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TRAFFIC ANALYSIS AND PARKING ASSESSMENT

Casa de Oro Specific Plan

Prepared for:
County of San Diego
Planning & Development Services
5510 Overland Avenue
San Diego, CA 92123

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TABLE OF CONTENTS

1 INTRODUCTION 1

1.1 Study Area 1
1.2 Surrounding Roadway Network 2
1.3 Field Work and Data Collection 3

2 EXISTING TRAFFIC CONDITIONS 6

2.1 Roadway Segment Evaluation 6

2.1.1 Roadway Segment Analysis Methodology 6
2.1.2 Roadway Segment Level of Service 7

2.2 Intersection Evaluation 3

2.2.1 Intersection Analysis Methodology 3
2.2.2 Peak Hour Intersection Level of Service 4

2.3 Existing Pedestrian Facilities 8

2.3.1 Sidewalks 8
2.3.2 Crosswalks 9
2.3.3 ADA Facilities 17

2.4 Existing Bicycle Facilities 17
2.5 Existing Transit Facilities 19

3 EXISTING PARKING ASSESSMENT 22

3.1 Data Collection 22
3.2 Parking Survey 22

3.2.1 Parking Inventory 22
3.2.2 Parking Utilization 25

3.3 Existing Parking Ratios 27

4 HORIZON YEAR 2035 WITH PROJECT TRAFFIC CONDITIONS 29

4.1 Casa De Oro Revitlization 29

4.1.1 Horizon Year 2035 With Project Study Area 31

4.2 Horizon Year 2035 With Project Traffic Volumes 31
4.3 Horizon Year 2035 With Project Intersection Analysis 34

4.3.1 Preferred Campo Road Corridor Concept Plan 34

4.4 Summary & Recommendations 34

4.4.1 Operational Assessment of Alternative Intersection Controls 36

5 CONCLUSIONS 37

5.1 Existing Conditions Summary 37
5.2 Horizon Year 2035 With Project Summary and Recommendations 37

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LIST OF EXHIBITS

Exhibit 1 – Study Area 4
Exhibit 2 – Valle de Oro Community Plan Mobility Element Network 5
Exhibit 3 - Existing Street Segment Classifications 2
Exhibit 4 – Existing Intersection Lane Geometry 6
Exhibit 5 – Existing AM/PM Peak Hour Intersection Volumes 7
Exhibit 6 – Existing Pedestrian Facilities and Pedestrian Peak Hour Volumes 10
Exhibit 7 – Driveway Locations on Campo Road 16
Exhibit 8 – Existing Bicycle Facilities & Cyclist Peak Hour Volumes 18
Exhibit 9 – MTS Route 855 – Spring Street Trolley to Rancho San Diego 20
Exhibit 10– Existing Transit Facilities & Amenities 21
Exhibit 11 – Parking Survey Zones 23
Exhibit 12 - Peak Parking Utilization Heat Map 26
Exhibit 13 - Proposed Campo Road Corridor Concept Plan 30
Exhibit 14 - Horizon Year 2035 With Project Assumed Lane Geometry 32
Exhibit 15 - Horizon Year 2035 With Project AM/PM Peak Hour Volumes 33

LIST OF TABLES

Table 1- LOS Criteria for Roadway Segments 6
Table 2 - Existing Conditions Roadway Segment LOS 7
Table 3 - Level of Service & Delay Range 3
Table 4 - Existing AM/PM Peak Hour Intersection LOS 4
Table 5 - ADA Factors 17
Table 6 - Existing Bus Stop Amenities along Campo Road 19
Table 7 – Existing Parking Inventory 22
Table 8 – Peak Parking Utilization 25
Table 9 – Existing County Parking Requirements 27
Table 10 – Existing Parking Supply & Actual Parking Demand Rates 28
Table 11 - Horizon Year 2035 With Project Conditions AM/PM Peak Hour LOS 34
Table 12 Horizon Year 2035 With Project Alternative Intersection Operations 36

ATTACHMENTS

Attachment A: Mobility Element Network & Matrix
Attachment B: Traffic Volume Count Data
Attachment C: Parking Survey Data
Attachment D: Existing Traffic Signal Timing Worksheets
Attachment E: Existing Conditions Synchro Worksheets
Attachment F: Parking Utilization Worksheets
Attachment G: Horizon Year 2035 With Project HCM Worksheets

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. **Attachment 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.

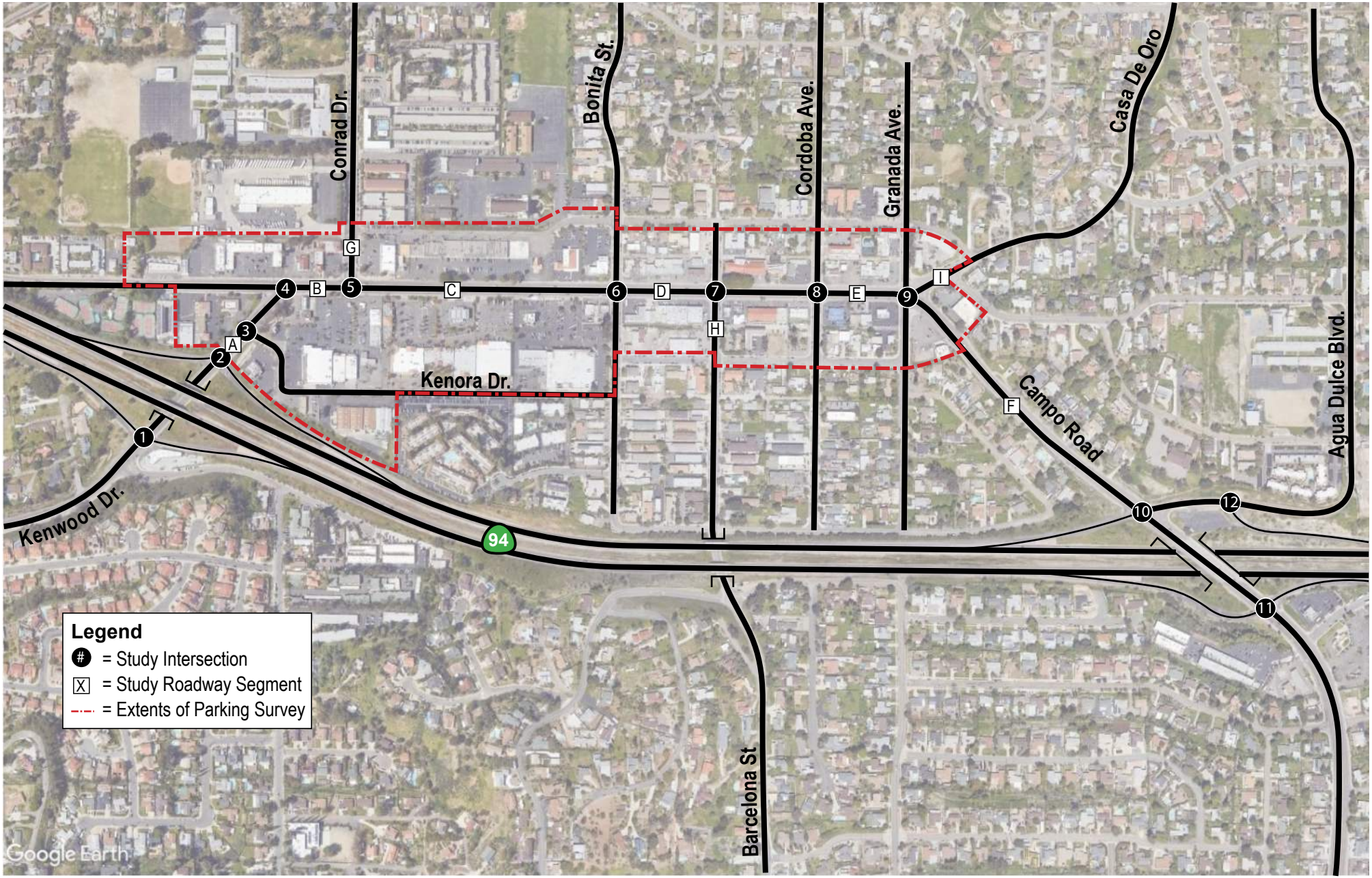
Morning (AM) peak period counts were generally collected between 7:00 AM to 9:00 AM and evening (PM) peak period counts were generally collected from 4:00 PM to 6:00 PM. The counts used in this analysis represent the highest hour within the peak periods counted for each intersection.

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 **Attachment 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 **Attachment C**.



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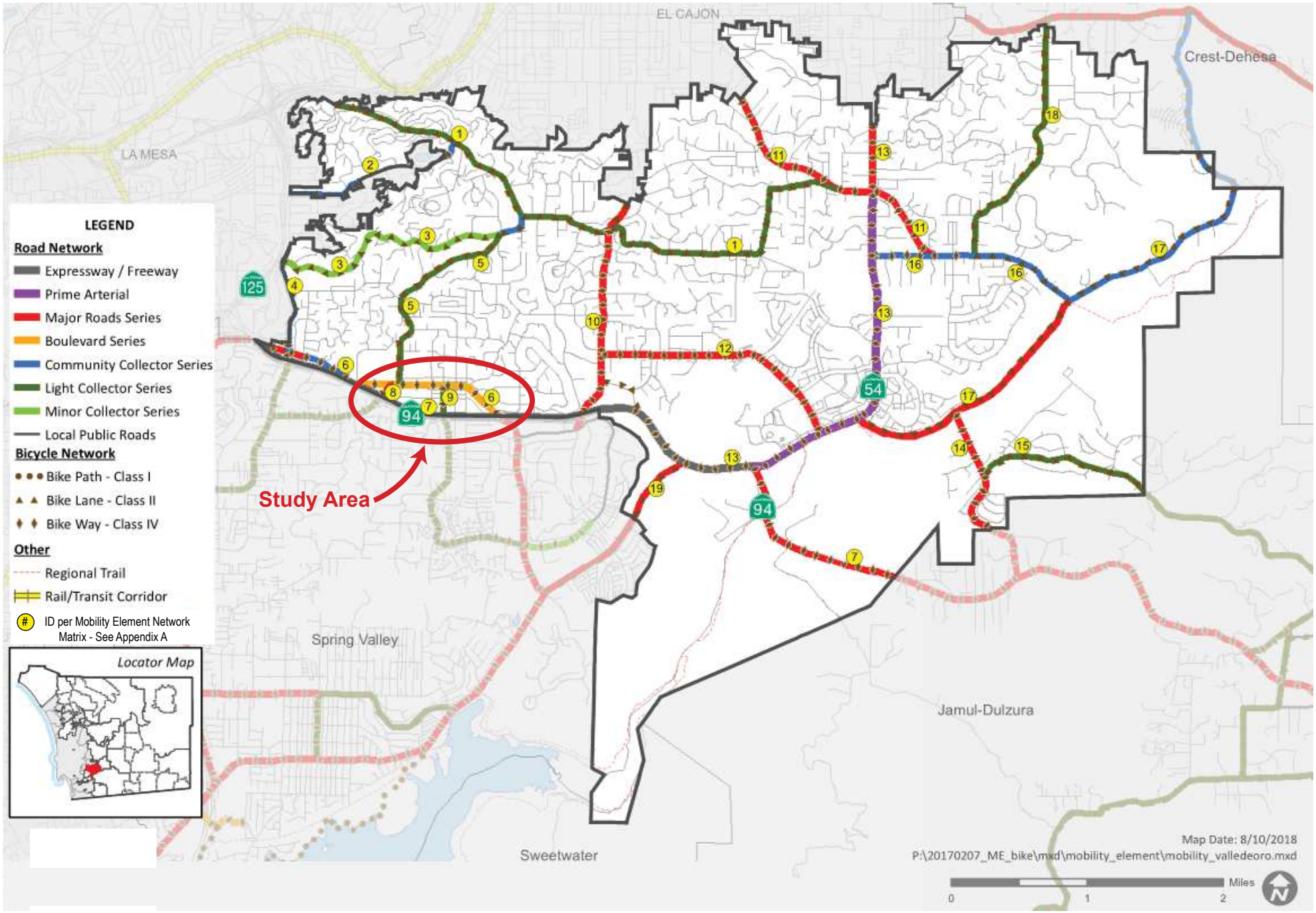
Study Area

Exhibit 1



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Valle de Oro Mobility Element Network

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Exhibit 2

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.

