LINSCOTT LAW & GREENSPAN engineers

TRANSPORTATION IMPACT ANALYSIS & LOCAL MOBILITY ANALYSIS

MEYERS INDUSTRIAL

Escondido, California
April 7, 2022

LLG Ref. 3-21-3388

Prepared by:

Amelia Giacalone
Senior Transportation Planner

Zahira Chayeb
Transportation Engineer I

Under the Supervision of:

John Boarman, P.E
Principal

Linscott, Law & Greenspan, Engineers
4542 Ruffner Street
Suite 100
San Diego, CA 92111
858.300.8800 T
858.300.8810 F
www.llgengineers.com

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MEYERS INDUSTRIAL

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1.0 INTRODUCTION

Linscott, Law & Greenspan, Engineers (LLG) has prepared the following Transportation Impact Analysis & Local Mobility Analysis to determine and evaluate the potential impacts and effects to the local roadway system due to the proposed Meyers Industrial project. The Project site is located at at 2351 Meyers Avenue between E. Bartham Drive and Corporate Drive at the westerly City boundary in the City of Escondido, California.

The following items are included in this traffic study:

- Project Description
- Existing Conditions Discussion
- Vehicle Miles Traveled (VMT) Analysis
- Local Mobility Analysis (LMA)
- Local Transportation Analysis of Existing Conditions
- Trip Generation, Distribution, and Assignment
- Cumulative Projects
- Local Transportation Analysis of Near-Term Scenarios
- Site Access Review
- Active Transportation Review
- Significant Impacts and Substantial Effects

2.0 PROJECT DESCRIPTION

The Project proposes the development of a vacant approximately five-acre site located at 2351 Meyers Avenue between E. Barham Drive and Corporate Drive at the westerly City boundary in the City of Escondido, California.

The Project includes a Plot Plan, Design Review, and Notice of Exemption to construct a 67,300-square-foot unrefrigerated warehouse spec building comprising 61,300-square-feet on the first floor and 6,000-square-feet on the mezzanine. The building will be broken into 12,000-square-feet of office space and 55,300-square-feet of manufacturing/warehouse space. An ingress/egress driveway will provide access to the Project off Meyers Avenue.

The site is General Plan designated LI – Light Industrial and Zoned PD-I – Planned Development – Industrial.

Figure 2–1 shows the Project vicinity. ***Figure 2–2*** shows a more detailed Project area map. ***Figure 2–3*** depicts the conceptual site plan.

Access to the project site will be via one driveway on Meyers Avenue which will provide an internal loop through the project site. The driveway will be unsignalized and will offer full access.

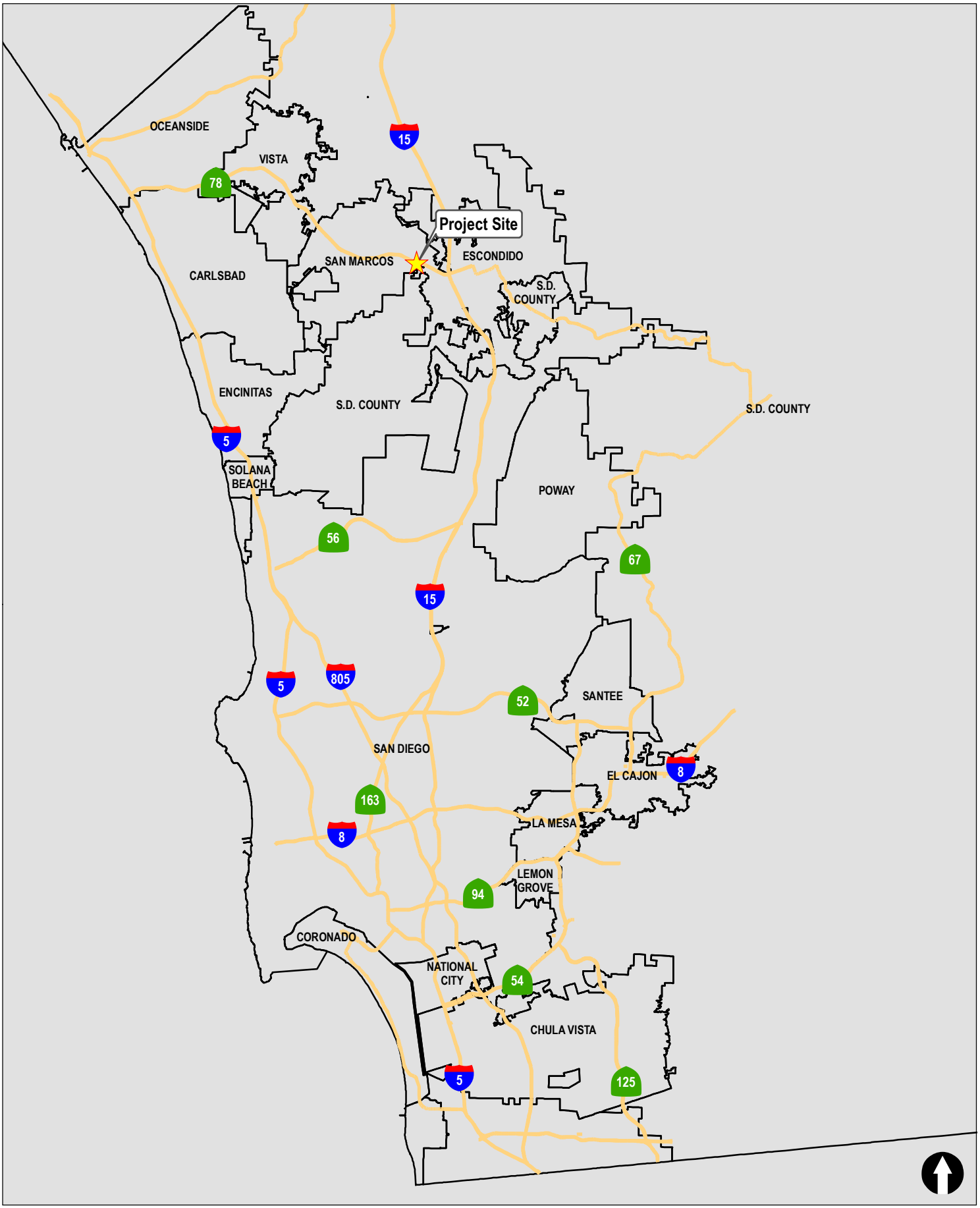

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Figure 2-1

Vicinity Map

Escondido Industrial

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Figure 2-2

Project Area Map

ESCONDIDO INDUSTRIAL

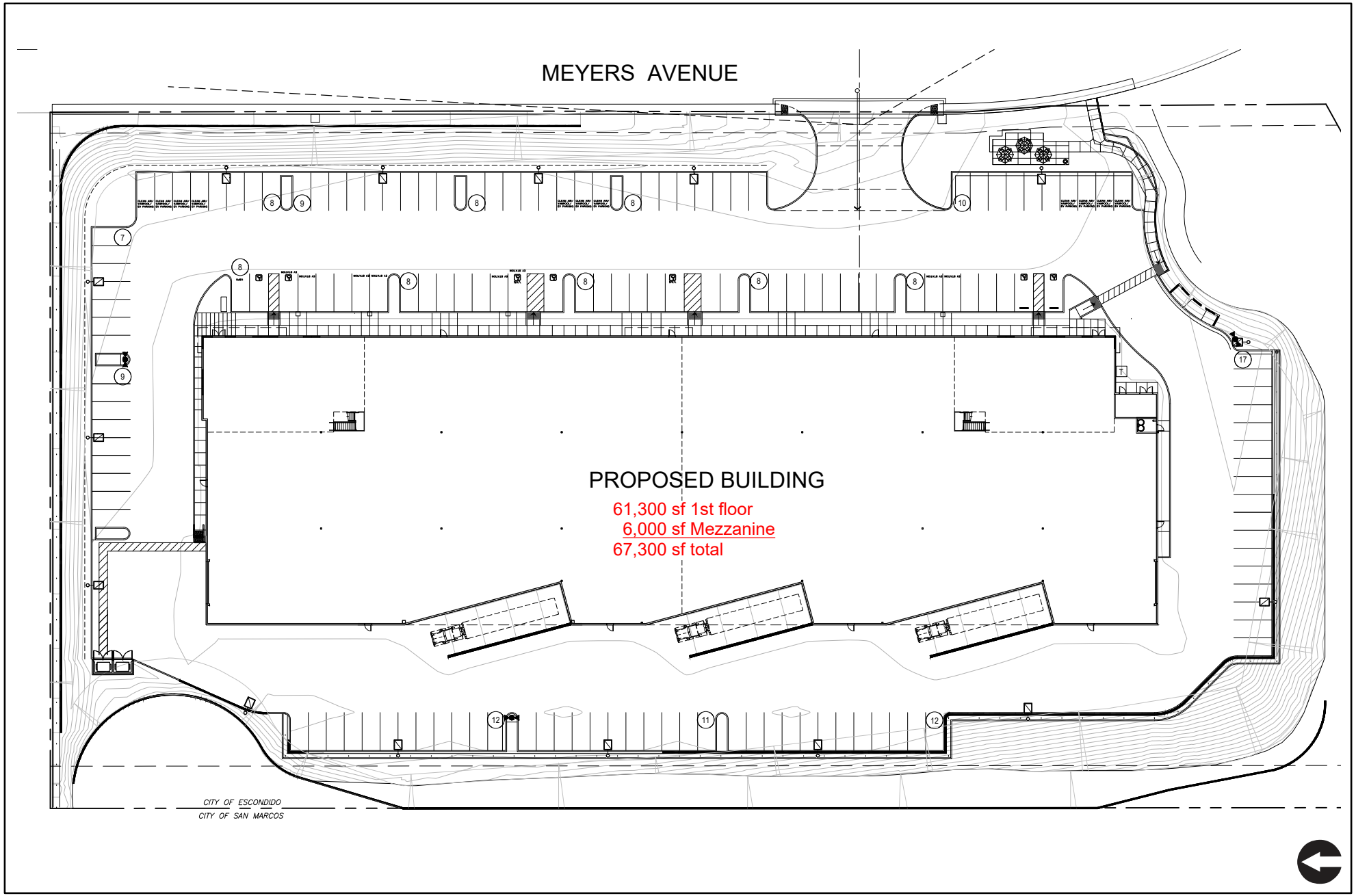

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Figure 2-3

Site Plan

Escondido Industrial

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*** shows an 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 Escondido's *Transportation Impact Analysis Guidelines* (April 2021), the anticipated distribution of the Project traffic, and areas of potential effect:

