

EXISTING CONDITIONS TRAFFIC ANALYSIS AND PARKING ASSESSMENT

Casa de Oro Specific Plan

Prepared for:
County of San Diego
Planning & Development Services
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San Diego, CA 92123

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1 INTRODUCTION

This report summarizes existing transportation conditions within the Casa de Oro community located in the Valle de Oro Community Planning Area of San Diego County. The study area is focused along an approximate ¾-mile section of Campo Road in the commercial corridor between Granada Avenue and Rogers Road and includes five (5) stop-controlled intersections, seven (7) signalized intersections, and ten (10) roadway segments.

The existing conditions assessment considers the physical roadway conditions and intersection operations as well as the current pedestrian, bicycle, and transit facilities within the study area. In addition to the traffic operations analysis, this report also documents the parking conditions for on-street and off-street parking facilities serving the non-residential uses within the study area. A parking survey was conducted which collected existing inventory data as well as parking utilization in 1-hour increments for 7 hours. Existing parking supply rates and actual parking demand rates were calculated and compared to parking ratios per County code requirements.

1.1 STUDY AREA

The study evaluates the following twelve (12) intersections during the AM and PM peak hours within the study area:

1. Kenwood Drive / SR-94 Eastbound Ramps (All-Way Stop)
2. Kenwood Drive / SR-94 Westbound Ramps (All-Way Stop)
3. Kenwood Drive / Kenora Drive (One-Way Stop)
4. Campo Road / Kenwood Drive (Traffic Signal)
5. Campo Road / Conrad Drive (Traffic Signal)
6. Campo Road / Bonita Street (Traffic Signal)
7. Campo Road / Barcelona Street (Traffic Signal)
8. Campo Road / Cordoba Avenue (Two-Way Stop)
9. Campo Road / Granada Avenue / Casa de Oro Boulevard (Traffic Signal)
10. Campo Road / Agua Dulce Boulevard / SR-94 WB On-Ramp (Traffic Signal)
11. Campo Road / SR-94 Eastbound Ramps (Traffic Signal)
12. Agua Dulce Boulevard / SR-94 Westbound Off-Ramp (One-Way Stop)

The study also evaluates the following ten (10) roadway segments for average daily (24-hour) traffic volumes in the vicinity of the project site:

- A. Kenwood Drive – SR-94 Westbound Ramps to Kenora Drive
- B. Campo Road – Kenwood Drive to Conrad Drive
- C. Campo Road – Conrad Drive to Bonita Street
- D. Campo Road – Bonita Street to Barcelona Street
- E. Campo Road – Cordoba Street to Granada Avenue / Casa De Oro Boulevard
- F. Campo Road – Granada Avenue / Casa De Oro Boulevard to Agua Dulce Boulevard
- G. Conrad Drive – Campo Road to San Juan Street
- H. Barcelona Street – Dolores Street to Campo Road
- I. Casa De Oro Boulevard – East of Ramona Drive

J. Ramona Drive – South of Casa De Oro Boulevard

Exhibit 1 shows the study intersections, roadway segments, and extents of the parking survey.

1.2 SURROUNDING ROADWAY NETWORK

The characteristics of the roadway system in the vicinity of the project site are described below:

Campo Road is oriented in the east-west direction and is classified as a 4-lane Boulevard with Intermittent Turn Lanes (4.2B) per the Valle de Oro Mobility Element. A two-way-left-turn-lane is provided approximately 400 feet west of Kenwood Drive to approximately 230 feet east of Granada Avenue / Casa de Oro Boulevard with left-turn turn lanes at signalized intersections. Within the study area, the posted speed limit is 35 MPH between Kenwood Drive and Granada Avenue / Casa de Oro Boulevard; 40 MPH between Granada Avenue / Casa de Oro Boulevard and Agua Dulce Boulevard and 45 MPH south-east of the SR-94. On-street parallel parking is prohibited in both directions within the study area. Class II bike lanes and sidewalks are provided on both sides of the roadway.

Kenwood Drive is oriented in the northeast-southwest direction and is classified as a 4-lane Major Road with Intermittent Turn Lanes (4.1B) between the SR-94 and Campo Road per the Valle de Oro Mobility Element. On-street parallel parking is prohibited in both directions within the study area. Class II bike lanes are provided on both sides of the roadway. Sidewalks are provided on the east side between the SR-94 eastbound ramps and Kenora Drive only.

Conrad Drive is oriented in the north-south direction and is classified as a 2-lane Light Collector (2.2E) per the Valle de Oro Mobility Element. There are two lanes in the northbound direction immediately north of Campo Road, which taper to a single lane north of San Juan Street (approximately 550') Within the study area, the posted speed limit is 35 MPH. On-street parallel parking is allowed intermittently in both directions between Campo Road and Spring Valley Middle School. There are no bike lanes provided within the study area. Sidewalks are provided on both sides of the roadway between Campo Road and Spring Valley Middle School. There are no sidewalks north of the school.

Barcelona Street is oriented in north-south direction and is classified as a 2-lane Light Collector (2.2E) per the Valle de Oro Mobility Element. Barcelona Street provides a connection for residents south of SR-94 to the commercial corridor via a freeway underpass. Within the study area, the posted speed limit is 25 MPH. On-street parallel parking is allowed in both directions between north and south of Campo Road. There are no bike lanes provided within the study area and sidewalks are provided on both sides of the roadway.

Casa de Oro Boulevard is oriented in the east-west direction and is an unclassified Local Public Road. Within the study area, the posted speed limit is 25 MPH. There are no bike lanes provided within the study area and sidewalks are provided on both sides of the roadway between Campo Road and San Juan Street only.

Exhibit 2 shows the Valle de Oro Community Plan Mobility Element Network. **Appendix A** shows the associated Mobility Element Network Map and Matrix.

1.3 FIELD WORK AND DATA COLLECTION

A detailed field review was conducted in November 2019 to establish current traffic conditions and included an examination of the following factors:

- Lane widths and intersection geometries
- Intersection traffic control and signal phasing at signalized locations
- Crosswalk inventory and ADA compliance
- Posted speed limits
- Bike and sidewalk facilities
- Transit facilities

To determine the existing operations of the study intersections and roadway segments, peak hour intersection movement counts and directional roadway segment traffic counts were collected on Tuesday, November 12, 2019.

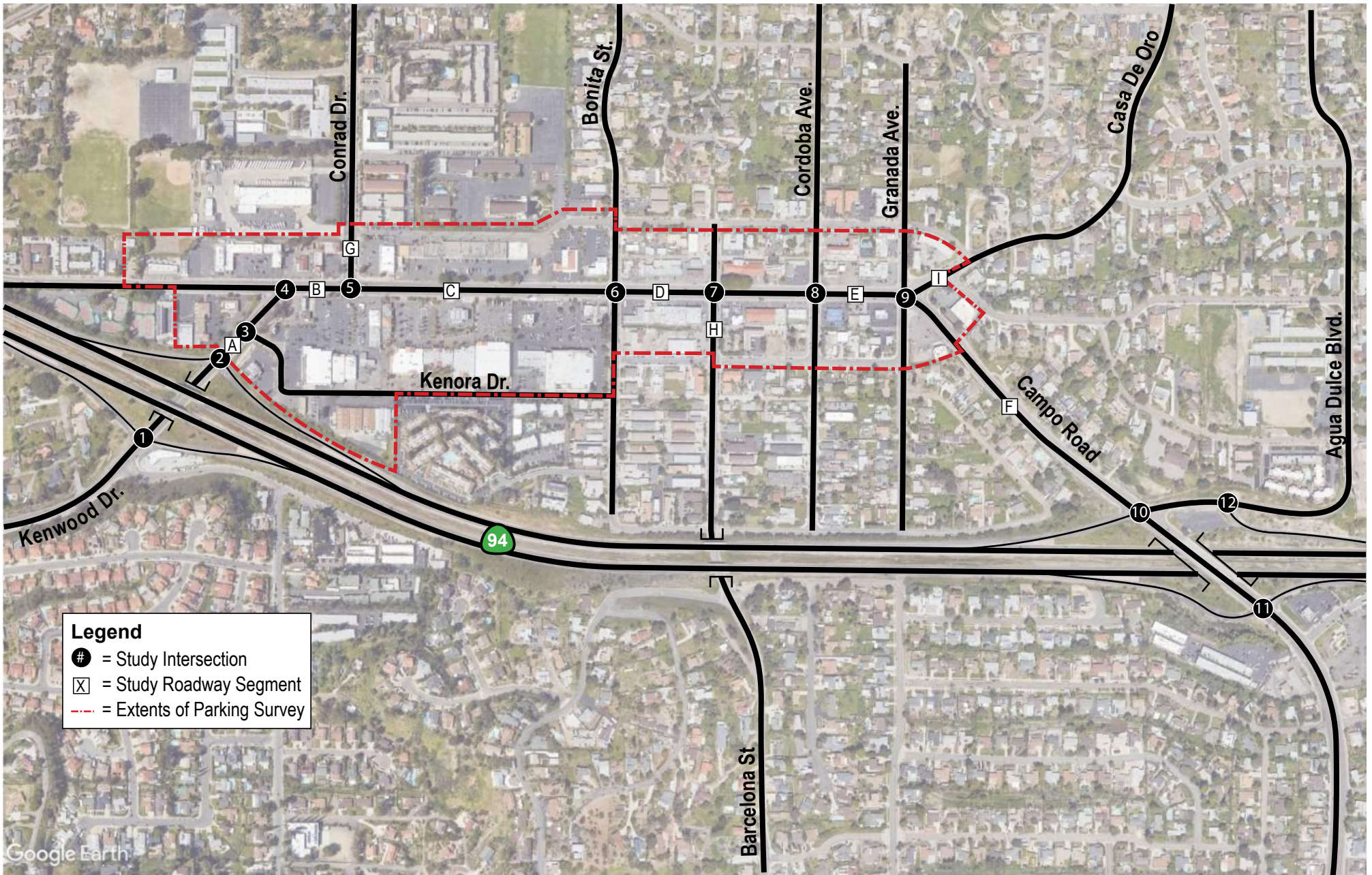
Morning (AM) peak period counts were generally collected between 7:00 AM to 9:00 AM and evening (PM) peak period counts were generally collected from 4:00 PM to 6:00 PM. The counts used in this analysis represent the highest hour within the peak periods counted for each intersection.

Of the 12 24-hour roadway segments counts, 10 locations were broken down into axle specific classifications (i.e. passenger vehicle, bus, 2/3/4+ axle trucks). For the purposes of this analysis, roadway segment counts were converted to passenger car equivalents (PCE's).

Detailed traffic count data is provided in [Appendix B](#).

A detailed parking inventory and parking utilization survey was conducted for on-street and off-street parking facilities serving non-residential land uses on Friday, December 13, 2019. The parking inventory identified regular parking spaces, ADA spaces, time-restricted spaces, and other posted restricted parking. The parking utilization survey was conducted over a 7-hour period from 10:00 AM to 5:00 PM where parking data was collected at 1-hour intervals.

Detailed parking utilization data is contained in [Appendix C](#).