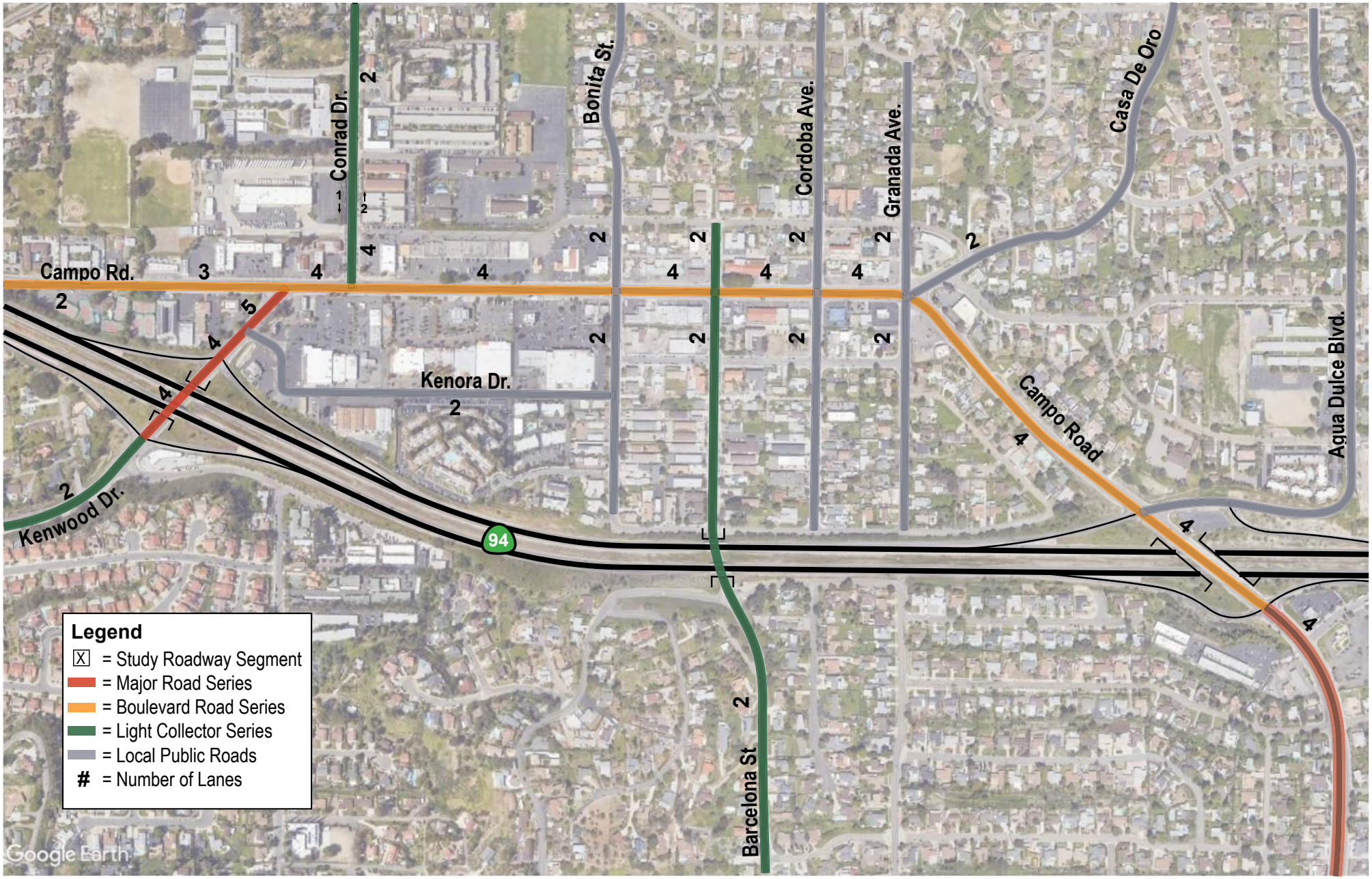
TABLE 2 - EXISTING CONDITIONS ROADWAY SEGMENT LOS

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
LOS= Level of Service
V/C= Volume to Capacity Ratio
[1] Capacity for a Residential Collector reflects LOS C thresholds per Non-Mobility Element Roads shown in Table 1

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.



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Street Segment Classifications

Exhibit 3

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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 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 **Attachment 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.

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 **Attachment 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)

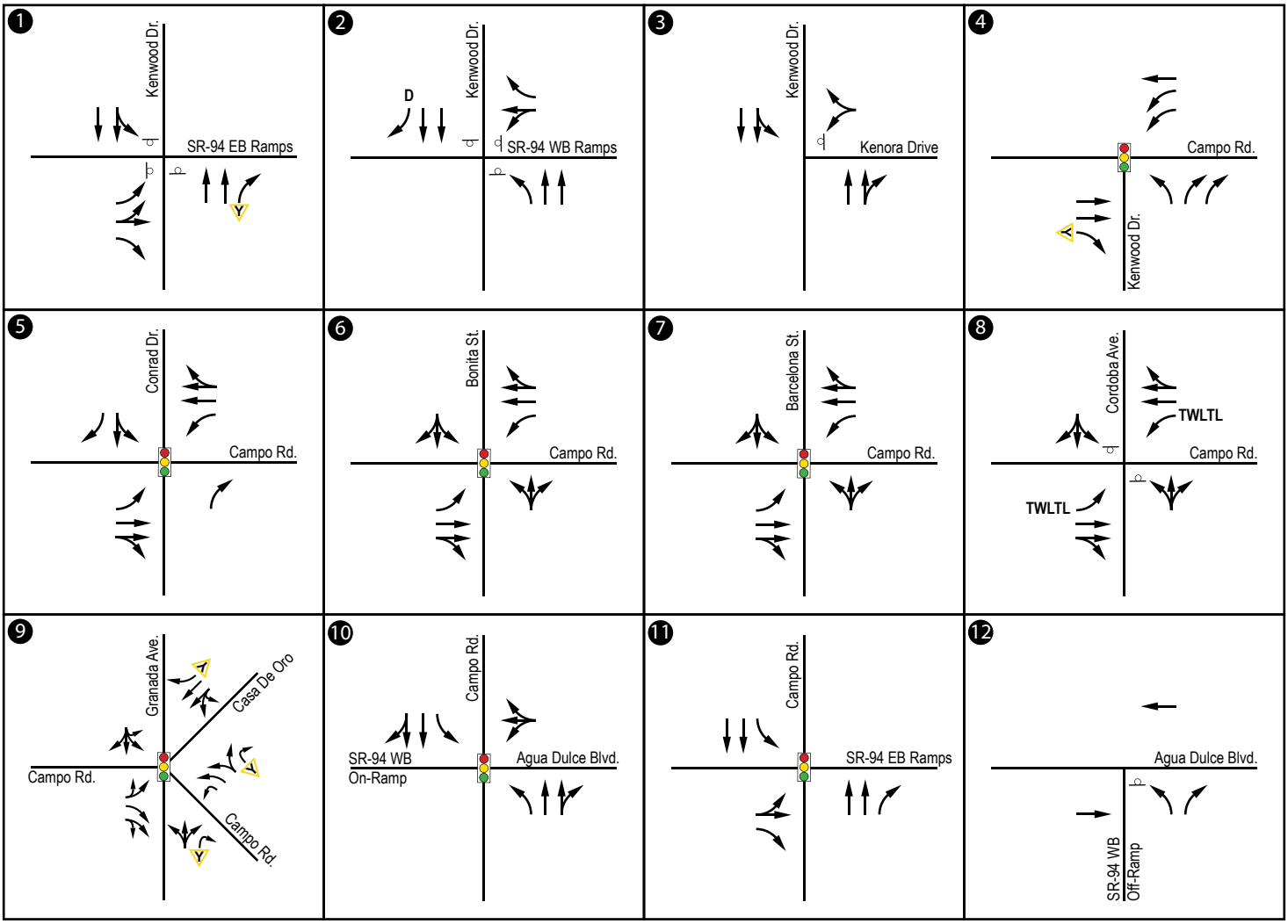
While not reflected in the level of service analysis, there are other abnormal intersection features that effect the operations of several intersections as described below.

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 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

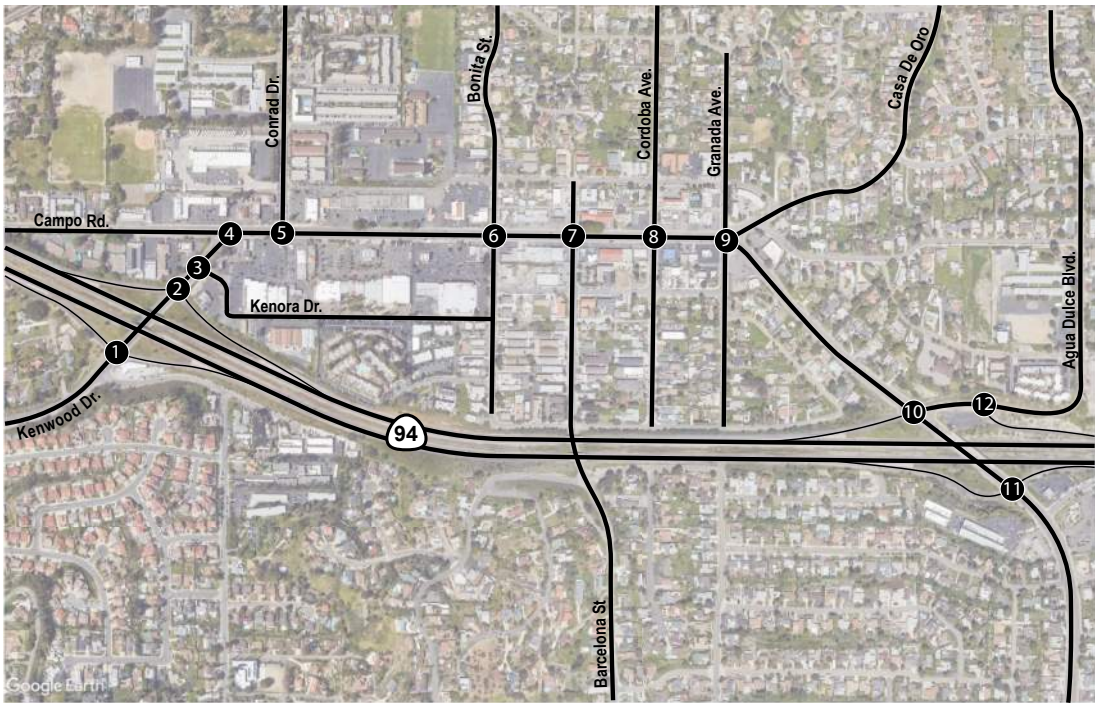
= Signal Control Intersection

= Stop Control Intersection

Y = Yield Control Movement

TWLTL = Two-Way-Left-Turn-Lane

D = Defacto Turn-Lane



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Study Intersection Lane Geometry

