TRAFFIC IMPACT ANALYSIS

CAPISTRANO GREENERY AT PRIMA DESHECHA LANDFILL

SAN JUAN CAPISTRANO, CALIFORNIA

LSA

June 2023

TRAFFIC IMPACT ANALYSIS

CAPISTRANO GREENERY AT PRIMA DESHECHA LANDFILL

SAN JUAN CAPISTRANO, CALIFORNIA

Submitted to:

Aimee Halligan
Orange County Waste & Recycling
601 North Ross Street, 5th Floor
Santa Ana, California 92701

Prepared by:

LSA
20 Executive Park, Suite 200
Irvine, California 92614-4731
(949) 553-0666

Project No. OCY2001.22

LSA

June 2023

EXECUTIVE SUMMARY

The purpose of this Traffic Impact Analysis (TIA) is to determine the potential traffic impacts resulting from the proposed Capistrano Greenery operational modifications (project) within the Prima Deshecha Landfill at 32250 Avenida La Pata in San Juan Capistrano, California. This TIA analyzes levels of service (LOS) to address the effects of the project on the local circulation system and evaluates vehicle miles traveled (VMT) to address potential transportation impacts per the California Environmental Quality Act (CEQA).

Orange County Waste & Recycling (OCWR) currently operates the Capistrano Greenery composting facility at the Prima Deshecha Landfill. The existing Prima Deshecha Landfill and Capistrano Greenery are open from 7:00 a.m. to 5:00 p.m., Monday through Saturday.

The Capistrano Greenery composting operation was permitted in 2020 to receive a maximum of 204 tons per day of processed green material (PGM), processed agricultural material, and manure. The Capistrano Greenery is critical in meeting California (State) mandates for the recycling of organic material. As a newly operating facility, the Capistrano Greenery has not yet reached its maximum intake capacity of 204 tons per day. The Capistrano Greenery currently receives approximately 170 tons per week of PGM and manure (approximately 150 tons of PGM once per week and 10 tons of manure twice per week). Although the Capistrano Greenery is not processing waste at the permitted maximum, there is a need to continue meeting the increasingly aggressive State's recycling mandates. Per Assembly Bill (AB) 1594, as of January 1, 2020, PGM is no longer considered as an exempt waste, but rather PGM is counted as disposal and is part of the landfill's daily disposal tonnage.

OCWR is the lead agency for the proposed operational modifications to the existing Capistrano Greenery, including the following key components:

1. acceptance of new types of feedstock, including food waste
2. increase in daily tonnage from 204 to 536 tons per day
3. use of Covered Aerated Static Pile (CASP) technology to increase the volume of compost, reduce water use, and increase environmental controls for the process
4. addition of solar panels to power the blowers for the CASP system
5. chipping and grinding activities
6. community compost give-away events at a maximum monthly cadence
7. modifications to surface grinding to improve stormwater management

The proposed project would allow the Capistrano Greenery to accept more incoming organic materials for processing, thereby better assisting local municipalities by offering an expanded option for meeting State organic waste recycling mandates. The proposed project would have the same hours of operation and include an increase in permitted daily intake to a maximum of 536 tons per day of compostable organic waste materials. After the composting process has been completed on site, 536 tons per day of compost would be delivered to markets inside and outside Orange County. The designated truck route to/from the Capistrano Greenery and regional locations is Interstate 5 (I-5), Ortega Highway (State Route 74 [SR-74]), and Avenida La Pata.

The intake of 536 tons per day of compostable organic waste materials would require up to 25 trucks (with a 22-ton capacity), generating 50 daily trips. The 536 tons per day of compost delivery would require an additional 25 trucks (with a 22-ton capacity), generating 50 daily trips. The proposed project would require 50 total trucks, generating 100 total daily trips. Based on the current hours of operation (10 hours between 7:00 a.m. and 5:00 p.m.), this would equate to approximately 10 trips per hour.

Because trucks are larger, slower, and have less maneuverability than a typical vehicle within the local circulation system, a passenger car equivalent (PCE) factor of 2 has been applied to the project trucks. Applying the PCE factor of 2 to the 50 daily trucks, the proposed project would generate 200 daily trips, including 20 a.m. peak-hour trips (10 inbound and 10 outbound) and 20 p.m. peak-hour trips (10 inbound and 10 outbound), in PCEs. The remaining 160 PCE trips (80 inbound and 80 outbound) would occur outside the peak-hour periods.

This study focuses on the a.m. peak-hour and p.m. peak-hour LOS at seven intersections and daily (24-hour) LOS at five roadway segments. The a.m. and p.m. peak hours are the single highest hours of traffic volume on the local circulation system between 7:00 and 9:00 a.m. and between 4:00 and 6:00 p.m., respectively. Project impacts were determined based on an analysis of Existing and Existing Plus Project conditions.

Based on the results of this analysis, the proposed project can be implemented without impacting the design or operation of the surrounding roadway system with the State Route 74 (SR-74) Lower Ortega Highway Widening Project. An evaluation of intersection and roadway LOS shows that the addition of project traffic with the widening improvement, which would provide an additional eastbound lane and an additional westbound lane totaling four lanes along Ortega Highway between Calle Entradero and Reata Road, would not significantly impact the study area locations, according to the City of San Juan Capistrano's performance criteria.