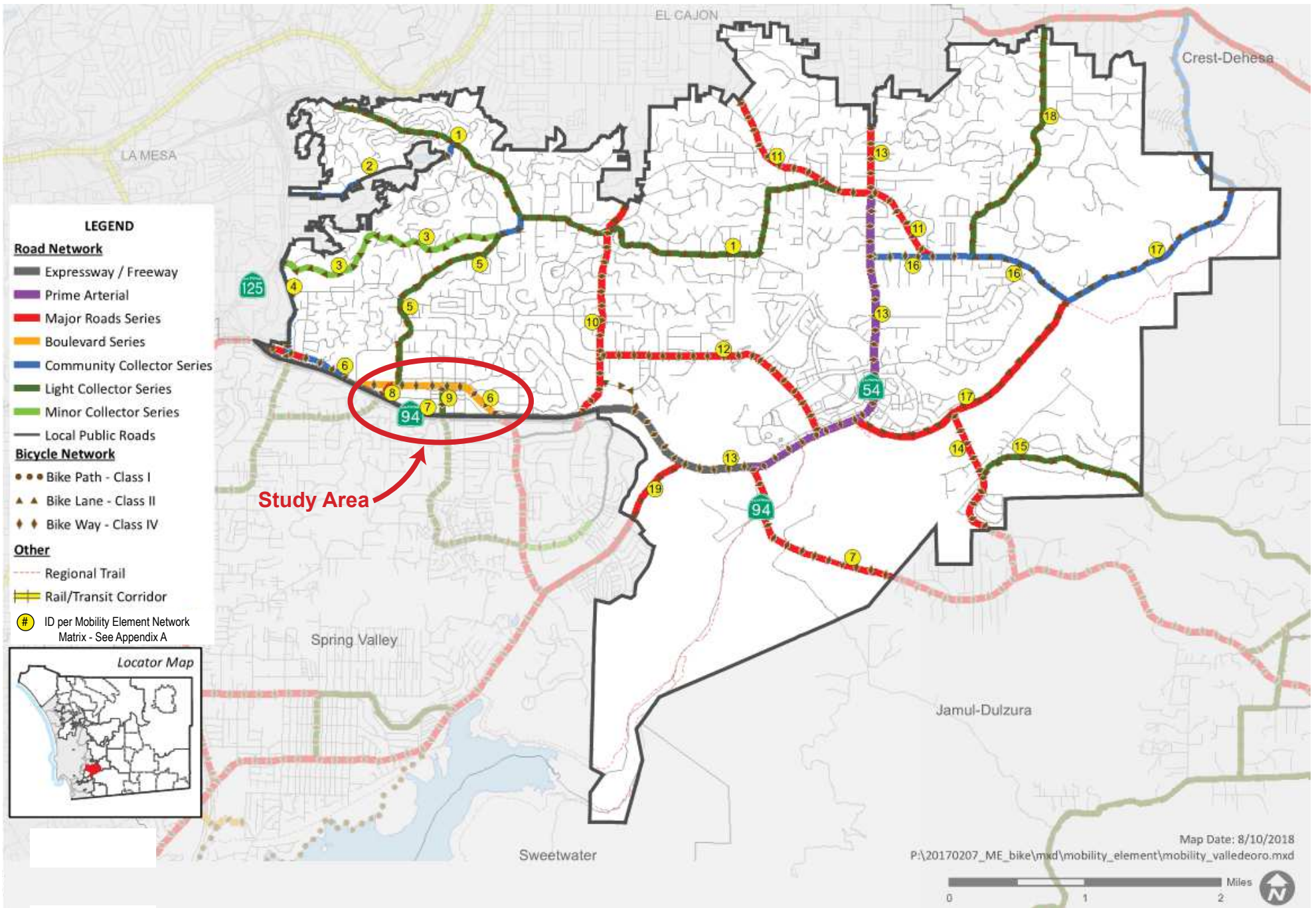


Legend

- = Study Intersection
- ☒ = Study Roadway Segment
- = Extents of Parking Survey



Not to Scale



2 EXISTING TRAFFIC CONDITIONS

2.1 ROADWAY SEGMENT EVALUATION

2.1.1 Roadway Segment Analysis Methodology

The basis for roadway segment analysis is the relationship between the measured daily traffic volume and the Level of Service (LOS) capacity thresholds established according to roadway classifications. The analysis results provide a planning-level assessment of whether a segment is under, approaching, or over capacity. The County of San Diego has adopted level of service “D” or better as acceptable operating conditions for roadway segments; however, the Valle de Oro Mobility indicates LOS “F” is accepted for the segment of Campo Road between Kenwood Drive and Conrad Drive. **Table 1** presents the roadway segment capacity thresholds by LOS contained in the San Diego County Public Road Standards.

TABLE 1- LOS CRITERIA FOR ROADWAY SEGMENTS

Mobility Element Roads		No. of Travel Lanes	Maximum Level of Service Capacity (ADT)				
			LOS A	LOS B	LOS C	LOS D	LOS E
Expressway (6.1)		6	36,000	54,000	70,000	86,000	108,000
Prime Arterial (6.2)		6	22,000	37,000	44,600	50,000	57,000
Major Road	With Raised Medians (4.1A)	4	14,800	24,700	29,600	33,400	37,000
	With Intermittent Turn Lanes (4.1B)		13,700	22,800	27,400	30,800	34,200
Boulevard	With Raised Medians (4.2A)	4	18,000	21,000	24,000	27,000	30,000
	With Intermittent Turn Lanes (4.2B)		16,800	19,600	22,500	25,000	28,000
Community Collector	With Raised Medians (2.1A)	2	10,000	11,700	13,400	15,000	19,000
	With Continuous Turn Lanes (2.1B)		3,000	6,000	9,500	13,500	19,000
	With Intermittent Turn Lanes (2.1C)		3,000	6,000	9,500	13,500	19,000
	With Improvement Options (2.1D)		3,000	6,000	9,500	13,500	19,000
	No Median (2.1E)		1,900	4,100	7,100	10,900	16,200
Light Collector	With Raised Medians (2.2A)	2	3,000	6,000	9,500	13,500	19,000
	With Continuous Turn Lanes (2.2B)		3,000	6,000	9,500	13,500	19,000
	With Intermittent Turn Lanes (2.2C)		3,000	6,000	9,500	13,500	19,000
	With Improvement Options (2.2D)		3,000	6,000	9,500	13,500	19,000
	No Median (2.2E)		1,900	4,100	7,100	10,900	16,200
	With Reduced Shoulders (2.2F)		5,800	6,800	7,800	8,700	9,700
Minor Collector	With Raised Medians (2.3A)	2	3,000	6,000	7,000	8,000	9,000
	With Intermittent Turn Lanes (2.3B)		3,000	6,000	7,000	8,000	9,000
	No Median (2.3C)		1,900	4,100	6,000	7,000	8,000
Non-Mobility Element Roads		No. of Travel Lanes	Maximum Level of Service Capacity (ADT)				
			LOS A	LOS B	LOS C	LOS D	LOS E
Residential Collector		2	-	-	4,500	-	-
Rural Residential Collector		2	-	-	4,500	-	-
Residential Road		2	-	-	1,500	-	-
Rural Residential Road		2	-	-	1,500	-	-
Residential Cul-de-Sac or Loop Road		2	-	-	200	-	-

Source: County of San Diego Public Road Standards (March 2012)

2.1.2 Roadway Segment Level of Service

Exhibit 3 shows the street segment classification within the study area.

Level of Service (LOS) for roadway segments are calculated based on the capacity of the roadway determined by the existing functional classification and existing daily traffic volumes. Existing traffic counts were converted to passenger car equivalents (PCE's) using the following PCE factors from the SANDAG 2050 Regional Travel Demand Model Documentation (2011):

- Passenger Car = 1.0
- 2-Axle Truck = 1.3
- 3-Axle Truck = 1.5
- 4+ Axle Trucks = 2.5

Table 2 summarizes existing conditions average daily traffic level of service for all study roadway segments.

TABLE 2 - EXISTING CONDITIONS ROADWAY SEGMENT LOS

Roadway	Segment	Classification	No. Lanes	LOS E Capacity ⁽¹⁾	Existing		
					ADT	V/C	LOS
Kenwood Dr.	SR-94 WB Ramps to Kenora Dr.	Major Road with Intermittent Turn Lanes (4.1B)	4	34,200	23,207	0.68	C
Campo Rd.	Kenwood Dr. to Conrad Dr.	Boulevard with Intermittent Turn Lanes (4.2B)	4	28,000	24,390	0.87	D
	Conrad Dr. to Bonita St.	Boulevard with Intermittent Turn Lanes (4.2B)	4	28,000	19,890	0.71	C
	Bonita St. to Barcelona St.	Boulevard with Intermittent Turn Lanes (4.2B)	4	28,000	17,708	0.63	B
	Cordoba St. to Granada Ave./Casa de Oro Blvd.	Boulevard with Intermittent Turn Lanes (4.2B)	4	28,000	13,227	0.47	A
	Granada Ave./Casa de Oro Blvd. to Agua Dulce Blvd.	Boulevard with Intermittent Turn Lanes (4.2B)	4	28,000	14,282	0.51	A
Conrad Dr.	Campo Rd. to San Juan St.	Light Collector (2.2E)	2	16,200	6,007	0.37	C
Barcelona St.	Dolores St. to Campo Rd.	Light Collector (2.2E)	2	16,200	6,975	0.43	C
Casa de Oro Blvd.	East of Ramona Dr.	Residential Collector	2	4,500	2,572	Under Capacity	
Ramona Dr.	South of Casa de Oro Blvd.	Residential Collector	2	4,500	1,286	Under Capacity	

