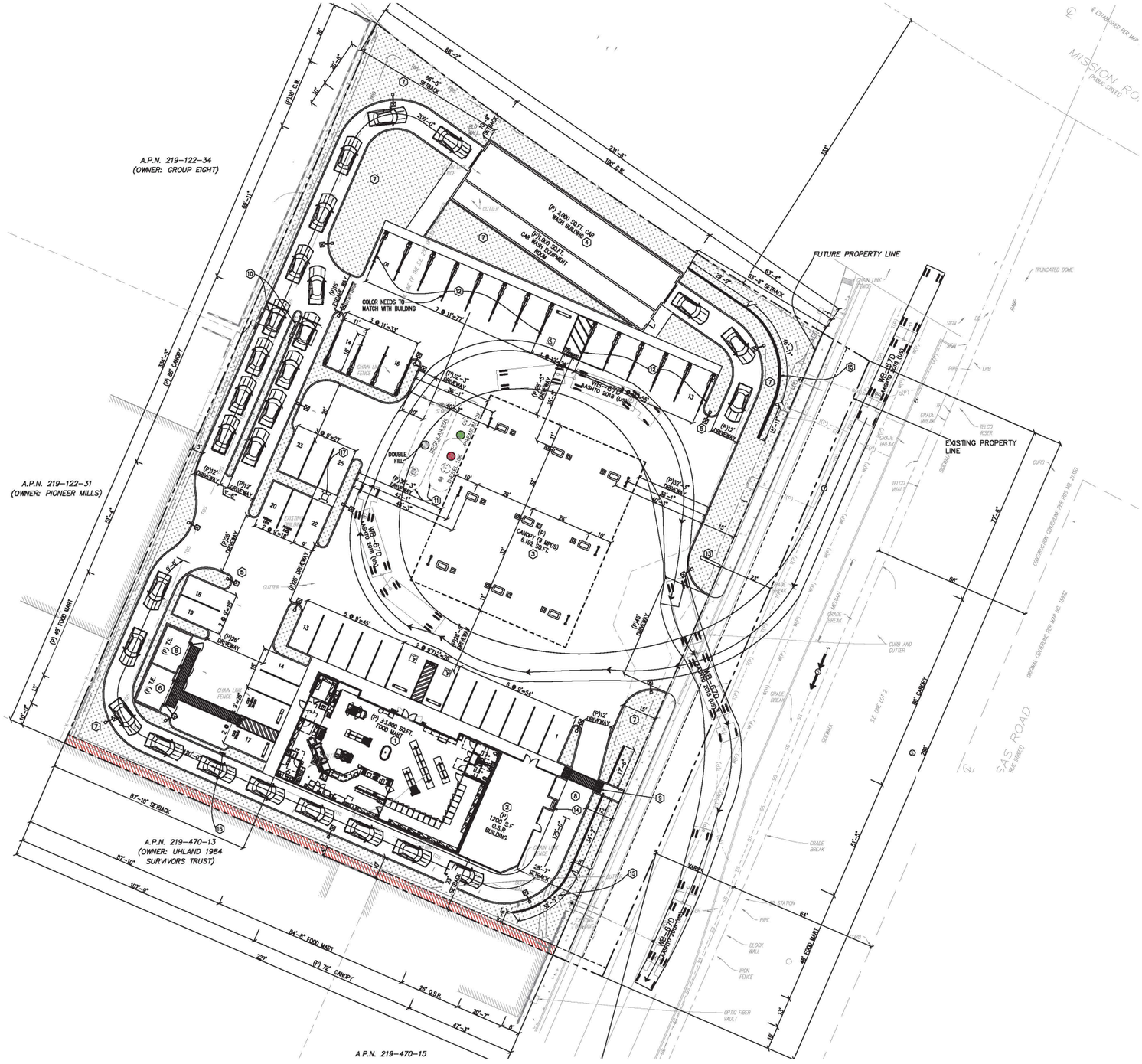

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Figure 2-3

Site Plan

Las Posas Gas Station

3.0 EXISTING CONDITIONS

Effective evaluation of the traffic impacts and effects associated with the proposed Project requires an understanding of the existing transportation system within the study area. ***Figure 3–1*** is the existing conditions diagram, including intersection control and lane configurations. The study area includes the following intersections and street segments based on guidance provided in the City of San Marcos' *Transportation Impact Analysis Guidelines* (November 2020), the anticipated distribution of the Project traffic, and areas of potential effect:

Intersection

1. W. Mission Road / Rancho Santa Fe Road
2. W. Mission Road / Las Posas Road
3. W. Mission Road / Palomar College Driveway
4. Las Posas Road / Armorlite Drive

Segments

W. Mission Road

Rancho Santa Fe Road to Las Posas Road

Las Posas Road to Palomar College Driveway

Las Posas Road

W. Mission Road to Armolite Road

Armolite Road to SR 78

3.1 Existing Street Network

The principal roadways in the project study are described briefly below. Roadway classification was determined from a review of the *City of San Marcos Mobility Element* and information gathered from field observations. ***Figure 3–1*** illustrates the existing circulation conditions.

Mission Road is classified in the City of San Marcos Mobility Element as a four-lane Arterial. Currently, it is generally constructed as a four-lane undivided roadway from Rancho Santa Fe Road to the Palomar College Driveway. Raised medians are provided at driveways / intersections within this section. Bike lanes are provided along Mission Road. In addition, a Class I Multi-Use Path (the Inland Rail Trail) is provided on the south side of Mission Road through the study area. It is serviced by a North County Transit District (NCTD) bus routes 304 and 305 and the Sprinter. The posted speed limit is 40 MPH and parking is prohibited.

Rancho Santa Fe Road is classified in the City of San Marcos Mobility Element as a four-lane Arterial from Santa Fe Ave to the SR-78 and as a 6-lane Arterial south of the SR-78. It is currently constructed as a 4-lane divided roadway with bike lanes. Rancho Santa Fe has a posted speed limit of 40 MPH and parking is prohibited in its entirety. It is serviced by a North County Transit District (NCTD) bus route 304.

Las Posas Road is classified in the City of San Marcos Mobility Element as a 6-lane arterial. It is currently constructed as a 6-lane divided roadway with a speed limit of 45 MPH. Bike lanes are provided and parking is generally prohibited. It is serviced by a North County Transit District (NCTD) bus routes 347 and 445.

3.2 Existing Traffic Volumes

Due to the current Covid situation, traffic counts conducted in 2021 do not reflect the normal traffic volumes. Hence, research was conducted to identify historical traffic volume counts in the Project study area. Counts conducted in October 2016 at the following two intersections when area schools were in session were utilized to develop a Covid factor.

1. S. Santa Fe Avenue (W. Mission Road) / Rancho Santa Fe Road
2. W. Mission Road / Las Posas Road

Counts were conducted at the following intersections and segments on January 7, 2021. Following are the Project study area intersections and segments:

Intersection

1. S. Santa Fe Avenue (W. Mission Road) / Rancho Santa Fe Road
2. W. Mission Road / Las Posas Road
3. W. Mission Road / Palomar College Driveway
4. Las Posas Road / Armorlite Drive

Segments

W. Mission Road

Rancho Santa Fe Road to Las Posas Road

Las Posas Road to Palomar College Driveway

Las Posas Road

W. Mission Road to Armolite Road

Armolite Road to SR 78

Based on a comparison of historical and during Covid counts or other segments in the City a factor of 140% between during and Pre-Covid counts was developed. This factor was applied to the During covid counts to obtain the corrected (for Covid effect) volumes.