Intersection

1. Barham Drive / La Moree Road
2. Barham Drive / Meyers Avenue
3. Barham Drive / Mission Road
4. Nordahl Road / SR 78 WB-Ramps
5. Nordahl Road / SR 78 EB-Ramps
6. Nordahl Road / Mission Road
7. Meyers Avenue / Auto Park Way
8. Meyers Avenue / Project Driveway

Segments

E. Barham Drive

- Woodland Parkway to La Moree Road
- La Moree Road to Meyers Avenue
- Meyers Avenue to Mission Road

W. Mission Road

- Barham Drive to Nordahl Road / Auto Park Way

Nordahl Road

- SR-78 Ramps to Mission Road

Auto Park Way

- Meyers Avenue to Country Club Drive

Meyers Avenue

- Barham Drive to Auto Park Way

3.1 Existing Street Network

The principal roadways in the Project study are described below. ***Figure 3–1*** illustrates the existing circulation conditions.

State Route 78 (SR-78) is an east/west freeway facility connecting Oceanside, Vista, San Marcos, and Escondido. SR-78 is generally built with three general purpose lanes in each direction. The posted speed limit in the study area is 65 MPH. In the study area, local access is provided as follows:

- Westbound SR-78
    - Signalized on/off-ramps at the Nordahl Road diamond interchange
    - Unsignalized on/off ramps from/to Rancheros Drive
- Eastbound SR-78
    - Signalized on/off-ramps at the Nordahl Road diamond interchange
    - Signalized off-ramp to Barham Drive (west of Woodland Parkway)
    - Signalized on-ramp from Barham Drive (east of Woodland Parkway)

E. Barham Drive is an east/west facility that is classified within the study area on the *City of San Marcos Mobility Element* as a 4-Lane Arterial with Class II or III bicycle facilities from Woodland Parkway east to the San Marcos city limits with Escondido, just west of Meyers Avenue.

E. Barham Drive is currently built as a four-lane undivided roadway with a two-way left-turn lane median from Woodland Parkway to east of La Moree Road, where it transitions to a two-lane undivided roadway with a two-way left turn lane median to the city limits. The posted speed limit is 35 mph. The four-lane section described provides Class II bicycle lanes while the two-lane section does not provide bicycle accommodations. Sidewalks are present on the south side of the roadway only, with gaps present intermittently. On-street parking is generally prohibited

La Moree Road is a two-lane local collector on the *City of San Marcos Mobility Element*. The posted speed limit is 25 mph. and curbside parking is prohibited in both directions. Paved sidewalks are provided on both sides of the roadway. Bicycle facilities are not provided.

Mission Road is an east/west facility with portions in both San Marcos and Escondido in the study area. Within San Marcos, it is classified on the *City of San Marcos General Plan Mobility Element* as a Four-Lane Arterial with Enhanced Bicycle/Pedestrian Facilities from Woodland Parkway to the city limits at approximately Barham Drive. The *City of San Marcos General Plan Mobility Element* defines "Enhanced Bicycle/Pedestrian Facilities" as facilities that are key links for all modes of travel within the City.

Within the City of Escondido, Mission Road is classified as a Major Road in the *City of Escondido Circulation Element* eastward from the city limits with San Marcos. In the study area, Mission Road is currently constructed as a four-lane roadway with a raised median to the eastern edge of the study area where it transitions to a two-way left-turn lane. The posted speed limit is 45 mph. Curbside parking is prohibited. Class II bicycle lanes are provided on the San Marcos portion of the roadway within the study area, but do not currently continue on the portions within Escondido. However, the Inland Rail Trial, a Class I Sidepath, is provided along E. Mission Road, extending from Barham Drive past the western study limits.

Nordahl Road is a north/south facility that is classified as a 4-Lane Arterial from SR-78 to the City limits in the *City of San Marcos General Plan Mobility Element*. It is classified as a Major Road in the *City of Escondido Circulation Element*. It is currently constructed as a 7 to 8 lane divided roadway depending on the location due to turn pockets and/or the extension of turn pockets. The posted speed limit is 40 mph. Class II bicycle lanes are provided, and on-street parking is not permitted. Sidewalks are present on both sides of the roadway within the study area.

Auto Park Way is a north/south facility that is classified as a Major Road in the on the *City of Escondido Circulation Element* southward from the city limits with San Marcos. In the study area, Auto Park Way is currently constructed as a four-to-six-lane roadway with a raised median. The posted speed limit 40 mph. Curbside parking is prohibited, and Class II buffered bicycle lanes are provided. Sidewalks are present on both sides of the roadway within the study area.

Meyers Avenue is a two-lane industrial road that is unclassified in the *City of Escondido Circulation Element*. In the study area, Meyers Avenue is constructed as a 48-foot-wide two-lane roadway. There are no posted speed limits in the area, and curbside parking is provided in both directions. No sidewalks or bike lanes are provided.

3.2 Existing Traffic Volumes

Average daily traffic volume (ADT) counts and peak hour (7:00-9:00 AM and 4:00-6:00 PM) intersection counts at the majority of the study intersections (including bicycle and pedestrian counts) were conducted in the years 2017 and 2018. A growth factor of 1% per year was added to the historical traffic counts to represent Year 2021 conditions.

Historical counts were not available at the intersections of La Barham Drive / La Moree Road or Meyers Avenue / Auto Park Way. Therefore, counts at these intersections were conducted in 2020 and 2021, respectively. Due to the ongoing COVID-19 pandemic, which has reduced overall travel and traffic volumes, LLG compared the current traffic count data to historical ADT counts in the area. Based on this comparison, the 2020/2021 traffic count volumes at these two intersections were increased by 20% to account for the effects of the pandemic.

Table 3–1 is a summary of the average daily traffic volumes, which were all conducted in 2018, with a 3% growth factor applied.

Figure 3–2 shows the Existing Traffic Volumes. ***Appendix A*** contains the manual count sheets.

TABLE 3–1
EXISTING TRAFFIC VOLUMES

Street Segment	ADT[a]
E. Barham Drive	
Woodland Parkway to La Moree Rd	18,027
La Moree Rd to Meyers Avenue	13,375
Meyers Avenue to Mission Road	8,779
W. Mission Road	
Barham Drive to Nordahl Road/Auto Park Way	30,858
Nordahl Road	
SR-78 Ramps to Mission Road	42,893
Auto Park Way	
Meyers Ave to Country Club Drive	25,517
Meyers Avenue	
Barham Drive to Auto Park Way	4,815[b]

Footnotes:

a. Average Daily Traffic Volumes

b. ADT estimated based on the peak hour volumes at the adjacent Barham Drive / Meyers Avenue intersection.