Note: Deficient roadway segment operations shown in **bold**

ADT= Average Daily Traffic

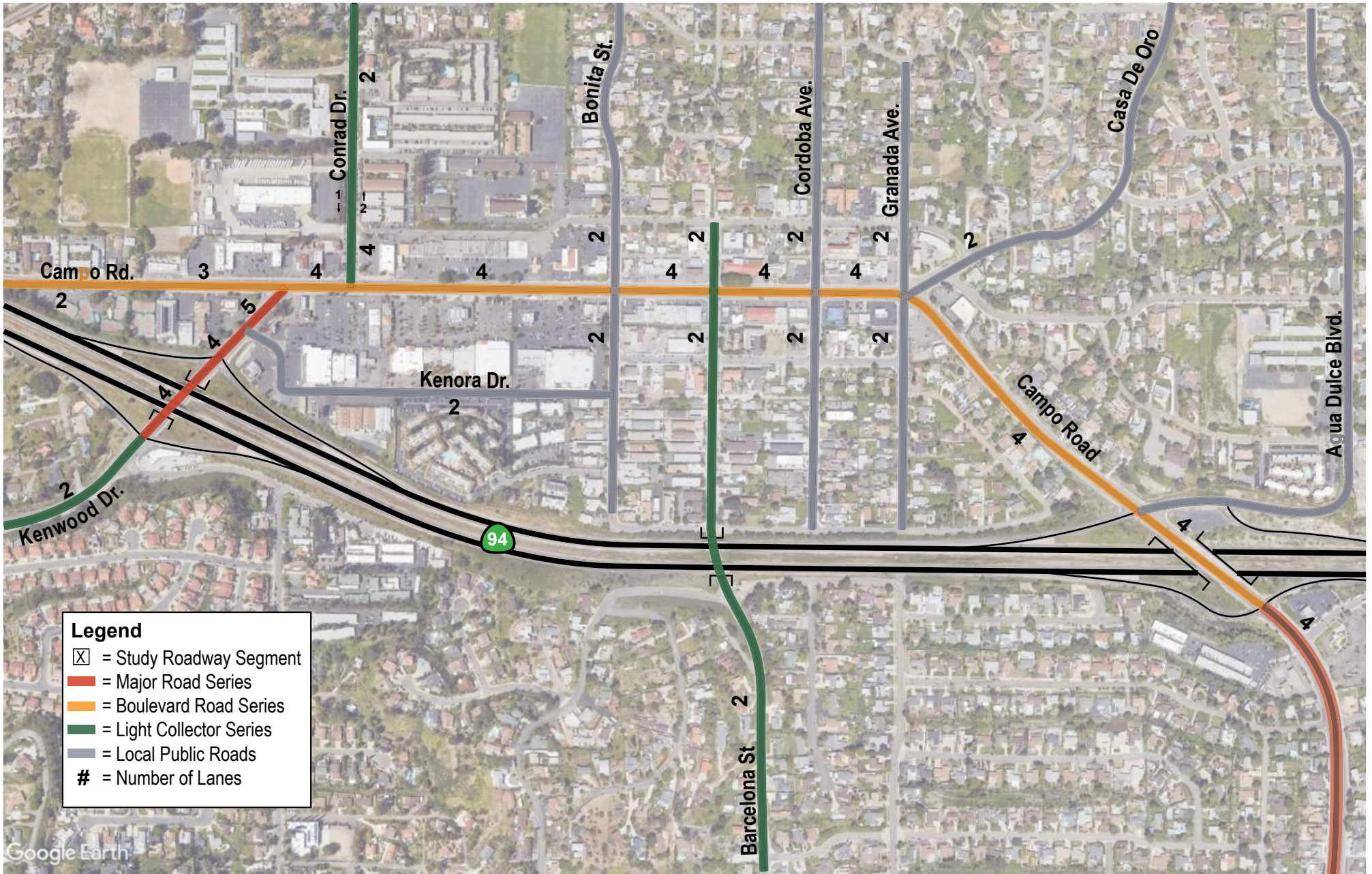
⁽¹⁾ Capacity for a Residential Collector reflects LOS C thresholds per Non-Mobility Element Roads shown in Table 1

LOS= Level of Service

V/C= Volume to Capacity Ratio

As shown in **Table 2**, all study roadway segments are currently operating at an acceptable level of service (LOS D or better) for Existing conditions.

Roadway segment level of service standards based on daily traffic are generally used as long-range planning guidelines to determine the roadway capacity and classification and are not always accurate indicators of roadway performance. Typically, the performance and level of service of a roadway segment is heavily influenced by traffic flows during the peak hour and the ability of intersections to accommodate peak hour flows. Therefore, peak hour operating conditions at the signalized and unsignalized intersections within the study area were also evaluated.



Not to Scale

2.2.2 Peak Hour Intersection Level of Service

Exhibit 4 shows the Existing study intersection lane geometry. **Exhibit 5** shows the AM and PM peak hour traffic volumes at the study intersections.

Table 2 summarizes existing conditions AM/PM peak hour level of service for all study intersections. Detailed analysis sheets are contained in **Appendix E**.

TABLE 4 - EXISTING AM/PM PEAK HOUR INTERSECTION LOS

Study Intersection	Traffic Control	Existing Conditions			
		AM		PM	
		Delay ¹	LOS	Delay ¹	LOS
1 - Kenwood Drive / SR-94 EB Ramps	AWSC	28.5	D	31.5	D
2 - Kenwood Drive / SR-94 WB Ramps	AWSC	79.3	F	23.9	C
3 - Kenwood Drive / Kenora Drive	OWSC	106.8	F	69.1	F
4 - Campo Road / Kenwood Drive	Signal	25.8	C	26.1	C
5 - Campo Road / Conrad Drive	Signal	23.6	C	17.7	B
6 - Campo Road / Bonita Street	Signal	13.2	B	12.0	B
7 - Campo Road / Barcelona Street	Signal	18.3	B	12.7	B
8 - Campo Road / Cordoba Avenue	TWSC	270.4	F	21.9	C
9 - Campo Road / Granada Avenue / Casa de Oro Blvd	Signal	72.6	E	23.5	C
10 - Campo Road / Agua Dulce Blvd / SR-94 WB On-Ramp	Signal	68.5	E	61.2	E
11 - Campo Road / SR-94 EB Ramps	Signal	33.9	C	33.7	C
12 - Agua Dulce Blvd / SR-94 WB Off-Ramp	OWSC	256.0	F	14.3	B

Note: Deficient intersection operation indicated in **bold**.

¹ Average seconds of delay per vehicle.

LOS = level of service.

AWSC = All-Way Stop Control

TWSC = Two-Way Stop Control

OWSC = One-Way Stop Control

As shown in **Table 2**, six study intersections are currently operating at an acceptable level of service (LOS D or better) for Existing conditions and the following intersections are currently operating at a deficient level of service (LOS E or F):

2. Kenwood Drive / SR-94 Westbound Ramps (AM Peak Hour Only)
3. Kenwood Drive / Kenora Drive (AM & PM Peak Hours)
8. Campo Road / Cordoba Avenue (AM Peak Hour Only)
9. Campo Road / Granada Avenue / Casa de Oro Boulevard (AM Peak Hour Only)
10. Campo Road / Agua Dulce Boulevard / SR-94 WB On-Ramp (AM & PM Peak Hours)
12. Agua Dulce Boulevard / SR-94 WB Off-Ramp (AM Peak Hour Only)

While not reflected in the level of service analysis, there are other abnormal intersection features that effect the operations of several intersections as described below.

At the intersection of Campo Road and Kenwood Drive, there are two uncontrolled driveways in the middle of the intersection on the north side. There are no signal heads, crosswalks, or pedestrian signal heads for these driveways, and they are signed as “right-turn only” for exiting vehicles. There are also no

2.2 INTERSECTION EVALUATION

2.2.1 Intersection Analysis Methodology

Level of Service (LOS) is commonly used as a qualitative description of intersection operation and is based on the capacity of the travel lanes approaching the intersection, the volume of traffic using the intersection, and the average vehicle delay. The intersection analysis conforms to the operational analysis methodology outlined in the *Highway Capacity Manual (HCM 6th Edition)* and performed utilizing the *Synchro 10* traffic analysis software.

The *HCM* analysis methodology describes the operation of an intersection using a range of level of service from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding stopped delay experienced per vehicle for study intersections as shown in **Table 3**.

For signalized intersections, signal timing data and parameters such as cycle lengths, splits, clearance intervals, etc. were obtained from the current signal timing data sheets provided by City staff and incorporated into the Synchro model (see **Appendix D**). Synchro reports average vehicle delay for a signalized intersection, which correspond to a particular LOS, to describe the overall operation of an intersection.

Unsignalized intersection LOS for all-way stops is based on the average vehicle delay for all approaches. Average vehicle delay for one-way or two-way stop-controlled intersections is influenced by available gaps in traffic flow on the non-controlled approaches and LOS is based on the approach with the worst delay.

The County of San Diego has adopted level of service “D” or better as acceptable operating conditions for intersections.

TABLE 3 - LEVEL OF SERVICE & DELAY RANGE

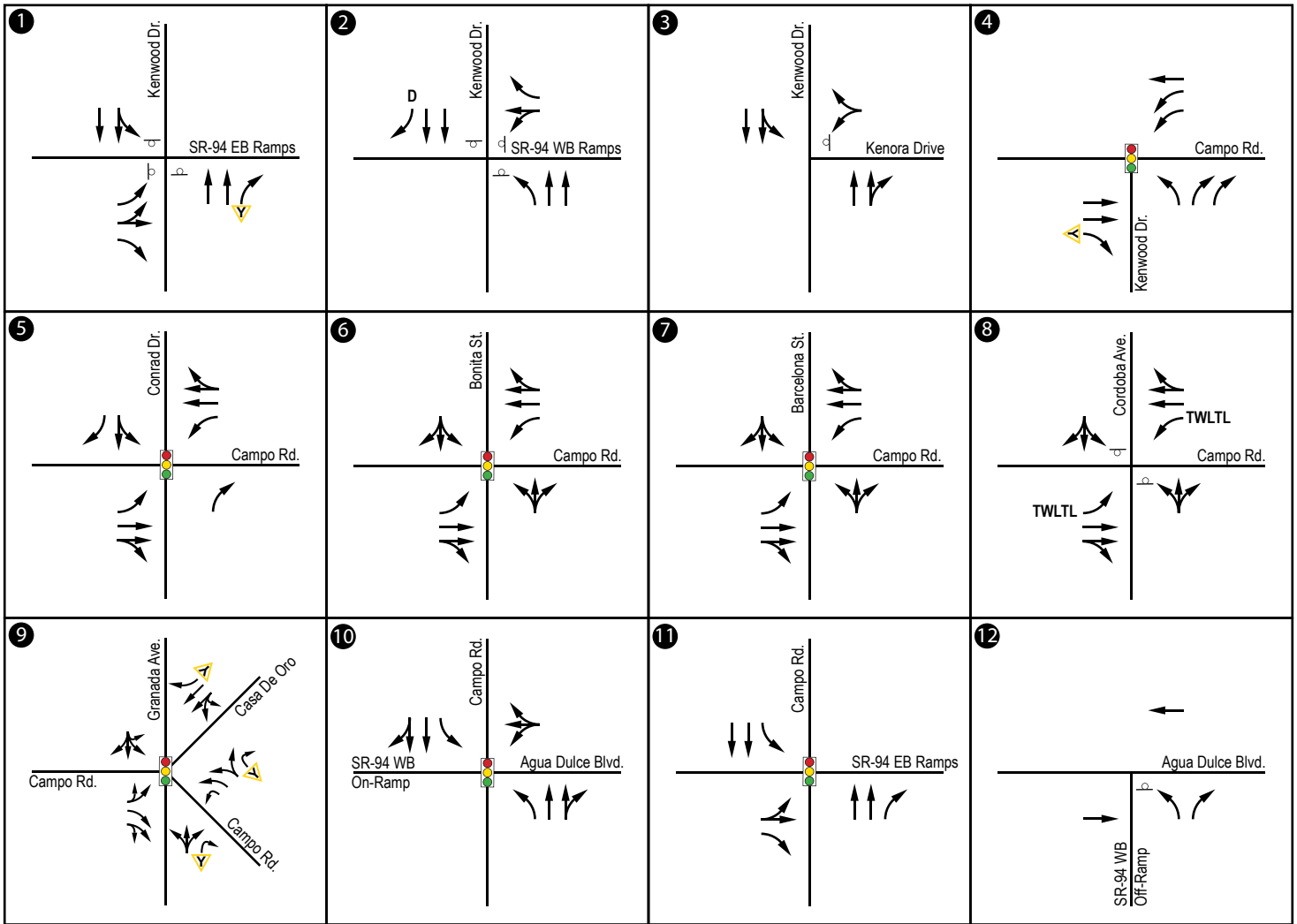
Level of Service	Control Delay (seconds/vehicle)		Description
	Signalized Intersections	Unsignalized Intersections	
A	≤ 10.0	≤ 10.0	Operates with very low delay and most vehicles do not stop.
B	> 10.0 to 20.0	> 10.0 to 15.0	Operates with good progression with some restricted movements.
C	> 20.0 to 35.0	>15.1 to 25.0	Operates with significant number of vehicles stopping with some backup and light congestion.
D	> 35.0 to 55.0	> 25.0 to 35.0	Operates with noticeable congestion, longer delays occur, and many vehicles stop.
E	> 55.0 to 80.0	> 35.1 to 50.0	Operates with significant delay, extensive queuing and unfavorable progression.
F	> 80.0	> 50.0	Operates at a level that is unacceptable to most drivers. Arrival rates exceed capacity of the intersection. Extensive queuing occurs.

