LINSCOTT LAW & GREENSPAN engineers

TRANSPORTATION IMPACT ANALYSIS

EDCO EXPANSION PROJECT

La Mesa, California
November 23, 2021

LLG Ref. 3-21-3443

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EXECUTIVE SUMMARY

On March 25, 1997, the City of La Mesa City Council approved Conditional Use Permit (CUP) # CP-06-96 for the operation of EDCO Station, a Material Recovery Facility & Transfer Station, (hereinafter referred to as the Facility). Subsequently, the Facility was constructed and began operations in January of 1999.

Given the amount of material generated within the region, as well as seasonal surges in the amount of waste generated, the Facility proposes to expand the existing daily permitted tonnage limit of 1,000 tons per day (tpd).

The ability to safely and effectively operate at this threshold has been demonstrated for over one year as pursuant to §17210.3 of the California Code of Regulations (CCR) Title 14, the Local Enforcement Agency (LEA) has issued an emergency waiver(s) of terms and conditions of the EDCO Station Solid Waste Facility Permit #37-AA-0922 during the declared State emergency, a result of the Coronavirus (COVID-19). These waivers were issued for 120-day increments on March 26, 2020, July 24, 2020, November 18, 2020, February 25, 2021, June 15, 2021, and October 15, 2021 which allowed the facility to operate at up to 2,000 tons per day.

The continued growth in the region, including increased public disposal (self-haulers) and seasonal surges, require additional tonnage capacity and the Emergency Waiver demonstrated over an 18-month period that the facility can operate safely at a 2,000 ton per day limit. As such, the EDCO Expansion Project is to increase the maximum permitted level by 1,000 tpd (for a total of 2,000 tpd) and enhance the on-site circulation through the addition of an exit scale and scale house.

The Facility is located in the City of La Mesa at 8184 Commercial Street. Access to the Facility is from Commercial Street and Industrial Lane.

VMT ANALYSIS

The City of La Mesa is in the process of preparing City specific standards for conducting Vehicle Miles Traveled (VMT) analysis and guidelines have not yet been adopted at this time. An analysis was conducted using guidelines published by the Institute of Traffic Engineers (ITE), the California Office of Planning and Research (OPR), and other jurisdictions in the San Diego region.

The Project proposes an Industrial land use type. ITE and OPR do not recommend a VMT specific threshold of significance for industrial projects. Within the City of Carlsbad and the City of Escondido, an industrial project is considered to have a significant impact if its VMT/employee exceeds the regional average VMT/employee. 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.

LOCAL TRANSPORTATION ANALYSIS

A Local Transportation Analysis (LTA), focusing on Level of Service (LOS) was also conducted. The study area includes the following intersections based on the anticipated distribution of the Project traffic and areas of potential effect:

1. Spring Street & I-8 Ramps
2. Spring Street & University Avenue
3. Center Street & Guild Street
4. Center Street & Commercial Street
5. Center Drive & Jackson Drive

PROJECT TRIP GENERATION AND DISTRIBUTION

Trip generation estimates for the Project are based on site specific information provided by the applicant. The Project is calculated to generate 1,479 additional average daily trips (ADT) with 156 AM peak hour trips and 78 PM peak hour trips.

It should be noted that the Facility has been operating at the increased tonnage capacity of 2,000 tpd for a 14-month period per the site's Emergency Waiver. Therefore, the trips that are calculated to be generated by the Project are already represented in the existing baseline condition. However, in order to provide a conservative assessment of the effects of the Project, the calculated Project trips summarized above were considered as new trips to the roadway network.

The Project traffic distribution was primarily based on the traffic study for the Facility's original 1996 EIR, the site location, access options to I-8, and existing traffic patterns.

CONCLUSIONS

All study area intersections are calculated to operate at LOS D or better with the addition of Project traffic and no substantial effects were identified.

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1.0 INTRODUCTION

Linscott, Law and Greenspan, Engineers (LLG) has prepared this transportation impact analysis to assess the impacts to the street system as a result of the proposed EDCO Expansion Project located within the City of La Mesa. The Project proposes to increase the daily maximum tonnage from the permitted 1,000 tons per day (tpd) to 2,000 tpd.

The traffic analysis presented in this report includes the following:

- Project Description
- Existing Conditions
- Vehicle Miles Traveled (VMT) Analysis
  - Analysis Approach and Methodology
  - Significance Criteria
  - VMT Analysis
- Local Transportation Analysis
  - Analysis Approach and Methodology
  - Substantial Effect Criteria
- Analysis of Existing Conditions
- Cumulative Projects
- Project Traffic
- Capacity Analysis
- Active Transportation Review
- Conclusions

2.0 PROJECT DESCRIPTION

On March 25, 1997, the City of La Mesa City Council approved Conditional Use Permit (CUP) # CP-06-96 for the operation of EDCO Station, a Material Recovery Facility & Transfer Station, (hereinafter referred to as the Facility). Subsequently, the Facility was constructed and began operations in January of 1999.

Given the amount of material generated within the region, as well as seasonal surges in the amount of waste generated, the Facility proposes to expand the existing daily permitted tonnage limit of 1,000 tons per day (tpd).

The ability to safely and effectively operate at this threshold has been demonstrated for over one year as pursuant to §17210.3 of the California Code of Regulations (CCR) Title 14, the Local Enforcement Agency (LEA) has issued an emergency waiver(s) of terms and conditions of the EDCO Station Solid Waste Facility Permit #37-AA-0922 during the declared State emergency, a result of the Coronavirus (COVID-19). These waivers were issued for 120-day increments on March 26, 2020, July 24, 2020, November 18, 2020, February 25, 2021, June 15, 2021, and October 15, 2021 which allowed the facility to operate at up to 2,000 tons per day.

The continued growth in the region, including increased public disposal (self-haulers) and seasonal surges, require additional tonnage capacity and the Emergency Waiver demonstrated over an 18-month period that the facility can operate safely at a 2,000 ton per day limit. As such, the EDCO Expansion Project is to increase the maximum permitted level by 1,000 tpd (for a total of 2,000 tpd) and enhance the on-site circulation through the addition of an exit scale and scale house.

Since the design elements allow for up to 4,224 tpd of load out capacity, no physical changes to the main building are necessary to accommodate the requested increase to a maximum of 2,000 tpd. However, an exit scale and scale house are proposed to be added to eliminate vehicles returning to the main scale house and thereby improve on site circulation.