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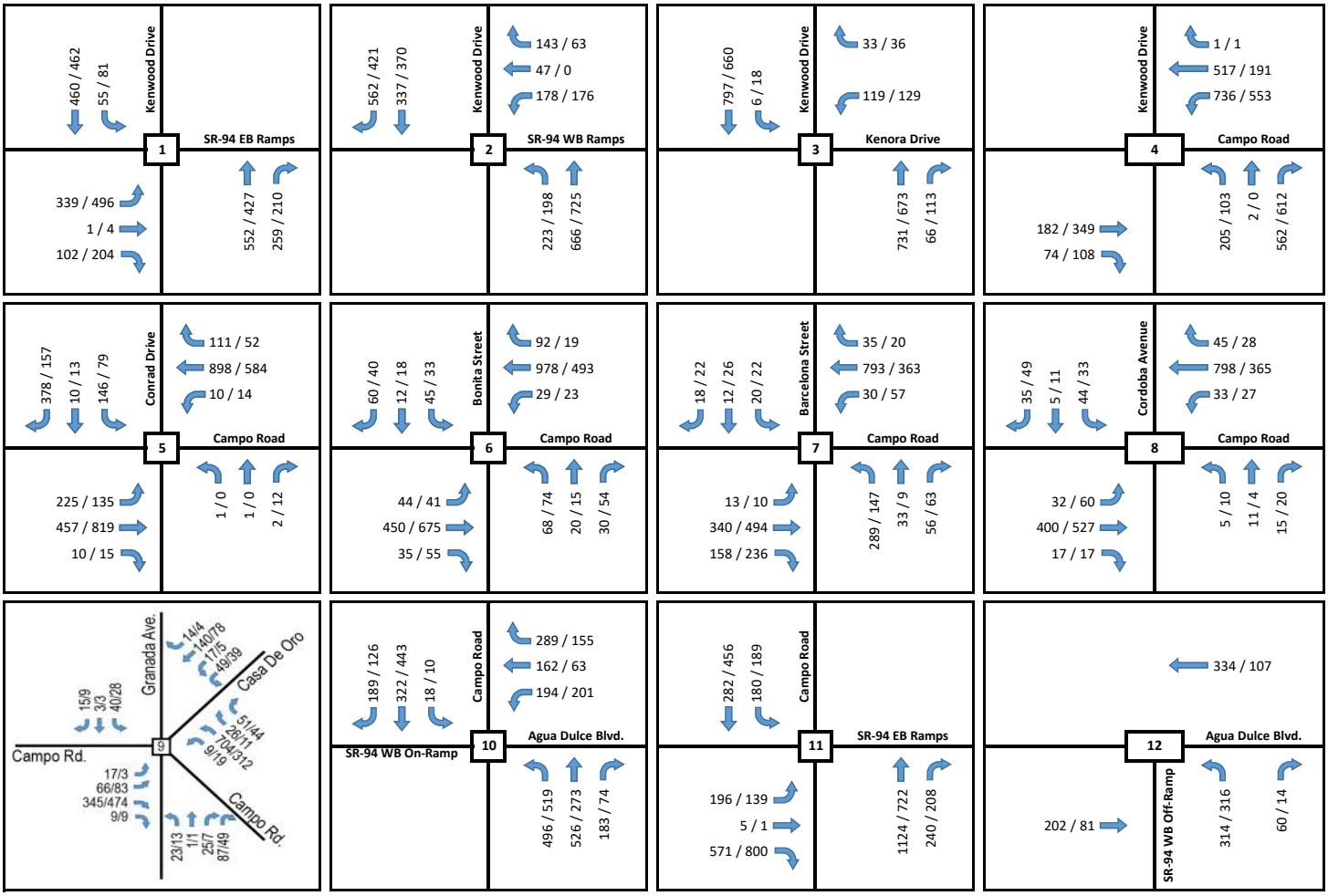
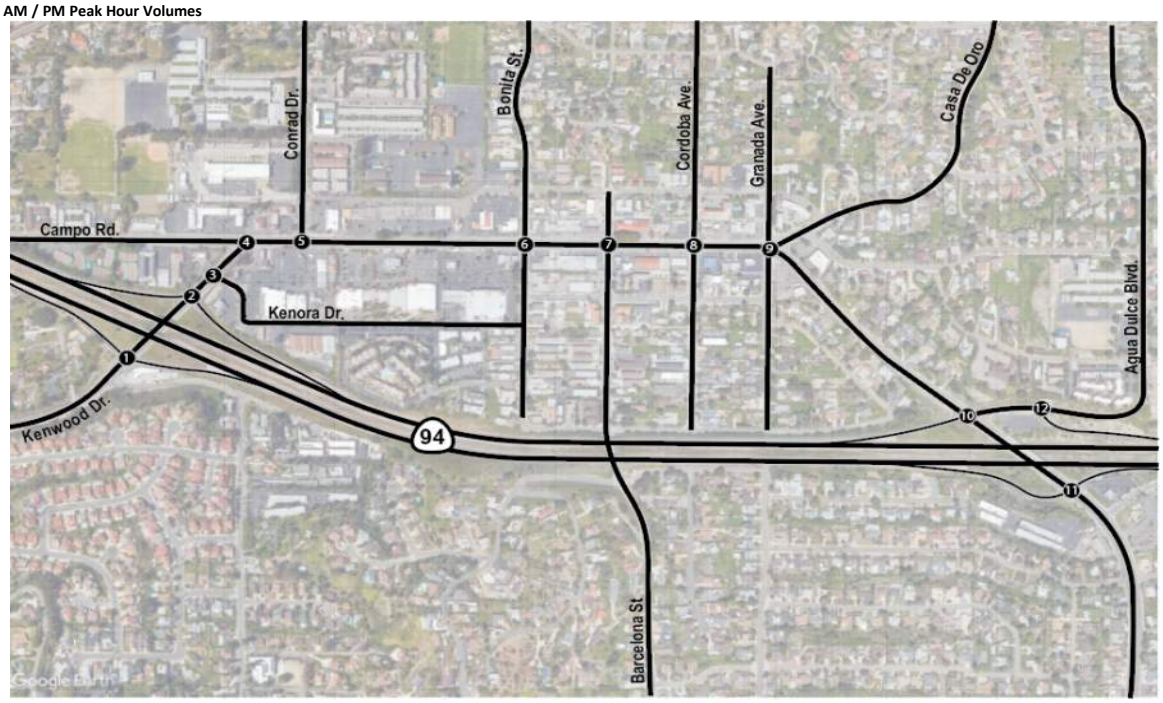
Exhibit 4



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



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Existing AM/PM Peak Hour Volumes

Exhibit 5

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.

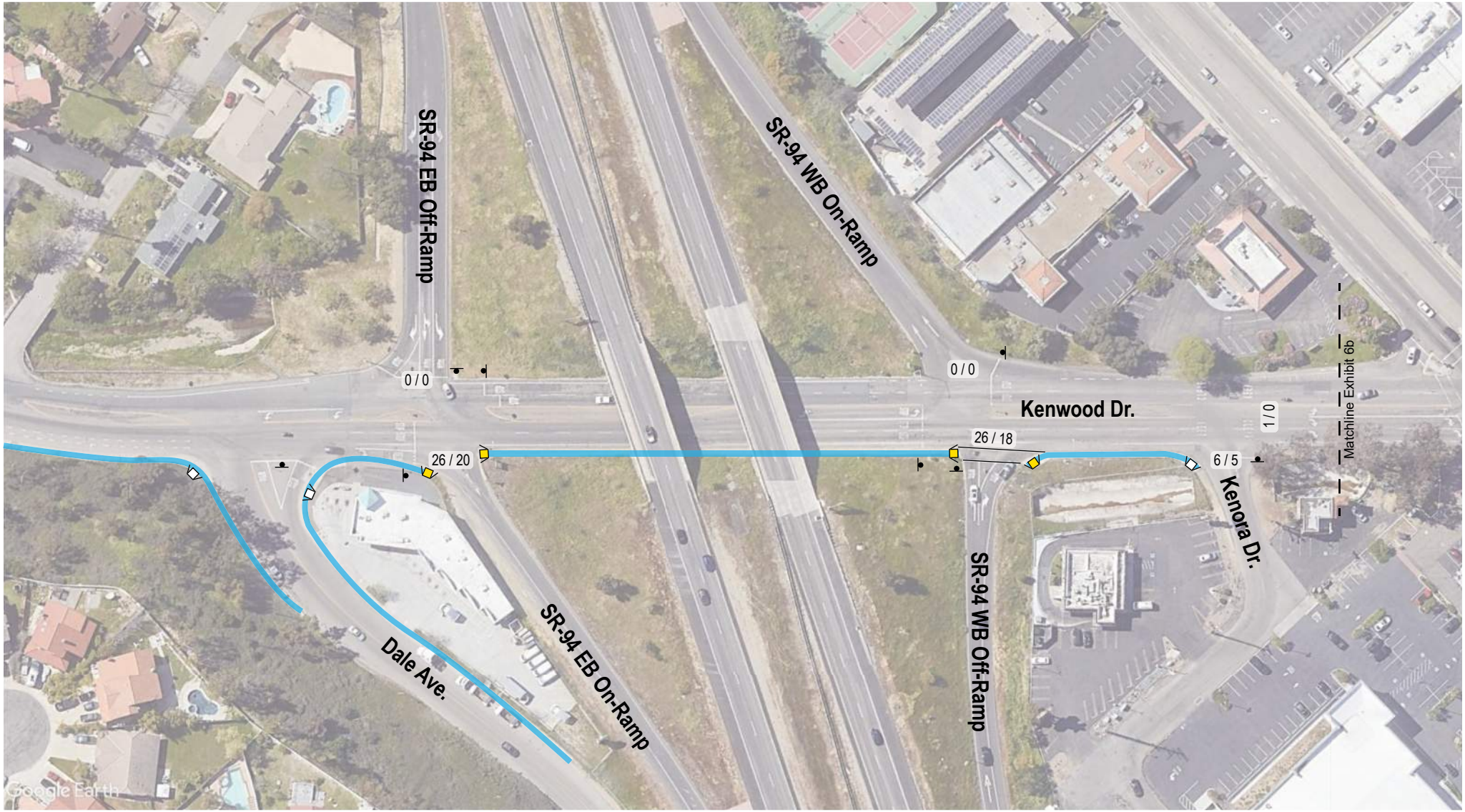
Casa de Oro Boulevard – Within the study area, sidewalks are provided on both sides of the street between Campo Road and San Juan Street. East of San Juan Street sidewalks are intermittent within the residential neighborhoods with many gaps.

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

Michael Baker INTERNATIONAL

Existing Pedestrian Facilities & AM/PM Peak Hour Pedestrian Volumes

Exhibit 6a

January 2020
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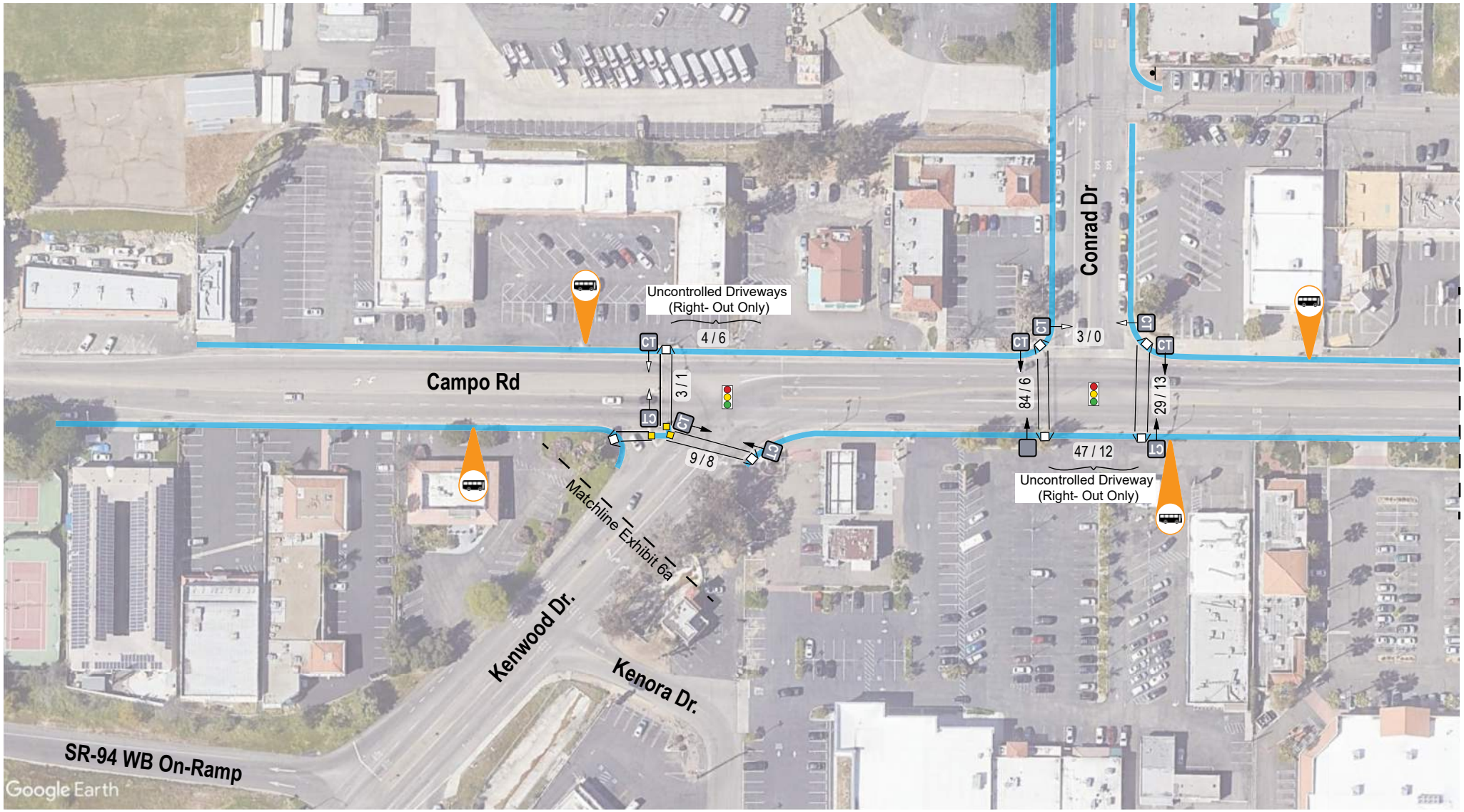