Source: Highway Capacity Manual (HCM) 6th Edition.

turn movements designated into the driveways from the eastbound or northbound directions (i.e. no pavement markings or signal heads). The westbound approach can turn right into these driveways from the through-lane. The existing peak hour counts showed a total 3 vehicles in the AM peak hour and 1 vehicle in the PM peak hour entering the driveways. There were no vehicles exiting the driveways during either peak hour. While these unusual driveway related access features and traffic movements exist, the intersection analysis shows this location operating at acceptable levels of service during the AM and PM peak hours.

Similarly, the intersection of Campo Road at Conrad Drive has an uncontrolled driveway on the south side of the intersection with no signal heads, crosswalks, or pedestrian signal heads. While the driveway is signed as a “right-turn only” for exiting vehicles, existing peak hour counts show 2 vehicles making illegal turn movements (1 through, and 1 left-turn) out of the driveway. There were 562 vehicles in the AM peak hour and 612 vehicles in the PM peak hour turn right out of the driveway. There was a total of 20 vehicles in the AM peak hour and 42 vehicles in the PM peak hour entering the driveway. There are designated turn movements from all approaches to enter the driveway. While these unusual driveway related access features and traffic movements exist, the intersection analysis shows this location operating at acceptable levels of service during the AM and PM peak hours.

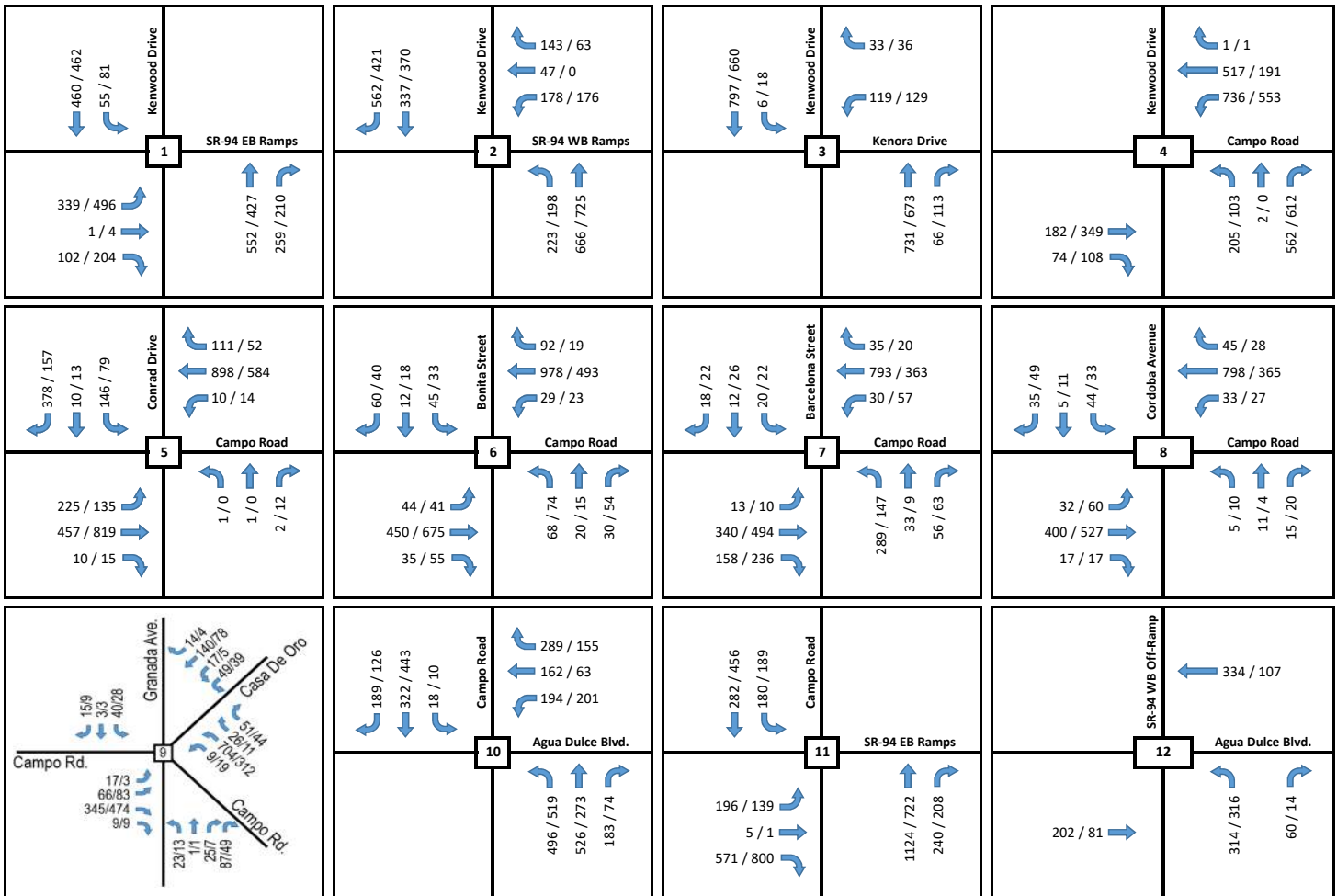
Lastly, the intersection of Campo Road at Granada Avenue / Casa de Oro Boulevard is a signalized 5-legged intersection. The through movement is prioritized for Campo Road (north-westbound to westbound and westbound to south-eastbound) movements. Granada Avenue and Casa de Oro Boulevard are considered minor streets and the signal is split-phased for these approaches; that is each individual minor street approach is given a protected green signal indication for all movements at that approach. While traffic flows well through the intersection, the amount of time needed to serve all movements requires a long cycle-length and this causes vehicles at the intersection to experience long average delays and a deficient level of service during the AM peak hour.



Legend

- = Signal Control Intersection
- = Stop Control Intersection
- = Yield Control Movement
- TWLTL = Two-Way-Left-Turn-Lane
- D = Defacto Turn-Lane





Notes: XX / XX = AM / PM Peak Hour Volumes



2.3 EXISTING PEDESTRIAN FACILITIES

Existing peak hour pedestrian activity was recorded on Tuesday, November 12, 2019. Based on the existing counts, pedestrian activity on Campo Road during the AM peak hour peaks at the Conrad Drive westside crosswalk with 84 pedestrians crossing Campo Road. During the PM Peak hour, pedestrian activity peaks at the Kenwood Drive/ SR-94 Eastbound Ramp intersection where 20 pedestrians cross the on-ramp.

Exhibits 6a-6f illustrate the existing activity as well as the current pedestrian facilities within the study area. The types of facilities shown include the following:

- Sidewalks
- Ped Ramps
- Marked Crosswalks
- Pedestrian Push Buttons (at signalized intersections)
- Pedestrian Signal Heads (at signalized intersections)

Within the study area, there are approximately a combined 70 driveways on the north and south sides of Campo Road within a 2/3 mile stretch between Rogers Road and Granada Avenue. On average, this is approximately one driveway every 50 feet. The high frequency of driveways along the corridor creates numerous conflict points between motorists, pedestrians, and bicyclists and the excessive curb cuts prevent landscaping, lighting, and parking. All driveways are paved concrete and appear to meet County standards. **Exhibit 7** shows all of the driveway locations on Campo Road.

In addition to the conflict points caused by the driveways, the existing retaining walls within the shopping centers prevent pedestrian and vehicular connectivity between adjacent properties. These barriers impede access, complicate circulation, and generate additional traffic from the increased turn movements to and from Campo Road.

2.3.1 Sidewalks

Campo Road – Sidewalks are provided on both sides of Campo Road between Kenwood Drive and Casa de Oro Boulevard. On the westerly side of the study area, sidewalks terminate approximately 400' feet west of Kenwood Drive on the north side of Campo Road and approximately 525' west of Kenwood Drive on the south side of Campo Road. To the east, there is a gap in the sidewalk for approximately 0.2 miles between Casa de Oro Boulevard and Agua Dulce Boulevard on the northeast side of Campo Road. On the southwest side of Campo Road, there is a gap in the sidewalk between the SR-94 ramps across the bridge.

Sidewalks are generally 6 feet wide along Campo Road, however they are reduced to as little as 3 feet where transit stops have benches

Kenwood Drive – Within the study area, sidewalks are provided on the southeast side of Kenwood Drive with the exception of approximately 185' between Kenora Drive and Campo Road. There are no sidewalks on the northwest side of Kenwood Drive.

Conrad Drive – Within the study area, sidewalks are provided on both sides of the street between Campo Road and the north boundary of Spring Valley Middle School. There are no sidewalks on Conrad Drive north of the school.

Bonita Street – Within the study area, sidewalks are provided on both sides of the street between Buena Vista Drive and San Juan Street.

Barcelona Street – Within the study area, sidewalks are provided on both sides of the street between Buena Vista Drive and San Juan Street. There are no sidewalks on Barcelona Street south of Buena Vista Drive.

Cordoba Avenue – Within the study area, sidewalks are provided on both sides of the street between Buena Vista Drive and San Juan Street.

Granada Avenue – Within the study area, sidewalks are provided on both sides of the street between Buena Vista Drive and Dolores Street. There are no sidewalks on Granada Avenue on either side of the street between Dolores Street and Buena Vista Drive.