A variety of different types of vehicles utilize the Facility, but they are primarily broken into four categories: employee vehicles, self-haul vehicles (primarily two axle pickup trucks and/or trailers), collection trucks, and transfer tractor/trailers. Assuming an additional permitted 1,000 tpd, the Facility will receive a maximum of 16 additional employees, 308 additional self-haul vehicles, 111 additional collections vehicles, and 46 additional transfer vehicles per day.

The Facility is located in the City of La Mesa at 8184 Commercial Street. Access to the Facility is from Commercial Street and Industrial Lane.

Figure 2–1 shows the Project vicinity and ***Figure 2–2*** illustrates, in more detail, the site location. ***Figure 2–3*** shows the Conceptual Site Plan.

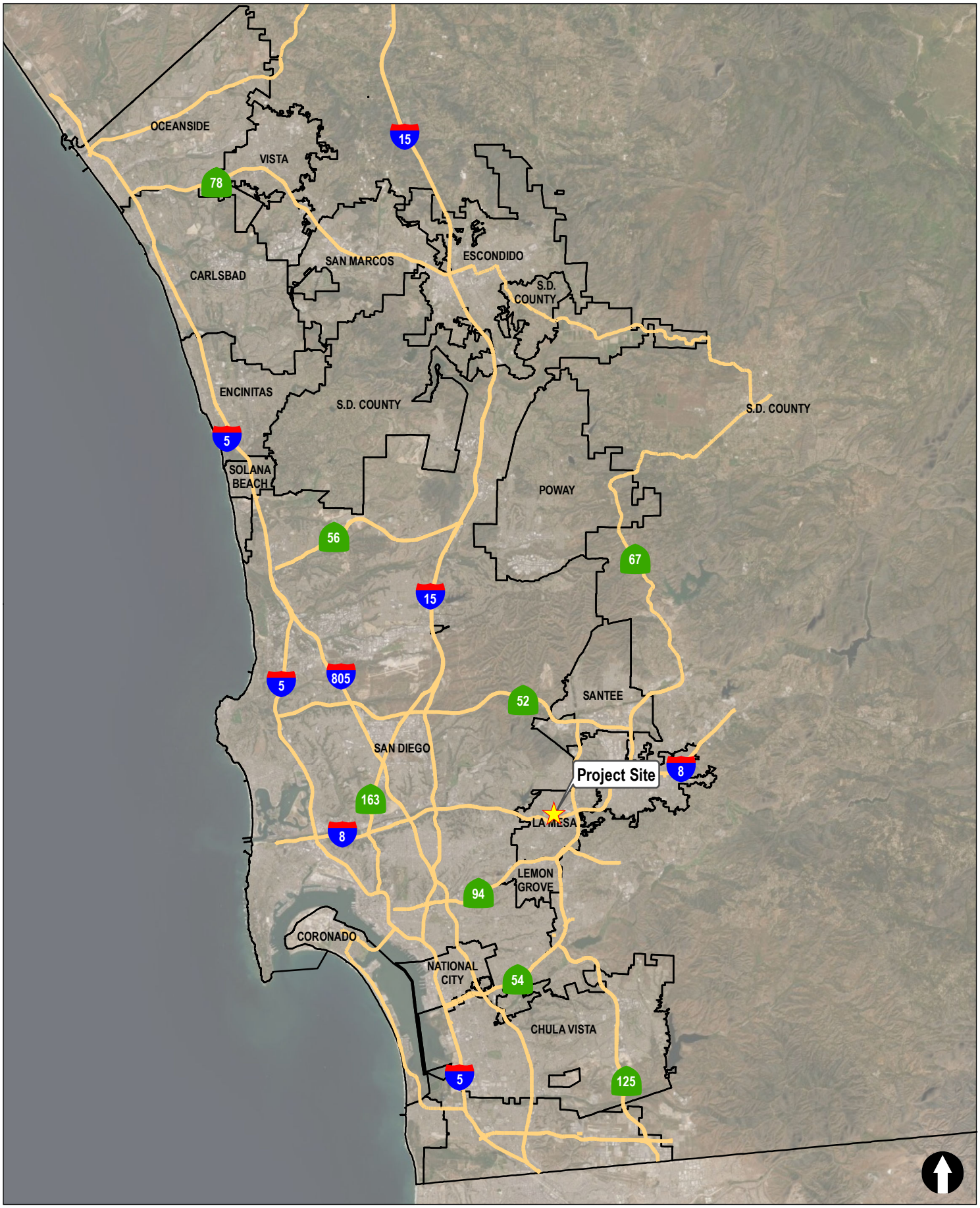

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Figure 2-1

Vicinity Map

La Mesa EDCO Expansion

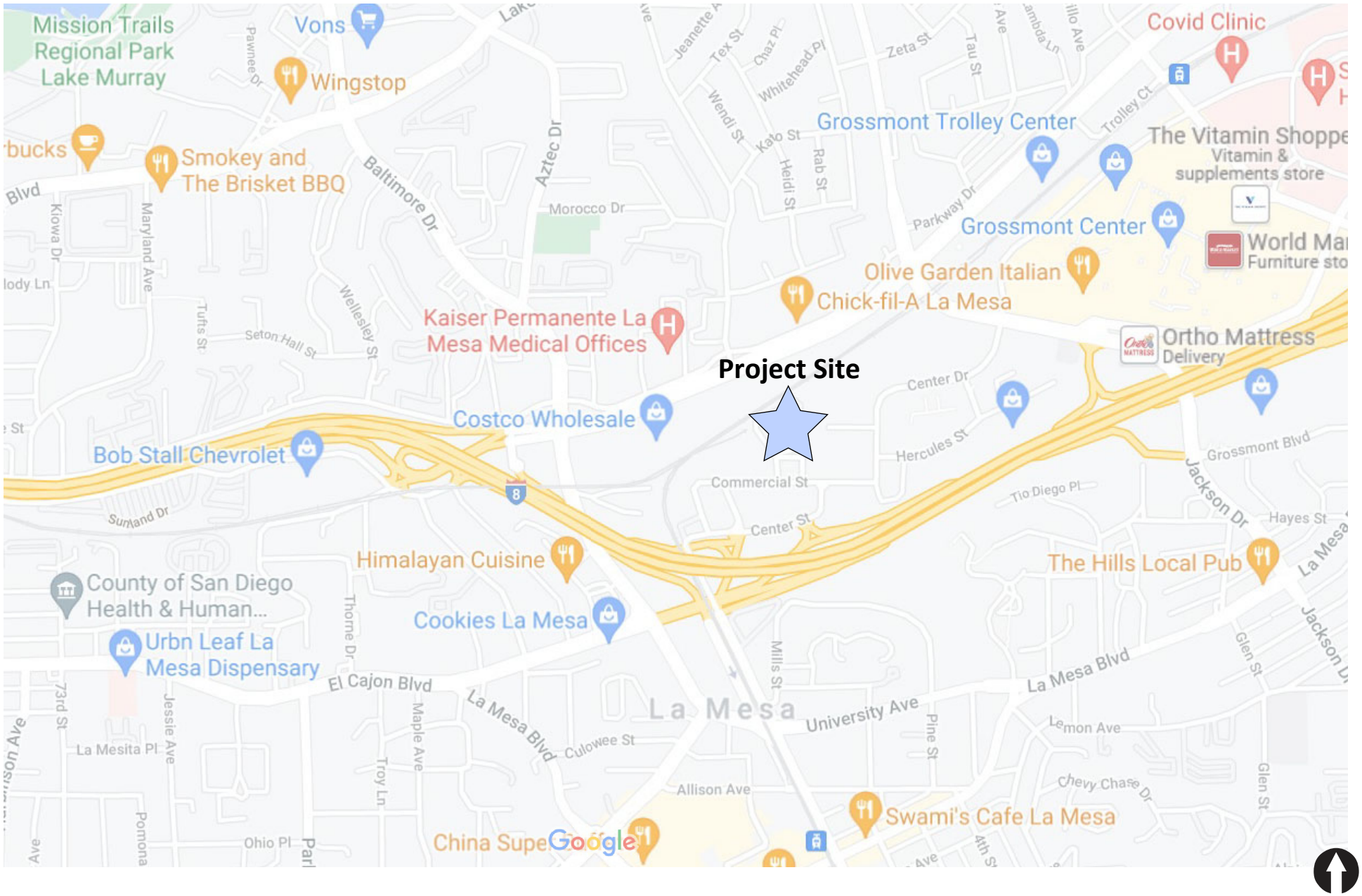

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Figure 2-2

Project Area Map

La Mesa EDCO Expansion

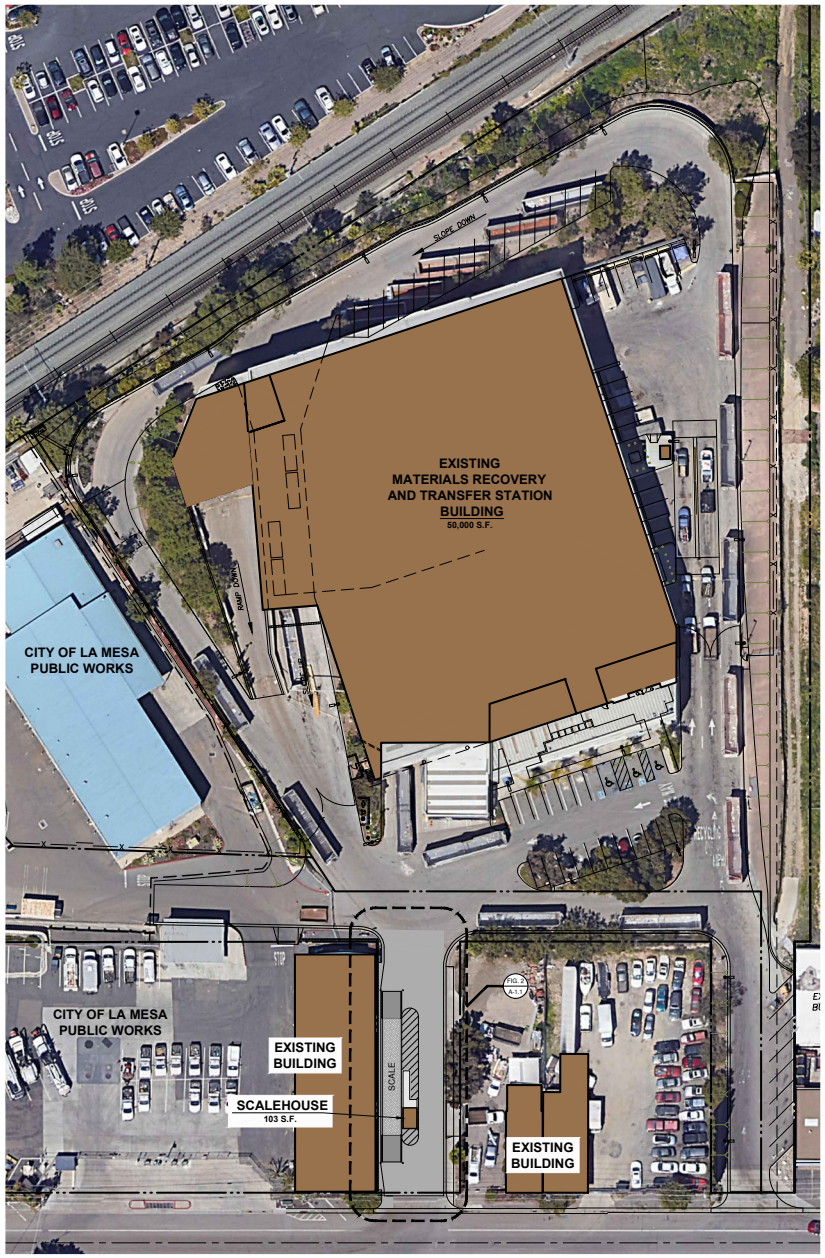

FIGURE 1 - SITE PLAN

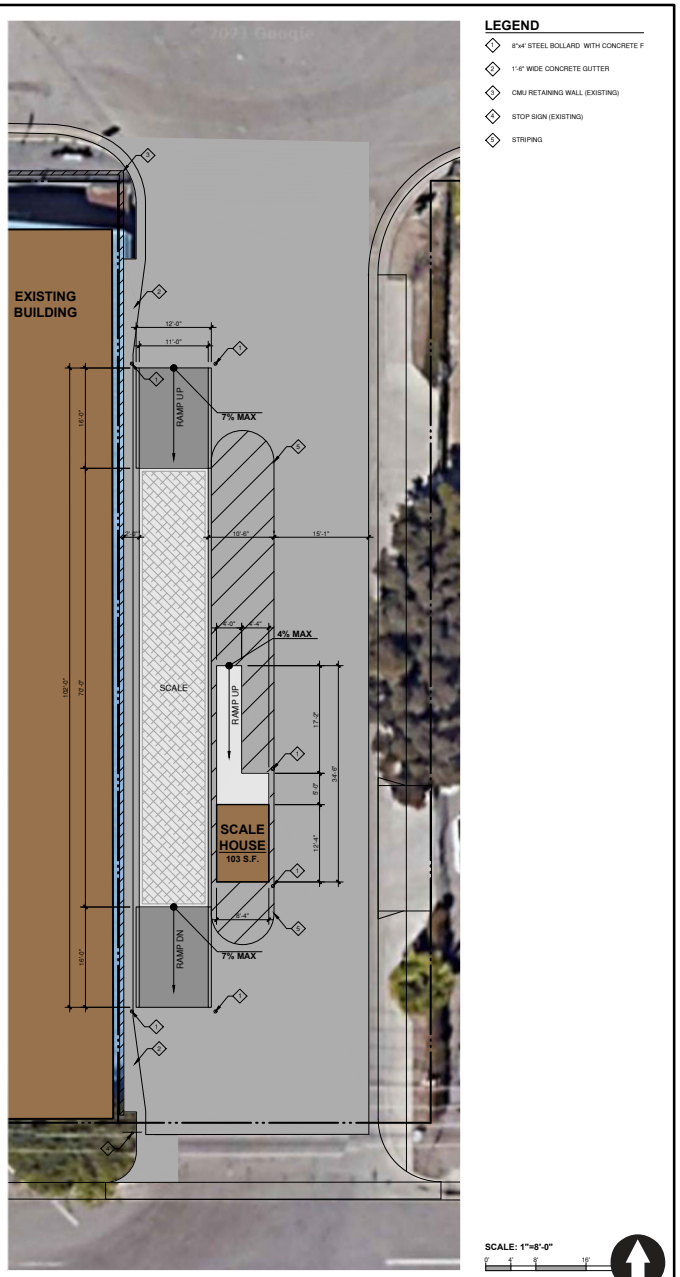

FIGURE 2 - ENLARGED SITE PLAN

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Figure 2-3

Site Plan

La Mesa EDCO Expansion

3.0 EXISTING CONDITIONS

Effective evaluation of the traffic impacts associated with the proposed Project requires an understanding of the existing transportation system within the project area. ***Figure 3–1*** depicts the existing conditions diagram, including intersection traffic control and lane configurations.

3.1 Study Area

The study area includes the following intersections based on the anticipated distribution of the Project traffic and areas of potential effect:

1. Spring Street & I-8 Ramps
2. Spring Street & University Avenue
3. Center Street & Guild Street
4. Center Street & Commercial Street
5. Center Drive & Jackson Drive

3.2 Existing Street Network

The following is a description of the existing street network in the study area.

Spring Street

Spring Street is classified as an Arterial according to the *City of La Mesa Circulation Plan*. Between I-8 and Lemon Avenue, Spring Street is generally built as a four-lane roadway with a center Two-Way Left-Turn Lane (TWLTL). However, between University Avenue and Allison Avenue and then again between La Mesa Boulevard and Lemon Avenue, there is no Center TWLTL; instead, there are back-to-back left-turn lanes. The posted speed limit is 35 miles per hour (mph). Curbside parking is prohibited.