Table 3-1 summarizes the "during Covid (2021)" and the "adjusted for Covid" 2021 total segment volumes. ***Table 3-2*** summarizes the "during Covid (2021)" and the "adjusted for Covid" 2021 total peak hour intersection entering volumes. A factor of 140% is applied to the counts at the intersections and segments where historical pre-Covid volumes are not available. Study area intersection peak hour and segment volumes adjusted for the Year 2021 are depicted on ***Figure 3–2***.

Appendix A contains the Pre-Covid (Year 2016) and Year 2021 count sheets.

TABLE 3–1
EXISTING SEGMENT ADT VOLUMES

Street Segment	Year 2021 (Covid) Counts	Covid Factor	ADT volume Adjusted for Covid
W. Mission Road			
Rancho Santa Fe Rd to Las Posas Rd	8,763	140%	12,270
Las Posas Rd to Palomar College Dwy	10,260	140%	14,360
Las Posas Road			
W. Mission Rd to Armolite Rd	15,383	140%	21,540
Armolite Rd to SR 78	18,723	140%	26,210

TABLE 3–2
EXISTING INTERSECTION PEAK HOUR VOLUMES

Street Segment	Peak Hour	Total Entering Peak Hour Volumes			
		Year 2016 Counts	Year 2021 (Covid) Counts	Covid Factor	Adjusted for Covid
1. S. Santa Fe Ave (W. Mission Rd) / Rancho Santa Fe Rd	AM	1,950	None	-	1,950
	PM	2,506	None	-	2,506
2. W. Mission Rd / Las Posas Rd	AM	3,604	None	-	3,604
	PM	4,822	None	-	4,822
3. W. Mission Rd / Palomar College Dwy	AM	-	1,162	140%	1,627
	PM	`-	1,610	140%	2,254
4. Posas Rd / Armorlite Dr	AM	-	940	140%	1,316
	PM	-	1,005	140%	1,407

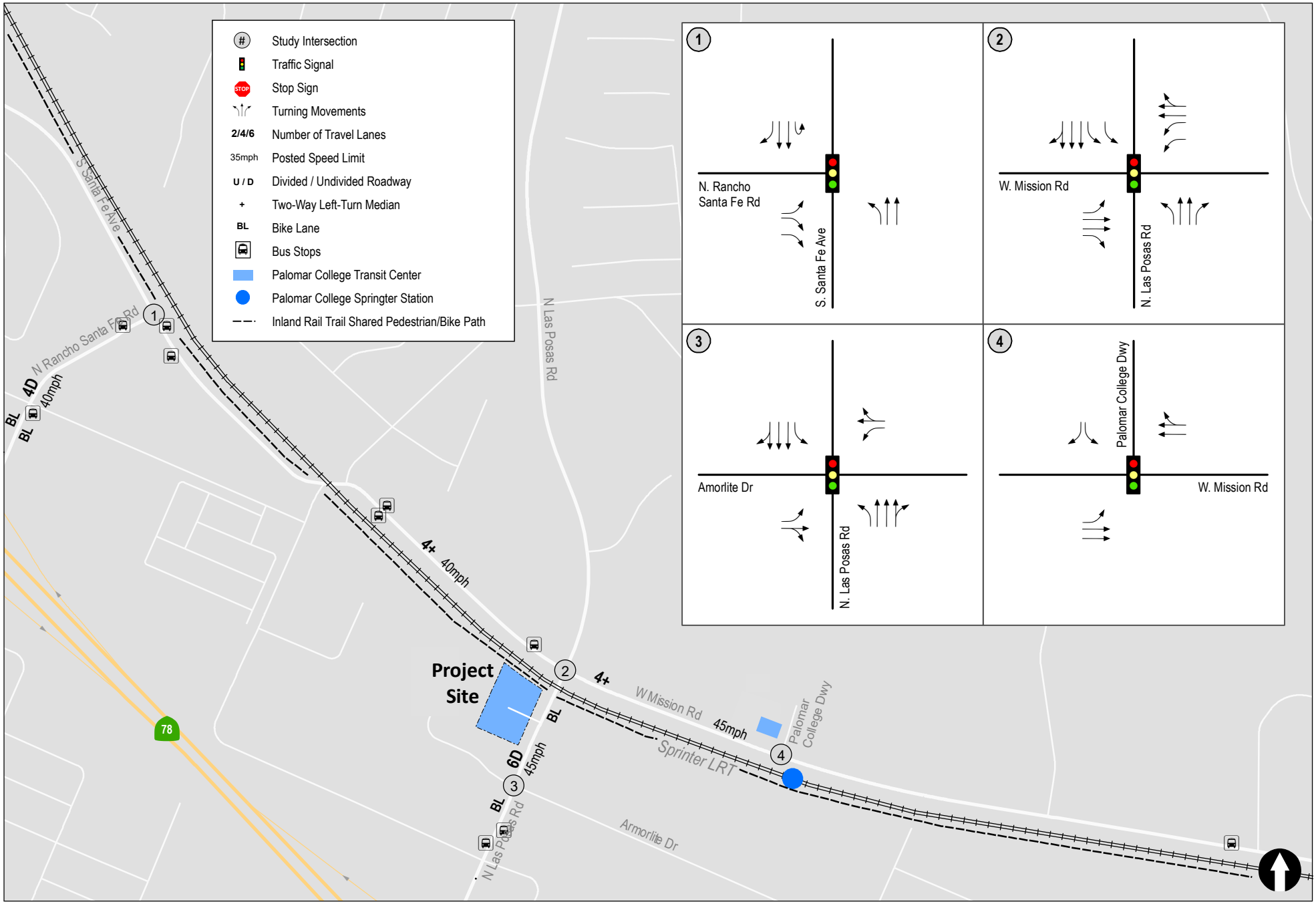

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Figure 3-1

Existing Conditions Diagram

Las Posas Gas Station

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Figure 3-2

Existing Traffic Volumes

Las Posas Gas Station

4.0 ANALYSIS APPROACH AND METHODOLOGY

The City of San Marcos' *Transportation Impact Analysis Guidelines* (November 2020) specifically address the requirements of California Senate Bill (SB) 743 which mandated specific types of CEQA analysis of transportation projects effective July 1, 2020. The following analysis approach is based on theses guidelines.

4.1 CEQA Analysis Methodology

4.1.1 *VMT Background*

Vehicle Miles Traveled (VMT) is defined as the "amount and distance of automobile travel attributable to a project" per CEQA Guidelines Section 15064.3. VMT is a measure of the use and efficiency of the transportation network as well land uses in a region. VMT is calculated based on individual vehicle trips generated and their associated trip lengths. VMT accounts for two-way (roundtrip) travel and is estimated for a typical weekday for the purposes of measuring transportation impacts.

4.1.2 *Technical Methodology*

The technical approach for the Project is broken into the following two components.