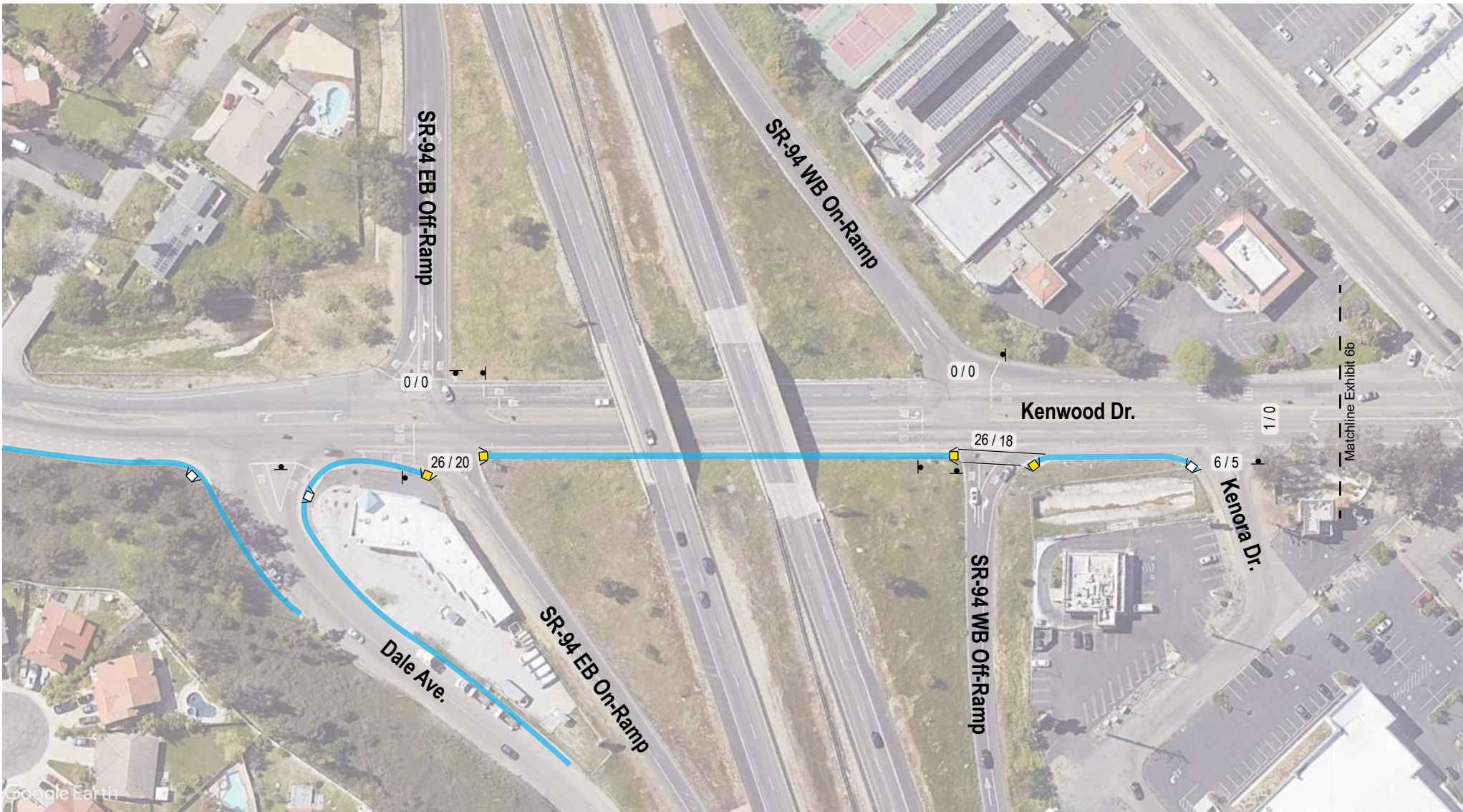
Casa de Oro Boulevard – Within the study area, sidewalks are provided on both sides of the street between Campo Road and San Juan Street. East of San Juan Street sidewalks are intermittent within the residential neighborhoods with many gaps.

2.3.2 Crosswalks

Standard marked crosswalks are provided at all signalized intersections with the exception of the intersection of Campo Road and Barcelona Street. At the intersections of Campo Road at Conrad Drive and Bonita Street, marked crosswalks are only provided across Campo Road and do not exist across the minor streets. Throughout the corridor, many of the crosswalk pavement markings are beginning to fade and need to be restriped.

Near Spring Valley Middle School, there are two mid-block, controlled crossings with flashing beacon warnings on Conrad Drive at the north and south limits of the school. These locations are striped as continental crosswalks with pedestrian push buttons that control the overhead flashing beacons as well as ADA compliant ramps with truncated domes.

At the easterly end of the study area, there are continental crosswalks across Casa de Oro at San Juan Street as well as across Ramona Drive at Casa de Oro. These locations, however, do not have any ramps and pedestrians must step off of the curb into the street.



Legend

- = Existing Sidewalk
- = Ped. Ramp
- = Ped. Ramp with Truncated Domes
- = Marked Crosswalk
- = Signal Controlled Intersection
- = Stop Controlled Intersection
- = Ped. Push Button (non-ADA)
- = Ped. Push Button (ADA)
- = Ped. Signal Head
- = Ped. Signal Head with Countdown
- = AM / PM Peak Hour Ped. Volumes
- = Bus Stop



Not to Scale



Legend

- = Existing Sidewalk
- = Ped. Ramp
- = Ped. Ramp with Truncated Domes
- = Marked Crosswalk
- = Signal Controlled Intersection
- = Stop Controlled Intersection
- = Ped.Push Button (non-ADA)
- = Ped. Push Button (ADA)
- = Ped. Signal Head
- = Ped. Signal Head with Countdown
- = AM / PM Peak Hour Ped. Volumes
- = Bus Stop





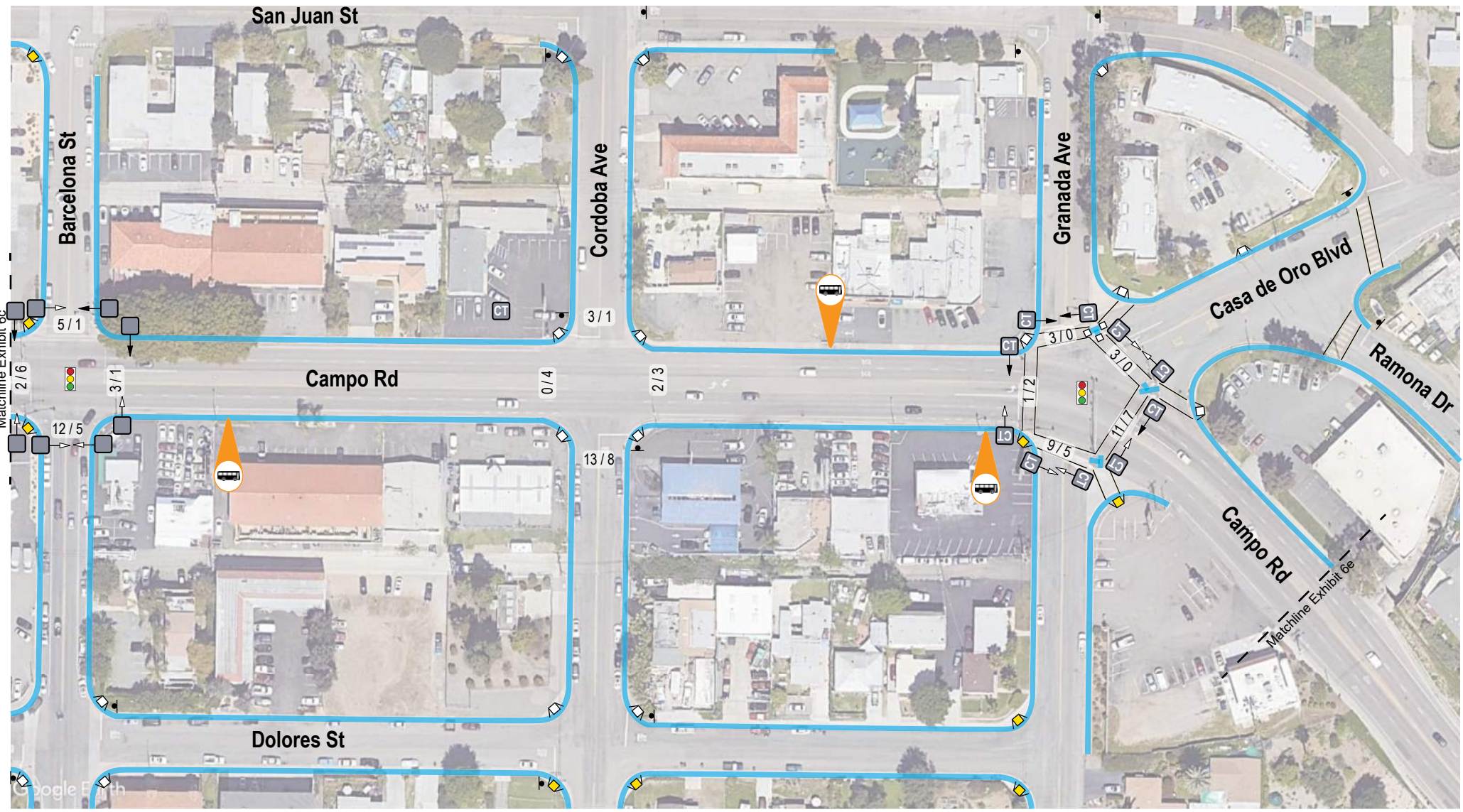
Legend

- = Existing Sidewalk
- = Ped. Ramp
- = Ped. Ramp with Truncated Domes
- = Marked Crosswalk
- = Signal Controlled Intersection
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- = Ped. Push Button (non-ADA)
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- = Ped. Signal Head
- = Ped. Signal Head with Countdown
- = AM / PM Peak Hour Ped. Volumes
- = Bus Stop



Not to Scale

**Existing Pedestrian Facilities
& AM/PM Peak Hour Pedestrian Volumes**



Legend

- = Existing Sidewalk
- = Ped. Ramp
- = Ped. Ramp with Truncated Domes
- = Marked Crosswalk
- = Signal Controlled Intersection
- = Stop Controlled Intersection
- = Ped. Push Button (non-ADA)
- = Ped. Push Button (ADA)
- = Ped. Signal Head
- = Ped. Signal Head with Countdown
- = AM / PM Peak Hour Ped. Volumes
- = Bus Stop















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**Existing Pedestrian Facilities
& AM/PM Peak Hour Pedestrian Volumes**