University Avenue

University Avenue is classified as an Arterial according to the *City of La Mesa Circulation Plan*. From Parks Avenue to Baltimore Drive, University Avenue is a four-lane roadway with a raised median. Curbside parking is generally permitted. The posted speed limit is 35 mph and curbside parking is allowed in some sections. A bike lane is also provided along this stretch.

Center Street

Center Street is classified as a Local Collector according to the *City of La Mesa Circulation Plan*. Center Street is a two-lane undivided roadway. Curbside parallel parking is generally permitted. There is no posted speed limit. There are no bicycle facilities provided along this roadway.

Center Drive

Center Drive is classified as a Local Collector according to the *City of La Mesa Circulation Plan*. Center Drive is a two-lane undivided roadway with a TWLTL median. Curbside parking is not

permitted. The posted speed limit is 25 mph. A shared Class III Bike route is present along this roadway.

Jackson Drive

Jackson Drive is classified as an Arterial according to the *City of La Mesa Circulation Plan*. Jackson Drive is a four-lane divided roadway with a raised median. Curbside parking is not permitted. The posted speed limit is 35 mph. Class II Bike lanes are present along this roadway.

3.3 Existing Traffic Volumes

Peak hour (7:00-9:00 AM and 4:00-6:00 PM) intersection turning movement counts were conducted in September 2021 within the Project study area. ***Figure 3–2*** shows the Existing Traffic Volumes. ***Appendix A*** contains the manual count sheets. It should be noted that the traffic volumes were used directly, with no growth factor applied. This approach is consistent with other traffic studies conducted at this time, since traffic volumes have generally returned to pre-pandemic levels.

It should be noted that the Facility has been operating at the increased tonnage capacity of 2,000 tpd for an 18-month period per the site's Emergency Waiver. Therefore, the existing traffic counts already include the trips that are calculated to be generated by the Project. However, in order to provide a conservative assessment of the effects of the Project, Project trips were added to the existing counts as further described in *Section 8.0* of this study.