Legend

- = 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
- CT = Ped. Signal Head with Countdown
- #/# = AM / PM Peak Hour Ped. Volumes
- = Bus Stop

Not to Scale

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Existing Pedestrian Facilities & AM/PM Peak Hour Pedestrian Volumes

Exhibit 6b

January 2020
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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
- CT = Ped. Signal Head with Countdown
- #/# = AM / PM Peak Hour Ped. Volumes
- = Bus Stop

Not to Scale

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Existing Pedestrian Facilities & AM/PM Peak Hour Pedestrian Volumes

Exhibit 6c

January 2020
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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
- CT = Ped. Signal Head with Countdown
- #/# = AM / PM Peak Hour Ped. Volumes
- = Bus Stop

Not to Scale

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Existing Pedestrian Facilities & AM/PM Peak Hour Pedestrian Volumes

Exhibit 6d

January 2020
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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

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Existing Pedestrian Facilities & AM/PM Peak Hour Pedestrian Volumes

Exhibit 6e

January 2020
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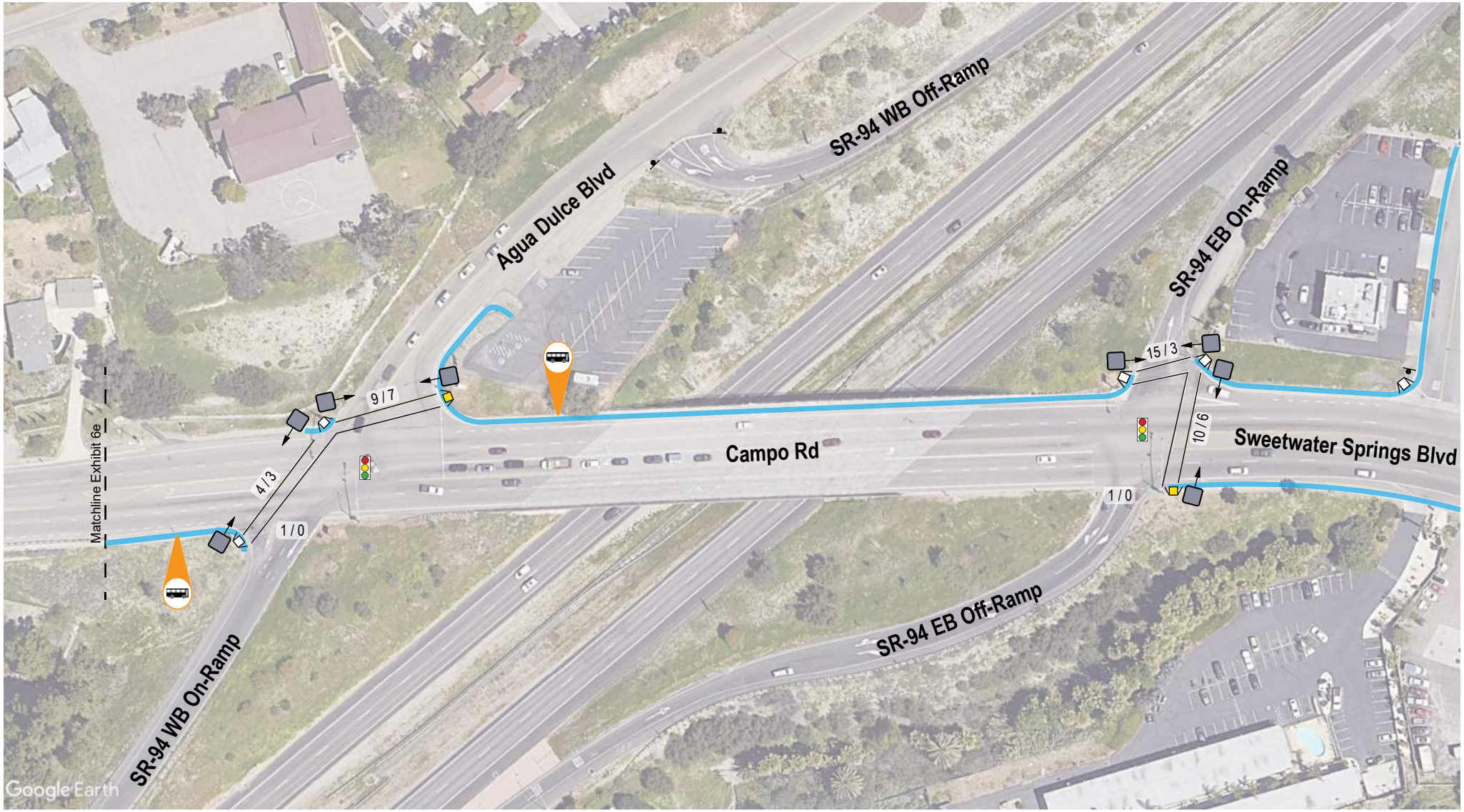

Legend

- = 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
- CT = Ped. Signal Head with Countdown
- # / # = AM / PM Peak Hour Ped. Volumes
- = Bus Stop

Not to Scale

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Existing Pedestrian Facilities & AM/PM Peak Hour Pedestrian Volumes

Exhibit 6f

January 2020
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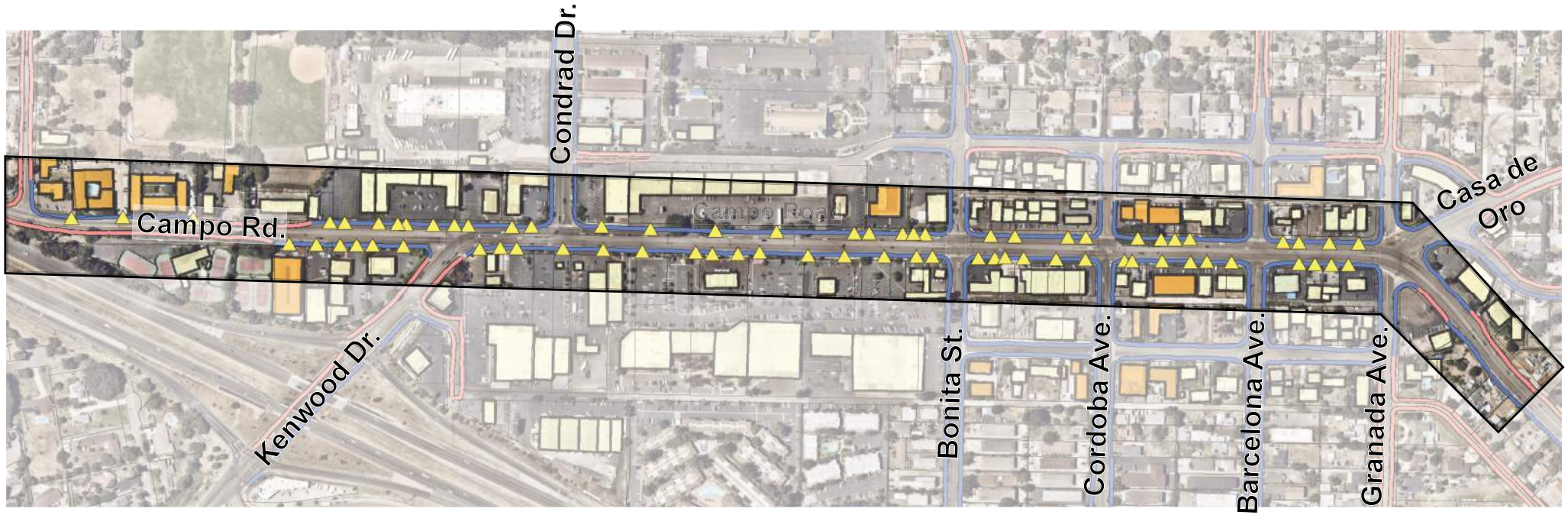

Legend

= Existing Sidewalk

= No Sidewalk

= Existing Driveways

Not to Scale

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Driveway Locations on Campo Road

January 2020

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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".

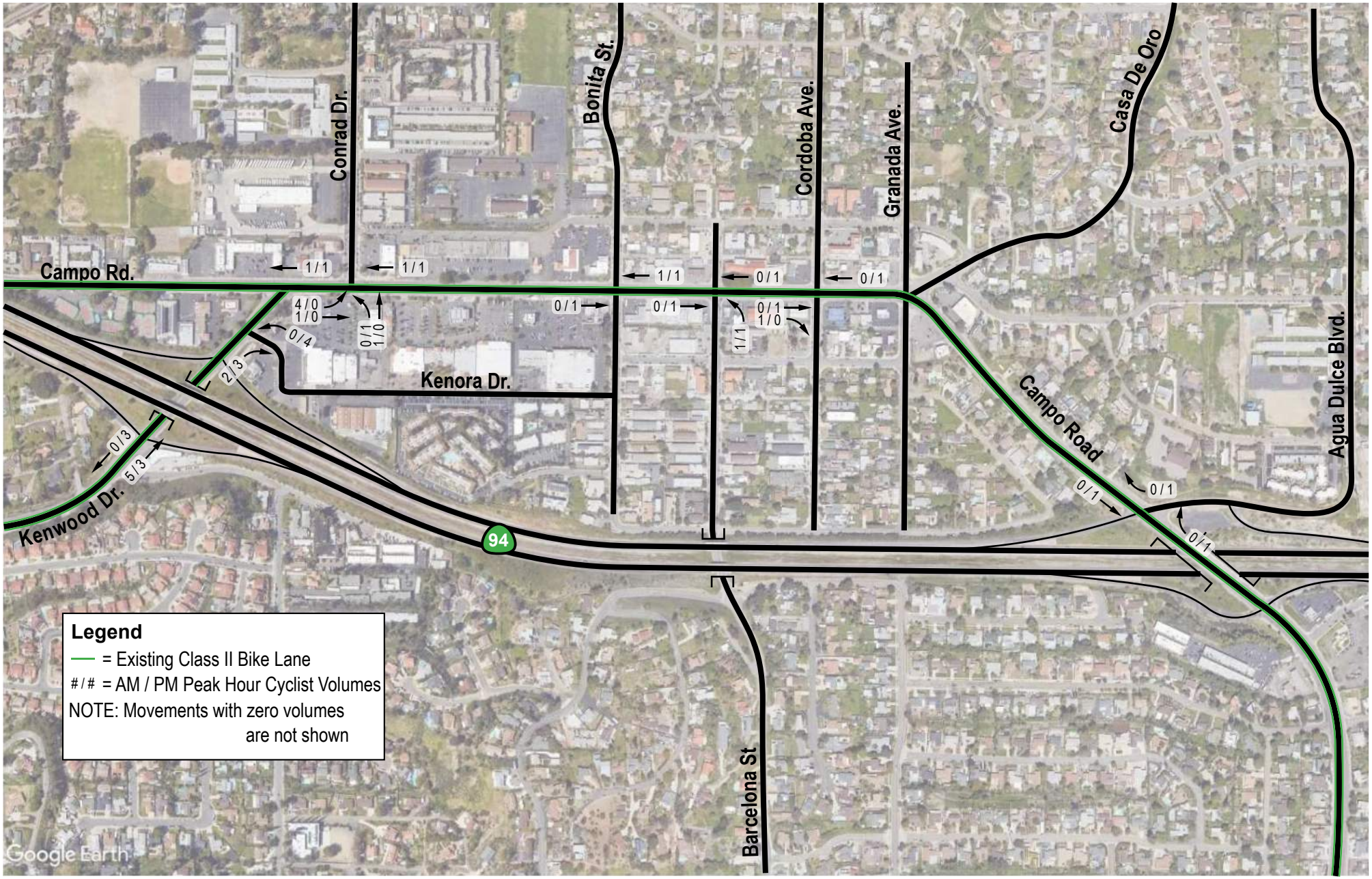
The presence of countdown timers on pedestrian signal heads are prevalent within the study area. Of the 36 pedestrian signal heads on Campo Road between Kenwood Drive and Granada Avenue / Casa de Oro Boulevard, 27 signal heads have a countdown timer. The only location without countdown timers in the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