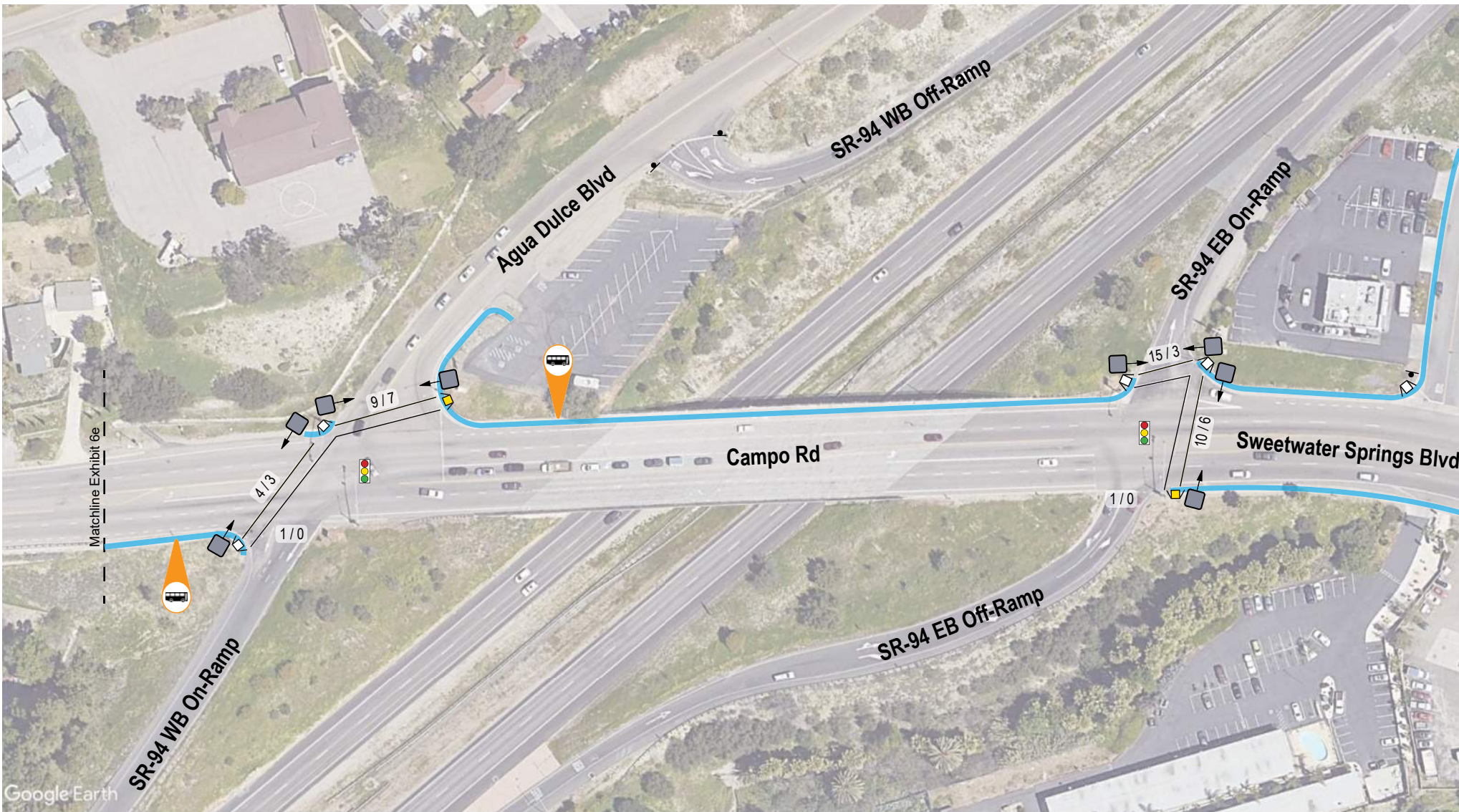
Legend

-  = Existing Sidewalk
-  = Ped. Ramp
-  = Ped. Ramp with Truncated Domes
-  = Marked Crosswalk
-  = Signal Controlled Intersection
-  = Stop Controlled Intersection
-  = Ped. Push Button (non-ADA)
-  = Ped. Push Button (ADA)
-  = Ped. Signal Head
-  = Ped. Signal Head with Countdown
-  = AM / PM Peak Hour Ped. Volumes
-  = Bus Stop



Not to Scale

**Existing Pedestrian Facilities
& AM/PM Peak Hour Pedestrian Volumes**



Legend

- = Existing Sidewalk
- = Ped. Ramp
- = Ped. Ramp with Truncated Domes
- = Marked Crosswalk
- = Signal Controlled Intersection
- = Stop Controlled Intersection
- = Ped. Push Button (non-ADA)
- = Ped. Push Button (ADA)
- = Ped. Signal Head
- = Ped. Signal Head with Countdown
- = AM / PM Peak Hour Ped. Volumes
- = Bus Stop



Not to Scale



Legend

- = Existing Sidewalk
- = No Sidewalk
- ▲ = Existing Driveways



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Driveway Locations on Campo Road

Exhibit 7

2.3.3 ADA Facilities

The majority of the signalized intersections within the study area have controlled crossings as discussed above; however, these crossings are only partially ADA compliant. It should be noted that none of these crossings have audible cues or any other non-visual indicators.

Exhibits 6a-6f show the existing pedestrian facilities and include the following factors that have been considered in evaluating whether a crossing is considered ADA compliant:

TABLE 5 - ADA FACTORS

ADA Facility	Evaluation Factor
Pedestrian Ramp	Presence of Truncated Domes
Pedestrian Push Button	2" Diameter
Pedestrian Signal Head	Presence of Countdown Timer

Along Campo Road, the following intersections have truncated domes:

- Campo Road / Kenwood Drive – Pedestrian Refuge (southwest corner) only
- Campo Road / Barcelona Street – Northwest and Southwest corners only
- Campo Road / Granada Avenue / Casa de Oro Boulevard – Southwest and Southeast corners only

It should be noted that the northeast and southeast corners of intersection of Campo Road and Barcelona Street do not have any pedestrian ramps for the north/south crossing of Campo Road. There are pushbuttons and pedestrian signal heads, but no ramps.

The presence of ADA compliant pedestrian push buttons that are considered “accessible” (2 inches in diameter) are intermittent within the study area. Of the 36 pedestrian push buttons on Campo Road between Kenwood Drive and Granada Avenue / Casa de Oro Boulevard, only 13 buttons are “accessible”.

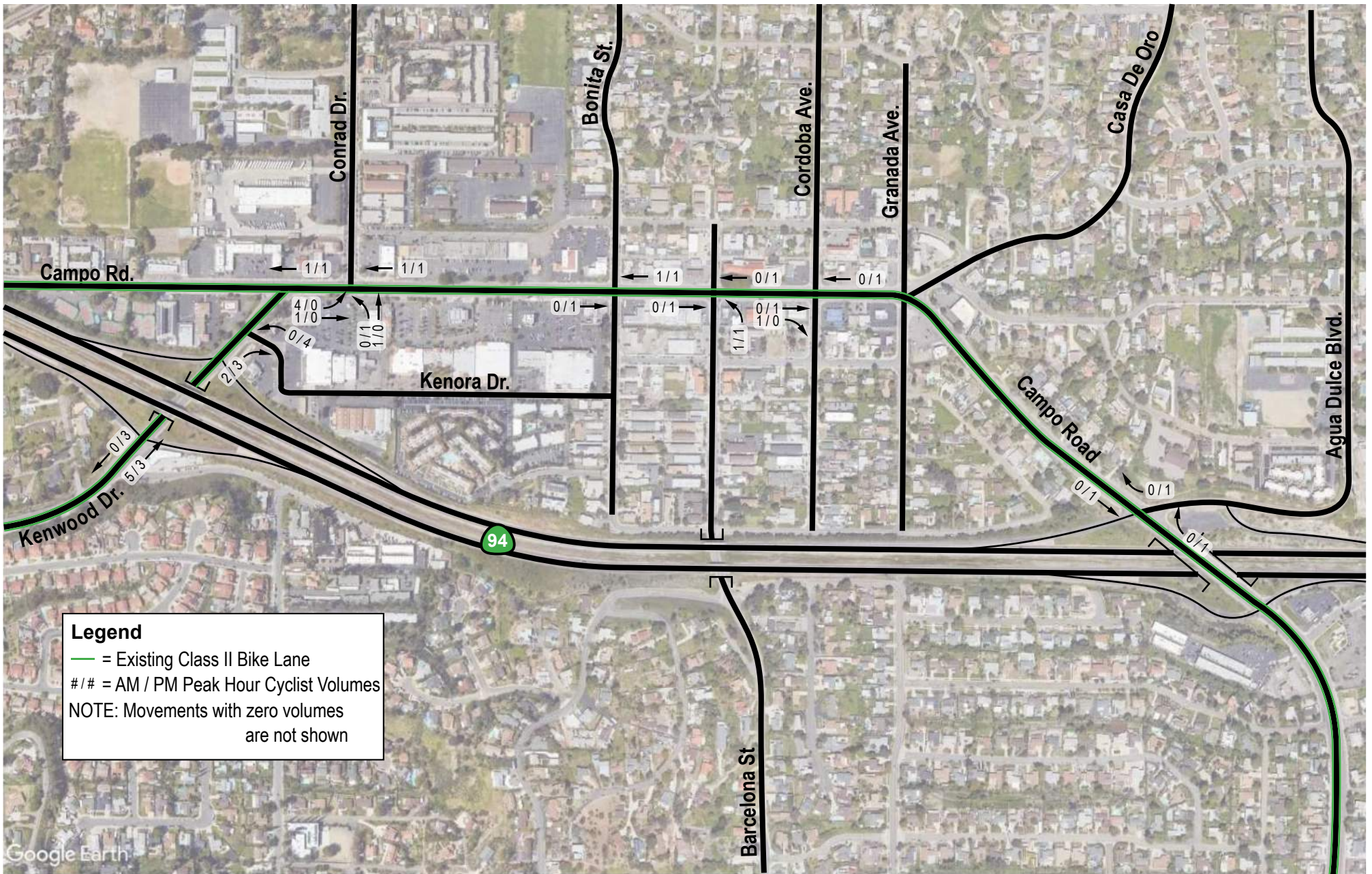
The presence of countdown timers on pedestrian signal heads are prevalent within the study area. Of the 36 pedestrian signal heads on Campo Road between Kenwood Drive and Granada Avenue / Casa de Oro Boulevard, 27 signal heads have a countdown timer. The only location without countdown timers in the study area is at Campo Road and Barcelona Street.

2.4 EXISTING BICYCLE FACILITIES

Existing peak hour bicycle activity was recorded on Tuesday, November 12, 2019. Based on existing counts during the AM peak hour, bicycle activity peaks near the southern extents of study area on Kenwood Drive (5 bicycles northbound). In the PM Peak hour, bicycle activity peaks near Kenora Drive (4 bicycles on westbound Kenora).

Within the study area, Class II bike lanes are provided on Kenwood Drive and on Campo Road on both sides of the street. These bike lanes are consistently 5 feet in width with the exception of a portion of Kenwood Drive between Kenora Drive and Campo Road where the bike lane is reduced to 4 feet on the east side. There are no buffers separating bicyclists from vehicles on Kenwood Drive or Campo Road.

Exhibit 8 shows the existing bicycle facilities as well as the peak hour bicyclist volumes.



Not to Scale

2.5 EXISTING TRANSIT FACILITIES

The Metropolitan Transit System (MTS) operates the local bus service within the Valle de Oro Community. MTS Route 855 travels along Campo Road as shown in **Exhibit 9** connecting La Mesa, Casa de Oro, Spring Valley, and Rancho San Diego. Destinations on Route 855 include Campo Road, Casa de Oro Plaza, Monte Vista High School, and Sweetwater Springs Boulevard. The bus route travels between the Spring Street Trolley Station (with connections to Route 851 and the Orange Line Trolley), and Rancho San Diego (with connections to Route 856 at Jamacha Boulevard and Lamplighter Village Drive).

Full service is provided Monday through Friday with reduced service on weekends and holidays. According to the MTS website, the average headways on a weekday is approximately 30 minutes between 6:04 AM and 10:51 PM in the eastbound direction. In the westbound direction, the bus operates between 5:02 AM and 9:19 PM with approximately 30 minute headways.