According to the County of Orange's *Final Draft Guidelines for Evaluating Vehicles Miles Traveled under CEQA* (LSA 2020), public services and facilities (e.g., Prima Deshecha Landfill and Capistrano Greenery) that support community health, safety, or welfare are screened from a vehicle miles traveled (VMT) analysis. Therefore, the proposed project is screened from a VMT analysis and presumed to have a less than significant transportation impact.

TABLE OF CONTENTS

EXECUTIVE SUMMARY i
TABLE OF CONTENTS ii
FIGURES AND TABLES iii
LIST OF ABBREVIATIONS AND ACRONYMS iv
INTRODUCTION 1
Project Background 1
Study Area Boundary 3
ANALYSIS METHODOLOGY 3
Intersection LOS Methodologies 3
Roadway Segment LOS Methodology 6
Threshold of Significance 6
PROPOSED PROJECT TRAFFIC 7
Trip Generation 7
Trip Distribution and Assignment 7
EXISTING CONDITIONS 9
Existing Circulation System 9
Existing Traffic Volumes and Levels of Service 10
EXISTING PLUS PROJECT CONDITIONS 10
Existing Plus Project Traffic Volumes and LOS 10
VEHICLE MILES TRAVELED ANALYSIS 23
CONCLUSIONS 24
REFERENCES 25

APPENDICES

A: EXISTING TRAFFIC VOLUMES
B: ICU WORKSHEETS
C: HCM WORKSHEETS

FIGURES AND TABLES

FIGURES

Figure 1: Regional and Project Location 2
Figure 2: Site Plan 4
Figure 3: Project Trip Distribution and Assignment 8
Figure 4: Existing Peak-Hour Volumes 11
Figure 5: Existing Plus Project Peak-Hour Volumes 17

TABLES

Table A: Project Trip Generation 7
Table B: Existing Intersection Level of Service Summary (ICU) 12
Table C: Existing Intersection Level of Service Summary (HCM) 13
Table D: Existing Roadway Segment Level of Service Summary (Daily) 14
Table E: Existing Roadway Segment Level of Service Summary (AM Peak Hour) 15
Table F: Existing Roadway Segment Level of Service Summary (PM Peak Hour) 16
Table G: Existing Plus Project Intersection Level of Service Summary (ICU) 18
Table H: Existing Plus Project Intersection Level of Service Summary (HCM) 19
Table I: Existing Plus Project Roadway Segment Level of Service Summary (Daily) 20
Table J: Existing Plus Project Roadway Segment Level of Service Summary (AM Peak Hour) 21
Table K: Existing Plus Project Roadway Segment Level of Service Summary (PM Peak Hour) 22

LIST OF ABBREVIATIONS AND ACRONYMS

AB	Assembly Bill
ADT	average daily traffic
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
HCM	*Highway Capacity Manual*
I-5	Interstate 5
ICU	intersection capacity utilization
LOS	level(s) of service
MPAH	Master Plan of Arterial Highways
mph	miles per hour
NDS	National Data & Surveying Services
OCTA	Orange County Transportation Authority
OCWR	Orange County Waste & Recycling
OPR	Governor's Office of Planning and Research
PCE	passenger car equivalent
PGM	processed green material
project	Capistrano Greenery operational modifications project
SB	Senate Bill
SR-74	State Route 74
TIA	Traffic Impact Analysis
TRB	Transportation Research Board
v/c	volume-to-capacity
vph	vehicles per hour

TRAFFIC IMPACT ANALYSIS
CAPISTRANO GREENERY

LSA has prepared the following Traffic Impact Analysis (TIA) to identify the potential traffic impacts resulting from the proposed Capistrano Greenery operational modifications (project) within the Prima Deshecha Landfill at 32250 Avenida La Pata in San Juan Capistrano, California. LSA has prepared this analysis in accordance with the City of San Juan Capistrano Administrative Policy No. 310 (revised 1998), the City of San Juan Capistrano General Plan Circulation Element and Growth Management Element (1999), the Orange County Congestion Management Program (CMP) (OCTA 2017), and applicable provisions of the California Environmental Quality Act (CEQA). This TIA analyzes levels of service (LOS) to address the effects of the project on the local circulation system and evaluates vehicle miles traveled (VMT) to address potential transportation impacts per CEQA.

INTRODUCTION

Project Background

Orange County Waste & Recycling (OCWR) currently operates the Capistrano Greenery composting facility at the Prima Deshecha Landfill at 32250 Avenida La Pata, San Juan Capistrano. Figure 1 shows the project location. The existing Prima Deshecha Landfill and Capistrano Greenery are open from 7:00 a.m. to 5:00 p.m., Monday through Saturday.