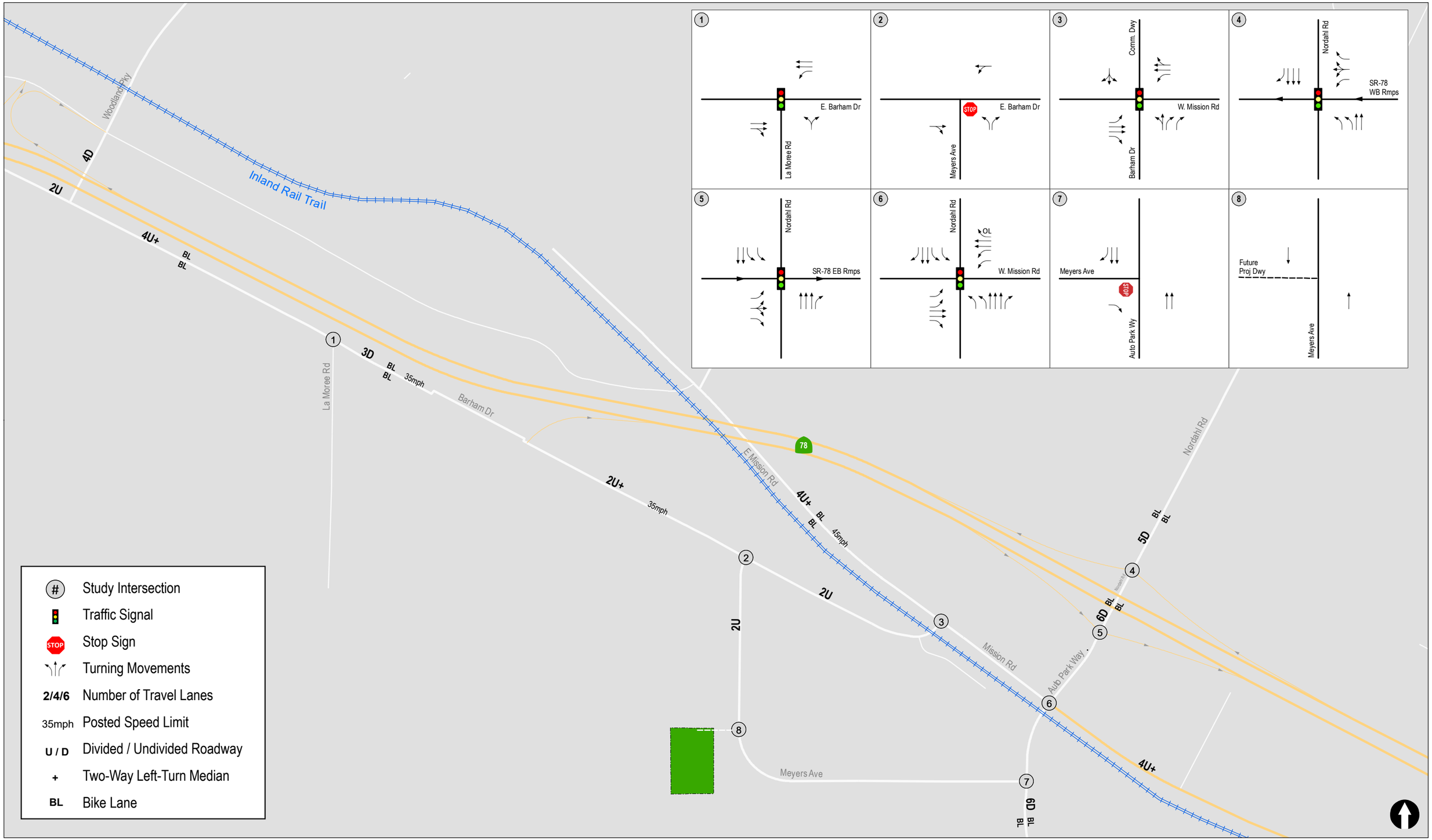

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Figure 3-1

Existing Conditions Diagram

ESCONDIDO INDUSTRIAL

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Figure 3-2

Existing Traffic Volumes

ESCONDIDO INDUSTRIAL

4.0 VEHICLE MILES TRAVELED ANALYSIS

4.1 Analysis Approach and Methodology

The City of Escondido's *Transportation Impact Analysis Guidelines* (April 2021) specifically address the requirements of California Senate Bill (SB) 743 which mandate specific types of CEQA analysis of transportation projects effective July 1, 2020.

Prior to implementation of SB 743, CEQA transportation analyses of individual projects typically determined impacts on the circulation system in terms of roadway delay and/or capacity usage at specific locations, such as street intersections or roadway segments. SB 743, signed into law in September 2013, required changes to the guidelines for CEQA transportation analysis. The changes include the elimination of auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts. The purpose of SB 743 is to promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses.

Under SB 743, a project's effect on automobile delay would not constitute a significant environmental impact. Therefore, LOS and other similar vehicle delay or capacity metrics would no longer serve as transportation impact metrics for CEQA analysis. The California Office of Planning and Research (OPR) has updated the CEQA Guidelines and provided a final technical advisory in December 2018, which recommends vehicle miles traveled (VMT) as the most appropriate measure of transportation impacts under CEQA. The California Natural Resources Agency certified and adopted the CEQA Guidelines including the Guidelines section implementing SB 743. The changes have been approved by the Office of the Administrative Law and have been in effect since July 2020.

While VMT is the preferred quantitative metric for assessing potentially significant transportation impacts under CEQA, it should be noted that SB 743 does not prevent a city or county from using metrics such as LOS as part of the application of local general plan policies, municipal and zoning codes, conditions of approval, or any other planning requirements through a city's planning approval process; cities can still ensure adequate operation of the transportation system in terms of transportation congestion measures related to vehicular delay and roadway capacity. As such, the City can continue to require congestion-related transportation analysis and mitigation projects through planning approval processes outside CEQA.

To comply with the requirements of SB 743, the City of Escondido has prepared its *Transportation Impact Analysis Guidelines* (April 2021) to provide guidance on conducting transportation impact analyses in the City as follows:

- CEQA Analysis Requirements: Requirements for conducting CEQA analysis, which consists of SB 743-consistent VMT analysis as well as assessing impacts to pedestrians, bicyclists, transit, hazards, emergency access, and other impacts.
- Local Mobility Analysis Requirements: Requirements for conducting LOS analysis, site access assessments, and other local transportation analyses for non-CEQA purposes.

This Meyers Industrial traffic study presents a SB 743-consistent VMT analysis to determine and evaluate the potential impacts to the local roadway system due to the proposed Project. In addition to the VMT analysis, a Local Mobility Analysis was also prepared that focuses on automobile delay/LOS, consistent with the City's guidelines. The LOS analysis, which is presented in subsequent sections of this study, was conducted to identify roadway deficiencies in the Project study area and to recommend Project improvements to address such deficiencies; the CEQA significance determination for the proposed Project, however, is based only on VMT and not on LOS.

4.1.1 *CEQA Analysis Methodology*

Based on guidance from the City's Transportation Impact Analysis Guidelines, in general, transportation VMT analysis for CEQA should be conducted using the SANDAG Regional Travel Demand Model. The model outputs can be used to produce VMT/ capita, VMT / employee, and total VMT.

The following summarizes the appropriate metric for various types of projects:

- Residential: VMT/capita
- General Employment: VMT/employee
- Industrial Employment: VMT/employee
- Regional Retail., Regional Recreational, or Regional Public Facilities: Change in total VMT (using the boundary method)
- Mixed-Use: Each project component evaluated per the appropriate metric based on land use type (e.g., residential, employment, and retail)
- Transportation Project: Change in total VMT (using the boundary method)
- Unique circumstances may require alternate metrics

4.1.2 *Screening Criteria for CEQA VMT Analysis*

The requirements to prepare a detailed transportation VMT analysis apply to all land development projects, except those that meet at least one of the screening criteria. A project that meets at least one of the following screening criteria below would be presumed to have a less than significant VMT impact due to project characteristics and/or location:

- Small Residential and Employment Projects
- Projects Located in a Transit-Accessible Area
- Projects in a VMT-Efficient Area
- Locally-Serving Retail Projects
- Redevelopment Projects with Lower Total VMT

The screening criteria are not applicable to the Project. Since the Project is not screened out, a detailed transportation VMT per employee analysis using the SANDAG Regional Travel Demand Model was conducted per the City of Escondido Transportation Impact Analysis Guidelines.

4.1.3 *VMT Analysis Procedures*

For projects that are not screened out and must provide a detailed evaluation of the VMT produced by the project, guidance is provided below on how to conduct transportation VMT analysis by project type. The resulting VMT values should be compared to the appropriate threshold (described in *Section 5* of this study) to determine whether the project results in a significant CEQA transportation impact due to VMT.

- **Residential Projects**:
  - For projects that generate fewer than 2,400 daily unadjusted driveway trips: Identify the location of the project on SANDAG's VMT/capita map. The project's VMT/capita will be considered the same as the VMT/capita of the census tract it is located in. Compare the project's VMT/capita to the threshold to determine if the impact is significant, or input the project into the SANDAG Regional Travel Demand Model to determine the project's VMT/capita.
  - For projects that generate 2,400 or greater daily unadjusted driveway trips: Input the project into the SANDAG Regional Travel Demand Model for SANDAG to provide the project's VMT/capita. To perform the analysis, all project land uses should be inputted, and the VMT/capita should be determined using the same method/scripts that SANDAG utilizes to calculate the VMT/capita metric. Note that there may be some circumstances where use of the screening maps or other sketch modeling tools are appropriate for larger projects.

- **Employment Projects:**
  - For projects that generate fewer than 2,400 daily unadjusted driveway trips: Identify the location of the project on SANDAG's VMT/employee map. The project's VMT/Employee will be considered the same as the VMT/Employee of the census tract it is located in. Alternatively, the project's VMT can be determined by inputting the project into the SANDAG Regional Travel Demand Model in the manner previously described. Compare the project's VMT/Employee to the threshold to determine if the impact is significant.
  - For projects that generate 2,400 or greater daily unadjusted driveway trips: Input the project into the SANDAG Regional Travel Demand Model to determine the project's VMT/Employee. To perform the analysis, all project land uses should be inputted, and the VMT/Employee should be determined using the same method/scripts that SANDAG utilizes to develop the VMT/Employee metric. Note that there may be some circumstances where use of the screening maps or other sketch modeling tools are appropriate for larger projects.

- **Retail Projects:** Calculate the change to area VMT using the SANDAG Travel Demand Model (or other appropriate sketch model as coordinated with City Staff). To calculate the change in area VMT, the regional retail component of the project should be inputted into the travel demand model (year that is used to determine the VMT thresholds). The

"with project regional retail" area VMT produced by the model run is compared to the "no project" area VMT.

- **Mixed-Use Projects**: Evaluate each individual project component per the appropriate metric based on land use type (e.g., residential, employment, and retail) as described above.

- **Other Projects**: Input the project into the SANDAG Regional Travel Demand Model for SANDAG to provide the project's applicable VMT metric. To perform the analysis, all project land uses should be inputted, and the VMT metric that is appropriate based on the land use type should be determined.

4.2 VMT Significant Impact Thresholds

Based on the City of Escondido *Transportation Impact Analysis Guidelines,* the significant thresholds and specific VMT metrics used to measure VMT are described by land use type below, as shown in ***Table 4–1***. The Project proposes an Industrial Employment land use type. Therefore, a potential significant impact would be identified if the Project VMT per employee were greater than the regional average.

TABLE 4–1
VMT IMPACT THRESHOLDS BY LAND USE TYPE

Land Use Type	Impact Threshold
Residential	15% below regional average VMT/capita
Employment	15% below regional average VMT/employee
Industrial Employment	***At or below regional average VMT/employee***
Mixed-Use	Each project component evaluated per the appropriate metric based on land use type
Regional Retail, Regional Recreational, or Regional Public Facilities	A net increase in total regional VMT using the boundary method.