Within the study area, there are 14 bus stops along Campo Road (7 eastbound & 7 westbound). None of the bus stop locations have shelters or maps/wayfinding information. The following amenities are provided:

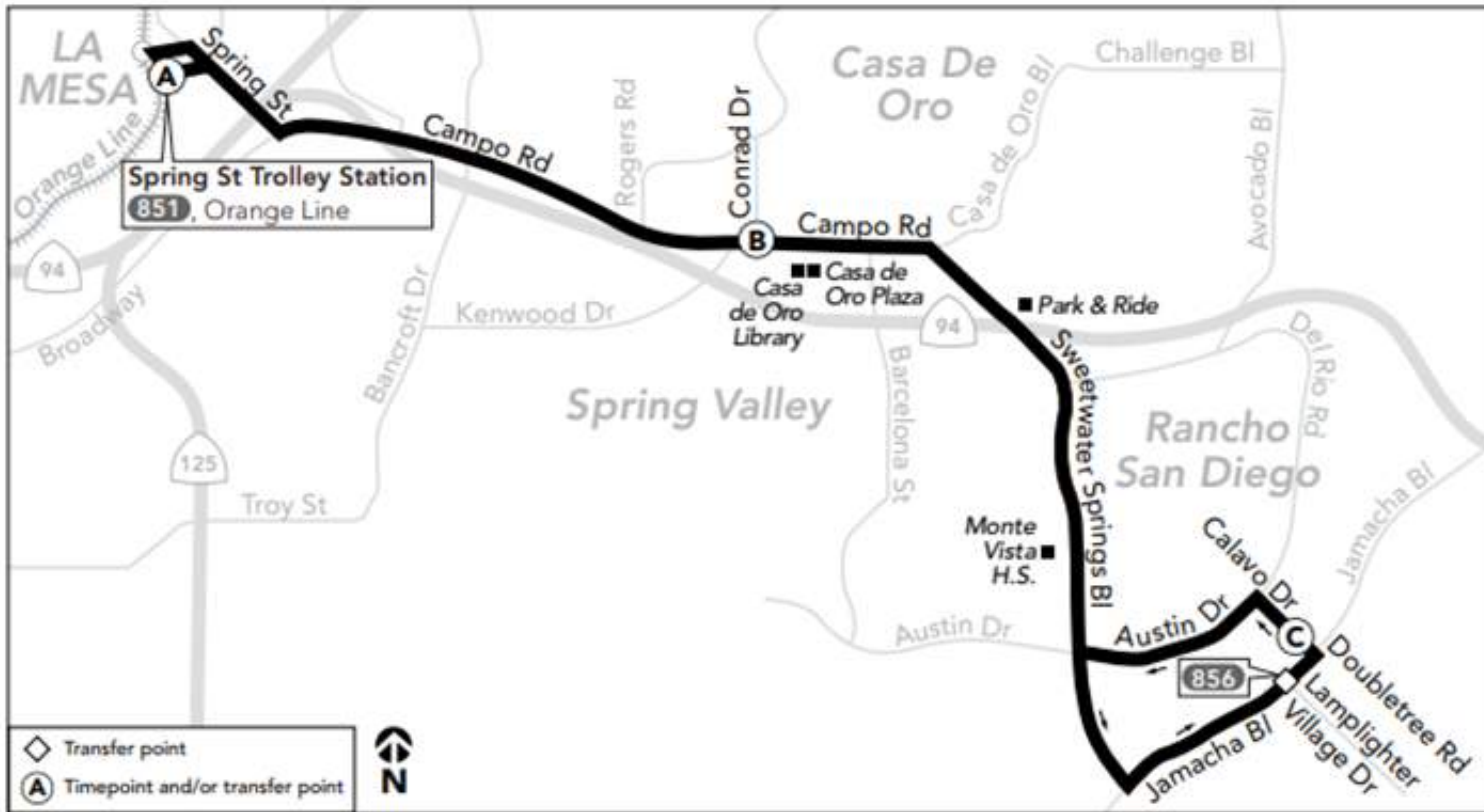
- Trash Receptacle (7 of 14 locations)
- Bench Seating (11 of 14 locations)
- Lighting (6 of 14 locations)

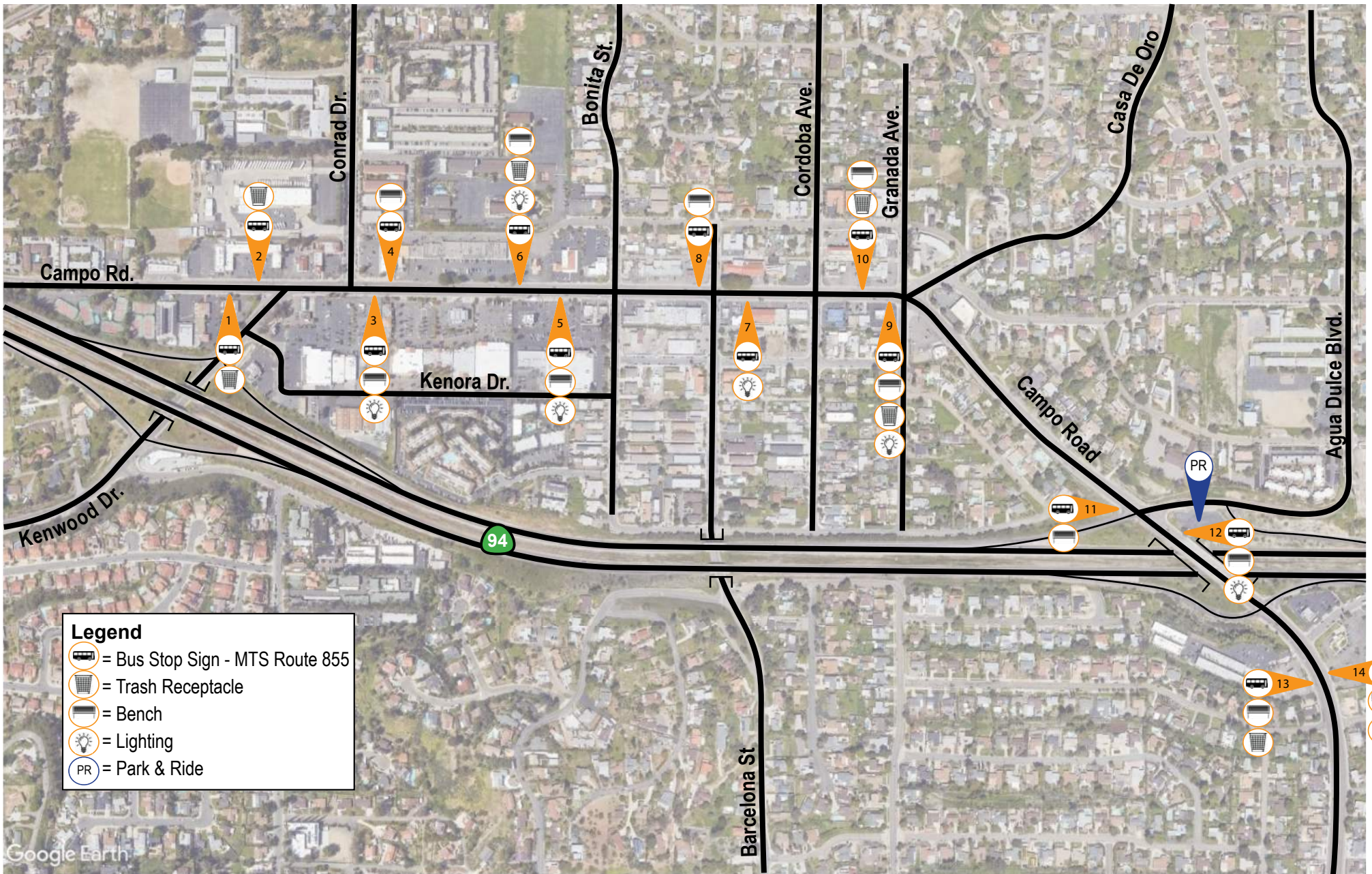
None of the bus stop locations have dedicated lighting, however 6 of the 14 locations have adjacent street lights or traffic signal poles with a luminaire mast arm.

The available amenities at each bus stop are summarized in **Table 6** and **Exhibit 10**.

TABLE 6 - EXISTING BUS STOP AMENITIES ALONG CAMPO ROAD

ID	Bus Stop	Direction	Available Amenities			
			Sign	Trash Receptacle	Bench	Lighting
1	Kenwood Drive	EB	✓	✓		
2	Kenwood Drive	WB	✓	✓		
3	Conrad Drive	EB	✓		✓	✓
4	Conrad Drive	WB	✓		✓	
5	Bonita Street	EB	✓		✓	✓
6	Bonita Street	WB	✓	✓	✓	✓
7	Barcelona Street	EB	✓			✓
8	Barcelona Street	WB	✓		✓	
9	Granada Avenue	EB	✓	✓	✓	✓
10	Granada Avenue	WB	✓	✓	✓	
11	Agua Dulce Boulevard	SB	✓		✓	
12	Agua Dulce Boulevard	NB	✓		✓	✓
13	Sweetwater Springs @ Campo Road	SB	✓	✓	✓	
14	Sweetwater Springs @ Del Rio	NB	✓	✓	✓	





Legend

- = Bus Stop Sign - MTS Route 855
- = Trash Receptacle
- = Bench
- = Lighting
- = Park & Ride



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3 EXISTING PARKING ASSESSMENT

3.1 DATA COLLECTION

A detailed parking utilization survey was conducted in and around the Casa de Oro community on Friday, December 13, 2019. The counts were conducted in December to document the peak season parking demand. The parking survey was conducted for 7 hours from 10:00 AM to 5:00 PM with utilization data collected every hour.

Exhibits 11a and **11b** show the parking survey zones included in the survey. For the purposes of this study, the study area was broken up into a total of 72 parking survey zones. The general extents of the survey included 60 off-street parking lots on non-residential parcels along Campo Road between Rodgers Road and Granada Avenue / Casa de Oro Boulevard. In addition, 12 road segments with on-street parking block faces were included along both sides of the following minor streets:

- Conrad Avenue (Campo Road to San Juan Street)
- Bonita Street (Dolores Street to San Juan Street)
- Barcelona Street (Dolores Street to San Juan Street)
- Cordoba Avenue (Dolores Street to San Juan Street)
- Granada Avenue (Dolores Street to San Juan Street)

Appendix C contains detailed parking inventory and survey data.

3.2 PARKING SURVEY

3.2.1 Parking Inventory

The survey included an inventory of the existing non-residential parking facilities within the study area. The parking inventory was broken down into different types of parking including regular parking spaces, ADA spaces (including van), and restricted spaces (i.e. temporary parking, customer only, etc.). **Table 7** summarizes the parking inventory. As shown, The parking survey determined there is a total parking supply of 175 on-street public parking spaces and 1,794 off-street parking spaces within the study area.

Occupied spaces were recorded each hour within each off-street parking lot as well as the identified on-street block faces.