Legend

— = Existing Class II Bike Lane

#/# = AM / PM Peak Hour Cyclist Volumes

NOTE: Movements with zero volumes are not shown

Not to Scale

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Existing Bicycle Facilities & Cyclist Peak Hour Volumes

January 2020

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Exhibit 8

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:

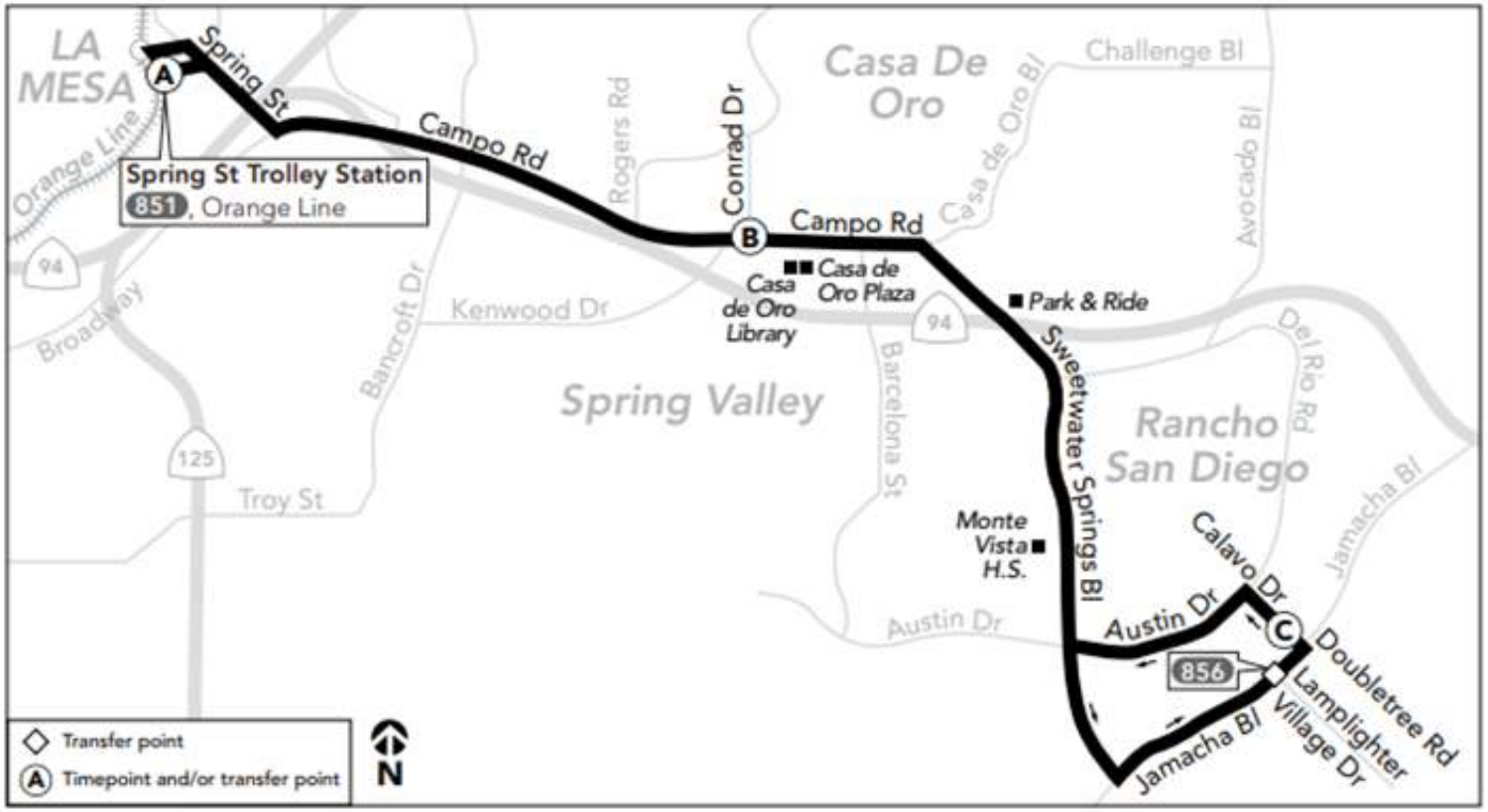
- Trash Receptacle (7 of 14 locations)
- Bench Seating (11 of 14 locations)
- Lighting (6 of 14 locations)

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 Recepticle	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	✓	✓	✓	



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MTS Route 855 - Spring St. Trolley to Rancho San Diego

January 2020
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Exhibit 9

Not to Scale

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Existing Bus Stops & Amenities

January 2020
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Exhibit 10

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

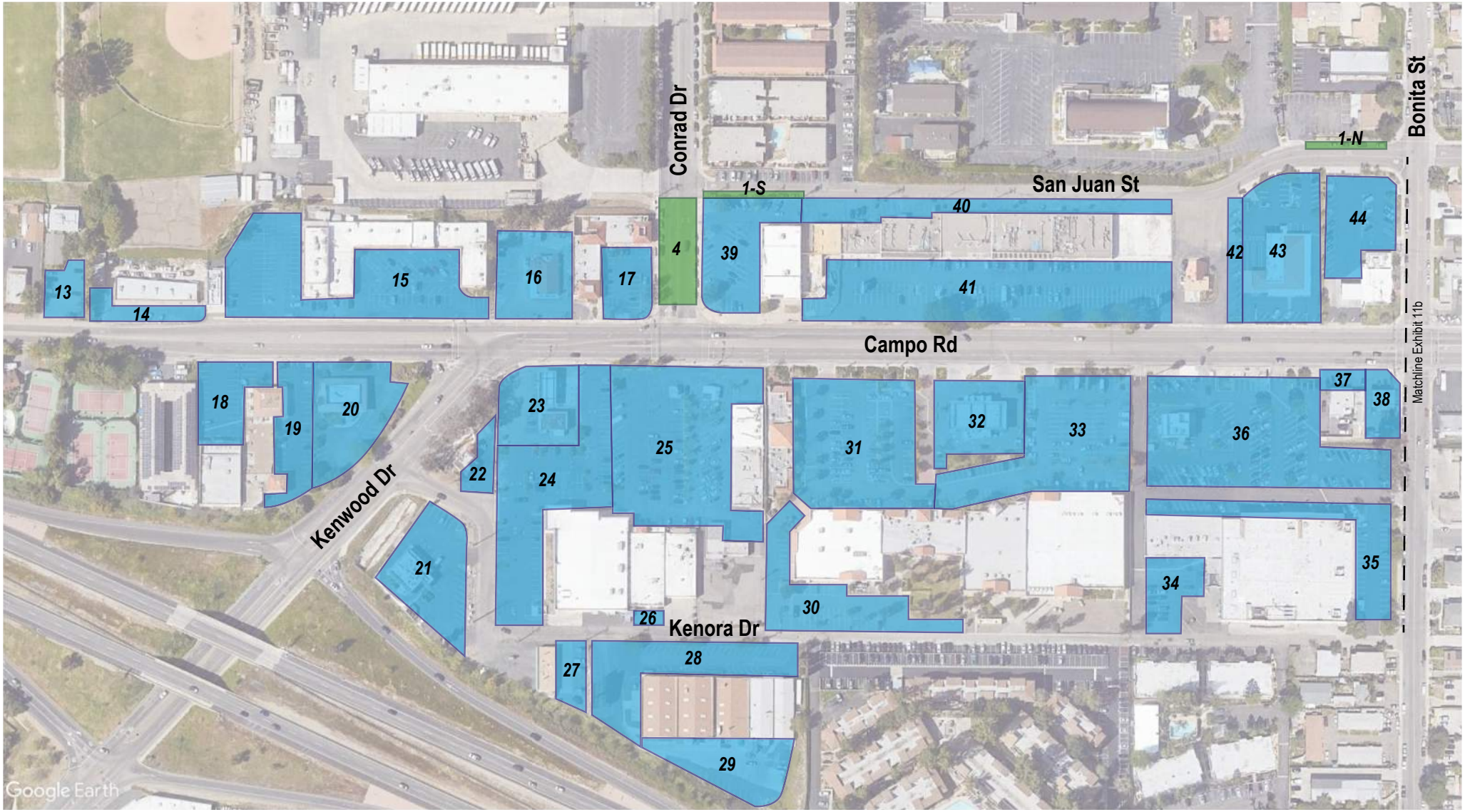
3.2.1 Parking Inventory

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

Not to Scale

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Parking Survey Zones
Area 1

Exhibit 11a

January 2020

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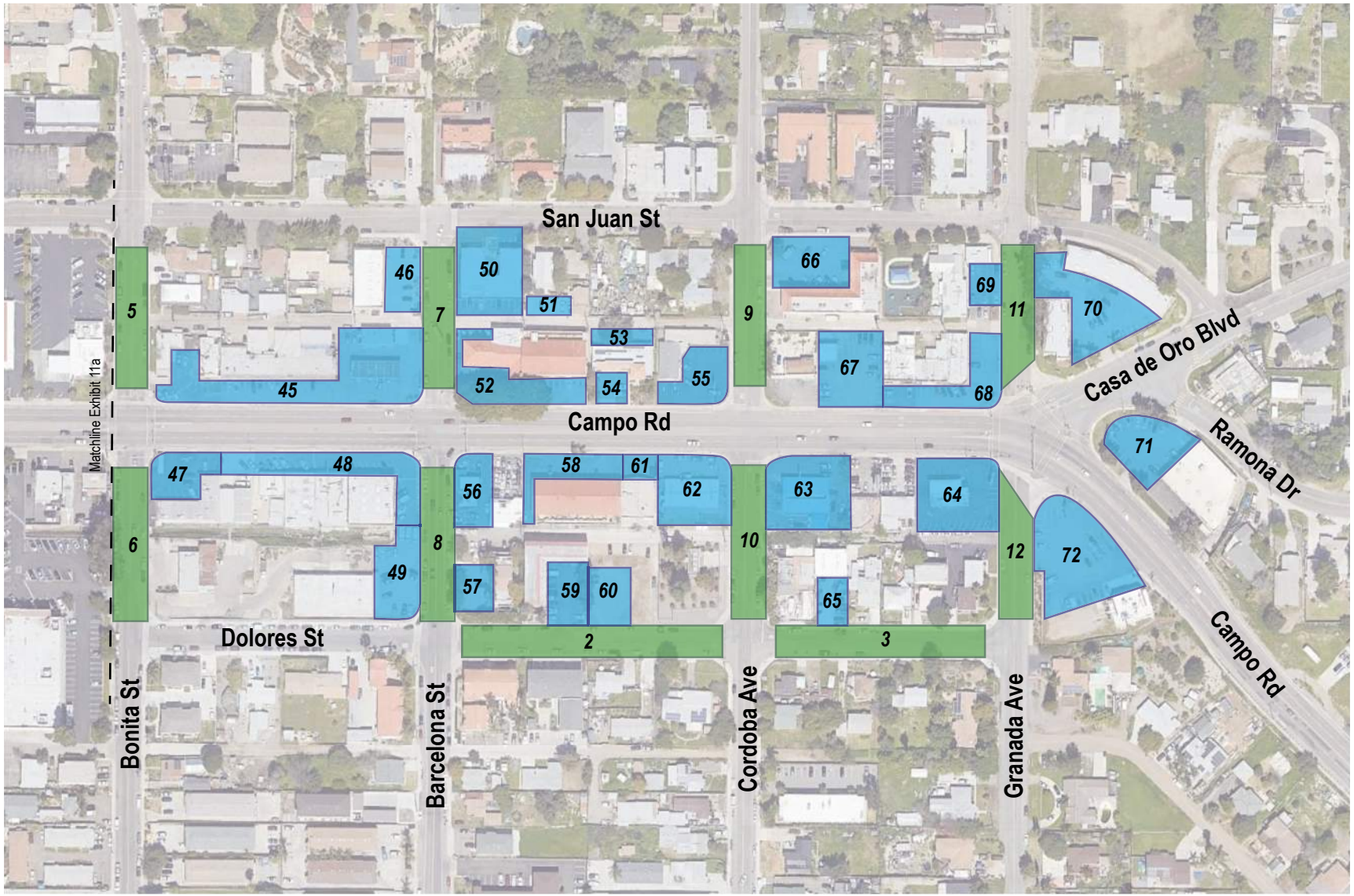