The Capistrano Greenery composting operation was permitted in 2020 to receive a maximum of 204 tons per day of processed green material (PGM), processed agricultural material, and manure. The Capistrano Greenery is critical in meeting California (State) mandates for the recycling of organic material. As a newly operating facility, the Capistrano Greenery has not yet reached its maximum intake capacity of 204 tons per day. The Capistrano Greenery currently receives approximately 170 tons per week of PGM and manure (approximately 150 tons of PGM once per week and 10 tons of manure twice per week). Although the Capistrano Greenery is not processing waste at the permitted maximum, there is a need to continue meeting the increasingly aggressive State's recycling mandates. Per Assembly Bill (AB) 1594, as of January 1, 2020, PGM is no longer considered as an exempt waste, but rather PGM is counted as disposal and is part of the landfill's daily disposal tonnage.

OCWR is the lead agency for the proposed operational modifications to the existing Capistrano Greenery, including the following key components:

1. acceptance of new types of feedstock, including food waste
2. increase in daily tonnage from 204 to 536 tons per day
3. use of Covered Aerated Static Pile (CASP) technology to increase the volume of compost, reduce water use, and increase environmental controls for the process
4. addition of solar panels to power the blowers for the CASP system
5. chipping and grinding activities
6. community compost give-away events at a maximum monthly cadence
7. modifications to surface grinding to improve stormwater management

Figure 2 illustrates the project site plan.

The proposed project would allow the Capistrano Greenery to accept more incoming organic materials for processing, thereby better assisting local municipalities by offering an expanded option for meeting State organic waste recycling mandates. The proposed project would have the same hours of operation and include an increase in permitted daily intake to a maximum of 536 tons per day of compostable organic waste materials. After the composting process has been completed on site, 536 tons per day of compost would be delivered to markets inside and outside Orange County.

The proposed project would require approximately 50 trucks, generating an average daily traffic (ADT) of 200 in passenger car equivalents (PCEs). The designated truck route to/from the Capistrano Greenery and regional locations is Interstate 5 (I-5), Ortega Highway (State Route 74 [SR-74]), and Avenida La Pata.

Study Area Boundary

As shown on Figure 1, the study area includes the following intersections:

1. I-5 southbound ramps/Ortega Highway
2. I-5 northbound ramps/Ortega Highway
3. Rancho Viejo Road/Ortega Highway
4. La Novia Avenue/Ortega Highway
5. Reata Road/Ortega Highway
6. Antonio Parkway–Avenida La Pata/Ortega Highway
7. Avenida La Pata/Stallion Ridge

The study area also includes the following Ortega Highway roadway segments:

1. I-5 southbound ramps to I-5 northbound ramps
2. I-5 southbound ramps to Rancho Viejo Road
3. Rancho Viejo Road to La Novia Avenue
4. La Novia Avenue to Calle Entradero
5. Calle Entradero to Reata Road
6. Reata Road to Antonio Parkway–Avenida La Pata

ANALYSIS METHODOLOGY

Intersection LOS Methodologies

Per City of San Juan Capistrano Administrative Policy No. 310, the City of San Juan Capistrano's guideline for preparing traffic studies, intersections are evaluated using the intersection capacity utilization (ICU) and the *Highway Capacity Manual* (HCM), 6th Edition (TRB 2017) methodologies.

The ICU methodology for signalized intersections compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums up these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The ICU calculations assume a lane capacity of 1,700 vehicles per hour (vph) and a clearance interval (or loss time) of 0.05. The resulting ICU is expressed in terms of LOS, where LOS A represents free-flow activity and LOS F represents overcapacity operation.

The relationship between LOS and the ICU value (i.e., v/c ratio) is as follows:

Level of Service	Volume-to-Capacity (ICU Methodology)
A	≤0.60
B	>0.60 and ≤0.70
C	>0.70 and ≤0.80
D	>0.80 and ≤0.90
E	>0.90 and ≤1.00
F	>1.00

ICU = Intersection Capacity Utilization

In addition to the ICU methodology for calculating intersection LOS, the HCM methodology was used. The HCM intersection methodology presents LOS in terms of delay (in seconds per vehicle). The resulting delay is expressed in terms of LOS, as in the ICU methodology.

The relationship between LOS and the delay for signalized intersections is shown below:

Level of Service	Signalized Intersection Delay (seconds) per Vehicle (HCM Methodology)
A	≤10.0
B	>10.0 and ≤20.0
C	>20.0 and ≤35.0
D	>35.0 and ≤55.0
E	>55.0 and ≤80.0
F	>80.0

HCM = *Highway Capacity Manual* (TRB 2017)
TRB = Transportation Research Board

The study area intersection LOS analysis was conducted for the weekday a.m. peak hour (the single highest hour of traffic volume on the local circulation system between 7:00 a.m. and 9:00 a.m.) and weekday p.m. peak hour (the single highest hour of traffic volume on the local circulation system between 4:00 p.m. and 6:00 p.m.).

The City of San Juan Capistrano requires an HCM operational analysis of study area intersections designated as "hot spots" using the Synchro computer software package. Intersections designated as hot spots are closely spaced and experience high volumes during the peak hours. The peak 30-minute volumes in the a.m. and p.m. peak-hour periods are multiplied by 2 to represent the peak-hour volumes at the hot-spot intersections. This analysis is conducted to evaluate the impacts of the proposed project on the signal operations of these locations. In addition to the hot-spot locations, LSA utilized Synchro (version 10) for the HCM analysis of all other study area intersections.