TABLE 7 – EXISTING PARKING INVENTORY

Parking Type		Total Inventory
On-Street		175
Off-Street	Regular	1,607
	ADA	62
	ADA - Van	25
	Customer Only	16
	Time Restricted	55
Other ⁽¹⁾		29
Sub-Total Off-Street		1,794
Total Parking Supply		1,969



Legend

- = On-Street Parking
- = Off-Street Parking
- ##** = Parking Zone ID



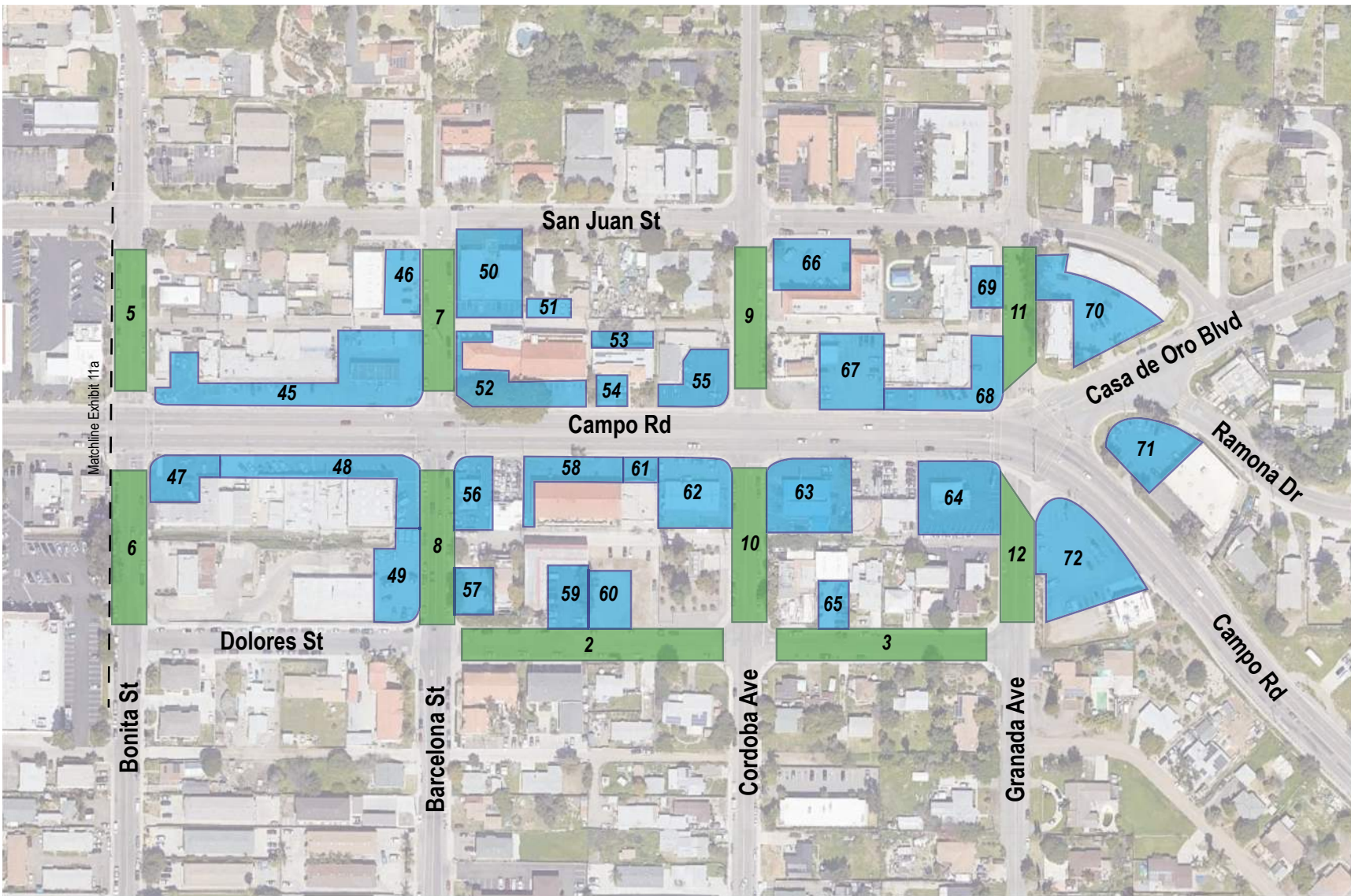
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**Parking Survey Zones
Area 1**

Exhibit 11a



Legend

- █ = On-Street Parking
- █ = Off-Street Parking
- ##** = Parking Zone ID



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**Parking Survey Zones
Area 2**

Exhibit 11b

3.2.2 Parking Utilization

As part of the survey, occupied spaces were recorded every hour for 7 hours from 10:00 to 5:00 PM for all 72 of the parking survey zones. This data was used to document the parking utilization (percent of available spaces occupied) for each parking survey zone.

Detailed Parking Utilization data is contained in **Appendix F**.

Based on the parking survey, the lowest combined parking demand for the study area is during the 10:00 AM hour when 35.2% of the total available spaces were utilized. The peak parking demand for the study area occurred at 2:00 PM when 102 on-street parking spaces and 798 off-street parking spaces were occupied for a total of 900 occupied spaces. This represents a combined parking utilization of 45.7%. This shows that during the peak period, less than half of the available parking spaces are occupied within the study area. The survey found that on-street parking utilization (58.3%) was higher than off-street parking utilization (44.5%)

Exhibit 12 and **Table 8** summarizes the peak parking utilization at 2:00 PM on Friday December 13, 2019.

TABLE 8 – PEAK PARKING UTILIZATION

Parking	Inventory	Peak Occupancy ⁽¹⁾	Peak Utilization
On-Street	175	102	58.3%
Off-Street	1794	798	44.5%
Total	1,969	900	45.7%

⁽¹⁾ Peak Parking Demand based on parking survey data from Friday, December 13 at 2:00 PM

It should be noted that the land uses which experience the highest level of occupancy are automotive repair related. That is, a high number of vehicles are temporarily stored on-site while being worked on or awaiting pick-up. In many of these areas, the utilization exceeds 100% because the vehicles are being parked in unmarked spaces.

Additionally, other parking survey zones had vehicles parked in unmarked spaces, including two car-washes. These unmarked spaces were not included in the inventory, but they were counted towards the utilization. Even so, only 7 of the 72 survey zones experienced parking utilization rate greater than 85%.



Source: National Data & Surveying Services



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Peak Parking Utilization
Friday December 13, 2019 - 2:00 PM to 3:00 PM

3.3 EXISTING PARKING RATIOS

The Casa de Oro community along the Campo Road corridor is primarily a commercial area with a mix of retail, fast-food, restaurants, and offices. **Table 9** shows the County of San Diego required parking rates per Zoning Ordinance Part 6.

As shown, the parking rates range from 1.0 spaces per 1,000 square feet (KSF) for light manufacturing to 12.0 spaces per KSF for a fast-food restaurant without a drive-thru and averages at 5.2 spaces per KSF.

TABLE 9 – EXISTING COUNTY PARKING REQUIREMENTS

Land Use		Parking Rate
Commercial Office		4.0 / KSF
Bank		4.0 / KSF
Restaurant	Up to 3 KSF	6.0 / KSF
	More than 3 KSF	10.0 / KSF
Fast-Food Restaurant	With Drive-Thru	9.5 / KSF
	Without Drive-Thru	12.0 / KSF
Retail		4.5 / KSF
Liquor Store		3.3 / KSF
Drugstore		3.5 / KSF
Library		3.0 / KSF
General Manufacturing		1.5 / KSF
Light Manufacturing		1.0 / KSF

Source:

San Diego County Zoning Ordinance (Part 6: General Provisions, Section 6762-6764)

KSF = 1,000 square feet

Based on available land parcel information within the study area, existing parking supply rates were calculated for non-residential properties included in the parking inventory. It should be noted that this parcel information did not include specific land use type categories. **Table 10** summarizes the existing parking supply rate per the parking inventory. **Table 10** also compares these supply rates to the actual parking demand that was recorded during the parking utilization survey for the properties included in the analysis.

As shown, the existing parking supply provided by individual parcels ranges from 0.9 spaces per KSF to 10.3 spaces per KSF. When the entire study area is considered as a whole, parking is provided at a rate of 3.3 spaces per KSF (1,786 spaces / 548.43 KSF = 3.3 spaces per KSF). This range of parking supply rates for the study area parcels and the average supply rate is consistent with the County code parking requirements.

The actual parking demand rate according to the parking utilization survey ranges from 0.2 spaces per KSF to 6.7 spaces per KSF. When the entire study area is considered as a whole, parking is utilized at a demand rate of 1.4 spaces per KSF (793 spaces / 548.43 KSF = 1.4 spaces per KSF). Therefore, the actual parking demand is less than half of the parking supply within the study area.

TABLE 10 – EXISTING PARKING SUPPLY & ACTUAL PARKING DEMAND RATES

Parking Zone ID	Floor Area (SF)	Parking Inventory	Existing Parking Supply Rate ⁽¹⁾	Peak Parking Demand ⁽²⁾	Actual Parking Demand Rate ⁽³⁾
13	7,730	11	1.4	4	0.5
14	5,780	11	1.9	4	0.7
15	25,130	109	4.3	27	1.1
16	3,440	25	7.3	4	1.2
17	10,980	25	2.3	15	1.4
18	7,360	29	3.9	11	1.5
19	11,180	36	3.2	19	1.7
20	5,230	16	3.1	7	1.3
21	4,150	35	8.4	7	1.7
22	4,970	11	2.2	1	0.2
23	3,290	3	0.9	1	0.3
24-26	37,090	201	5.4	65	1.8
28-29	27,200	67	2.5	38	1.4
30-33	59,630	308	5.2	135	2.3
34-36	69,010	196	2.8	112	1.6
37	2,920	5	1.7	2	0.7
38	1,040	2	1.9	7	6.7
39	8,790	37	4.2	14	1.6
40-41	38,960	220	5.6	79	2.0
42	2,420	8	3.3	5	2.1
43	17,250	32	1.9	7	0.4
44	5,730	25	4.4	7	1.2
45	18,120	28	1.5	22	1.2
46	5,150	9	1.7	4	0.8
47	3,900	14	3.6	7	1.8
48	15,240	26	1.7	20	1.3
49	13,310	11	0.8	16	1.2
50	6,140	14	2.3	5	0.8
51	2,150	4	1.9	2	0.9
52	20,740	20	1.0	13	0.6
53-54	4,190	17	4.1	7	1.7
55	3,380	15	4.4	5	1.5
56	1,640	9	5.5	9	5.5
58	17,640	18	1.0	10	0.6
59	10,770	18	1.7	17	1.6
61	3,120	5	1.6	2	0.6
62*	4,100	1	0.2	5	1.2
64	2,530	26	10.3	7	2.8
65	2,500	6	2.4	3	1.2
66	18,550	18	1.0	13	0.7
67-68	10,940	31	2.8	3	0.3
69	6,360	9	1.4	7	1.1
70	10,710	26	2.4	23	2.1
71	8,870	22	2.5	15	1.7
72	3,200	28	8.8	12	3.8
Totals	548,430	1,786	3.3	793	1.4

⁽¹⁾ Existing parking rate calculated using total parking inventory per 1,000 SF of floor area (spaces/1,000 SF)

⁽²⁾ Peak Parking Demand based on parking survey data from Friday, December 13 at 2:00 PM

⁽³⁾ Actual parking rate calculated using peak parking utilization per 1,000 SF of floor area (spaces/1,000 SF)

* Not included in total calculations

4 CONCLUSIONS

This report summarizes existing transportation conditions within the Casa de Oro community located in the Valle de Oro Community Planning Area of San Diego County. The study area is focused along approximately $\frac{3}{4}$ mile of Campo Road in the commercial corridor between Granada Avenue and Rogers Road and includes five (5) stop-controlled intersections, seven (7) signalized intersections, and ten (10) roadway segments.

Based on existing daily traffic counts, all roadway segments are shown to operate at an acceptable level of service.

The intersection analysis shows that half of the study intersections (6 out of 12) are currently operating at a deficient level of service (LOS E or F) and half are operating at LOS D or better during one or both peak hours.

The existing conditions assessment considers the physical roadway conditions and intersection operations as well as the current pedestrian, bicycle, and transit facilities within the study area.

In addition to the traffic operations analysis, this report also documents the parking conditions for on-street and off-street parking facilities serving the non-residential uses within the study area. A parking survey was conducted which collected existing inventory data as well as parking utilization in 1-hour increments for 7 hours. Existing parking supply rates and actual parking demand rates were calculated and compared to parking ratios per County code requirements.

The parking utilization survey shows that the peak parking demand occurs during the 2 o'clock hour where 900 spaces are occupied out of the total 1,969 spaces available. This represents a parking utilization of 45.7%.