Source: City of Escondido Transportation Impact Analysis Guidelines (April 2021)

4.3 VMT Analysis

The SANDAG ABM2+ Year 2016 Travel Demand Model (found here: https://sandag.maps.arcgis.com/apps/webappviewer/index.html?id=bb8f938b625c40cea14c825835519a2b) was used to calculate the Regional average baseline and the Project specific VMT per employee. The model generates a land use-specific average trip length as well as an average daily volume, which ultimately calculates the total VMT per employee. The SANDAG Series 14 Year 2016 Travel Demand Model results are included in ***Appendix C***.

Table 4–2 summarizes the Regional average baseline VMT results provided by SANDAG. As seen in *Table 4–2*, the Regional average baseline VMT per employee is 18.9 miles per employee. For the purpose of determining the significance of VMT impacts, the Project VMT per employee would

need to be at or below the Regional average in order to result in a less-than-significant transportation impact.

Similar to the Regional average baseline calculations, the Project VMT per employee was determined. As shown in *Table 6–1*, the Project specific VMT per employee is calculated at 18.6 VMT per employee per the SANDAG ABM2+ Year 2016 Travel Demand Model.

Since the Project specific VMT per employee is lower than the Regional average, the Project is calculated to result in a less-than-significant transportation impact, and mitigation measures are not required.

TABLE 4–2
PROJECT VMT FINDINGS

Scenario	Regional Baseline VMT per Capita	Significance Threshold	Project VMT per Capita	Significant Transportation Impact? (Over Threshold)
VMT per Employee	18.9	18.9	18.6	No

Source: SANDAG

5.0 LOCAL MOBILITY ANALYSIS

5.1 Analysis Approach and Methodology

In addition to the VMT analysis presented above, a Local Mobility Analysis (LMA) was also prepared that focuses on automobile delay and Level of Service (LOS). The LOS analysis was conducted to identify Project effects on the roadway operations in the Project study area and recommend Project improvements to address noted deficiencies.

The required study scenarios and scope of the local mobility analysis varies depending on the type of project, consistency with the General Plan (GP), and the total number of daily trips the project is anticipated to generate.

Per the *Transportation Impact Analysis Guidelines*, the following scenarios should be evaluated for the LMA:

- *Existing Conditions*
- *Existing Plus Project Conditions*
- *Near Term Conditions (includes near term planned and approved projects)*
- *Near Term Plus Project Conditions*
- Long Term (future year) Conditions (if the project is not consistent with the GP)
- Long Term (future year) Plus Project Conditions (if the project is not consistent with the GP)
- Special Scenarios (e.g., a phased project analysis)

The Myers Industrial project is consistent with the GP and does not propose a phased development. Therefore, the four analysis scenarios listed above that are underlined and italicized were evaluated in this study.

5.1.1 *Level of Service*

Level of service (LOS) is the term used to denote the different operating conditions which occur 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. Level of service provides an index to the operational qualities of a roadway segment or an intersection. Level of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of service designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

5.1.2 *Intersections*

Signalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 19 of the *Highway Capacity Manual 6th Edition (HCM 6),* with the assistance of the *Synchro* (version 10) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS. City of

Escondido, City of San Marcos, and Caltrans location-specific signal timing information such as minimum greens, cycle lengths, splits for the freeway interchanges and real-time peak hour field observations were included in the analysis, where available.

Unsignalized intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay and LOS was determined based upon the procedures found in Chapters 20 and 21 of the *HCM 6* with the assistance of the *Synchro* (version 10) computer software.

5.1.3 *Street Segments*

Street segment analysis is based upon the comparison of daily traffic volumes (ADTs) to the City of Escondido Level of Service Standards: Street Segments Average Daily Vehicle Trip Thresholds Table, attached in *Appendix B*. This table provides segment capacities for different street classifications based on traffic volumes and roadway characteristics.

5.2 Substantial Effect Criteria

The Project study area includes transportation facilities within the jurisdiction of the cities of Escondido and San Marcos, as well as State facilities under the jurisdiction of Caltrans. Thus, the criteria of the jurisdiction within which a transportation facility is located was used to determine substantial effect. The substantial effect criteria for the following jurisdictions are included in this section.

- City of Escondido
- City of San Marcos
- Caltrans

5.2.1 *City of Escondido Criteria*

In accordance with the SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region, the following thresholds shall be used to identify if a project is of substantial traffic effect under any scenario. Based on SANTEC/ITE guidelines, if now or in the future, the Project's traffic effect causes the values in ***Table 5–1*** to be exceeded in a roadway segment or intersection that is operating at LOS D or worse, it is determined to be a substantial effect and the Project shall identify improvements.

TABLE 5–1
CITY OF ESCONDIDO SUBSTANTIAL EFFECT THRESHOLDS

Level of Service with Project	Allowable Change due to Project		
	Roadway Segments		Intersections Delay (sec.)
	V/C	Speed (mph)	
D, E, or F	0.02	1	2

Source: City of Escondido

*No Significant Impact occurs at areas in GP Downtown Specific Area that operates at LOS "D" or better.

*Mitigation measures should also be considered for any segment or intersection operating at LOS "F" subject to less than significant impact.

*V: Volume *C: Capacity (use LOS "E")

Furthermore, according to the City's General Plan, Mobility Element streets and intersections shall be planned and developed to achieve a minimum LOS "C" defined by the Highway Capacity Manual as amended or updated, or such other national standard deemed appropriate by the city. Level of Service "C" may not be feasible in all areas at all times and LOS "D" shall be considered the threshold for determining significant impacts and appropriate mitigation. Per the certified General Plan EIR, a significant impact would result from a General Plan (Year 2035) analysis when a project would "cause the LOS of a General Plan Mobility and Infrastructure Element roadway to fall below LOS D and/or add more than 200 ADT to a Mobility and Infrastructure Element roadway with an LOS E or F."

5.2.2 *City of San Marcos Criteria*

Within the City of San Marcos, a project is considered to have a substantial effect if the new project traffic has decreased the operations of surrounding roadways by a defined threshold. The defined thresholds shown in ***Table 5–2*** (LOS D accepted), are based on published SANTEC guidelines and the City of San Marcos General Plan. If the project exceeds the thresholds in *Table 5–2*, then the project may be considered to have a substantial project effect. A feasible improvement will need to be identified to return the effect within the thresholds (pre-project + allowable increase).

For intersections and roadway segments affected by a project, level of service (LOS) D or better is considered acceptable under both direct and cumulative conditions.

If a project exceeds the thresholds in *Table 5–2*, then the project may be considered to have a substantial project effect. A substantial effect can also occur if a project causes the Level of Service to degrade from D to E, even if the allowable increases in *Table 5–2* are not exceeded. A feasible improvement will need to be identified to return the effect within the thresholds.

TABLE 5–2
CITY OF SAN MARCOS SUBSTANTIAL EFFECT THRESHOLDS

Level of Service with Project [a]	Allowable Increase Due to Project [b]					
	Freeways		Roadway Segments		Intersections	Ramp Metering
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E & F (*or ramp meter delays above 15 minutes*)	0.01	1	0.02	1	2	2[c]

Footnotes:

a. All level of service measurements are based upon HCM procedures for peak-hour conditions. However, V/C ratios for Roadway Segments may be estimated on an ADT/24-hour traffic volume basis (using Table 2 or a similar LOS chart for each jurisdiction). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped or not densely developed locations per jurisdiction definitions). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

b. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are deemed to be significant. These impact changes may be measured from appropriate computer programs or expanded manual spreadsheets. The project applicant shall then identify feasible mitigations (within the Traffic Impact Analysis [TIA] report) that will maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note a above), or if the project adds a significant amount of peak hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the project applicant shall be responsible for mitigating significant impact changes.

c. The impact is only considered significant if the total delay exceeds 15 minutes.

General Notes:

1. V/C = Volume to Capacity Ratio
2. Speed = Arterial speed measured in miles per hour
3. Delay = Average stopped delay per vehicle measured in seconds for intersections, or minutes for ramp meters.
4. LOS = Level of Service
5. HCM = Highway Capacity Manual

5.2.3 *Caltrans Criteria*

The SANTEC guidelines shown on *Table 5–2* are also used for Caltrans facilities, although Caltrans accepts LOS D operations for urban locations, which the study area is considered.

6.0 LOCAL MOBILITY ANALYSIS OF EXISTING CONDITIONS

6.1 Peak Hour Intersection Operations

Table 6-1 summarizes the peak hour intersection operations for existing conditions. As seen in *Table 6-1*, the following intersections are calculated to operate an at unacceptable LOS per the applicable jurisdictional guidelines:

- Barham Drive / Meyers Avenue (LOS F during the AM and PM peak hours)
- Mission Road / Nordahl Road (LOS D during the AM and LOS E during the PM peak hours)

Appendix D contains the Existing intersection analysis calculation worksheets.

6.2 Daily Street Segment Operations

Table 6-2 summarizes the existing roadway segment operations. As seen in *Table 6-2*, the following study area segments are calculated to operate at an unacceptable LOS per the applicable jurisdictional guidelines:

- Barham Drive: La Moree Road to Meyers Avenue (LOS D)
- Barham Drive: Meyers Avenue to Mission Road (LOS D)
- Mission Road: Barham Drive to Nordahl Road/Auto Park Way (LOS D)
- Nordahl Road: SR-78 Ramps to Mission Road (LOS E)

TABLE 6–1
EXISTING INTERSECTION OPERATIONS

Intersection	Jurisdiction	Control Type	Peak Hour	Delay[a]	LOS[b]
1. Barham Drive / La Moree Road	San Marcos	Signal	AM	10.9	B
			PM	28.3	C
2. Barham Drive / Meyers Avenue	Escondido	MSSC[c]	AM	**>100.0**	**F**
			PM	**>100.0**	**F**
3. Barham Drive / Mission Road	San Marcos	Signal	AM	40.5	D
			PM	48.3	D
4. Nordahl Road / SR-78 WB Ramps	Caltrans	Signal	AM	23.6	C
			PM	37.4	D
5. Nordahl Road / SR-78 EB Ramps	Caltrans	Signal	AM	35.4	D
			PM	46.7	D
6. Mission Road / Nordahl Road	Escondido	Signal	AM	**41.8**	**D**
			PM	**55.9**	**E**
7. Meyers Avenue / Auto Park Way	Escondido	MSSC	AM	24.6	C
			PM	12.9	B
8. Meyers Avenue / Project Driveway	Escondido	-[d]	AM	-	-
			PM	-	-

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. MSSC – Minor-Street Stop Controlled intersection. Worst-case delay reported.
d. Intersection does not exist under Existing conditions.