- City of San Marcos Screening Criteria
- VMT Analysis Methodology

CITY OF SAN MARCOS SCREENING CRITERIA

According to the City of San Marcos guidelines, a project that meets at least one of the following screening criteria would have less than significant VMT impact due to project characteristics and/or location.

a. **Small Project:** The project is a small project defined as generating less than 110 daily driveway trips using SANDAG trip generation rates and is consistent with the City's current General Plan.

b. **Affordable Housing:** The project is a residential project with 100 percent deed restricted affordable housing. If the project contains less than 100 percent affordable housing, the portion that is affordable should be screened out of needing a detailed VMT analysis. Projects can only be screened out if they are located in parts of the city that have been identified by SANDAG and the City as Smart Growth Opportunity Areas.

c. **Locally Serving Retail and Public Facilities:** The project is a locally serving retail project defined as having 50,000 square feet gross floor area or less. Retail can include shopping centers as well as standalone uses such as commercial shops, gas stations, and restaurants.

   Uses that are local-serving public facilities include, but are not limited to the following: public services (e.g. police, fire stations, public utilities), local-serving neighborhood schools, and local neighborhood parks.

d. **Adjacent to High-Quality Transit:** The project is located in a high-quality transit area which is defined as the one-half mile walkshed around either of the following:

   - An existing major transit, defined as a site containing an existing rail transit station or the intersection of two or more major bus routes with a combined frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods (typically defined as 7:00 AM to 9:00 AM and 4:00 Pm and 6:00 PM, respectively). In addition, a rail transit station must be within 0.25 miles of bus stop serving at least one bus route with individual service intervals no longer than 30 minutes during peak commute periods per route in order to quality as a high-quality transit area.

   - An existing stop along a high-quality transit corridor, defined as a corridor with fixed route bus service with combined service intervals (gaps between buses serving the corridor) no longer than 15 minutes during peak commute hours.

   The project must also meet the following criteria:

   - Has a floor area ratio (FAR) of equal or greater than 0.75;

   - Does not include more parking for use by residents, customers, or employees of the project than required by the City;

   - Is consistent with the City's current General Plan, as determined by the City

   - Does not replace affordable residential units with a smaller number of moderate- or high-income residential units

e. **Located in Low VMT Areas:** The project is located in an area that generates VMT below adopted City thresholds. This determination must be made using SANDAG's online residential and employment VMT maps for existing year or model baseline year VMT (whichever is available at the time analysis is being conducted), which show census tracts in the city where the VMT is below the regional average. The project must incorporate similar land use characteristics to other projects in the census tract. Map-based screening cannot be applied to a retail project, the retail portion of a mixed-use project, or any projects that are not analyzed using VMT per capita or per employee metrics.

If a project is not screened out using City criteria, the following methodology is used for completing the VMT analysis was performed. Per the City guidelines, transportation VMT analysis for CEQA shall be conducted using the SANDAG Regional Travel Demand Model. SANDAG provides base year 2016 VMT data using the SANDAG Series 14 model. By utilizing the SANDAG screening maps, the Resident VMT per Capita and Employee VMT per Employee can be observed at both the regional and census tract level. Section 2.1.3 of the City's Transportation Impact Analysis Guidelines further details the City's methodology based on the project land use.

4.2 Local Transportation Analysis Methodology

4.2.1 *Transportation Analyses*

In addition to the CEQA analysis, a non-CEQA local transportation analysis may be required to evaluate the effects of a development project on the circulation network, primarily on local access and circulation in the proximity of a project site. This analysis will address traffic operations, safety issues and needed project design features related to a proposed land use project, as well as site access and internal circulation. A local transportation analysis is required for projects generating more than 1,000 daily vehicle trips or more than 100 peak hour vehicle trips (if consistent with the latest version of the City's General Plan) or generating at least 500 daily vehicle trips or at least 50 peak hour vehicle trips if inconsistent with the City's latest General Plan. This determination should be made using SANDAG trip generation rates (or ITE or local rates if an applicable SANDAG rate is not available); mixed-use project trip generation should take internalization into account.

Existing, Interim Year, Interim Year Plus Project, Horizon Year, and Horizon Year Plus Project peak hour intersection LOS must be evaluated for all study intersections using the most recent edition of the Highway Capacity Manual (HCM) methodology. Roadway segments should be analyzed by calculating daily LOS using the daily volume capacities detailed below based on average daily traffic (ADT).

There are various methodologies used to analyze signalized intersections, unsignalized intersections and street segments. The measure of effectiveness for intersection and segment operations is level of service (LOS) which denotes the operating conditions which occur at a given intersection or on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst. LOS designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

In the Highway Capacity Manual 6th Edition (HCM 6), LOS for signalized intersections is defined in terms of delay. The LOS analysis results in seconds of delay expressed in terms of letters A through F. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time.

Table 4–1 summarizes the signalized intersections levels of service descriptions.

4.2.2 *Signalized Intersections*

Table 4–2 depicts the criteria, which are based on the average control delay for any particular minor movement (unsignalized intersections) and overall intersection (signalized intersections). For signalized intersections, LOS criteria is stated in terms of the average control delay per vehicle for a 15-minute analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

LOS A describes operations with very low delay, (i.e. less than 10.0 seconds per vehicle). This occurs

when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

LOS B describes operations with delay in the range 10.1 seconds and 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of Average delay.

LOS C describes operations with delay in the range 20.1 seconds and 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

LOS D describes operations with delay in the range 35.1 seconds and 55.0 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or higher v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are frequent.

LOS E describes operations with delay in the range of 55.1 seconds to 80.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with delay in excess of over 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over-saturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

4.2.3 *Unsignalized Intersections*

For unsignalized intersections, LOS is determined by the computed or measured control delay and is defined for each minor movement. LOS is not defined for the intersection as a whole.

LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to safely cross through a major street traffic stream. This LOS is generally evident from extremely long control delays experienced by side-street traffic and by queuing on the minor-street approaches. The method, however, is based on a constant critical gap size; that is, the critical gap remains constant no matter how long the side-street motorist waits.

TABLE 4–1
INTERSECTION LEVEL OF SERVICE DESCRIPTIONS

LOS	Description
A	Occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
C	Generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.
F	Considered to be unacceptable to most drivers. This condition often occurs with over saturation i.e. when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume-to-capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels

TABLE 4–2
INTERSECTION LEVEL OF SERVICE (LOS) & DELAY RANGES

LOS	Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10.0	≤ 10.0
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	≥ 80.1	≥ 50.1

Source: Highway Capacity Manual 6th Edition

LOS F may also appear in the form of side-street vehicles selecting smaller-than-usual gaps. In such cases, safety may be a problem, and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior, which are more difficult to observe in the field than queuing.

It may be noted that there are no unsignalized intersection in the study area. The above description was included for information purposes only.

4.2.4 *Impact of Trolley on the Intersection Level of Service*

The Sprinter, operated by the North County Transit District (NCTD) connects Downtown Escondido, City of San Marcos, City of Vista and City of Oceanside. In the Project study area, the Trolley runs parallel to W. Mission Road and the tracks cross the south leg of Las Posas Road at W. Mission Road. (study area intersections #2), in service of the Palomar College station. The following describes how LLG accounted for the additional delay at this intersection, due to the train crossings at this location.

Per NCTD, the Sprinter runs every 30 minutes in each direction during the peak hours on Monday through Friday. Therefore, during each peak hour, 4 trains pass by the intersection (two in either direction). The total delay during a single hour was calculated as follows:

- Number of gate closures at the intersection (N_t) = 4
- Average time of gate closure (G_c) = 87 seconds
- Total gate closure time per hour (L_{gc}) = $N_t * G_c$ = 348 seconds

This added delay was apportioned among the affected movements at the intersection as a proportion of overall hourly capacity by reducing movement capacity using an adjustment factor within the Synchro software at this intersection for all analysis scenarios. Movements to and from the south leg of the W. Mission Road / Las Posas Road intersection are stopped during gate closure, but through traffic on the main street (W. Mission Road) continues to receive a green light.