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Figure 3-1

Existing Conditions Diagram

La Mesa EDCO Expansion

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Figure 3-2

Existing Traffic Volumes

La Mesa EDCO Expansion

4.0 VEHICLE MILES TRAVELED ANALYSIS

4.1 Analysis Approach and Methodology

The City of La Mesa is in the process of preparing City specific standards for conducting VMT analysis and guidelines have not yet been adopted at this time. Therefore, a VMT analysis was conducted for the Project using guidelines published by the Institute of Traffic Engineers (ITE), the California Office of Planning and Research (OPR), and other jurisdictions in the San Diego region. These guidelines 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. OPR has updated the CEQA Guidelines and provided a final technical advisory in December 2018, which recommends 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.

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, this 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 Transportation Analysis (LTA) was also prepared that focuses on automobile delay/LOS. 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 *Screening Criteria for CEQA VMT Analysis*

The requirement 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, per OPR guidelines, would be presumed to have a less than significant VMT impact due to project characteristics and/or location:

- Small Projects (fewer than 110 ADT)
- Projects Located in a Transit-Accessible Area
- Projects Located in a VMT-Efficient Area
- Affordable Residential Development
- Locally-Serving Retail Projects
- Redevelopment Projects with Lower Total VMT

The screening criteria listed above are not applicable to the Project. Since the Project is not screened out, a transportation VMT analysis was conducted.

4.1.2 *CEQA Analysis Methodology*

Based on guidance from ITE, 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 Project proposes an Industrial land use type. ITE and OPR do not recommend a specific threshold of significance for industrial projects. Within the City of Carlsbad and the City of Escondido, an industrial project is considered to have a significant impact if its VMT/employee exceeds the regional average VMT/employee.