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 6–2
EXISTING STREET SEGMENT OPERATIONS

Street Segment	Jurisdiction	Functional Classification	LOS E [a] Capacity	ADT [b]	LOS [c]	V/C [d]
Barham Drive						
Woodland Pkwy to La Moree Road	San Marcos	4-Lane Collector	30,000	18,027	C	0.601
La Moree Road to Meyers Ave	Escondido	2-Lane Collector (NP)	15,000	**13,375**	**D**	**0.892**
Meyers Ave to Mission Rd	Escondido	2-Lane Collector (WP)	10,000	**8,779**	**D**	**0.878**
Mission Road						
Barham Dr to Nordahl Rd	Escondido	4-Lane Major Arterial	37,000	**30,858**	**D**	**0.834**
Nordahl Road						
SR-78 Ramps to Mission Rd	Escondido	5-Lane Major Arterial	43,500	**42,893**	**E**	**0.986**
Auto Park Way						
Meyers Avenue to Country Club Drive	Escondido	4-Lane Major Arterial	37,000	25,517	C	0.690
Meyers Avenue						
Barham Drive to Auto Park Way	Escondido	Local Collector (WP)	10,000	4,815	B	0.482

Footnotes:

a. Capacities based on City of San Marcos and City of Escondido roadway classification tables.
b. Average Daily Traffic Volumes.
c. Level of Service.
d. Volume to capacity ratio.

7.0 TRIP GENERATION, DISTRIBUTION, & ASSIGNMENT

7.1 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.

Table 7–1 tabulates the total Project traffic generation. The Project is calculated to generate 517 ADT with 56 inbound / 14 outbound trips during the AM peak hour and 23 inbound / 50 outbound trips during the PM peak hour.

TABLE 7–1
PROJECT TRIP GENERATION

Land Use	Quantity	Daily Trip Ends (ADT)		AM Peak Hour					PM Peak Hour				
				% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
		Rate	Volume			In	Out	Total			In	Out	Total
Office	12 KSF	20/KSF	240	14%	90 : 10	31	3	34	13%	20 : 80	6	25	31
Warehouse	55.3 KSF	5/KSF	277	13%	70 : 30	25	11	36	15%	40 : 60	17	25	42
Total			***517***			***56***	***14***	***70***			***23***	***50***	***73***

Footnotes:
a. 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

7.2 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 full-access driveway, and on other traffic studies prepared for developments in the area.

There is a raised center median along Auto Park Way at Meyers Avenue, preventing eastbound to northbound movements. Therefore, southbound to northbound U-turns were assumed at the Auto Parkway / Country Club Drive intersection for a portion of the outbound Project trips traveling to SR 78, with the remaining outbound SR 78 bound-trips assumed to access the freeway via Barham Drive to Mission Road to Nordahl Road.

Figure 7–1 depicts the Project Traffic Distribution, and ***Figure 7–2*** depicts the Project Traffic Assignment. ***Figure 7–3*** depicts the Existing + Project Traffic Volumes.

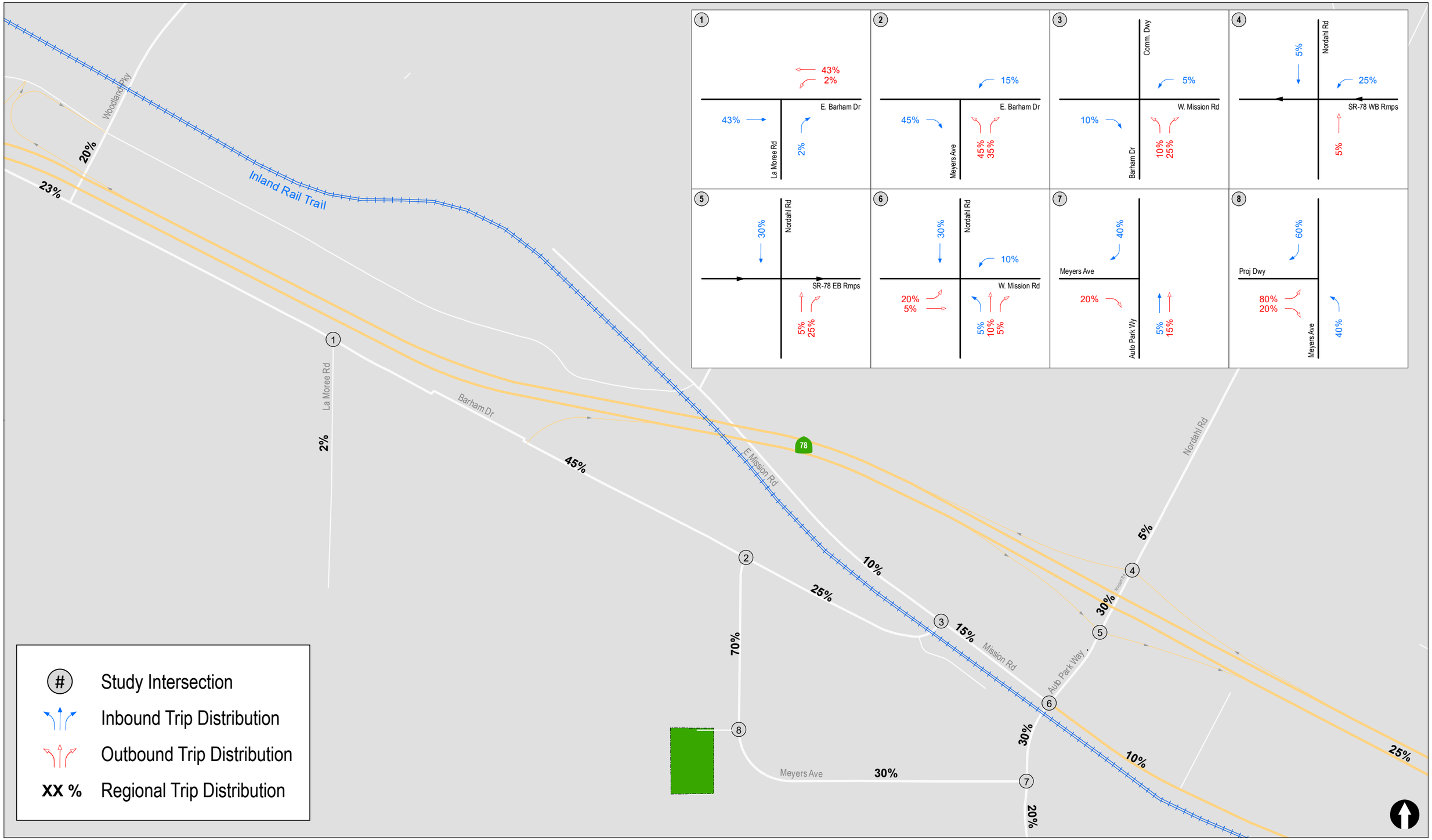

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Figure 7-1

Project Traffic Distribution

ESCONDIDO INDUSTRIAL

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Date: 4/6/2022
Time: 8:59 AM

Figure 7-2

Project Traffic Volumes

Escondido Industrial

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Date: 4/6/2022
Time: 8:59 AM

Figure 7-3

Existing + Project Traffic Volumes

Escondido Industrial

8.0 CUMULATIVE PROJECTS

8.1 Summary of Cumulative Projects

Cumulative projects are other projects in the study area that will add traffic to the local circulation system in the near future. Based on research conducted for the cumulative condition and conversations with City and County staff, six (6) City of Escondido projects, three (3) County of San Diego projects, and nine (9) City of San Marcos projects were identified for inclusion in the near-term cumulative analysis. The following is a brief description of each of the cumulative projects in the general vicinity of the Project. ***Table 8–1*** summarizes the cumulative projects trip generation.

CITY OF ESCONDIDO

1. **Escondido Research and Technology Center Medical Office** is a 74,400 SF medical office building proposed along Citracado Parkway with the ERTC SPA.

2. **Stone Brewery Hotel** proposes to construct a 44-room boutique hotel opposing the existing Stone Brewing World Bistro and Gardens. The project is located along Citracado Parkway within the ERTC SPA.

3. **Pacific Harmony Grove** proposes to construct a combined corporate headquarters and warehouse/distribution center for the Stone Brewing Company, consisting of two buildings. The project is located south of Harmony Grove Road, east of the Harmony Grove Road / Kauana Loa Drive intersection.

4. **Plot Plan 2158 Citracado Parkway**, Case No. ADM17-0127. Planning Area 4 of the Escondido Resource & Technology Center (ERTC) Specific Plan proposes 56,852 sf. inpatient rehabilitation hospital consisting of two-stories, 52-beds, surface parking and landscaping.

5. **Plot Plan 2185 Citracado Parkway**, Case No. ADM18-0051. Crisis Stabilization Unit for Palomar Hospital project proposed in Planning Area 4 of the Escondido Resource & Technology Center (ERTC) Specific Plan proposes 4,220 sf. Crisis Stabilization Unit for Palomar Hospital consisting of two-stories, outdoor enclosed area, and landscaping. The zoning of the subject property is S-P (Specific Plan Area 4) and is located within the SPA 8 (Specific Planning Area 8) General Plan Designation.

6. **2127 Citracado Parkway** Planning Case No. PL21-0050. Substantial Conformance Review for a previously approved Plot Plan (ADM10-0101) proposes for the construction of a three-story medical offices/outpatient facility building of approximately 72,000 square feet.