4.2.5 *Street Segments*

Street segment analysis is based upon the comparison of daily traffic volumes (ADTs) to the City of San Marcos's Daily Roadway Segment Capacity (***Table 4–3***) for the City of San Marcos General Plan. This table provides segment capacities for different street classifications, based on traffic volumes and roadway characteristics.

TABLE 4-3
DAILY ROADWAY SEGMENT CAPACITY

Street Classification	Lanes	LOS A	LOS B	LOS C	LOS D	LOS E (Capacity)
Expressway	6	30,000	42,000	60,000	70,000	80,000
Prime Arterial	6	25,000	35,000	50,000	55,000	60,000
Major Arterial	6	20,000	28,000	40,000	45,000	50,000
Major Arterial	4	15,000	21,000	30,000	35,000	40,000
Major Arterial (One-Way)	3	12,500	16,500	22,500	25,000	27,500
Major Arterial (One-Way)	2	10,000	13,000	17,500	20,000	22,500
Secondary Arterial/Collector	4	10,000	14,000	20,000	25,000	30,000
Collector (no center lane)	4	5,000	7,000	10,000	13,000	15,000
Collector (continuous left-turn lane)	2	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2	4,000	5,500	7,500	9,000	10,000
Collector (commercial- industrial fronting)	2	2,500	3,500	5,000	6,500	8,000
Collector (multi-family)	2	2,500	3,500	5,000	6,500	8,000
Collector (one-way)	3	11,000	14,000	19,000	22,500	26,000
Collector (one-way)	2	7,500	9,500	12,500	15,000	17,500
Collector (one-way)	1	2,500	3,500	5,000	6,500	7,500
Sub-Collector (single- family)	2	--	--	2,200	--	--

Source: *Guidelines for Transportation Impact Studies in the San Diego Region* (May 2019)
Notes:
1. The volumes and the average daily level of service listed above are only intended as a general planning outline.
2. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

5.0 SIGNIFICANCE THRESHOLDS AND LEVEL OF SERVICE STANDARDS

5.1 VMT Significant Impact Thresholds

The *Transportation Impact Analysis Guidelines* has been published by the City of San Marcos in November 2020 and was utilized for this report for evaluating Project impacts using VMT. According to the City of San Marcos' guidelines, the transportation VMT thresholds of significance are shown in ***Table 5–1***.

TABLE 5–1
VMT SIGNIFICANCE THRESHOLDS

Land Use Type	Thresholds for Determination of a Significant Transportation VMT Impact[1]
Residential Uses	15% below countywide average[2] Resident VMT/Capita
Employment Projects	15% below countywide average[2] Employee VMT/Employee
Retail Uses	Zero net increase in total citywide VMT[2]
Mixed-Use	Evaluate each component of a mixed-use project independently and apply the significance threshold for each land use type, incorporating internalization reductions.
Redevelopment (replaces existing uses)	If the project results in a net increase in VMT, apply the appropriate significance threshold for the project land use type(s)
Hotel	Use Employment Projects Threshold
Medical Office	Use Employment Projects Threshold
School/College	Use Retail Uses Threshold
Recreational Facilities	Use Retail Uses Threshold
Churches and Other Religious Institutions	Use Retail Uses Threshold

Source: City of San Marcos' Transportation Impact Analysis Guidelines (November 2020)

Footnotes:

1. Projects that exceed these thresholds would have a significant impact.
2. The countywide average and total citywide VMT are determined using the most recent version of the base year SANDAG Regional Travel Demand Model or the SANDAG online mapping tool.

5.2 Level of Service Standards

The City of San Marcos strives to maintain intersection and roadway segment operations based on LOS standards outlined in the General Plan Mobility Element. If the addition of the traffic generated from a proposed project results in any one of the following, improvements should be identified to increase performance to acceptable or pre-project conditions under each scenario:

- Triggers an intersection operating at acceptable LOS to operate at unacceptable LOS and increases the delay by more than 2.0 seconds.
- Increases the delay for a study intersection that is already operating at unacceptable LOS by more than 2.0 seconds.
- Triggers a roadway segment operating at acceptable LOS to operate at unacceptable LOS and increases the volume/capacity (V/C) ratio by more than 0.02.
- Increases the V/C ratio for a study roadway segment that is already operating at unacceptable LOS by more than 0.02.

6.0 VEHICLE MILES TRAVELED (VMT) ANALYSIS

6.1 Screening Criteria

Based on the screening criteria described in Section 4.2.1, the Project is screened out from a VMT analysis as detailed below. ***Table 6–1*** summarizes the Project applicability of the City's screening criteria.

TABLE 6–1
VMT SCREENING CRITERIA – PROJECT APPLICABILITY

Screening Criteria [a]	Applicable to the Project?	Project Screen out?
a. Small Project	No	—
b. Affordable Housing	No	—
c. Locally Serving Retail and Public Facilities	Yes	Yes
d. Adjacent to High Quality Transit	No	—
e. Located in Low VMT Areas	No	—

Footnotes:

a. Based on the City of San Marcos Transportation Impact Analysis Guidelines (November 2020).

Screening Criteria 3 per Section 2.1.2.3 of the City's guidelines:

Locally Serving Retail and Public Facilities: "The project is a locally serving retail project defined as having 50,000 square feet gross floor area or less. Retail can include shopping centers as well as standalone uses such as commercial shops, gas stations, and restaurants. Uses that are local-serving public facilities include, but are not limited to the following: public services (e.g. police, fire stations, public utilities), local-serving neighborhood schools, and local neighborhood parks."

Result:

The proposed Project is a locally serving gas station with a convenience store with the total project land use density less than 50,000 square feet of gross floor area. Therefore, per the City's guidelines, the Project site is presumed to have a less-than-significant transportation impact and does not require a detailed VMT analysis. Since the Project does not result in a significant impact, no mitigation measures are required to be implemented.

7.0 LOCAL TRANSPORTATION ANALYSIS OF EXISTING CONDITIONS

The CEQA impact significance determination for the proposed Project is based only on VMT and not on LOS.

7.1 Peak Hour Intersection Levels of Service

Table 7-1 summarizes the peak hour intersection operations for existing conditions. As seen in *Table 7-1*, all intersections are calculated to currently operate at LOS D or better during both the AM and PM peak hours except:

- W. Mission Road / Las Posas Road (LOS E during the PM peak hour).

Appendix D contains the Existing intersection analysis calculation worksheets.

TABLE 7–1
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Delay[a]	LOS[b]
1. S. Santa Fe Road (W. Mission Road) / Rancho Santa Fe Ave	Signal	AM	20.6	C
		PM	22.7	C
2. W. Mission Road / Las Posas Rd	Signal	AM	40.7	D
		PM	**73.1**	**E**
3. Armolite Dr / Las Posas Road	Signal	AM	14.4	B
		PM	20.9	C
4. S. Santa Fe Ave / Palomar College Dwy	Signal	AM	9.8	A
		PM	8.9	A

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.

SIGNALIZED

Delay	LOS
0.0 ≤ 10.0	A
10.1 to 20.0	B
20.1 to 35.0	C
35.1 to 55.0	D
55.1 to 80.0	E
≥ 80.1	F

7.2 Daily Street Segment Levels of Service

Table 7-2 summarizes the existing roadway segment operations. As seen in *Table 7-2,* the study area segments are calculated to currently operate at LOS B or better.