Roadway Segment LOS Methodology

Roadway segment v/c ratios were determined using the daily capacities contained in the 2018 Orange County Transportation Authority (OCTA) *Guidance for Administration of the Orange County Master Plan of Arterial Highways* (MPAH). Facility types were taken from the City of San Juan Capistrano General Plan and the MPAH.

The following table illustrates daily capacities for roadways in the study area:

Facility Type	Number of Lanes	Capacity
Major	8	75,000
Major	6	56,300
Primary	4 (Divided)	37,500
Secondary	4 (Undivided)	25,000
Limited Secondary	2 (Divided)	20,000
Local Arterial	2 (Undivided)	12,500

Threshold of Significance

The City of San Juan Capistrano considers LOS D as the upper limit of satisfactory operations for intersections and roadway segments. However, as indicated in the City of San Juan Capistrano General Plan Circulation Element, the following intersections and roadway segments are identified as hot-spot locations (i.e., School hot spot, Operations hot spot, and Space Constrained hot spot), where LOS E is considered satisfactory:

Hot Spot Intersections

1. I-5 northbound ramps/Ortega Highway
2. I-5 southbound ramps/Ortega Highway

Hot Spot Roadway Segment

1. Ortega Highway between the I-5 southbound ramps and I-5 northbound ramps

Both intersections are Orange County CMP intersections, and Ortega Highway is a CMP roadway. LOS E is considered acceptable at these locations, consistent with the City of San Juan Capistrano's target LOS for hot-spot locations.

Based on City of San Juan Capistrano Administrative Policy No. 310, a project impact occurs at a non-hot-spot intersection (or roadway segment) when the project's increase in ICU (or v/c ratio) is 0.01 or greater and the resulting LOS is E or F (ICU methodology). A project impact also occurs at a non-hot-spot intersection when the project's increase in delay is 1.0 second or greater and the resulting LOS is E or F (HCM methodology).

A project impact occurs at a hot-spot intersection (or roadway segment) when the project's increase in ICU (or v/c ratio) is 0.01 or greater and the resulting LOS is F. A project impact also occurs at a hot-spot intersection when the project's increase in delay is 1.0 second or greater and the resulting LOS is F.

PROPOSED PROJECT TRAFFIC

Trip Generation

The trip generation for the proposed project is based on operational information from OCWR. As previously described, the daily intake of 536 tons of compostable organic waste materials and the daily delivery of 536 tons of compost would require 50 total trucks. Based on the current hours of operation of the Capistrano Greenery (10 hours between 7:00 a.m. and 5:00 p.m.), this equates to approximately 5 trucks (or 10 trips [5 inbound and 5 outbound]) per hour. Because trucks are larger, slower, and have less maneuverability than a typical vehicle within the local circulation system, a PCE factor of 2 has been assumed for each of the 50 daily trucks.

As shown in Table A, the proposed project would generate 200 ADT, with 20 trips in the a.m. peak hour (10 inbound and 10 outbound) and 20 trips in the p.m. peak hour (10 inbound and 10 outbound) in PCEs. The remaining 160 trips (80 inbound and 80 outbound) would occur outside the peak-hour periods.

Table A: Project Trip Generation

Trip Type	Quantity	PCE	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trucks	50	2	200	10	10	20	10	10	20

Source: Orange County Waste & Recycling (June 2023).
ADT = average daily traffic
PCE = passenger car equivalent

The project trips have been added to the existing traffic volumes to represent the Existing Plus Project conditions.

Trip Distribution and Assignment

The directions of approach to and departure from the site are based on operational information from OCWR and the City of San Juan Capistrano's designated truck routes (e.g., I-5, Ortega Highway, and Avenida La Pata). Approximately 50 percent of the trips are destined north on I-5 and 50 percent are destined south on I-5. The results of the impact analysis and the access analysis are discussed later in this TIA. Figure 3 illustrates the project trip distribution and assignment.

EXISTING CONDITIONS

Existing Circulation System

Key roadways in the vicinity of the proposed project are as follows:

- **Ortega Highway:** Ortega Highway is an east-west roadway located north of the project site. Ortega Highway is divided west of Gateway Place and undivided east of Gateway Place (Gateway Place is just east of Antonio Parkway–Avenida La Pata). It extends east from Camino Capistrano west of I-5 to Interstate 215 in Perris. Ortega Highway is designated as a Primary Arterial in the City of San Juan Capistrano Circulation Element. Ortega Highway is a CMP facility and is designated as a hot-spot location west of the I-5 northbound ramps. Between the I-5 northbound and southbound ramps, Ortega Highway functions as an eight-lane facility due to the dual left-turn lanes at the signalized I-5 southbound ramps/Ortega Highway intersection. Between the I-5 northbound ramps and Antonio Parkway–Avenida La Pata, the number of Ortega Highway lanes vary between two lanes and six lanes. The speed limit along Ortega Highway west of Antonio Parkway–Avenida La Pata is 35–45 miles per hour (mph). Curbside parking is not permitted.