It should be noted that goods movement is not subject to VMT analysis per OPR guidelines. Therefore, goods movement trips associated with an industrial project would not be included when determining VMT/employee; in this case trips created by the Project's collection trucks and transfer tractor/trailers.

4.2 VMT Analysis

The SANDAG Series 14 Year 2016 Travel Demand Model 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 can be found at the link below, with the Project specific results included in ***Appendix B***.

https://sandag.maps.arcgis.com/apps/webappviewer/index.html?id=5b4af92bc0dd4b7babbce21a7423402a)

Table 4–1 summarizes the regional average baseline VMT results provided by SANDAG. As seen in *Table 4–1*, the regional average baseline VMT per employee is 27.2 miles. 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 4–1*, the Project specific VMT per employee is calculated at 24.8 VMT per employee per the SANDAG Series 14 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.

TABLE 4–1
PROJECT VMT FINDINGS

Scenario	Regional Baseline VMT per Capita	Significance Threshold	Project VMT per Capita	Significant Transportation Impact? (Over Threshold)
VMT per Employee	27.2	27.2	24.8	No

Source: SANDAG

5.0 LOCAL TRANSPORTATION ANALYSIS

5.1 Analysis Approach and Methodology

In addition to the VMT analysis presented above, an LTA was also prepared that focuses on automobile delay and 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 following analysis scenarios are analyzed in this study.

- Existing
- Opening Year (Existing + Cumulative Projects) without Project
- Opening Year + Project

5.1.1 *Methodology*

There are various methodologies used to analyze signalized intersections, unsignalized intersections, and street segments. The measure of effectiveness for intersection and segment operations is 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.

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 5–1 summarizes the signalized intersections levels of service descriptions.

5.1.2 *Signalized Intersections*

Table 5–2 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.

5.1.3 *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.

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.

TABLE 5–1
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 & 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

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

The Trolley Orange Line, operated by Metropolitan Transit System (MTS) connects Downtown San Diego, La Mesa, and El Cajon. In the Project study area, the Trolley runs parallel to Spring Street and the tracks cross the west leg of University Avenue (study area intersections #2), in service of the La Mesa Boulevard station. The following describes how LLG accounted for the additional delay at this intersection, due to the train crossings at this location.

Per MTS, the Trolley Orange Line runs every 15 minutes in each direction during the majority of the day Monday through Friday. Therefore, during each peak hour, eight trains pass by the intersection (four in either direction). However, based on field observations, trains traveling in opposite directions may arrive concurrently, which results in a reduced number of independent gate closures during an hour, though increasing somewhat the gate closure time as compared to a single train passing through.

The following values are based on field observations at the affected intersection. The number of gate closures and the average time of gate closure both reflect the reality of trains occasionally arriving from either direction simultaneously. Thus, the total delay during a single hour was calculated as follows:

- Number of gate closures at the intersection (N_t) = 6
- Average time of gate closure (G_c) = 87 seconds
- Total gate closure time per hour (L_{gc}) = $N_t * G_c$ = 524 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 for all analysis scenarios. Movements to and from the west leg of the Spring Street

/ University Avenue intersection are stopped during gate closure, but through traffic on Spring Street continues to receive a green light.

5.2 Substantial Effect Criteria

The City of La Mesa utilizes SANTEC/ITE Traffic Impact Study Guidelines with LOS D being the minimum acceptable LOS. Therefore, a substantial effect would be identified when the addition of project traffic results in a level of service dropping from LOS D or better to substandard LOS E or F. The City defined thresholds are shown in ***Table 5-3***.

If the project exceeds the thresholds in *Table 5-3*, then the project is considered to have a substantial 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 5-3* are not exceeded.

TABLE 5–3
TRAFFIC IMPACT SUBSTANTIAL EFFECT THRESHOLDS

Level of Service with Project [b]	Allowable Increase Due to Project Impacts [a]					
	Freeways		Roadway Segments		Intersections	Ramp Metering [c]
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E and F	0.01	1.0	0.02	1.0	2.0	2.0

Footnotes:

a. If a proposed project's traffic causes the values shown in the table to be exceeded, the effects are determined to be substantial. The project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note b), or if the project adds a significant number 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 the project's direct substantial and/or cumulatively considerable traffic effects.

b. All LOS measurements are based upon Highway Capacity Manual procedures for peak-hour conditions. However, V/C ratios for roadway segments are estimated on an ADT/24-hour traffic volume basis. The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped locations). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

c. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS E is 2 minutes. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS F is 1 minute.

General Notes:

1. Delay = Average control delay per vehicle measured in seconds for intersections or minutes for ramp meters
2. LOS = Level of Service
3. V/C = Volume to Capacity ratio
4. Speed = Arterial speed measured in miles per hour

6.0 ANALYSIS OF EXISTING CONDITIONS

6.1 Peak Hour Intersection Levels of Service

Table 6–1 summarizes the peak hour intersection analyses for the existing scenario. As seen in *Table 6–1*, all study area intersections are calculated to currently operate at LOS D or better.

The Existing peak hour intersection analysis worksheets are included in ***Appendix C***.

TABLE 6–1
EXISTING INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Delay[a]	LOS[b]
1. Spring St & I-8 Ramps	Signal	AM	11.8	B
		PM	14.6	B
2. Spring St University Ave	Signal	AM	40.8	D
		PM	47.3	D
3. Center St & Guild St	AWSC [c]	AM	8.4	A
		PM	8.1	A
4. Center St & Commercial St	TWSC [d]	AM	11.8	B
		PM	13.0	B
5. Center Dr & Jackson Dr	Signal	AM	19.7	B
		PM	29.8	C

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. AWSC – All-Way Stop Controlled intersection. Overall intersection delay and LOS are reported.
d. TWSC – Two-Way Stop Controlled intersection. Highest delay and LOS are reported.

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

7.0 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 of planned cumulative projects in the Project vicinity, six (6) projects were identified for inclusion in the near-term cumulative analysis. These projects are briefly described below.

ALVARADO CREEK SPECIFIC PLAN

The Alvarado Creek Specific Plan includes the development of 950 apartments in four buildings on a site south of I-8 and east of 70th Street. This project will replace an existing RV Resort Campground. The project is calculated to generate a net of 5,415 ADT with 342 AM peak hour trips and 487 PM peak hour trips. Pertinent pages from the Alvarado Creek Specific Plan traffic study prepared by Kimley Horn are included in ***Appendix D***.