TABLE 7–2
EXISTING STREET SEGMENT OPERATIONS

Street Segment	Classification	LOS E Capacity [a]	ADT [b]	LOS [c]	V/C [d]
W. Mission Road					
Rancho Santa Fe Ave to Las Posas Rd	4-Ln Arterial	40,000	12,270	A	0.307
Las Posas Rd to Palomar College Dwy	4-Ln Arterial	40,000	14,360	A	0.359
N. Las Posas Road					
W. Mission Rd to Armorlite Rd	6-Ln Arterial	60,000	21,540	A	0.359
Armorlite Rd to SR 78	6-Ln Arterial	60,000	26,210	B	0.437

Footnotes:

a. Capacities based on City of San Marcos's Roadway Classification Table.
b. Average Daily Traffic Volumes.
c. Level of Service.
d. Volume to Capacity.

8.0 TRIP GENERATION, DISTRIBUTION, & ASSIGNMENT

8.1 Project Trip Generation

Trip generation rates were obtained from the (Not So) *Brief guide of Vehicular Traffic Generation Rates for the San Diego Region*, April 2002 by SANDAG. The "Gasoline with/Food Mart and Car Wash" trip rate was used to estimate the Project trip generation. The SANDAG rate for gas station / food mart / carwash does not account for the provision of a small restaurant with a drive-through. Therefore, the trip generation was increased by 20%. It should be noted that a large percentage of the gas station and carwash trips are already in the street system and are not new trips. However, no reduction in trip generation was applied to account for pass-by trips, which is a very conservative assumption.

Table 8–1 summarizes the total Project traffic generation. The Project is calculated to generate 1,674 ADT with 134 AM peak hour trips (67 inbound / 67 outbound) and 150 PM peak hour trips (76 inbound / 74 outbound).

8.2 Trip Distribution/Assignment

The Project traffic was distributed and assigned to the street system based on the Project's proximity to state highways and arterials, the Project's right-in / right-out only access driveway. Following is a description of the project traffic assignment at the Project driveway:

- There is a raised median along the Project frontage on Las Posas Road. Hence, no left-turns into or out of the Project driveways are possible.
- Inbound Project traffic can only enter the project site from the north. Outbound traffic can only exit to the south.
- All Project traffic from the south must continue to the Las Posas Road / W. Mission Road intersection, make a U-turn at W. Mission Road and turn south to enter the Project site from the north.
- All Project traffic destined to the north of the site must exit the site to the south and make a U-turn at Armolite Drive to turn north to their ultimate destination.

The Project traffic was assigned as described above.

Figure 8–1 depicts the Project Traffic Distribution, and ***Figure 8–2*** depicts the Project Traffic Assignment.

TABLE 8-1
TRIP GENERATION SUMMARY

Land Use & Size	Quantity	Trip Rate [a]	ADT	AM Peak Hour					PM Peak Hour				
				% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Gas Station	9 FS [b]	155 /FS	1,395	8%	50 : 50	56	56	112	9%	50 : 50	63	62	125
Food Mart with Drive Thru Factor (20%)			*279*			*11*	*11*	*22*			*13*	*12*	*25*
Total Project Trips			**1,674**			**67**	**67**	**134**			**76**	**74**	**150**

Footnotes:

a. (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (April 2002), SANDAG.
b. FS – Fueling Space

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Figure 8-1

Project Traffic Distribution

Las Posas Gas Station

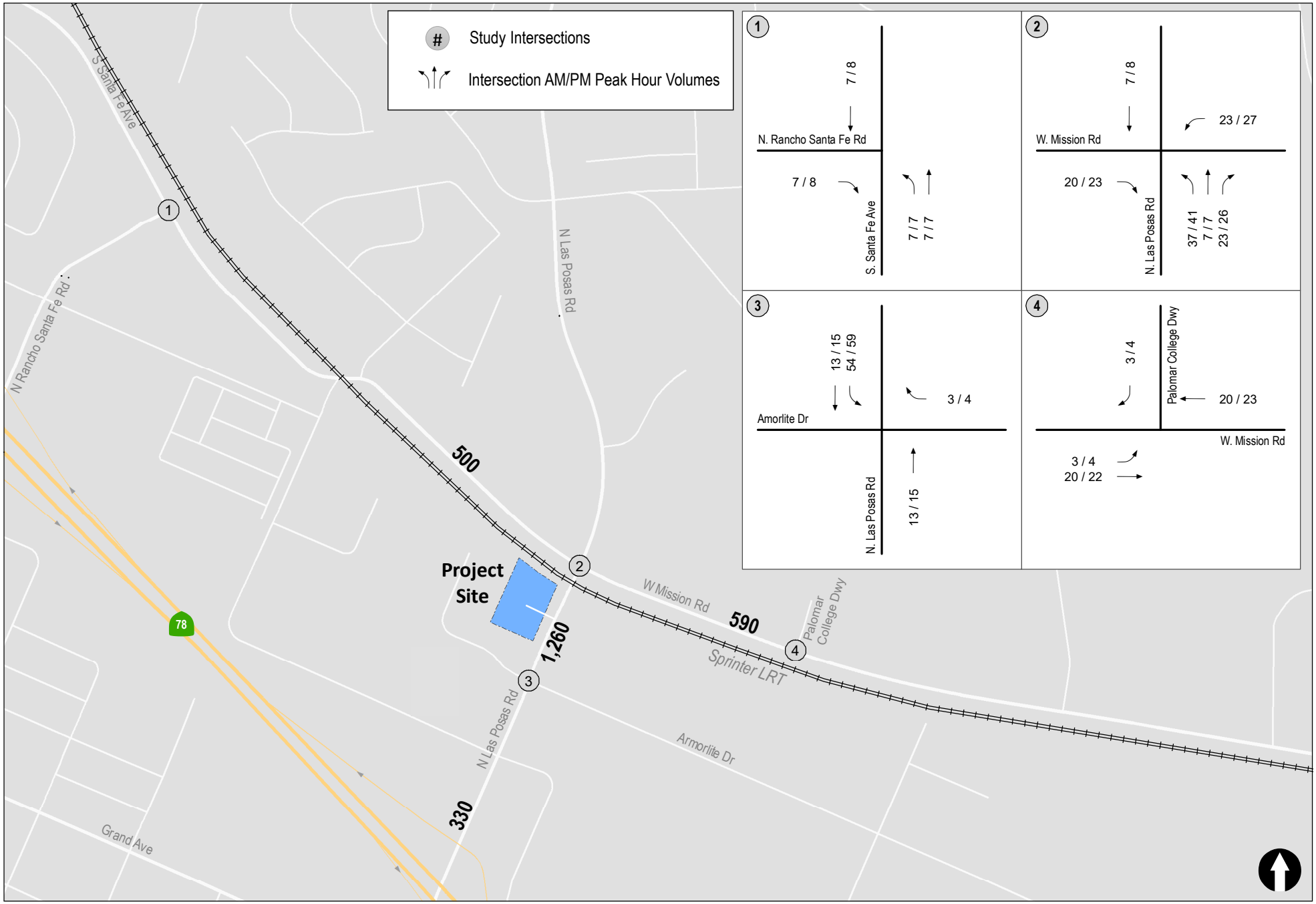

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Figure 8-2

Project Traffic Volumes

Las Posas Gas Station

9.0 LOCAL TRANSPORTATION ANALYSIS OF NEAR-TERM (YEAR 2025) CONDITIONS

9.1 Year 2025 Traffic Volumes

Year 2025 traffic volumes were calculated based on the manual hand counts at the study area intersections conducted in September 2016. A growth factor of 1% per year for nine years (9% total) was added to the traffic counts to represent Year 2025 conditions.