- **I-5:** I-5 is a north-south interstate freeway located west of the project site. I-5 has 10 travel lanes in the project vicinity, of which 4 lanes are general-purpose lanes and 1 lane is a high-occupancy vehicle lane in each direction.

- **Avenida La Pata:** Avenida La Pata is a divided north-south roadway east of the project site. It has four to six travel lanes. The speed limit along Avenida La Pata is 55 mph. On-street (Class II) bicycle lanes are provided on both sides of the street. Curbside parking is not permitted.

- **Reata Road:** Reata Road is a divided two-lane roadway that connects Ortega Highway to residential neighborhoods north of Ortega Highway. On-street (Class II) bicycle lanes are provided on both sides of the street. Curbside parking is not permitted.

- **La Novia Avenue:** La Novia Avenue is an undivided four-lane, north-south roadway located northwest of the project site. La Novia Avenue is designated as a Primary Arterial in the City of San Juan Capistrano Circulation Element. The speed limit along La Novia Avenue is 35 mph (25 mph adjacent to the St. Margaret's Episcopal School when children are present). Curbside parking is not permitted on either side of La Novia Avenue.

- **Rancho Viejo Road:** Rancho Viejo Road is a four-lane, north-south roadway located northwest of the project site. It is generally divided with a raised median (and left-turn lanes for access to local streets) north of Ortega Highway and undivided south of Ortega Highway. Rancho Viejo Road is designated as a Secondary Arterial north of Ortega Highway and a Collector south of Ortega Highway in the City of San Juan Capistrano Circulation Element. The speed limit along Rancho Viejo Road north and south of Ortega Highway is 45 mph and 30 mph, respectively. Curbside parking is not permitted on either side of Rancho Viejo Road.

Existing Traffic Volumes and Levels of Service

Existing traffic volumes were collected by Counts Unlimited in January 2023 for the study area intersections and roadway segments. Appendix A provides the existing traffic volume data. The existing a.m. and p.m. peak-hour turn movement volumes for the study area intersections are shown on Figure 4.

Tables B and C summarize the results of the existing peak-hour LOS analysis for the study area intersections using the ICU and HCM methodologies, respectively. The existing ICU and HCM worksheets are contained in Appendices B and C, respectively. As shown in Table B, all study area intersections, including the hot-spot intersections, currently operate at satisfactory LOS based on the ICU methodology. As shown in Table C, all study area intersections, including the hot-spot intersections, currently operate at satisfactory LOS based on the HCM methodology.

Existing roadway segment ADT volumes, v/c ratios, and LOS are presented in Table D. Tables E and F present the existing peak-hour volumes, v/c ratios, and LOS for the roadway segments. As Table D indicates, all study area roadway segments currently operate at satisfactory LOS on a daily basis, with the exception of Ortega Highway from Calle Entradero to Reata Road (LOS F). As shown on Tables E and F, all study area roadway segments currently operate at satisfactory LOS in both directions during both peak hours, with the exception of Ortega Highway from Calle Entradero to Reata Road (LOS F in the westbound direction during the a.m. peak hour).

EXISTING PLUS PROJECT CONDITIONS

Existing Plus Project Traffic Volumes and LOS

To determine the Existing Plus Project condition, traffic generated by the proposed project was added to existing baseline traffic volumes at the study area intersections. Figure 5 shows the resulting Existing Plus Project peak-hour traffic volumes.

Tables G and H summarize the results of the Existing Plus Project peak-hour LOS analysis for the study area intersections using the ICU and HCM methodologies, respectively. The Existing Plus Project ICU and HCM worksheets are contained in Appendices B and C, respectively. As shown in Table G, all study area intersections, including the hot-spot intersections, are anticipated to operate at satisfactory LOS based on the ICU methodology. As shown in Table H, all study area intersections, including the hot-spot intersections, are anticipated to operate at satisfactory LOS based on the HCM methodology. Therefore, a significant project impact would not occur at any study area intersection based on the ICU and HCM methodologies.

Existing Plus Project roadway segment ADT volumes, v/c ratios, and LOS are presented in Table I. Tables J and K present the Existing Plus Project peak-hour volumes, v/c ratios, and LOS for the roadway segments. As Table I indicates, all study area roadway segments are anticipated to operate at satisfactory LOS with the proposed project on a daily basis, with the exception of Ortega Highway from Calle Entradero to Reata Road (LOS F). As shown on Tables J and K, all study area roadway segments would operate at satisfactory LOS in both directions during both peak hours, with the exception of Ortega Highway from Calle Entradero to Reata Road (LOS F in the westbound direction during the a.m. peak hour).