Legend

= On-Street Parking

= Off-Street Parking

= Parking Zone ID

Not to Scale

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Parking Survey Zones
Area 2

Exhibit 11b

January 2020

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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

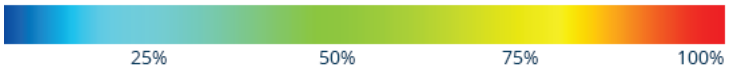
Parking	Inventory	Peak Occupancy (1)	Peak Utilization
On-Street	175	102	58.3%
Off-Street	1794	798	44.5%
Total	1,969	900	45.7%

(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



Not to Scale

Michael Baker INTERNATIONAL

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

Exhibit 12

January 2020
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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 actually 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 HORIZON YEAR 2035 WITH PROJECT TRAFFIC CONDITIONS

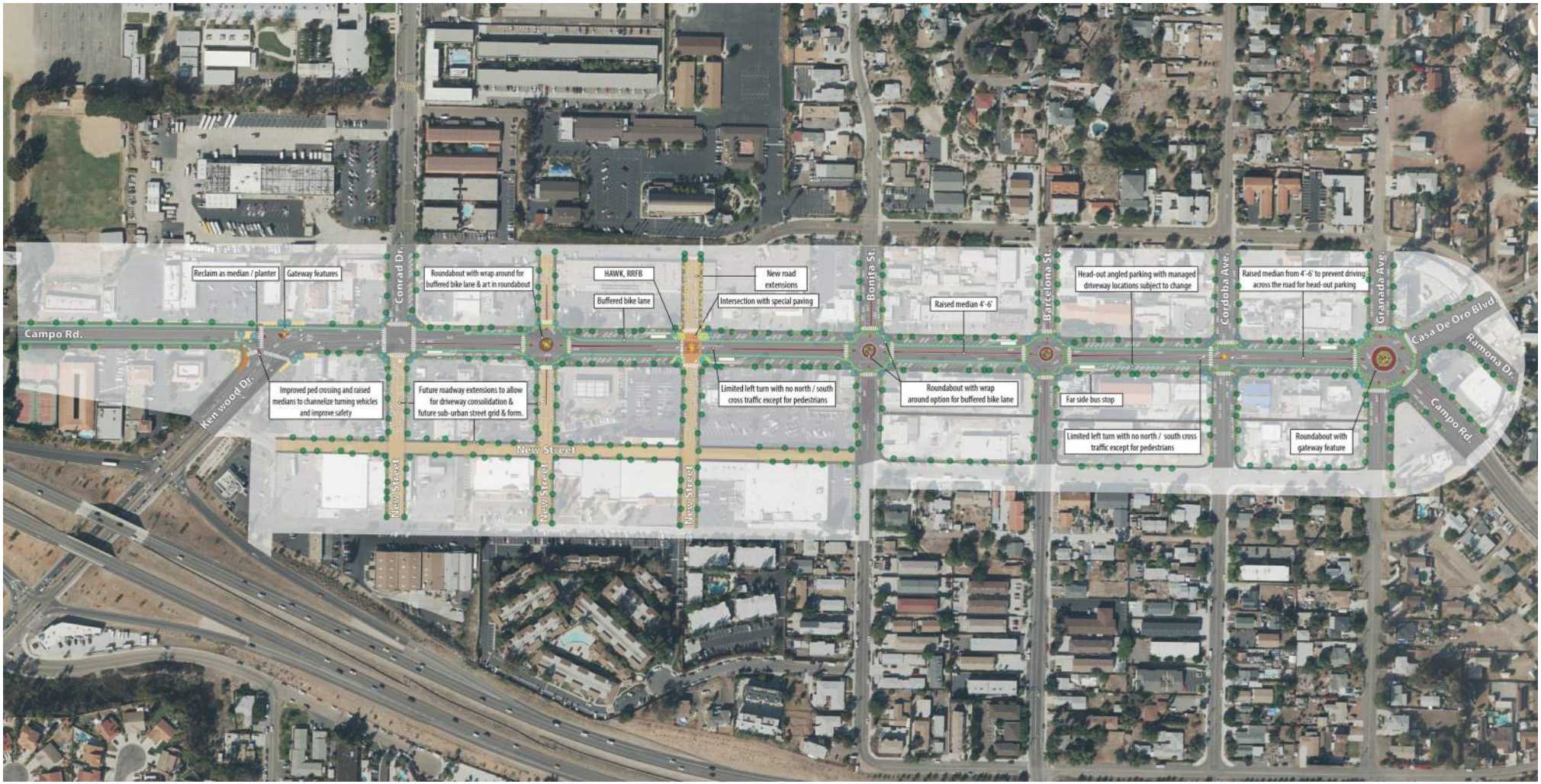
4.1 CASA DE ORO REVITLIZATION

The Campo Road Revitalization Specific Plan covers a 63-acre area (42 acres excluding roads and rights-of-way) centered on Campo Road between Rogers Road and Granada Avenue and serves as the commercial and civic center of the Casa de Oro community. The Specific Plan area primarily encompasses the commercial area extending one block north and south of Campo Road. The Specific Plan intends to transform Campo Road from "drive-through" to a walkable "main street" that is pedestrian-friendly, attractive, and efficient for all modes and becomes the center of the Casa de Oro community and a catalyst for future investment and development.

The proposed Casa De Oro Revitalization proposes to reduce Campo Road between Conrad Drive and Casa De Oro Boulevard / Granada Avenue from 4-lanes to 2-lanes, construct raised medians, provide buffered bike lanes, and construct on-street angled-parking. Additional improvements throughout the corridor include the following intersection modifications:

- Campo Road / Kenwood Drive – Provide improved pedestrian crossings and raised medians to channelize turning vehicles and improve safety
- Campo Road / Conrad Drive – Construct southern roadway extension (New Street A) between Campo Road and existing alley (Kenora Drive extension).
- Campo Road / New Road B – Construct new roadway (New Street B) between San Juan Street and existing alley (Kenora Drive extension). Construct new single-lane roundabout at the intersection with Campo Road.
- Campo Road / New Road C - Construct new roadway (New Street C) between San Juan Street and existing alley (Kenora Drive extension). Construct pedestrian crossing (HAWK or Pedestrian Signal) at the intersection to Campo Road. Northbound and southbound approaches will have restricted left-turn-movements and will be left/right-in and right-out only operations with stop controls on the minor street. Campo Road will have free movements through this intersection.
- Campo Road / Bonita Street – Remove existing signal and construct new single-lane roundabout. Provide improved pedestrian facilities.
- Campo Road / Barcelona Street – Remove existing signal and construct new single-lane roundabout. Provide improved pedestrian facilities.
- Campo Road / Cordoba Avenue – Construct a raised median through this intersection. Northbound and southbound approaches will have restricted left-turn-movements and will be left/right-in and right-out only operations with stop controls on the minor street. Campo Road will have free movements through this intersection.
- Campo Road / Casa De Oro Boulevard / Granada Avenue – Remove existing traffic signal and construct new modified single-lane roundabout with slip-lanes. Provide improved pedestrian facilities.

Exhibit 13 shows the proposed Campo Road Corridor Concept Plan.



Not to Scale

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Proposed Campo Road Corridor Concept Plan

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Exhibit 13

4.1.1 Horizon Year 2035 With Project Study Area

For the purposes of the Horizon Year 2035 With Project traffic conditions assessment, the study area was reduced to include the following intersection locations along the Campo Road study corridor:

4. Campo Road / Kenwood Drive
5. Campo Road / Conrad Drive
A. Campo Road / New Road A
B. Campo Road / New Road B (intersection alternative)
6. Campo Road / Bonita Street
7. Campo Road / Barcelona Street
8. Campo Road / Cordoba Avenue
9. Campo Road / Casa De Oro Boulevard / Granada Avenue

Exhibit 14 shows the intersection lane geometry shown in the proposed Campo Road corridor plan and assumed in this analysis.

Roadway segment level of service standards based on daily traffic volumes are generally used as long-range planning guidelines to determine the functional classification of roadways and are not always accurate indicators of roadway operations during the more critical peak periods.Typically, the performance and level of service of a roadway segment is heavily influenced by the ability of intersections to accommodate peak hour volumes. Therefore, peak hour signalized and un-signalized intersections within the study area are the focus of Horizon Year 2035 With Project traffic conditions assessment since intersections are most influential in controlling the movement of vehicles along road segments.

4.2 HORIZON YEAR 2035 WITH PROJECT TRAFFIC VOLUMES

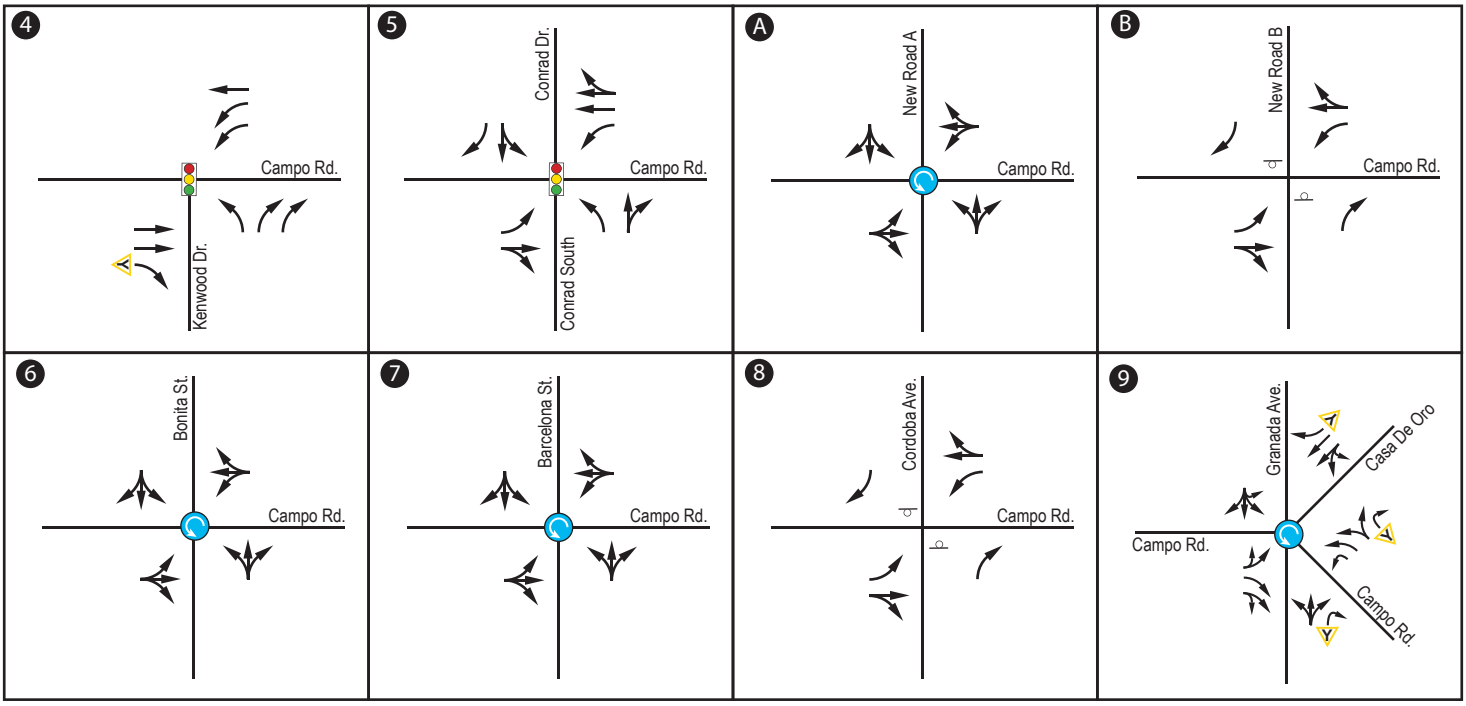
In order to derive baseline Horizon Year 2035 traffic volumes, the SANDAG Series 13 model daily traffic volumes available online at the Transportation Forecast Information Center (TFIC) were used to establish a forecast growth trend that was applied to existing traffic volumes. From the Series 13 model, a growth rate of 1.11% was calculated from the model baseline year 2016 to year 2025 and 0.77% from 2025 to 2035. These growth rates were applied to existing traffic volumes for 6 years (2019-2025) and 10 years (2025-2035) respectively to develop Horizon Year 2035 without project AM and PM peak hour volumes.