Figure 9–1 shows the Year 2025 without Project traffic volumes. ***Figure 9–2*** shows the Year 2025 with Project traffic volumes.

9.2 Near-Term (Year 2025) Without Project

9.2.1 *Intersection Analysis*

Table 9–1 summarizes the peak hour intersection operations for the Year 2025 without Project condition. As seen in *Table 9–1*, all intersections are calculated to operate acceptably at LOS D or better during both the AM and PM peak hours except:

- W. Mission Road / Las Posas Road (LOS F during the PM peak hour)

Appendix C contains the Year 2025 without Project intersection analysis calculation worksheets.

9.2.2 *Segment Operations*

Table 9–2 summarizes the segment operations throughout the study area for the Year 2025 without Project condition. As seen in *Table 9–2*, all of the study area segments are calculated to operate acceptably at LOS B or better.

9.3 Near-Term (Year 2025) + Project

9.3.1 *Intersections Analysis*

Table 9–1 summarizes the intersection operations through the study area for the Year 2025 with Project condition. As seen in *Table 9–1*, with the addition of Project traffic all intersections are calculated to continue to operate acceptably at LOS D or better during both the AM and PM peak hours except:

- W. Mission Road / Las Posas Road (LOS F during the PM peak hour)

The Project does not increase the delay at this intersection that is already operating at unacceptable LOS by more than 2.0 seconds. Therefore, no improvement is necessary.

Appendix D contains the Year 2025 + Project intersection analysis calculation worksheets.

9.3.2 *Segment Operations*

Table 9–2 summarizes the segment operations throughout the study area for the Year 2025 with Project condition. As seen in *Table 9–2*, with the addition of Project traffic, all of the study area segments are calculated to continue to operate at LOS B or better.

TABLE 9–1
YEAR 2025 INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Year 2025 Without Project		Year 2025 With Project		Δ [c]	Consistent w/ City LOS Standards? [d]
			Delay [a]	LOS [b]	Delay	LOS		
1. S. Santa Fe Road (W. Mission Road) / Rancho Santa Fe Ave	Signal	AM	21.3	C	21.4	C	0.1	Yes
		PM	23.5	C	23.5	C	0.0	Yes
2. W. Mission Road / Las Posas Rd	Signal	AM	48.3	D	50.4	D	2.1	Yes
		PM	**83.6**	**F**	**84.7**	**F**	1.1	Yes [e]
3. Armolite Dr / Las Posas Rd	Signal	AM	14.4	B	16.1	B	1.7	Yes
		PM	22.1	C	25.9	C	3.8	Yes
4. S. Santa Fe Ave / Palomar College Dwy	Signal	AM	10.1	B	10.4	B	0.3	Yes
		PM	9.2	A	9.6	A	0.4	Yes

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the increase in delay due to Project.
d. City of San Marcos strives to maintain intersection and roadway segment operations based on LOS standards (LOS D or better) outlined in the General Plan Mobility Element.
e. The Project does not increase the delay by more than 2.0 seconds at this intersection operating at an unacceptable LOS.

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

TABLE 9–2
YEAR 2025 STREET SEGMENT OPERATIONS

Street Segment	Existing Roadway Class	Capacity (LOS E) [a]	Year 2025 Without Project			Year 2025 With Project			Δ[e]	Consistent w/ City LOS Standards? [f]
			ADT [b]	LOS [c]	V/C [d]	ADT	LOS	V/C		
W. Mission Road										
Rancho Santa Fe Ave to Las Posas Rd	4-Ln Arterial	40,000	13,370	A	0.334	13,870	A	0.347	0.013	Yes
Las Posas Rd to Palomar College Dwy	4-Ln Arterial	40,000	15,650	B	0.391	16,240	B	0.406	0.015	Yes
N. Las Posas Road										
W. Mission Rd to Armorlite Rd	6-Ln Arterial	60,000	23,480	A	0.391	23,480	A	0.391	0.000	Yes
Armorlite Rd to SR 78	6-Ln Arterial	60,000	28,570	B	0.476	29,830	B	0.497	0.021	Yes

Footnotes:

a. Capacities based on City of San Marcos's Roadway Classification Table
b. Average Daily Traffic Volumes.
c. Level of Service.
d. Volume to Capacity.
e. Δ denotes a project-induced increase in the Volume to Capacity (V/C) ratio.
f. City of San Marcos strives to maintain intersection and roadway segment operations based on LOS standards (LOS D or better) outlined in the General Plan Mobility Element.

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Figure 9-1

Near-Term (Year 2025) without Project Traffic Volumes

Las Posas Gas Station

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Figure 9-2

Near-Term (Year 2025) + Project Traffic Volumes

Las Posas Gas Station

10.0 LOCAL TRANSPORTATION ANALYSIS OF HORIZON YEAR (YEAR 2050) CONDITIONS

10.1 Year 2050 Traffic Volumes

The Year 2050 segment ADT volumes were obtained from the SANDAG series 14 Model. Year 2050 peak hour turning movement volumes were estimated using a template in Excel developed by LLG to determine peak hour traffic at an intersection from future (Year 2050) ADT volumes using the relationship between existing peak hour turn movements and the existing ADT volumes. This same relationship can be assumed to generally continue in the future. For example, if the segment ADT on the roadway is forecast to double by the Year 2050, it is reasonable to assume that the peak hour intersection turning movement volumes will generally double. The Project traffic was added to the Year 2050 without Project traffic volumes to obtain Year 2050 with Project traffic volumes.

Figure 10–1 depicts Year 2050 Without Project traffic volumes. ***Figure 10–2*** depicts Year 2050 With Project traffic volumes.

10.2 Year 2050 Without Project Analysis

10.2.1 *Intersection Analysis*

Table 10–1 summarizes the Year 2050 without Project peak hour intersection analysis. As shown in *Table 10–1*, all intersections are calculated to operate acceptably at LOS D or better during both the AM and PM peak hours except:

- W. Mission Road / Las Posas Road (LOS E during the AM peak hour and LOS F during the PM peak hour)

Appendix E contains the Year 2050 Without Project peak hour intersection analysis worksheets.

10.2.2 *Segment Operations*

Table 10–2 summarizes the Year 2050 without Project daily street segment operations. As shown in *Table 10–2*, all street segments are calculated to operate acceptably at LOS C.

10.3 Year 2050 With Project Analysis

10.3.1 *Intersection Analysis*

Table 10–1 summarizes the Year 2050 with Project peak hour intersection analysis. As shown in *Table 10–1*, with the addition of Project traffic all intersections are calculated to continue to operate acceptably at LOS D or better during the AM and PM peak hours except:

- W. Mission Road / Las Posas Road (LOS E during the AM peak hour and LOS F during the PM peak hour)

The Project does not increase the delay at this intersection that is already operating at unacceptable LOS by more than 2.0 seconds during the AM or PM peak hours. Therefore, no improvement is required.

Appendix F contains the Year 2050 With Project peak hour intersection analysis worksheets.