SPRING STREET MIXED-USE

The Spring Street Mixed-Use Project is located at 4210 Spring Street and consists of 48 multi-family dwelling units. The project is calculated to generate a total of 288 ADT with 23 AM peak hour trips and 26 PM peak hour trips. For the purposes of this study, trip generation and assignment for this project was developed based on LLG calculations

7601 UNIVERSITY AVENUE

The 7601 University Avenue Project consists of 60 multi-family dwelling units. The project is calculated to generate a total of 360 ADT with 29 AM peak hour trips and 32 PM peak hour trips For the purposes of this study, trip generation and assignment for this project was developed based on LLG calculations.

JEFFERSON LA MESA

The Jefferson La Mesa project consists of 230 multi-family dwelling units. The Project also includes 4 live/work units. The "work" part is 712 SF per unit, for a total of 2,848 SF. The total square footage of these dwelling units is 165,760. In addition, an onsite gym and swimming pool will be built for the occupants. The project is calculated to generate a total of 1,494 ADT with 103 AM peak hour trips and 134 PM peak hour trips. Pertinent pages from the Jefferson La Mesa traffic study prepared by LLG Engineers are included in *Appendix D*. The project is currently under construction.

MONTEBELLO

The Montebello project consists of Montebello North and Montebello South and is located east of Maple Avenue on either side of El Cajon Boulevard. Montebello North Site consists of 120 multi-family units and 6,000 SF of retail. This development will replace the existing 37 multi-family units, 5 single family units and 5,500 SF of restaurant / specialty retail currently on the site.

Montebello South is located in the southwest quadrant of the El Cajon Boulevard / Maple Avenue intersection and consists of 80 apartments, 5,000 SF of specialty retail and 3,000 SF of office.

The project is calculated to generate a total of 993 ADT with 68 AM peak hour trips and 92 PM peak hour trips. Pertinent pages from the Montebello traffic study prepared by Kimley Horn are included in *Appendix D*.

ALLISON AVENUE TOD

The Allison Avenue TOD project consists of 147 apartments. The project is calculated to 882 ADT with 71 AM peak hour trips and 79 PM peak hour trips. Pertinent pages from the Allison Avenue TOD traffic study prepared by LLG Engineers are included in *Appendix D*.

Figure 7–1 depicts the Opening Year (Existing + Cumulative projects) Without Project traffic volumes.

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Figure 7-1

Opening Year (Existing + Cumulative) Without Project Traffic Volumes

La Mesa EDCO Expansion

8.0 PROJECT TRAFFIC

8.1 Trip Generation

Project trips consist of vehicular trips on the street system, which begin or end at the Project site and are generated by the proposed development. Trip generation estimates for the Project are based on site specific information provided by the applicant.

The traffic generated by the Project's additional 1,000 tpd will consist of several unique trip types as described below. The Project traffic generation was calculated for each trip type as shown in ***Table 8-1.*** As seen in *Table 8–1,* the Project is calculated to generate a total of 1,479 ADT, with 82 inbound / 74 outbound trips during the AM peak hour, and 35 inbound / 43 outbound trips during the PM peak hour. The volumes include a passenger car equivalence factor (PCE), as discussed below.

It should be noted that the Facility has been operating at the increased tonnage capacity of 2,000 tpd for an 18-month period per the site's Emergency Waiver. Therefore, the trips that are calculated to be generated by the Project are already represented in the existing baseline condition. However, in order to provide a conservative assessment of the effects of the Project, the calculated Project trips summarized above were considered as new trips to the roadway network.

EMPLOYEE VEHICLES

A total of 16 additional employees are expected each day; each driving their own vehicle (no carpooling assumed). To estimate the peak hour trips, 25% of the total employee ADT is assumed to enter the site (traveling inbound) during the AM peak, and 25% of the total employee ADT is assumed to exit the site (traveling outbound) during the PM peak. This assumes that 50% of employees will work an approximately 8AM to 5PM shift.

SELF-HAUL VEHICLES

An additional 308 self-haul vehicles per day are expected as a result of the Project expansion. Self-haul operations are between 5AM and 1PM. For the purposes of this study, self-haul vehicles are assumed to access the site consistently between the hours of 5AM and 1PM. No self-haul vehicle trips were assumed in the PM peak hour. Self-haul vehicles are typically two axle pickup trucks and/or trailers, not heavy trucks. Therefore, a PCE factor was not applied to these trips.

COLLECTIONS VEHICLES AND TRANSFER VEHICLES

An additional 111 collection vehicles and an additional 46 transfer vehicles are expected as a result of the Project expansion. These vehicles are assumed to access the site consistently between the hours of 6AM and 6PM. A PCE factor of 2.5 for the collections vehicles and 3.0 for the transfer vehicles was applied to account for the diminished performance characteristics of heavy trucks in traffic flow (as compared to passenger vehicles) based on data contained in the HCM.

8.2 Trip Distribution and Assignment

The Project traffic distribution was primarily based on the traffic study for the Facility's original 1996 EIR, the site location, access options to I-8, and existing traffic patterns.

Figure 8-1 depicts the Project trip distribution and ***Figure 8-2*** depicts the Project trip assignment. ***Figure 8–3*** depicts the Opening Year (Existing + Cumulative projects) with Project traffic volumes.

TABLE 8-1
PROJECT TRIP GENERATION

Number and Type of Trips	Daily Trips			AM Peak Hour (w/PCE)			PM Peak Hour (w/PCE)		
	ADT[a]	PCE[b]	PCE Adjusted ADT	In	Out	Total	In	Out	Total
16 Employee Vehicles	32	1.0	32	8	0	8	0	8	8
308 Self-Haul Vehicles	616	1.0	616	39	39	78	0	0	0
111 Collections Vehicles	222	2.5	555	23	23	46	23	23	46
46 Transfer Vehicles	92	3.0	276	12	12	24	12	12	24
Total Trips:			**1,479**	**82**	**74**	**156**	**35**	**43**	**78**

Footnotes:

a. Average Daily Trips

b. Passenger Car Equivalents. Based on the *Highway Capacity Manual*, a PCE factor of 2.5 or 3.0 was applied to the Project's heavy-truck trips.