LSA

Table G: Existing Plus Project Intersection Level of Service Summary (ICU)

	Intersection	Control	Peak Hour	1 Existing ICU	1 Existing LOS	2 Existing Plus Project ICU	2 Existing Plus Project LOS	3 Project Impact[2] ICU	3 Project Impact[2] Yes/No
1	I-5 SB Ramps/Ortega Highway[1]	Signal	AM	0.652	B	0.654	B	0.002	No
			PM	0.662	B	0.665	B	0.003	No
2	I-5 NB Ramps/Ortega Highway[1]	Signal	AM	0.724	C	0.727	C	0.003	No
			PM	0.675	B	0.679	B	0.004	No
3	Rancho Viejo Road/Ortega Highway	Signal	AM	0.625	B	0.627	B	0.002	No
			PM	0.700	B	0.703	C	0.003	No
4	La Novia Avenue/Ortega Highway	Signal	AM	0.653	B	0.656	B	0.003	No
			PM	0.698	B	0.701	C	0.003	No
5	Reata Road/Ortega Highway	Signal	AM	0.677	B	0.680	B	0.003	No
			PM	0.568	A	0.571	A	0.003	No
6	Antonio Parkway–Avenida La Pata/Ortega Highway	Signal	AM	0.715	C	0.724	C	0.009	No
			PM	0.624	B	0.624	B	0.000	No
7	Avenida La Pata/Stallion Ridge	Signal	AM	0.467	A	0.469	A	0.002	No
			PM	0.415	A	0.418	A	0.003	No

[1] Intersection is considered a hot-spot location (LOS E is acceptable).

[2] A significant project impact occurs when the ICU in (2) minus the ICU in (1) is 0.01 or greater and the LOS in (2) is E or F.

ICU = Intersection Capacity Utilization

LOS = level of service

NB = northbound

SB = southbound

LSA

Table H: Existing Plus Project Intersection Level of Service Summary (HCM)

	Intersection	Control	Peak Hour	1 Existing Delay	1 Existing LOS	2 Existing Plus Project Delay	2 Existing Plus Project LOS	3 Project Impact[2] Delay	3 Project Impact[2] Yes/No
1	I-5 SB Ramps/Ortega Highway[1]	Signal	AM	24.7	C	24.8	C	0.1	No
			PM	23.4	C	23.6	C	0.2	No
2	I-5 NB Ramps/Ortega Highway[1]	Signal	AM	51.8	D	52.7	D	0.9	No
			PM	32.8	C	33.1	C	0.3	No
3	Rancho Viejo Road/Ortega Highway	Signal	AM	44.6	D	45.4	D	0.8	No
			PM	36.0	C	36.3	D	0.3	No
4	La Novia Avenue/Ortega Highway	Signal	AM	22.7	C	22.9	C	0.2	No
			PM	21.1	C	21.2	C	0.1	No
5	Reata Road/Ortega Highway	Signal	AM	23.1	C	23.5	C	0.4	No
			PM	19.9	B	20.1	C	0.2	No
6	Antonio Parkway–Avenida La Pata/Ortega Highway	Signal	AM	38.3	D	39.4	D	1.1	No
			PM	30.3	C	30.6	C	0.3	No
7	Avenida La Pata/Stallion Ridge	Signal	AM	23.0	C	23.0	C	0.0	No
			PM	14.8	B	14.8	B	0.0	No

[1] Intersection is considered a hot-spot location (LOS E is acceptable).

[2] A significant project impact occurs when the delay in (2) minus the delay in (1) is 1.0 seconds or greater and the LOS in (2) is E or F.

HCM = *Highway Capacity Manual*

LOS = level of service

NB = northbound

SB = southbound

LSA

Table I: Existing Plus Project Roadway Segment Level of Service Summary (Daily)

Ortega Highway Segment	No. of Lanes	LOS E Capacity	1 Existing ADT	1 Existing V/C	1 Existing LOS	Project ADT	2 Existing Plus Project ADT	2 Existing Plus Project V/C	2 Existing Plus Project LOS	3 Project Impact[4] V/C	3 Project Impact[4] Yes/No
I-5 SB Ramps to I-5 NB Ramps[1,2]	8D	75,000	50,730	0.676	B	100	50,830	0.678	B	0.002	No
I-5 NB Ramps to Rancho Viejo Road[1]	6D	56,300	45,487	0.808	D	200	45,687	0.811	D	0.003	No
Rancho Viejo Road to La Novia Avenue[1]	5D	46,900	37,532	0.800	C	200	37,732	0.805	D	0.005	No
La Novia Avenue to Calle Entradero[1]	4D	37,500	36,421	0.971	E	200	36,621	0.977	E	0.006	No
Calle Entradero to Reata Road[1]	2D	20,000	33,853	1.693	F	200	34,053	1.703	F	0.010	Yes
With Improvement[3]	*4D*	*37,500*	*25,205*	0.903	E	*200*	*25,405*	0.908	E	0.005	*No*
Reata Road to Antonio–Avenida La Pata[1]	4D	37,500	31,853	0.849	D	200	32,053	0.855	D	0.006	No

= exceeds City's Level of Service criteria

[1] Segment is a CMP location (LOS E is acceptable).

[2] Segment is considered a hot-spot location (LOS E is acceptable).

[3] The Caltrans Lower 74 Widening Project would add one additional lane in each direction.

[4] A significant project impact occurs when the V/C in (2) minus the V/C in (1) is 0.01 or greater and the LOS in (2) is E or F.