10.3.2 *Segment Operations*

Table 10–2 summarizes the Year 2050 with Project daily street segment operations. As shown in *Table 10–2*, with the addition of project traffic all street segments are calculated to operate at LOS C, and therefore roadway improvements are not required.

TABLE 10–1
YEAR 2050 INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Year 2050 Without Project		Year 2050 With Project		Δ [c]	Consistent w/ City LOS Standards? [d]
			Delay [a]	LOS [b]	Delay	LOS		
1. S. Santa Fe Ave / Rancho Santa Fe Ave	Signal	AM	28.9	C	29.3	C	0.4	Yes
		PM	40.5	D	42.4	D	1.9	Yes
2. S. Santa Fe Ave / Las Posas Rd	Signal	AM	**57.5**	**E**	**58.0**	**E**	0.5	Yes [e]
		PM	**127.9**	**F**	**128.3**	**F**	0.4	Yes [e]
3. Armolite Dr / Las Posas Rd	Signal	AM	18.4	B	19.9	B	1.5	Yes
		PM	44.0	D	48.3	D	4.3	Yes
4. S. Santa Fe Ave / Palomar College Dwy	Signal	AM	10.4	B	10.7	B	0.3	Yes
		PM	9.7	A	10.0	A	0.3	Yes

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes the increase in delay due to Project.
d. City of San Marcos strives to maintain intersection and roadway segment operations based on LOS standards (LOS D or better) outlined in the General Plan Mobility Element.
e. The Project does not increase the delay by more than 2.0 seconds at this intersection operating at an unacceptable LOS.

SIGNALIZED		UNSIGNALIZED	
Delay	LOS	Delay	LOS
0.0 ≤ 10.0	A	0.0 ≤ 10.0	A
10.1 to 20.0	B	10.1 to 15.0	B
20.1 to 35.0	C	15.1 to 25.0	C
35.1 to 55.0	D	25.1 to 35.0	D
55.1 to 80.0	E	35.1 to 50.0	E
≥ 80.1	F	≥ 50.1	F

TABLE 10–2
YEAR 2050 STREET SEGMENT OPERATIONS

Street Segment	Existing Roadway Class	Capacity (LOS E) [a]	Year 2050 Without Project			Year 2050 With Project			Δ[e]	Consistent w/ City LOS Standards? [f]
			ADT [b]	LOS [c]	V/C [d]	ADT	LOS	V/C		
W. Mission Road										
Rancho Santa Fe Ave to Las Posas Rd	4-Ln Arterial	40,000	20,900	B	0.523	21,400	C	0.535	0.013	Yes
Las Posas Rd to Palomar College Dwy	4-Ln Arterial	40,000	14,500	A	0.363	15,090	B	0.377	0.015	Yes
N. Las Posas Road										
W. Mission Rd to Armorlite Rd	6-Ln Arterial	60,000	25,200	B	0.420	26,460	B	0.441	0.021	Yes
Armorlite Rd to SR 78	6-Ln Arterial	60,000	37,900	C	0.632	38,230	C	0.637	0.005	Yes

Footnotes:

a. Capacities based on City of San Marcos's Roadway Classification Table
b. Average Daily Traffic Volumes.
c. Level of Service.
d. Volume to Capacity.
e. Δ denotes a project-induced increase in the Volume to Capacity (V/C) ratio.
f. City of San Marcos strives to maintain intersection and roadway segment operations based on LOS standards (LOS D or better) outlined in the General Plan Mobility Element.

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Figure 10-1

Year 2050 without Project Traffic Volumes

Las Posas Gas Station

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Figure 10-2

Year 2050 + Project Traffic Volumes

Las Posas Gas Station

11.0 SITE ACCESS AND CIRCULATION REVIEW

11.1 Site Access

One right-in / right-out only unsignalized driveway on Las Posas Road provides the Project access. The segment of Las Posas Road adjacent to the Project site is a six-lane divided roadway with a raised median. Hence, left turns into and out of the Project site are not possible. The Project driveway is calculated to operate acceptably at LOS C or better during the Horizon Year peak hours as shown in ***Table 11-1***.

Appendix G contains the intersection analysis worksheets.

TABLE 11–1
SITE ACCESS DRIVEWAY INTERSECTION OPERATIONS – YEAR 2050 WITH PROJECT

Intersection	Control Type	Peak Hour	Delay[a]	LOS[b]
i. Las Posas Rd / Project Dwy	TWSC [c]	AM	24.8	C
		PM	24.9	C

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. TWSC – Two Way Stop Control. Minor Street approach LOS and delay are reported.

11.2 Parking

Table 11-1 summarizes the required parking per the City of San Marcos Municipal Code and the parking provided. The *City of San Marcos Municipal Code Title 20 Zoning Ordinance* provides guidance on the minimum off-street parking requirements for a variety of land uses. The "automotive fueling station", is the land use applicable to the Project, which requires a minimum of 1 space per 1,000 SF minus convenience store area, plus 3.3 spaces per 1,000 SF for convenience store.

The parking spaces will include two handicapped parking spaces and three EV charging spaces.

11.3 Queuing

11.3.1 *Driveway Queuing*

The volumes at the Project driveway is the highest in the Horizon Year. Therefore, the queues at the Project driveway are calculated for the Horizon Year. The Project driveway is not signalized and the inbound movement at the driveway is is free. Hence, queues are not calculated. The only outbound movement the driveway is the eastbound right-turn movement.

Table 11–2 summarizes the calculated peak hour queues at the Project driveway intersection for the Horizon Year scenario in the eastbound (outbound) right-turn movement. As seen in *Table 11–2*, the 95th percentile outbound queues at the Project driveway are calculated to be contained within the proposed storage lengths.

The peak hour driveway intersection analysis worksheets included in *Appendix G* also indicates the calculated queues in number of vehicles. The queues shown in *Table 11-2* were calculated assuming a length of 25 feet per vehicle.

TABLE 11-1
MINIMUM REQUIRED PARKING

Land Use	No. of Units	Parking Ratio [a]	Parking Spaces	
			Required Minimum	Provided
Convenience Store [b]	5,000 SF	3.3 Spaces / KSF	17	25
Car Wash [c]	3,000 SF	3.3 Spaces / KSF	10	15
Total Auto Spaces			**27**	**40**

Footnote:

a *Schedule of Off-Street Parking Requirements*. San Diego County.
b 6762 - Parking Requirements: Commercial, Stand-Alone Fast-Food Restaurant with Drive-Through Window.
c 6762 - Parking Requirements: Commercial, Automotive or Equipment Sales and Service
d 6780 - Parking Requirements: Other Occupancies and Uses.

TABLE 11–2
95TH PERCENTILE QUEUE RESULTS

Intersection	Critical Movement	Peak Hour	Storage Length (ft)	95th Percentile Queue Length (ft)
i. Las Posas Rd / North Project Dwy	EBR	AM PM	>50	28 33

Source: LLG Synchro Analysis

11.3.2 *On-Site Car Wash Queuing*

Per Table 20.340-1 of the City of San Marcos Municipal Code Title 20 Zoning Ordinance, 5 queue spaces are required for car wash. The Project will provide two-lanes of queuing with 9 queue spaces in one lane and 5 queue spaces in the second lane for a total of 14 spaces and will therefore be in compliance with the City's minimum requirement of 5 spaces.