COUNTY OF SAN DIEGO

7. **Harmony Grove Village** is a residential project located north of Harmony Grove Road and bound by Country Club Drive and Wilgen Road. The County General Plan Amendment project includes the development of 710 residential single-family units, 32 live/work lofts with 16,500 square-feet of retail, a 25,000-square foot village core, an equestrian park, public and private parks, an institutional site (assumed to be a tack and feed store), and a fire station. The project is currently under construction with approximately 15% of the homes completed and either sold or selling. The trips generated by the completed portion of the project are represented in the existing traffic count data. The remaining 85% of trips were assumed in the near-term cumulative condition. Roadway improvements completed with the project include the new roadway of Harmony Grove Village Parkway, connecting Country Club Drive in the west to Harmony Grove Road and Citracado Parkway/Avenida Del Diablo in the east. Additional network improvements to Harmony Grove Road south of the proposed Project site have also been completed. Based on information from the Harmony Grove Village sales office as of February 2019, 450 homes have been built and are either occupied or for sale. Therefore, the remaining 39% of Harmony Grove Village traffic (742 homes – 450 homes = 292 homes remaining, or 39%) were added into the cumulative condition.

8. **Valiano** is a 334-unit residential development located west of Country Club Drive and south of Hill Valley Road in the County of San Diego, adjacent to the cities of San Marcos and Escondido. This County General Plan Amendment project was approved by the Board of Supervisors.

9. **Harmony Grove Village South** is 453-unit residential development located on 111 acres located east of Country Club Drive and south of Harmony Grove Road in the San Dieguito Planning Community of the County of San Diego. This County General Plan Amendment project was approved by the Board of Supervisors.

CITY OF SAN MARCOS

10. **Montiel Road Partners** is a 9-lot subdivision approved to develop 8 single-family homes located on Montiel Road.

11. **Sandy Lane Estates** is a 9-lot subdivision proposing the development of 8 single-family homes located on Sandy Lane.

12. **JR Legacy II, LLC/Global Carte** is an approved 6-story, 128-room hotel with amenities including a café, fitness center, and pool for guests. The project is located on Montiel Road with access via Leora Lane.

13. **Mission 24** is an approved residential project that will build 24 condominium units located at Mission Road and Avenida Chapala.

14. **Mesa Rim Climbing Gym** is a 28,000-sf recreational climbing gym to be located at 285 Industrial Street.

15. **Montiel Commercial** is a proposed 32,971 sf office development located at 2355/2357 Montiel Road.

16. **University District Block K** is a 68-unit residential housing project consisting of condos, townhomes, and flats, on an approximately 0.52-acre parcel within the larger University District. The project is located on the east side of Campus Way approximately 200 feet south of Carmel Street.

17. **Sunrise Project** proposes the development of 192 multi-family residential dwelling units. The Project site is located generally south of Barham Drive and west of Meyers Avenue, and will be annexed into the City of San Marcos.

18. **Hallmark Barham Specific Plan** proposes 151 multi-family residential units to be located at 943 E. Barham Drive, west of La Moree Road in the Barham/Discovery Community of the City of San Marcos.

TABLE 8–1
CUMULATIVE DEVELOPMENT PROJECTS SUMMARY

Jur.	No.	Name	Project	ADT [a]	AM		PM		Status
					In	Out	In	Out	
CITY OF ESCONDIDO	1	ERTC Medical Office	74.4 KSF Medical Office	3,720	178	45	123	286	Under Review
	2	Stone Brewery Hotel	44-Room Boutique Hotel	352	11	8	11	27	Under Review
	3	Pacific Harmony Grove	Corporate Headquarters; Warehouse/ Distribution Center	2,261	236	72	115	225	Under Review
	4	2158 Citracado Parkway	52 Bed Inpatient Rehabilitation Hospital	1,040	58	25	42	62	Under Review
	5	2185 Citracado Parkway	4,220 sf. Crisis Stabilization Unit for Palomar Hospital	106	6	3	4	6	Under Review
	6	2127 Citracado Parkway	72,000 sf. medical offices/outpatient facility building	3,600	173	43	119	277	Under Review
COUNTY OF SAN DIEGO	7	Harmony Grove Village *(61% Complete; 39% of Remaining Trips Included in Cumulative Analysis)*	710 SFDU 32 MFDU 16.5 KSF retail 25 KSF Village Core Equestrian Park Park Space Fire Station	3,623	110	175	227	129	Approved, Under Construction
	8	Valiano	334 DU	3,786	88	216	263	113	Approved
	9	Harmony Grove Village South	453 DU	4,500	108	252	315	135	Approved
CITY OF SAN MARCOS	10	Montiel Rd Partners	8 SFDU	80	2	4	6	2	Approved
	11	Sandy Lane Estates	8 SFDU	80	2	4	6	2	Proposed
	12	JR Legacy II LLC/ Global Carte	128-Room Hotel	896	29	43	49	32	Approved
	13	Mission 24	24 Condominiums	192	3	12	13	6	Approved
	14	Mesa Rim Climbing Gym	Recreation/ Entertainment	840	20	14	46	30	Approved
	15	Montiel Commercial	33 KSF Office	659	83	9	17	69	Proposed
	16	University District Block K	68-unit multi-family residential	408	7	26	26	11	Under Construction
	17	Sunrise Project	192 DU Condominium	1,536	25	98	108	46	Approved

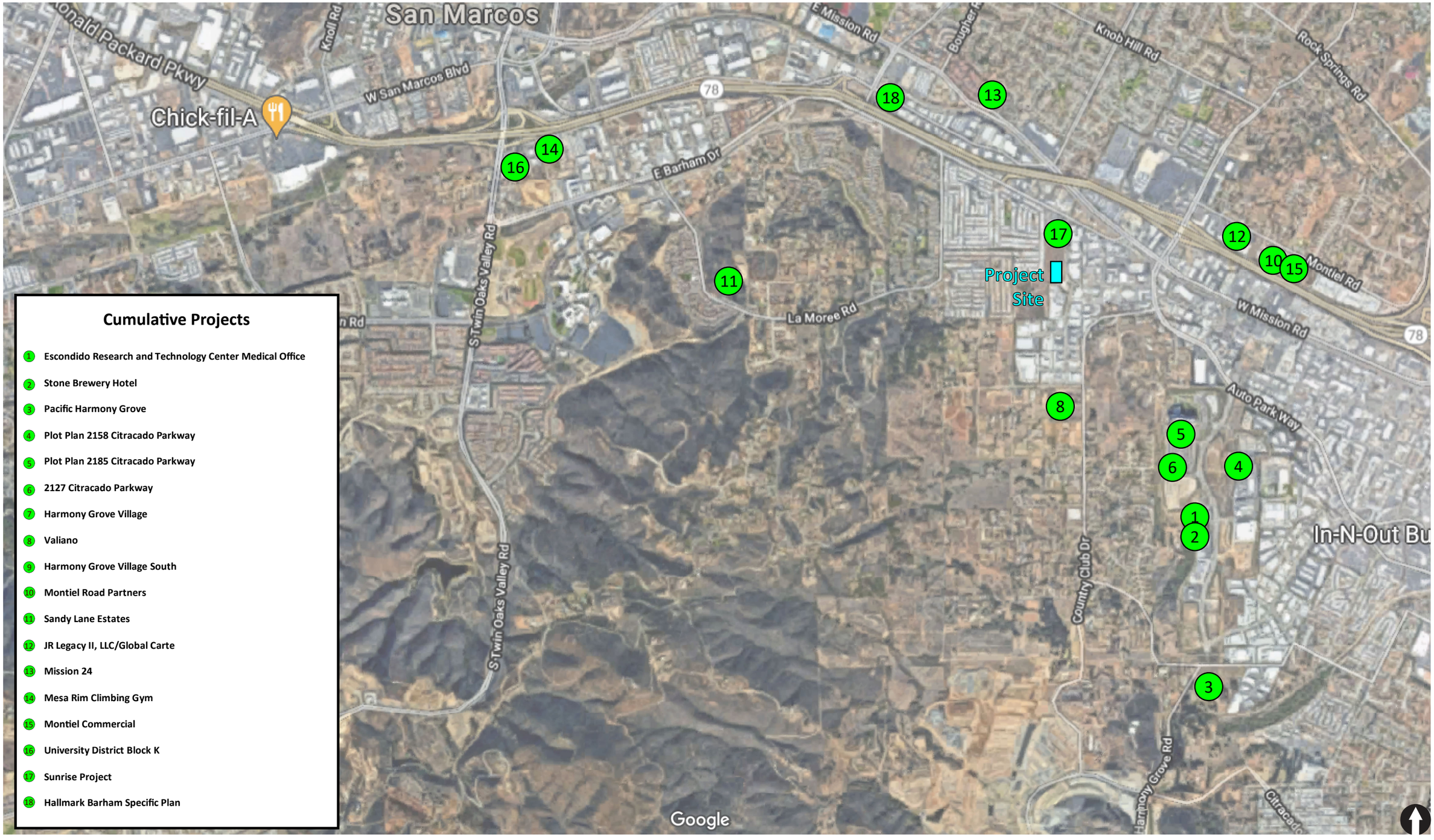
TABLE 8–1
CUMULATIVE DEVELOPMENT PROJECTS SUMMARY

Jur.	No.	Name	Project	ADT [a]	AM		PM		Status
					In	Out	In	Out	
	18	Hallmark Barham Specific Plan	151 DU Multi-Family Residential	1,208	19	78	85	36	Proposed
Total Cumulative Projects				**27,679**	**1,139**	**1,049**	**1,490**	**1,459**	–

Footnotes:

a. Average daily traffic.