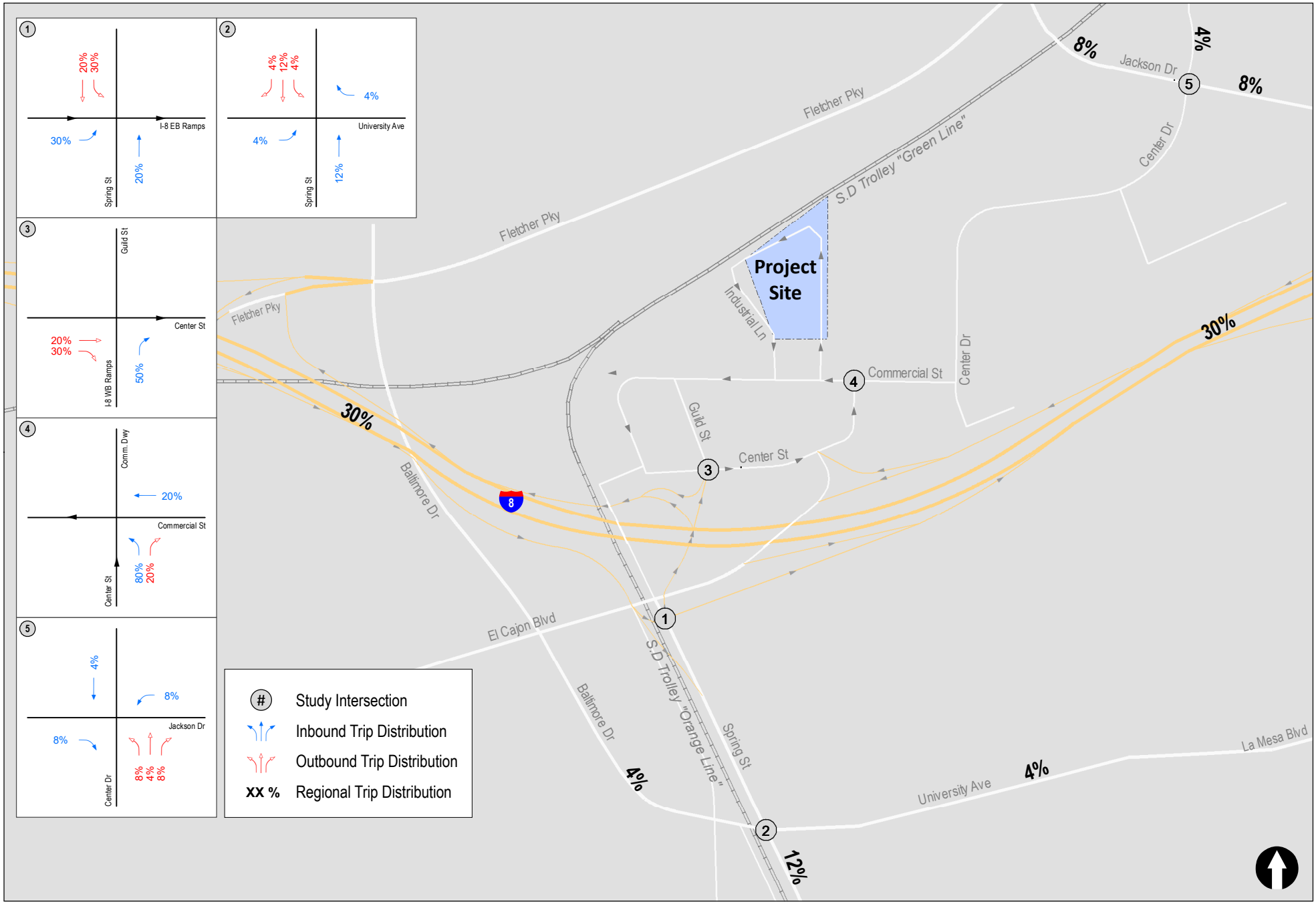

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Figure 8-1

Project Traffic Distribution

La Mesa EDCO Expansion

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Figure 8-2

Project Traffic Volumes

La Mesa EDCO Expansion

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Figure 8-3

Opening Year + Project Traffic Volumes

La Mesa EDCO Expansion

9.0 CAPACITY ANALYSIS

The following section presents the analysis of study area intersections and street segments under Opening Year conditions.

9.1 Peak Hour Intersection Operations

9.1.1 *Opening Year (Existing + Cumulative Projects) Without Project Conditions*

Table 9–1 summarizes the Opening Year without Project intersection operations. As seen in *Table 9–1*, the study intersections are calculated to operate at LOS D or better.

The Opening Year without Project peak hour intersection analysis worksheets are included in ***Appendix E***

9.1.2 *Opening Year (Existing + Cumulative Projects) With Project Conditions*

Table 9–1 summarizes the Opening Year with Project intersection operations. As seen in *Table 9–1*, the study intersections are calculated to continue to operate at LOS D or better with the addition of Project traffic and therefore no substantial effects are identified.

The Opening Year with Project peak hour intersection analysis worksheets are included in ***Appendix F***.

TABLE 9–1
OPENING YEAR INTERSECTION OPERATIONS

Intersection	Control Type	Peak Hour	Existing		Opening Year Without Project		Opening Year With Project		Δ[c]
			Delay[a]	LOS[b]	Delay	LOS	Delay	LOS	
1. Spring St & I-8 Ramp	Signal	AM	11.8	B	11.8	B	14.2	B	2.4
		PM	14.6	B	14.6	B	15.9	B	1.3
2. Spring St & University Ave	Signal	AM	40.8	D	41.4	D	41.9	D	0.5
		PM	47.3	D	48.9	D	49.3	D	0.4
3. Center St & Guild St	AWSC [d]	AM	8.4	A	8.4	A	9.0	A	0.6
		PM	8.1	A	8.1	A	8.2	A	0.1
4. Center St & Commercial St	TWSC [e]	AM	11.8	B	11.8	B	13.3	B	1.5
		PM	13.0	B	13.0	B	13.7	B	0.7
5. Center Dr & Jackson Dr	Signal	AM	19.7	B	19.7	B	19.8	B	0.1
		PM	29.8	C	29.8	C	29.9	C	0.1

Footnotes:

a. Average delay expressed in seconds per vehicle.
b. Level of Service.
c. Δ denotes an increase in delay due to project.
d. AWSC – All-Way Stop Controlled intersection. Overall intersection delay and LOS are reported.
e. TWSC - Two-Way Stop Controlled intersection. Highest intersection delay and LOS is reported.

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

10.0 ACTIVE TRANSPORTATION REVIEW

10.1 Pedestrian Mobility

10.1.1 *Existing Pedestrian Conditions*

Sidewalks are not provided along all streets in the study area. Sidewalks are provided along the following roadways:

- Spring Street, south of the I-8 on-ramp, on the east side of the roadway only.
- University Avenue, on both sides of the roadway.
- Commercial Street, intermittently on the south side of the roadway, but generally not provided.
- Center Street, intermittently west of Guild Street, but generally not provided.
- Center Drive, on both sides of the roadway, east of Tinken Street and on the east side of the roadway north of Commercial Street.
- Jackson Drive, on both sides of the roadway.