12.0 ACTIVE TRANSPORTATION REVIEW

12.1 Pedestrian Conditions

12.1.1 *Existing Conditions*

Pedestrian facilities are provided within the Project study area. Paved sidewalks are provided along W. Mission Road, N. Rancho Santa Fe Road, and N. Las Posas Road. Crosswalks are provided at all of the signalized study area intersections. Enhanced crosswalk markings are provided on the south leg of the W. Mission Road / Las Posas Road intersection

12.1.2 *Future Conditions*

No improvements to the existing pedestrian facilities are planned.

12.2 Transit Conditions

The Transit conditions in the Project area are described in this section. However, it may be noted that only some of the patrons of the food mart are likely to utilize transit as patrons of the gas station and the carwash will utilize automobiles.

12.2.1 *Existing Conditions*

The project site is located within ¼ mile of the Palomar San Marcos Sprinter light rail station and bus stops serving North County Transit District (NCTD) (Route 304, Route 305, Route 347 and Route 445). Residents will be able to utilize these public transit opportunities. A summary of the available transit service routes is provided below:

Palomar College SPRINTER is an east-west SPRINTER hybrid rail that spans 22-miles and connects Oceanside, Vista, San Marcos, and Escondido – serving 15 stations along Highway 78 corridor. The SPRINTER runs every 30 minutes in each direction Monday through Friday from approximately 4:00 AM to 9:00 PM. Saturday, Sunday, and holiday trains operate every 30 minutes between 10:00 AM and 6:00 PM and hourly before 10:00 AM and after 6:00 PM.

Route 304 runs from the Encinitas Station to the Palomar College Transit Center with destinations to Palomar College, La Costa Canyon High School, San Marcos High School, Encinitas Ranch Town Center, YMCA, Scripps Memorial Hospital, Lake San Marcos, Encinitas City Hall, and San Dieguito Academy. There are 49 stops along this route. Route 304 currently operates Monday through Friday from 5:31 AM through 8:23 PM departing from the Vista Transit Center Encinitas Station and from 4:53 AM through 8:23 PM departing from the Palomar College Transit Center. Weekend route schedule begins at 7:22 AM through 8:27 PM departing from the Encinitas Station and begins at 6:53 AM to 8:23 PM departing from the Palomar College Transit Center. Route 304 travels at 30-minute headways on weekdays, and 1-hour headways on weekends.

Route 305 runs from the Vista Transit Center to the Escondido Transit Center with destinations to Palomar College, San Marcos Civic Center, Mission Hills High School, San Marcos Middle School, Vista Transit Center Escondido Transit Center, Arc Enterprises, and DMV. There are 33 stops along this route. Route 305 currently operates Monday through Friday from 4:32 AM through 11:02 PM

departing from the Vista Transit Center and from 4:19 AM through 10:16 PM departing from the Escondido Transit Center. Weekend route schedule begins at 5:32 AM through 11:02 PM departing from Vista Transit Center and begins at 5:15 AM to 10:18 PM departing from the Escondido Transit Center. Route 305 travels at 30-minute headways on weekdays, and 30-minute headways on weekends.

Route 347 runs from Cal State San Marcos to Palomar College with destinations to Cal State University San Marcos, Palomar College, Restaurant Row, Cal State San Marcos SPRINTER Station, and Edwards Cinemas. There are 24 stops along this route. Route 347 currently operates Monday through Friday from 5:20 AM through 7:12 PM departing from the CSUSM Sprinter Station and from 5:45 AM through 7:36 PM departing from Palomar College Transit Center. Saturday route schedule begins at 7:51 AM through 7:12 PM departing from CSUSM Sprinter Station and begins at 7:14 AM to 6:35 PM departing from Palomar College Transit Center. Route 347 does not operate on Sundays. Route 305 travels at 30-minute headways on weekdays, and 60-minute headways on Saturdays.

Route 445 runs from the Carlsbad Poinsettia COASTER Connection to the Palomar College Transit Center with destinations to McClellan Palomar Airport, Palomar College, San Marcos High School, High Tech High School, and Carlsbad Poinsettia COASTER Station. There are 26 stops along this route. Route 445 currently operates Monday through Friday from 6:42 AM through 3:43 PM departing from the Carlsbad Poinsettia COASTER Connection and from 6:36 AM through 5:04 PM departing from Palomar College Transit Center. Route 445 does not operate on weekends. Route 445 travels at 1-hour headways on weekdays.

12.2.2 *Future Conditions*

No improvements to the existing transit facilities are planned.

12.3 Bicycle Conditions

12.3.1 *Existing Conditions*

There are currently Class II bike lanes in each direction of travel on W. Mission Road and N. Las Posas Road in the vicinity of the Project site, consistent with the *City of San Marcos Bicycle and Pedestrian Plan*, September 2012. The Inland Rail Trail, a class I shared use bicycle and pedestrian path, currently runs on the south side of W. Mission Road in the vicinity of the Project site.

The Inland Rail Trail is a 21-mile Class I facility that is located within the communities of Oceanside, Vista, San Marcos, and Escondido, as well as within a portion of the unincorporated County of San Diego. Work in Vista near Phillips Street and Mar Vista Drive (Phase 3A) began in January 2018 and was completed in 2020. The next Phase is anticipated to start construction in Spring 2021.

The eastern-most portion of the bikeway was constructed in the cities of Escondido and San Marcos as part of the SPRINTER construction project. The trail extended from the Escondido Transit and SPRINTER Rail Station in the City of Escondido to the intersection of West Mission Road and North Pacific Street in the City of San Marcos.

The San Marcos to Vista portion of the Inland Rail Trail, is a 7-mile section of Class I bikeway and multi-use path in San Marcos, Vista, and the County of San Diego. This portion extends from the intersection of West Mission Road and North Pacific Street in San Marcos, where the eastern-most section of the trail ended, to the intersection of North Melrose Drive and West Bobier Drive and Oceanside Boulevard, at the Vista/Oceanside boundary, and near the North Melrose SPRINTER station.

12.3.2 *Future Conditions*

The existing Class II Bike lane on Las Posas Road between W. Mission Road and SR 78 is planned to be improved to a Class I Shared Use path. ***Table 12–1*** summarizes the existing conditions and planned improvements in the Project study area.

TABLE 12–1
BICYCLE MOBILITY

Street Segment	Existing Condition	Future Improvement [a]
W. Mission Road		
Rancho Santa Fe Ave to Las Posas Rd	Class I – Shared Use Path & Class II – Bicycle Lane	None
Las Posas Rd to Palomar College Dwy	Class I – Shared Use Path & Class II – Bicycle Lane	None
N. Las Posas Road		
W. Mission Rd to Armorlite Rd	Class II – Bicycle Lane	Class I – Shared Use Path
Armorlite Rd to SR 78	Class II – Bicycle Lane	Class I – Shared Use Path

Footnote:

a City of San Marcos Bicycle and Pedestrian Master Plan.

13.0 CONCLUSIONS

The proposed Project has a total project land use density less than 50,000 square feet of gross floor area and is a locally serving gas station with a convenience store. Therefore, per the City's *Transportation Impact Analysis Guidelines*, November 16, 2020, the Project site is presumed to have a less-than-significant transportation impact and does not require a detailed VMT analysis. Hence, no mitigation measures are required.

The capacity and LOS analysis indicates the Project traffic does not increases the delay for a study intersection that is already operating at unacceptable LOS by more than 2.0 seconds. Also, the Project traffic does not trigger any of the study area roadway segments operating at acceptable LOS to operate at unacceptable LOS or increase the volume/capacity (V/C) ratio by more than 0.02. Hence, no improvements are required.