This traffic forecast methodology represents a conservative estimate of conditions with the currently proposed land use scenarios for the following reasons:

1. The SANDAG Series 13 model includes land use projections that are consistent with the previous Casa de Oro community plan and the previously approved land use plan proposed a significantly higher development density than the currently proposed land use concepts.
2. The year 2035 forecast likely reflects a development level that is less than build-out of the previously approved land use plan. Due to the higher development density reflected in the previous area land use plan, even a partial build out of that land use plan would likely represent development levels that are consistent with full build out of the currently proposed land use concepts.

Based on the proposed roadway network, traffic volumes were applied to New Street A, New Street B, and New Street C utilizing SANDAG trip generation rates, area travel patterns, and engineering judgement. In addition, the restricted left-turns at New Street C and Cordoba Avenue require vehicles to make a U-turn at the adjacent streets. This shift in traffic volumes were accounted for under Horizon Year 2035 With Project Conditions.

Exhibit 15 shows the AM and PM peak hour traffic volumes at the study intersections for Horizon Year 2035 With Project Conditions.



Legend

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

Horizon Year 2035 With Project Assumed Lane Geometry

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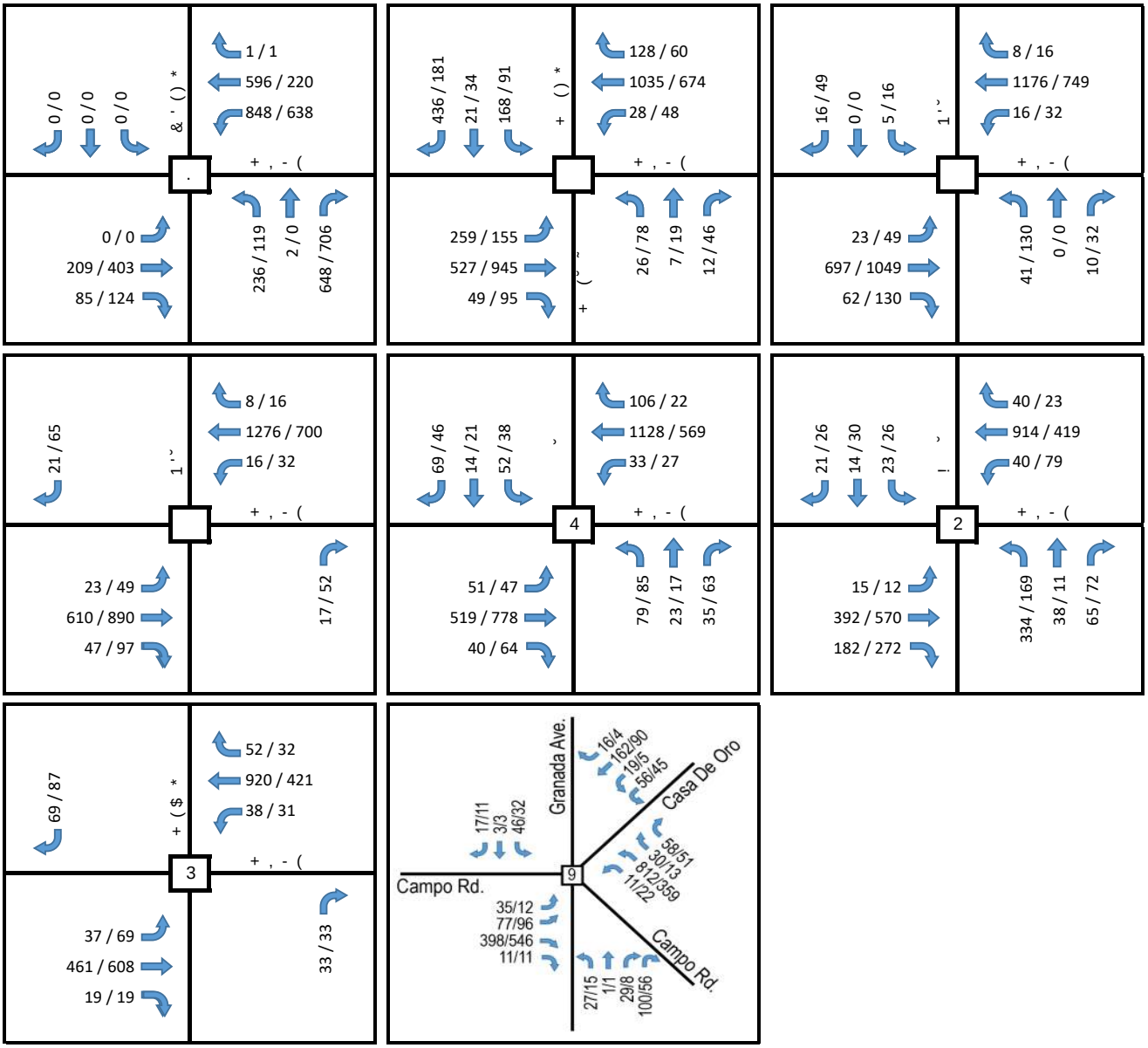
Exhibit 14



Notes:

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4.3 HORIZON YEAR 2035 WITH PROJECT INTERSECTION ANALYSIS

4.3.1 Preferred Campo Road Corridor Concept Plan

The Horizon Year 2035 With Project intersection analysis utilizes the same methodology as the Existing Conditions assessment which conforms to the operational analysis methodology outlined the *Highway Capacity Manual (HCM 6th Edition)* and performed utilizing *Synchro 10* and *Sidra 9* traffic analysis software.

Table 11 summarizes the Horizon Year 2035 With Project Conditions AM/PM peak hour level of service for all study intersections. Detailed analysis worksheets are contained in **Attachment G**.

TABLE 11 - HORIZON YEAR 2035 WITH PROJECT CONDITIONS AM/PM PEAK HOUR LOS

Study Intersection	Traffic Control	Horizon Year 2035 With Project	
		AM	PM
		Delay[1] - LOS	Delay[1] - LOS
4 - Campo Road / Kenwood Drive	Signal	17.5 - B	19.9 - B
5 - Campo Road / Conrad Drive	Signal	32.3 - C	20.8 - C
A - Campo Road / New Road A	ROBO	**56.8 - F**	**59.2 - F**
B - Campo Road / New Road B	TWSC	22.2 - C	12.3 - B
6 - Campo Road / Bonita Street	ROBO	**136.9 - F**	15.6 - C
7 - Campo Road / Barcelona Street	ROBO	**148.8 - F**	13.5 - B
8 - Campo Road / Cordoba Avenue	TWSC	28.8 - D	20.6 - C
9 - Campo Road / Granada Avenue / Casa de Oro Blvd	ROBO	32.6 - D	11.5 - B

Note: Deficient intersection operation indicated in **bold**.
[1] Average seconds of delay per vehicle.
LOS = level of service.
ROBO = Roundabout
TWSC = Two-Way Stop Control

4.4 SUMMARY & RECOMMENDATIONS

With the proposed corridor concept plan and the reduction to one travel lane in each direction, reduced crossing distance, lower vehicular speeds, and additional crosswalks, pedestrian safety and connectivity will be greatly improved. Reallocation of space dedicated to vehicular travel will create a more friendly bicycle community with the addition of buffered bike lanes and will also improve parking access by providing of on-street angled parking.

The results of the Horizon Year 2035 With Project peak hour intersection analysis shows all the study intersections will operate at acceptable levels of service (LOS D or better) with the exception of the following locations:

- Campo Road / New Road A (Roundabout) – LOS F during AM and PM peak hours
- Campo Road / Bonita Street (Roundabout) – LOS F during AM peak hour only
- Campo Road / Barcelona Street (Roundabout) – LOS F during AM peak hour only

The loss of a travel lane on Campo Road will have minimal operational affects in terms of vehicular delay except at some of the westerly located roundabouts where the traffic volumes are higher. While

roundabouts provide numerous benefits for all modes, the reported delay and slower vehicular speeds at the single lane entry roundabouts will also cause longer queues that may extend multiple blocks during peak periods. It should be noted that queueing at roundabouts tends to be dynamic vehicle queuing rather than stopped vehicle queuing. This means that the vehicles in the queue are moving at slow speeds and this type of delay is more tolerable to motorists than stopped delay.

Since the AM traffic patterns consist of a very short peak from 7:00 AM – 8:30 AM and most traffic at that time is comprised of commuters, we do not consider the peak period delays to be significant enough to offset the benefits to all modes offered by the roundabouts during non-peak periods. The PM peak period eastbound traffic peak is less pronounced and extends from 2:30 PM – 6:00 PM. It should be noted that the analysis does not consider the likely diversion of some peak hour commuter traffic shown on Campo Road to San Juan Street and the new east-west street south of Campo Road. This would reduce the peak westbound traffic flows and delay at the affected roundabouts. Additionally, there is an unknown impact of COVID-19 on "work from home" (telecommuting) trends in the future. It is evident that post-COVID-19 conditions will likely include an increase in telecommuting and a reduction in auto travel during the commuter peak hours.

The greatest concern shown in the analysis results is the forecast eastbound queuing on Campo Road at the approach to the proposed roundabout at New Street A during the PM peak hour. The analysis shows these queues will likely extend back into the Campo Road intersections and Conrad Drive and Kenwood Drive. The Kenwood Drive and Conrad Drive intersections serve the highest volumes of traffic along the Campo Road corridor and it is important to maintain adequate traffic flow at these intersections during peak periods.

Based on the operations analysis findings, it is recommended that the type of intersection traffic control at Street A include a non-roundabout alternative and the final intersection control selection be deferred to a later phase of corridor implementation. The alternative intersection configuration and control at Street A could be a Two-Way Stop intersection that only allows left turns from Campo Road onto New Street A (similar to that at New Street B). Once telecommuting trends have stabilized, forecast traffic during the PM peak can be re-visited and the preferred intersection control for Street A can be made.

The poor Level of Service during the AM peak hour at the Bonita Street and Barcelona Street roundabouts primarily affect westbound traffic flow and alternative travel routes are available. Our recommendation at this time is to maintain the roundabouts. If signals are considered by the County as the preferred traffic control for the plan in lieu of the roundabouts, the highest priority for a signal from an operational viewpoint, would be the Bonita Street intersection. This would still maintain two roundabouts at the east end of the corridor and would not mix roundabout and signal-controlled intersections east of Bonita Street. It is generally not desirable to place signals between closely spaced roundabouts due to vehicle queuing concerns.

4.4.1 Operational Assessment of Alternative Intersection Controls

The following proposed intersections that were found to operate at LOS F during one or both of the peak periods were analyzed with an alternative traffic control for comparison and consideration and the results are summarized in **Table 12**. The alternative traffic controls include the following:

- New Road A – Two-Way Stop Control with raised medians to restrict left-turns on the northbound and southbound approach. Similar to assumed controls at New Road B and Cordoba Avenue.
- Bonita Street – Signal control with dedicated left turn lanes on Campo Road and shared left/through/right-lanes on Bonita Street.
- Barcelona Street – Signal control with dedicated left turn lanes on Campo Road and shared left/through/right-lanes on Barcelona Street.

TABLE 12 HORIZON YEAR 2035 WITH PROJECT ALTERNATIVE INTERSECTION OPERATIONS

Study Intersection	Horizon Year 2035 With Project			Horizon Year 2035 With Project Intersection Control Alternatives		
	Traffic Control	AM Delay[1] - LOS	PM Delay[1] - LOS	Traffic Control	AM Delay[1] - LOS	PM Delay[1] - LOS
A - Campo Road / New Road A	ROBO	**56.8 - F**	**59.2 - F**	TWSC	25.1 - D	34.6 - D
6 - Campo Road / Bonita Street	ROBO	**136.9 - F**	15.6 - C	Signal	54.0 - D	18.8 - B
7 - Campo Road / Barcelona Street	ROBO	**148.8 - F**	13.5 - B	Signal	28.9 - C	21.3 - C

Note: Deficient intersection operation indicated in **bold**.
[1] Average seconds of delay per vehicle.
LOS = level of service.
ROBO = Roundabout
TWSC = Two-Way Stop Control

As shown, the alternative traffic controls are shown to be operating at improved levels of service (LOS D or better).

5 CONCLUSIONS

5.1 EXISTING CONDITIONS SUMMARY

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 ¾ 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 existing 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%.