10.1.2 *Future Pedestrian Improvements*

SPRING STREET PEDESTRIAN AND BICYCLE IMPROVEMENTS PLAN

In March of 2015, *A Smart Growth – Pedestrian and Bicycle Improvements Plan* was prepared by the City of La Mesa to help pedestrians and bicyclists feel more comfortable navigating the downtown area. Detailed in this plan are proposed renovations to Spring Street from Center Street to University Avenue. Drawings from the above referenced document depicting the proposed bike and pedestrian enhancements are included in ***Appendix G***. The plan includes the following:

- Section A-A is an 8-foot sidewalk for pedestrian use and a 16-foot class III Bike lane shared with vehicles on the southbound side of Spring Street from Center Street to the beginning of the Spring Street overcrossing. A chain link railing on top of the existing bridge barrier is also proposed.
- Section B-B continues from the end of the above section until the I-8 El Cajon off-ramp overcrossing. Starting from the west side is a proposed retaining wall separated by a 5-foot gap from an additional chain link railing. Continuing west, a 5-foot sidewalk, curb and gutter, are proposed. Further east is a 13-foot Class III Bike Lane and a 12-foot left turn lane. Continuing east, the proposed design contains the existing curb and gutter along with a 3-foot gap to the existing bridge column.
- Section C-C is the portion of Spring Street between Center Street and the Spring Street on-ramp overcrossing, a 5-foot sidewalk and chain link railing is proposed on northbound Spring Street.

- Section D-D branches off at the end of Section C-C and reconnects to Spring Street underneath the El Cajon off-ramp overcrossing. The proposed improvements include a 5-foot sidewalk and retaining wall on the east side of the already existing bridge columns.

- Section E-E of the Spring Street Pedestrian and Bicycle improvement plan continues from the end of section D-D and runs until the war memorial that's located on the corner of Spring proposed and University Avenue. The detailed improvements in this section include a 6-foot sidewalk east of Nebo Drive.

- Included in the improvement plan are two high visibility crosswalks. The first is located at the intersection of Spring proposed and the Eastbound I-8 entrance ramp. The second Crosswalk is located on the west leg of the University and Spring proposed intersection.

As shown in Sheets 1 and 2 of the *North Spring Street Smart Growth - Pedestrian and Bicycle Improvements,* March 2015, (*Appendix G*) pedestrians to and from the site will be able to cross Nebo Drive at the northeast corner of the site and use a new sidewalk to access Spring Street. Currently, Phase 1 Spring Street improvements have been completed.

10.2 Transit Mobility

10.2.1 *Existing Transit Conditions*

Bus Routes

Transit service is provided to the area via the San Diego MTS Bus Routes 1 and 852 as well as the Orange Trolley Line. Routes 1 and 852 provides bus service to the area via University Avenue and Allison Avenue.

Route 1, with service between the Hillcrest Transit Center and Grossmont Transit Center operates between 4:49 AM and 11:14 PM Monday through Friday with primarily 15-minute headways, and between 6:28 AM to 8:34 PM on weekends with a 30-minute headway.

Route 852 with service from University Avenue / 54th Street to Grossmont Transit Center operates from 5:00 AM to 11:00 PM Monday through Friday at 30-minute intervals during the AM and PM peak hours. On Saturdays, this route runs from 6:30 AM to 10:30 PM and on Sundays from 6:30 AM to 9:30 PM at 30-minute intervals.

Appendix G contains the Route Maps and schedules of MTS routes 1 and 852.

Trolley Line

The La Mesa Boulevard Station, serving the Orange Line, is located between Allison Avenue and La Mesa Boulevard. Located over a mile away, this is the nearest trolley station to the Project site. Trolleys run from 5:00 AM to 1:00 AM and mostly run on 15-minute intervals on weekdays. On Saturdays, the trolley runs on 30-minute intervals from 5:30 AM to 1:00 AM. On Sundays, the trolley runs from 5:30 AM to 11:30 PM.

10.2.2 *Future Transit Improvements*

Per the *La Mesa Bicycle Facilities and Alternative Transportation Plan*, 2012, SANDAG has developed regional transportation modeling forecasts that indicate that La Mesa will see small changes in transit levels of service in the future. Based on these forecasts, and owing to La Mesa's relatively built-out, developed nature, relatively minor changes are anticipated for the City. These include the addition of a handful of bus stops along existing routes in the City, an increase in service frequency of existing routes (including the trolley), and a potential new alignment along Palm Avenue between Allison Avenue and Spring Street.

10.3 Bicycle Mobility

10.3.1 *Existing Bicycle Conditions*

Within the Project study area, Class II bike lanes are provided as follows:

- On University Drive in the eastbound direction only, between Allison Avenue and Baltimore Drive
- On University Avenue in both directions, east of Spring Street up to La Mesa Boulevard (east).
- On Jackson Drive in both directions, west of Fletcher Parkway and east of Murray Drive.
- On Center Drive in both directions, north of Jackson Drive.
- On Center Drive in both directions, between Commercial Street and Jackson Drive.

10.3.2 *Future Bicycle Improvements*

Per the *La Mesa Bicycle Facilities and Alternative Transportation Plan, 2012*, Class 2 Bicycle Facilities are recommended along the following roadways within the study area:

- University Avenue, between the City limit and Spring Street
- Spring Street, between Center Street and I-8
- Center Drive, between Grossmont Center and Jackson Drive

Per the *La Mesa Bicycle Facilities and Alternative Transportation Plan, 2012*, Class 3 Bike Routes are recommended along the following roadways within the study area:

- Spring Street, between Fresno Avenue and I-8
- Allison Avenue, between University Avenue and La Mesa Boulevard
- Center Street/Commercial Street, between Spring Street and Jackson Drive

11.0 CONCLUSIONS

The Project proposes an Industrial land use type. ITE and OPR do not recommend a specific threshold of VMT significance for industrial projects. Within the City of Carlsbad and the City of Escondido, an industrial project is considered to have a significant impact if its VMT/employee exceeds the regional average VMT/employee. The Project specific VMT per employee is lower than the regional average. Therefore, the Project is calculated to result in a less-than-significant VMT impact, and VMT related mitigation measures are not required.

The LTA capacity analysis indicates all study area intersections are calculated to operate at LOS D or better. Therefore, no substantial effects are identified and no improvements are required.