Figure 8–1 shows the locations of the Cumulative projects. ***Figure 8-2*** depicts the total Cumulative traffic volumes. ***Figure 8–3*** depicts the Existing + Cumulative traffic volumes. ***Figure 8–4*** depicts the Existing + Cumulative + Project traffic volumes.



LINSCOTT LAW & GREENSPAN engineers

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Figure 8-1

Cumulative Projects Location Map

Escondido Industrial

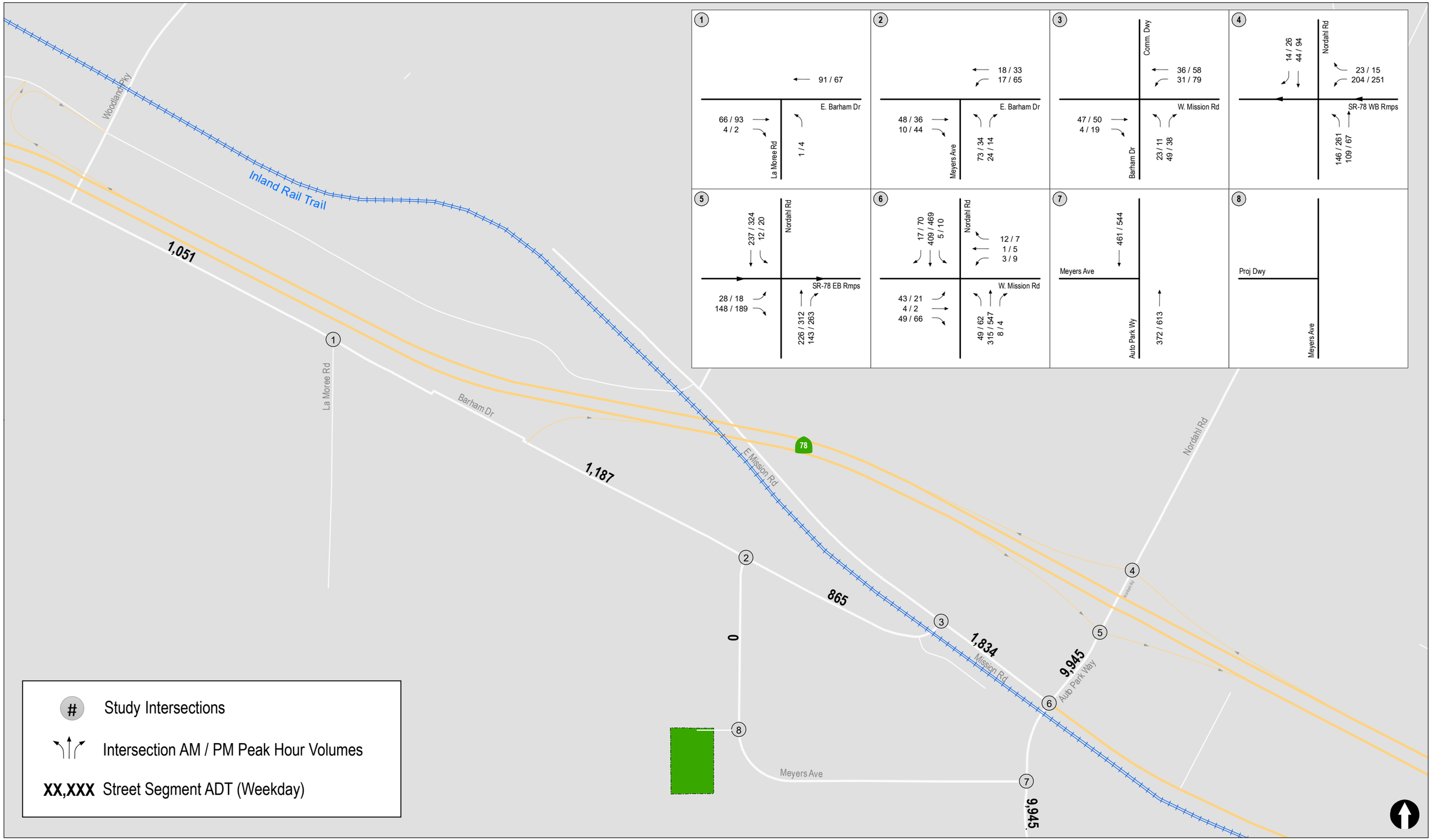

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Figure 8-2

Total Cumulative Traffic Volumes

Escondido Industrial

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Figure 8-3

Existing + Cumulative Traffic Volumes

Escondido Industrial

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Time: 9:20 AM

Figure 8-4

Existing + Cumulative + Project Traffic Volumes

Escondido Industrial

9.0 LOCAL TRANSPORTATION ANALYSIS OF NEAR-TERM CONDITIONS

The following section presents the analysis of study area intersections and street segments under Near-Term conditions.

9.1 Existing + Project Conditions

9.1.1 *Peak Hour Intersection Operations*

Table 9–1 summarizes the Existing + Project intersection operations. As shown in *Table 9–1,* with the addition of Project traffic, the following intersections are calculated to operate an at unacceptable LOS per the applicable jurisdictional guidelines:

- **Intersection #2: Barham Drive / Meyers Avenue (LOS F during the AM and PM peak hours)**
- Intersection #6: Mission Road / Nordahl Road (LOS D during the AM and LOS E during the PM peak hours)

A substantial effect is calculated at the intersection of Barham Drive / Meyers Avenue since the Project-related increase in delay exceeds the substantial effect threshold maximum of 2.0 seconds.

Appendix E contains the Existing + Project intersection analysis worksheets.

9.1.2 *Daily Street Segment Operations*

Table 9–2 summarizes the Existing + Project street segment operations. As shown in *Table 9–2*, with the addition of Project traffic, the following street segments are calculated to operate an at unacceptable LOS per the applicable jurisdictional guidelines:

- Barham Drive: La Moree Road to Meyers Avenue (LOS E)
- Barham Drive: Meyers Avenue to Mission Road (LOS E)
- Mission Road: Barham Drive to Nordahl Road/Auto Park Way (LOS D)
- Nordahl Road: SR-78 Ramps to Mission Road (LOS E)

The Project-related increase in V/C ratio to the segments listed above is below the substantial effect threshold, and therefore no substantial effects to the study street segments are calculated.

9.2 Near-Term (Existing + Cumulative Projects) Without Project Conditions

9.2.1 *Peak Hour Intersection Operations*

Table 9–1 summarizes the Near-Term without Project intersection operations. As shown in *Table 9–1,* the following intersections are calculated to operate an at unacceptable LOS per the applicable jurisdictional guidelines:

- Intersection #2: Barham Drive / Meyers Avenue (LOS F during the AM and PM peak hours)
- Intersection #3: Barham Drive / Mission Road (LOS E during the PM peak hour)

- Intersection #5: Nordahl Road / SR-78 EB Ramps (LOS E during the AM and PM peak hours)
- Intersection #6: Mission Road / Nordahl Road (LOS D during the AM and LOS E during the PM peak hours)
- Intersection #7: Meyers Avenue / Auto Park Way (LOS F during the AM peak hour)

Appendix F contains the Near-Term intersection analysis worksheets.

9.2.2 *Daily Street Segment Operations*

Table 9–2 summarizes the Near-Term without Project street segment operations. As shown in *Table 9–2*, the following street segments are calculated to operate an at unacceptable LOS per the applicable jurisdictional guidelines:

- Barham Drive: La Moree Road to Meyers Avenue (LOS E)
- Barham Drive: Meyers Avenue to Mission Road (LOS E)
- Mission Road: Barham Drive to Nordahl Road/Auto Park Way (LOS D)
- Nordahl Road: SR-78 Ramps to Mission Road (LOS F)
- Auto Park Way: Meyers Avenue to Country Club Drive (LOS E)

9.3 Near-Term (Existing + Cumulative Projects) With Project Conditions

9.3.1 *Peak Hour Intersection Operations*

Table 9–1 summarizes the Near-Term with Project intersection operations. As shown in *Table 9–1*, the following intersections are calculated to operate an at unacceptable LOS per the applicable jurisdictional guidelines:

- **Intersection #2: Barham Drive / Meyers Avenue (LOS F during the AM and PM peak hours)**
- Intersection #3: Barham Drive / Mission Road (LOS E during the PM peak hour)
- Intersection #5: Nordahl Road / SR-78 EB Ramps (LOS E during the AM and LOS F during the PM peak hours)
- Intersection #6: Mission Road / Nordahl Road (LOS D during the AM and LOS E during the PM peak hours)
- Intersection #7: Meyers Avenue / Auto Park Way (LOS F during the AM peak hour)

A substantial effect is calculated at the intersection of Barham Drive / Meyers Avenue since the Project-related increase in delay exceeds the substantial effect threshold maximum of 2.0 seconds. Project-related delay at the remaining intersections is below the substantial effect threshold.

Appendix G contains the Near Term + Project intersection analysis worksheets.

9.3.2 *Daily Street Segment Operations*

Table 9–2 summarizes the Near-Term with Project street segment operations. As shown in *Table 9–2*, following street segments are calculated to operate an at unacceptable LOS per the applicable jurisdictional guidelines:

- Barham Drive: La Moree Road to Meyers Avenue (LOS E)
- Barham Drive: Meyers Avenue to Mission Road (LOS E)
- Mission Road: Barham Drive to Nordahl Road/Auto Park Way (LOS D)
- Nordahl Road: SR-78 Ramps to Mission Road (LOS F)
- Auto Park Way: Meyers Avenue to Country Club Drive (LOS E)

The Project-related increase in V/C ratio to the segments listed above is below the substantial effect threshold, and therefore no substantial effects to the study street segments are calculated.