= change

ADT = average daily traffic

Caltrans = California Department of Transportation

CMP = Congestion Management Program

D = divided

LOS = level of service

NB = northbound

SB = southbound

V/C = volume-to-capacity ratio

LSA

Table J: Existing Plus Project Roadway Segment LOS Summary (AM Peak Hour)

Ortega Highway Segment	Direction	No. of Lanes	LOS E Capacity	1 Existing AM Vol	1 Existing V/C	1 Existing LOS	Project AM Vol	2 Existing + Project AM Vol	2 Existing + Project V/C	2 Existing + Project LOS	3 Project LOS Impact[4] AM Vol	3 Project LOS Impact[4] Yes/No
I-5 Southbound Ramps to I-5 Northbound Ramps[1,2]	Eastbound	4	6,800	1,959	0.288	A	10	1,969	0.290	A	0.002	No
	Westbound	4	6,800	1,947	0.286	A	10	1,957	0.288	A	0.002	No
I-5 Northbound Ramps to Rancho Viejo Road[2]	Eastbound	3	5,100	1,954	0.383	A	20	1,974	0.387	A	0.004	No
	Westbound	3	5,100	1,754	0.344	A	20	1,774	0.348	A	0.004	No
Rancho Viejo Road to La Novia Avenue[2]	Eastbound	2	3,400	1,265	0.372	A	20	1,285	0.378	A	0.006	No
	Westbound	3	5,100	1,881	0.369	A	20	1,901	0.373	A	0.004	No
La Novia Avenue to Calle Entradero[2]	Eastbound	2	3,400	1,192	0.351	A	20	1,212	0.356	A	0.005	No
	Westbound	2	3,400	1,676	0.493	A	20	1,696	0.499	A	0.006	No
Calle Entradero to Reata Road[2]	Eastbound	1	1,700	975	0.574	A	20	995	0.585	A	0.011	No
	Westbound	1	1,700	1,744	1.026	F	20	1,764	1.038	F	0.012	Yes
With Improvement[3]	*Eastbound*	*2*	*3,400*	*975*	*0.287*	*A*	*20*	*995*	*0.292*	*A*	*0.005*	*No*
	Westbound	*2*	*3,400*	*1,744*	*0.513*	*A*	*20*	*1,764*	*0.519*	*A*	*0.006*	*No*
Reata Road to Antonio Parkway–Avenida La Pata[2]	Eastbound	2	3,400	921	0.271	A	20	941	0.277	A	0.006	No
	Westbound	2	3,400	1,614	0.475	A	20	1,634	0.481	A	0.006	No

= exceeds City's Level of Service criteria

[1] Segment is considered a hot-spot location (LOS E is acceptable).

[2] Segment is a CMP location (LOS E is acceptable).

[3] The Caltrans Lower 74 Widening Project would add one additional lane in each direction.

[4] A project LOS impact occurs when the V/C in (2) minus the V/C in (1) is 0.01 or greater, and the LOS in (2) is E or F.

AM Vol = a.m. peak-hour volume

Caltrans = California Department of Transportation

CMP = Congestion Management Program

I-5 = Interstate 5

LOS = level of service

V/C = volume-to-capacity ratio

LSA

Table K: Existing Plus Project Roadway Segment LOS Summary (PM Peak Hour)

Ortega Highway Segment	Direction	No. of Lanes	LOS E Capacity	1 Existing			Project	2 Existing + Project			3 Project LOS Impact[4]	
				PM Vol	V/C	LOS	PM Vol	PM Vol	V/C	LOS	PM Vol	Yes/No
I-5 Southbound Ramps to I-5 Northbound Ramps[1,2]	Eastbound	4	6,800	1,953	0.287	A	10	1,963	0.289	A	0.002	No
	Westbound	4	6,800	1,938	0.285	A	10	1,948	0.286	A	0.001	No
I-5 Northbound Ramps to Rancho Viejo Road[2]	Eastbound	3	5,100	1,870	0.367	A	20	1,890	0.371	A	0.004	No
	Westbound	3	5,100	1,700	0.333	A	20	1,720	0.337	A	0.004	No
Rancho Viejo Road to La Novia Avenue[2]	Eastbound	2	3,400	1,593	0.469	A	20	1,613	0.474	A	0.005	No
	Westbound	3	5,100	1,307	0.256	A	20	1,327	0.260	A	0.004	No
La Novia Avenue to Calle Entradero[2]	Eastbound	2	3,400	1,668	0.491	A	20	1,688	0.496	A	0.005	No
	Westbound	2	3,400	1,214	0.357	A	20	1,234	0.363	A	0.006	No
Calle Entradero to Reata Road[2]	Eastbound	1	1,700	1,609	0.946	E	20	1,629	0.958	E	0.012	No
	Westbound	1	1,700	1,175	0.691	B	20	1,195	0.703	C	0.012	No
With Improvement[3]	*Eastbound*	*2*	*3,400*	*1,610*	*0.474*	*A*	*20*	*1,612*	*0.474*	*A*	*0.000*	*No*
	Westbound	*2*	*3,400*	*1,775*	*0.524*	*A*	*20*	*1,795*	*0.528*	*A*	*0.005*	*No*
Reata Road to Antonio Parkway–Avenida La Pata[2]	Eastbound	2	3,400	1,538	0.452	A	20	1,558	0.458	A	0.006	No
	Westbound	2	3,400	1,098	0.323	A	20	1,118	0.329	A	0.006	No

[1] Segment is considered a hot-spot location (LOS E is acceptable).

[2] Segment is a CMP location (LOS E is acceptable).

[3] The Caltrans Lower 74 Widening Project would add one additional lane in each direction.

[4] A project LOS impact occurs when the V/C in (2) minus the V/C in (1) is 0.01 or greater, and the LOS in (2) is E or F.

Caltrans = California Department of Transportation

CMP = Congestion Management Program

I-5 = Interstate 5

LOS = level of service

PM Vol = p.m. peak-hour volume

V/C = volume-to-capacity ratio

The proposed project would increase the deficient westbound a.m. peak-hour v/c ratio by greater than 0.01. Therefore, a project LOS impact would occur at Ortega Highway from Calle Entradero to Reata Road.

The California Department of Transportation (Caltrans) has a planned and funded improvement (the SR-74 Lower Ortega Highway Widening Project), included in the 2020 State Transportation Improvement Program (STIP), that would provide a second eastbound lane and a second westbound lane along Ortega Highway between Calle Entradero and Reata Road. This Caltrans widening project would result in satisfactory LOS (LOS E or better) at Ortega Highway from Calle Entradero to Reata Road on a daily and peak-hour basis. As such, an alleviation of the project LOS impact is anticipated from the planned widening project.

VEHICLE MILES TRAVELED ANALYSIS

Senate Bill (SB) 743, signed into law in 2013, changed the way transportation impact analyses are conducted under CEQA. Vehicle miles traveled (VMT) has replaced motorist delay and LOS as the metric for impact determination in CEQA. Subsequent to the adoption of SB 743, the Governor's Office of Planning and Research (OPR) prepared the *Technical Advisory on Evaluating Transportation Impacts in CEQA* to provide recommendations for VMT assessment, thresholds of significance, and mitigation measures. The County has since adopted its own guidelines for evaluating VMT under CEQA as part of its *2020 Local CEQA Procedures Manual*, adopted by the Orange County Board of Supervisors in 2020.

According to the County's *Final Draft Guidelines for Evaluating Vehicles Miles Traveled under CEQA* (LSA 2020), conditions may exist under which a project would have a less than significant transportation impact. More specifically, public services and facilities that support community health, safety, or welfare are screened from a vehicle miles traveled (VMT) analysis. Such facilities include fire stations, police/sheriff stations, jails, community centers, refuse stations, and landfills (i.e., Prima Deshecha Landfill and Capistrano Greenery). These facilities are already a part of the community, and as a public service, the VMT is accounted for in the existing regional average. Therefore, the proposed project is screened from a VMT analysis and presumed to have a less than significant transportation impact.

However, other CEQA assessment factors are still relevant to the proposed project. Per the *2020 Local CEQA Procedures Manual*, and as in previous CEQA practice, the lead agency is still required to provide traffic analysis that is specific to the proposed project to be reviewed and approved by the Board of Supervisors. Therefore, while not pursuant to the new VMT guidelines that replaced LOS, this TIA evaluates potential project effects to both VMT and LOS.

CONCLUSIONS

This TIA analyzes LOS to address the effects of the project on the local circulation system and evaluates VMT to address potential transportation impacts per CEQA. Based on the results of this TIA, the proposed project can be implemented without impacting the surrounding circulation system with the planned SR-74 Lower Ortega Highway Widening Project by Caltrans. The evaluation of the study area intersection and roadway segment LOS with the proposed project on site and the widening improvement, which would provide an additional eastbound lane and an additional westbound lane totaling four lanes along Ortega Highway between Calle Entradero and Reata Road, would not create any significant adverse impacts according to the City of San Juan Capistrano's performance criteria. As a public service and facility, the proposed project is screened out from a VMT analysis and presumed to have a less than significant transportation impact.

REFERENCES

City of San Juan Capistrano. 1998. Administrative Policy No. 310. (Adopted June 27, 1989; revised April 7, 1998).

_____. 1999. General Plan. Circulation Element. Adopted December 14, 1999.

County of Orange. 2020. *2020 Local CEQA Procedures Manual*. Adopted November 17, 2020.

Governor's Office of Planning and Research (OPR). 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December.

Orange County Transportation Authority (OCTA). 2017. *Congestion Management Program*.

LSA. 2017. *SR-74 Lower Ortega Highway Widening Project Traffic Study Report*. December.

_____. 2020. *Final Draft Guidelines for Evaluating Vehicle Miles Traveled under CEQA.* Prepared for the County of Orange. September 17.

Transportation Research Board (TRB). 1982. *NCHRP Report 255: Highway Traffic Data for Urbanized Area Project Planning and Design.* December.

_____. 2017. *Highway Capacity Manual*, 6th ed.

APPENDIX A

EXISTING TRAFFIC VOLUMES

APPENDIX B

ICU WORKSHEETS

APPENDIX C

HCM WORKSHEETS