TABLE 9–1
NEAR-TERM INTERSECTION OPERATIONS

Intersection	Jurisdiction	Control Type	Peak Hour	Existing		Existing + Project			Existing+ Cumulative		Existing + Cumulative + Project			Substantial Effect?
				Delay[a]	LOS[b]	Delay	LOS	Δ[c]	Delay	LOS	Delay	LOS	Δ	
1. Barham Drive / La Moree Road	San Marcos	Signal	AM	10.9	B	11.0	B	0.1	10.7	B	10.8	B	0.1	No
			PM	28.3	C	28.8	C	0.5	26.1	C	26.5	C	0.4	
2. Barham Drive / Meyers Avenue	Escondido	MSSC[d]	AM	**>100**	**F**	**>100**	**F**	**>2.0**	**>100**	**F**	**>100**	**F**	**>2.0**	**Yes**
			PM	**>100**	**F**	**>100**	**F**	**>2.0**	**>100**	**F**	**>100**	**F**	**>2.0**	
3. Barham Drive / Mission Road	San Marcos	Signal	AM	40.5	D	41.0	D	0.5	49.8	D	51.1	D	1.3	No
			PM	48.3	D	49.4	D	1.1	**67.0**	**E**	**68.2**	**E**	**1.2**	
4. Nordahl Road / SR-78 WB Ramps	Caltrans	Signal	AM	23.6	C	23.9	C	0.3	28.6	C	28.8	C	0.2	No
			PM	37.4	D	37.5	D	0.1	49.8	D	50.1	D	0.3	
5. Nordahl Road / SR-78 EB Ramps	Caltrans	Signal	AM	35.4	D	35.7	D	0.3	**66.1**	**E**	**66.4**	**E**	**0.3**	No
			PM	46.7	D	51.0	D	4.3	**74.5**	**E**	**76.2**	**E**	**1.7**	
6. Mission Road / Nordahl Road	Escondido	Signal	AM	41.8	**D**	**42.0**	**D**	0.2	**51.6**	**D**	**52.21**	**D**	**0.5**	No
			PM	55.9	**E**	**57.1**	**E**	1.2	**70.9**	**E**	**72.1**	**E**	**1.2**	
7. Meyers Avenue / Auto Park Way	Escondido	MSSC	AM	24.6	C	24.9	C	0.3	**60.2**	**F**	**62.0**	**F**	**1.8**	No
			PM	12.9	B	13.0	B	0.1	20.3	C	21.1	C	0.8	
8. Meyers Avenue / Project Driveway	Escondido	MSSC[e]	AM	-	-	13.0	B	-	-	-	13.0	B	-	No
			PM	-	-	12.3	B	-	-	-	12.3	B	-	

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes an increase in delay due to Project.
d. MSSC – Minor Street Stop Controlled intersection. Worst case delay is reported.
e. Intersection does not exist under Existing Conditions.

General Notes: **Bold and shaded** typeface indicates a potentially substantial effect t

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
NEAR-TERM STREET SEGMENT OPERATIONS

Street Segment	Jurisdiction	Capacity[a]	Existing			Existing + Project				Near-Term			Near-Term + Project				Effect?
			ADT[b]	LOS[c]	V/C[d]	ADT	LOS	V/C	Δ[e]	ADT	LOS	V/C	ADT	LOS	V/C	Δ	
Barham Drive																	
Woodland Pkwy to La Moree Road	San Marcos	30,000	18,027	C	0.601	18,247	C	0.608	0.007	19,078	C	0.636	19,298	C	0.643	0.007	No
La Moree Road to Meyers Ave	Escondido	15,000	**13,375**	**D**	**0.892**	**13,605**	**E**	**0.907**	**0.015**	**14,562**	**E**	**0.971**	**14,792**	**E**	**0.986**	**0.015**	**No**
Meyers Ave to Mission Rd	Escondido	10,000	**8,779**	**D**	**0.878**	**8,909**	**E**	**0.891**	**0.013**	**9,644**	**E**	**0.964**	**9,774**	**E**	**0.977**	**0.013**	**No**
Mission Road																	
Barham Dr to Nordahl Rd	Escondido	37,000	**30,858**	**D**	**0.834**	**30,938**	**D**	**0.836**	**0.002**	**32,692**	**D**	**0.884**	**32,772**	**D**	**0.886**	**0.002**	**No**
Nordahl Road																	
SR-78 Ramps to Mission Rd	Escondido	43,500	**42,893**	**E**	**0.986**	**43,053**	**E**	**0.990**	**0.004**	**52,838**	**F**	**1.215**	**52,998**	**F**	**1.218**	**0.003**	**No**
Auto Park Way																	
Meyers Avenue to Country Club Drive	Escondido	37,000	**25,517**	**C**	**0.690**	**25,617**	**C**	**0.692**	**0.003**	**35,462**	**E**	**0.958**	**35,562**	**E**	**0.961**	**0.003**	**No**
Meyers Avenue																	
Barham Drive to Auto Park Way	Escondido	10,000	4,815	B	0.482	5,175	B	0.518	0.036	4,815	B	0.482	5,175	B	0.518	0.036	No

Footnotes:
a. Capacities based on the City of San Marcos and City of Escondido roadway classification tables (See *Appendix B*).
b. Average Daily Traffic
c. Level of Service
d. Volume to Capacity ratio
e. Project Attributable increase in V/C.

10.0 SITE ACCESS REVIEW

10.1 Site Access

Access to the project site will be via one driveway on Meyers Avenue which will provide an internal loop through the Project site. The driveway will be unsignalized and will offer full access.

The Project's driveways calculated to operate acceptably at LOS B during both the AM and PM peak hours, as shown on *Table 9-1*.

10.2 Parking

The project proposes a total of 151 parking spaces, including eight accessible spaces, and 21 clean air/vanpool/electric vehicle spaces (18 of which are future EV including one van accessible and one accessible space).

11.0 ACTIVE TRANSPORTATION REVIEW

11.1 Pedestrian Conditions

Pedestrian facilities are intermittently provided within the Project study area. Paved sidewalks are provided along the south side of Barham Drive, with gaps present intermittently. Paved sidewalks are provided along both sides of La Moree Road. Paved sidewalks are present on both sides of the Nordahl Road within the study area. Paved sidewalks are present on both sides of the Auto Park Way within the study area. No pedestrian facilities are provided along Meyers Avenue.

11.2 Transit Conditions

The project site is located within 2 miles of the Cal State San Marcos Sprinter light rail station and within 1 mile of the Nordahl Road Sprinter light rail station. Bus stops serving the North County Transit District (NCTD) Routes 305, Route 347, and Route 353 are located approximately 0.5 miles from the project site. Employees will be able to utilize these public transit opportunities. A summary of the available transit service routes is provided below:

The SPRINTER hybrid rail line spans 22-miles and connects Oceanside, Vista, San Marcos, and Escondido – serving 15 stations along the 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 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 eastbound from the Vista Transit Center, and from 4:19 AM through 10:16 PM departing westbound from the Escondido Transit Center. Weekend route schedule begins at 5:32 AM through 11:02 PM departing eastbound from Vista Transit Center and begins at 5:15 AM to 10:18 PM departing westbound 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 westbound from the CSUSM Sprinter Station and from 5:45 AM through 7:36 PM departing eastbound from Palomar College Transit Center. Saturday route schedule begins at 7:51 AM through 7:12 PM departing westbound from CSUSM Sprinter Station and begins at 7:14 AM to 6:35 PM departing eastbound 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 353 serves the Escondido Transit Center and Nordahl Marketplace via Citracado Parkway. Route 353 operates weekdays, weekends, and holidays from approximately 6 AM to 8 PM. The closest stop to the Project site is located at the Nordahl Road SPRINTER station. Route 353 travels westbound to the Nordahl Marketplace, and travels eastbound to the Escondido Transit Center.

11.3 Bicycle Conditions

There are currently Class II bike lanes in each direction of travel on E. Barham Drive, Woodland Parkway, Nordahl Road, and La Moree Road in the vicinity of the Project site. ***Table 11–1*** summarizes the existing and future bicycle facility classifications along E. Barham Drive within the study area.

Additionally, the Inland Rail Trial, a Class I Sidepath, is provided along E. Mission Road, extending from Barham Drive past the western study limits.

TABLE 11–1
BICYCLE MOBILITY

Street Segment	Existing Condition	Future Classification [a]
Barham Drive		
Woodland Parkway to La Moree Road	Class II Bicycle Lane	Class II Bicycle Lane
East of La Moree Road	Class II Bicycle Lane	Class II Bicycle Lane
Nordahl Road		
North of SR-78 Ramps	Class II Bicycle Lane	Class II Bicycle Lane
La Moree Road		
South of Barham Drive	Class II Bicycle Lane	Class II Bicycle Lane

Source: City of San Marcos Bicycle and Pedestrian Master Plan.

12.0 SIGNIFICANT IMPACTS AND SUBSTANTIAL EFFECTS

The preceding Transportation Impact Analysis & Local Mobility Analysis were prepared to determine and evaluate the potential impacts and effects to the local roadway system due to the proposed Project.

12.1 VMT Analysis

The Project proposes an Industrial Employment land use type. Per the City of Escondido *Traffic Impact Analysis Guidelines*, a potential significant impact would be identified if the Project VMT per employee were greater than the regional average.

Based on the VMT analysis presented above in *Section 4,* the Project specific VMT per employee is lower than the Regional average. Therefore, the Project is calculated to result in a less-than-significant transportation impact, and mitigation measures are not required.

12.2 Local Mobility Analysis

Based on the LOS analysis presented in *Section 9* of this study, a potential Project related substantial effect is identified at the intersection of Barham Drive and Meyers Avenue. The adjacent Sunrise Residential project, proposed to be developed south of Barham Drive and west of Meyers Avenue, is conditioned to provide a traffic signal with a dedicated westbound left turn lane and protected left turn phasing on the westbound Barham Drive approach to Meyers Avenue at this intersection. The installation of a traffic signal at this intersection will improve operations to an acceptable LOS of C or better.