5.2 HORIZON YEAR 2035 WITH PROJECT SUMMARY AND RECOMMENDATIONS

With the proposed corridor concept plan and the reduction to one travel lane in each direction, reduced crossing distance, lower vehicular speeds, and additional crosswalks, pedestrian safety and connectivity will be greatly improved. Reallocation of space dedicated to vehicular travel will create a more friendly bicycle community with the addition of buffered bike lanes and will also improve parking access by providing of on-street angled parking.

The results of the Horizon Year 2035 With Project peak hour intersection analysis shows all the study intersections will operate at acceptable levels of service (LOS D or better) with the exception of the following locations:

- Campo Road / New Road A (Roundabout) – LOS F during AM and PM peak hours
- Campo Road / Bonita Street (Roundabout) – LOS F during AM peak hour only
- Campo Road / Barcelona Street (Roundabout) – LOS F during AM peak hour only

These intersections were analyzed with an alternative traffic control for comparison and consideration and are shown to operate at improved levels of service (LOS D or better). The alternative traffic controls include the following:

- New Road A – Two-Way Stop Control with raised medians to restrict left-turns on the northbound and southbound approach. Similar to assumed controls at New Road B and Cordoba Avenue.
- Bonita Street – Signal control with dedicated left turn lanes on Campo Road and shared left/through/right-lanes on Bonita Street.
- Barcelona Street – Signal control with dedicated left turn lanes on Campo Road and shared left/through/right-lanes on Barcelona Street.

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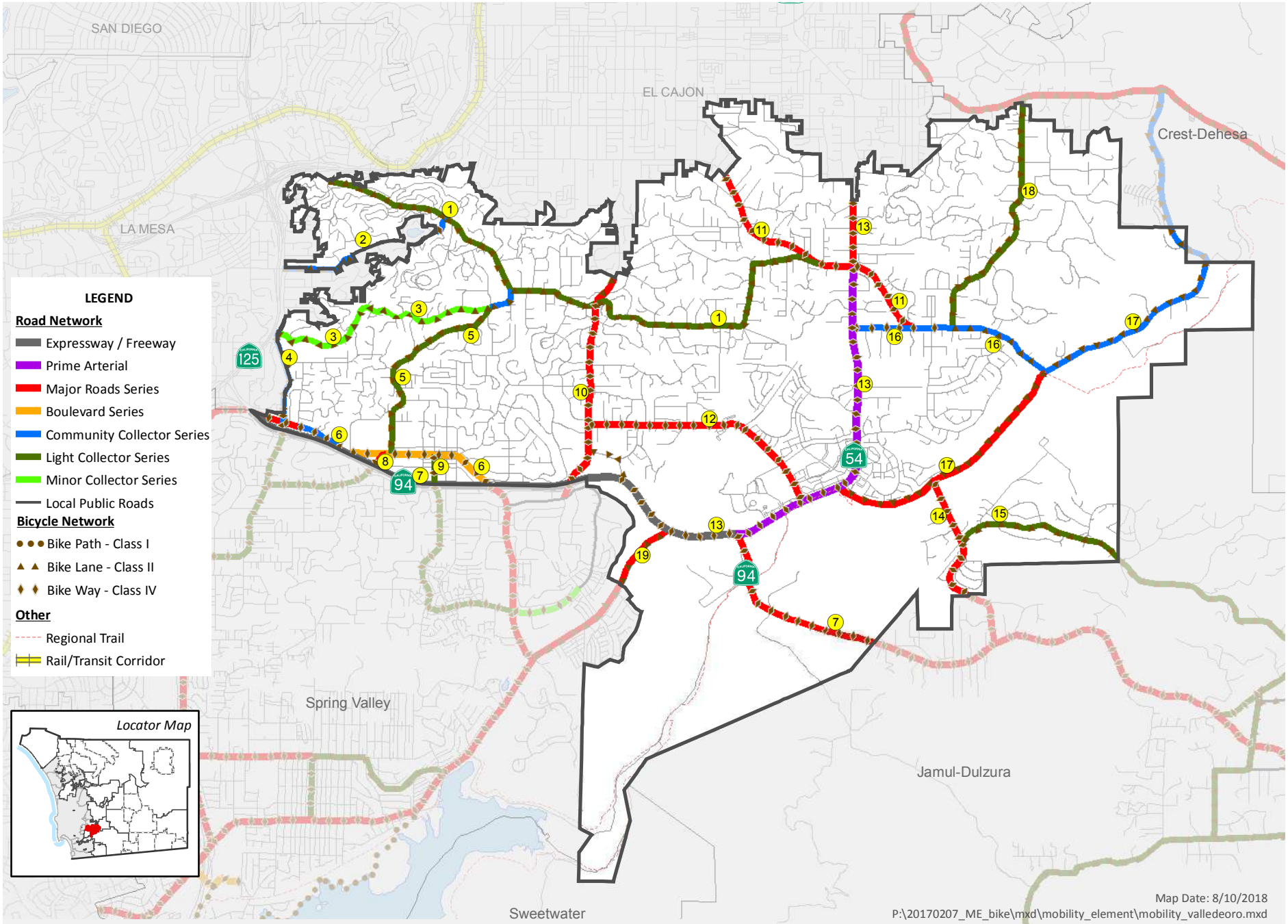
Attachment A: Mobility Element Network & Matrix



VALLE DE ORO MOBILITY ELEMENT NETWORK

Mobility Element Network—Valle de Oro Community Planning Area Matrix			
ID[a]	Road Segment	Designation/Improvement #.#X = [# of lanes].[roadway classification][improvement]	Special Circumstances
1	Fuerte Drive (SC 2111/SA 920/SC 2060) Segment: La Mesa city limits to Chase Avenue	2.2E Light Collector	Accepted at LOS E Segment: Bancroft Drive to Avocado Boulevard
2	Lemon Avenue (SA 930) Segment: SR-125 to Fuerte Drive	2.1E Community Collector	None
3	Edgewood Drive / Grandview Drive (SC 2115) Segment: Bancroft Drive to Fuerte Drive	2.3B Minor Collector Road Intermittent Turn Lanes—Bancroft Drive to Resmar Road 2.1E Community Collector Resmar Road to Fuerte Drive	None
4	Bancroft Drive Segment:SR-94 to Edgewood Drive	2.1C Community Collector Intermittent Turn Lanes	None
5	Conrad Drive /Resmar Road (SC 2125) Segment: Campo Road to Grandview Drive	2.2E Community Collector	None
6	Campo Road (SC 2118) Segment: La Mesa city limits to SR-94	4.1B Major Road Intermittent Turn Lanes—La Mesa city limits to Camino Paz 2.1C Community Collector Intermittent Turn Lanes—Camino Paz to Rodgers Road 4.2B Boulevard Intermittent Turn Lanes—Rodgers Road to SR-94	Accepted at LOS F Segment: Kenwood Drive to Conrad Drive
7	State Route 94/Campo Road Segment: La Mesa city limits to Jamul/Dulzura Subregion boundary	Freeway/6.1 Expressway La Mesa city limits to Jamacha Road 4.1A Major Road and Interchange with Jamacha Road Raised Median—Jamacha Road / SR-54 to Jamul CPA boundary	Caltrans Facilities Programming Improvements to a four-lane conventional highway programmed in the 2030 RTP (Unconstrained Revenue scenario) Recommended Improvement Ramps to Jamacha Road interchange
8	Kenwood Drive (SC 2122) Segment: SR- 94 to Campo Road	4.1B Major Road Intermittent Turn Lanes	None

Mobility Element Network—Valle de Oro Community Planning Area Matrix			
ID[a]	Road Segment	Designation/Improvement #.#X = [# of lanes].[roadway classification][improvement]	Special Circumstances
9	Barcelona Street (SC 2110) Segment: Campo Road to SR- 94	2.2E Light Collector Intersection Improvements	None
10	Avocado Boulevard (SF 1398) Segment: Spring Valley community boundary to El Cajon city limits	4.1B Major Road Intermittent Turn Lanes	None
11	Chase Avenue (SA 910.1) Segment: El Cajon city limits to Hillsdale Road	4.1B Major Road Intermittent Turn Lanes	None
12	Fury Lane (SC 2070/SA 921) Segment: Avocado Boulevard to Jamacha Road	4.1B Major Road Intermittent Turn Lanes—Avocado Boulevard to Wieghorst Way 4.1A Major Road Raised Median—Wieghorst Way to Jamacha Road	None
13	Jamacha Road (SF 1399) Segment: -SR-94 / Campo Road to El Cajon city limits	6.2 Prime Arterial SR 94/Campo Road to Chase Avenue 4.1A Major Road Raised Median—Chase Avenue to El Cajon city limits	Accepted at LOS F Segment: SR-94 / Campo Road to Fury Lane
14	Steele Canyon Road (SC 2050) Segment: Willow Glen Drive to Jamul/Dulzura Subregion boundary	4.1B Major Road Intermittent Turn Lanes	None
15	Jamul Drive (SC 2055) Segment: Steele Canyon Road to Jamul/Dulzura Subregion boundary	2.1C Light Collector Intermittent Turn Lanes	None
16	Hillsdale Road (SC 2030) Segment: Jamacha Road to Willow Glen Drive	2.1C Community Collector Intermittent Turn Lanes	None

Mobility Element Network—Valle de Oro Community Planning Area Matrix			
ID[a]	Road Segment	Designation/Improvement #.#X = [# of lanes].[roadway classification][improvement]	Special Circumstances
17	Willow Glen Drive (SF 1397) Segment: Jamacha Road to Camino de las Piedras	4.1B Major Road Intermittent Turn Lanes—Jamacha Road to Hillsdale Road 2.1D Community Collector Improvement Options [Unspecified Improvements}—Hillsdale Road to Camino de las Piedras	None
18	Vista Grande Road (SC 2030) Segment: Hillsdale Road to Dehesa Road	2.2E Light Collector	None
19	Jamacha Boulevard SF 1397) Segment: Spring Valley CPA boundary to SR-94 / Campo Road	4.1A Major Road Raised Median	Recommended Improvement Grade-separated interchange with SR-94/Campo Road

a. ID = Roadway segment on Figure M-A-22

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Attachment B:
Traffic Volume Count Data

Prepared by National Data & Surveying Services

CLASSIFICATION

Kenwood Dr Bet. SR-94 WB Ramps & Kenora Dr

Day: Tuesday
Date: 11/12/2019

City: Spring Valley
Project #: CA19_4443_001

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	123	22	0	1	0	0	0	0	0	0	0	0	146
01:00	0	60	6	0	0	0	0	0	0	0	0	0	0	66
02:00	0	46	6	0	0	1	0	0	0	0	0	0	0	53
03:00	0	38	11	0	0	0	0	0	0	0	0	0	0	49
04:00	0	130	26	0	4	0	0	0	0	0	0	0	0	160
05:00	0	385	78	1	11	0	0	0	0	0	0	0	0	475
06:00	0	720	136	1	22	1	0	0	0	0	0	0	0	880
07:00	0	1254	227	3	32	1	0	2	0	0	0	0	0	1519
08:00	0	1256	250	4	36	1	0	1	0	0	0	0	0	1548
09:00	0	898	200	2	27	1	0	0	0	0	0	0	0	1128
10:00	0	929	195	2	33	0	0	0	0	0	0	0	0	1159
11:00	1	945	200	1	32	0	0	0	0	0	0	0	0	1179
12:00 PM	2	1128	224	1	32	3	0	0	0	0	0	0	0	1390
13:00	1	1299	259	2	31	0	0	0	0	0	0	0	0	1592
14:00	0	1426	282	2	43	0	0	2	0	0	0	0	0	1755
15:00	1	1354	287	2	46	1	0	1	0	0	0	0	0	1692
16:00	0	1241	248	0	35	0	0	0	0	0	0	0	0	1524
17:00	0	1261	233	2	28	0	0	2	0	0	0	0	0	1526
18:00	0	1063	178	1	23	1	0	1	0	0	0	0	0	1267
19:00	0	778	134	0	15	0	0	0	0	0	0	0	0	927
20:00	0	629	110	0	14	0	0	0	0	0	0	0	0	753
21:00	0	500	85	0	8	0	0	0	0	0	0	0	0	593
22:00	0	325	53	0	9	0	0	0	0	0	0	0	0	387
23:00	0	190	29	0	4	0	0	0	0	0	0	0	0	223
Totals	5	17978	3479	24	486	10		9						21991
% of Totals	0%	82%	16%	0%	2%	0%		0%						100%

AM Volumes	1	6784	1357	14	198	5	0	3	0	0	0	0	0	8362
% AM	0%	31%	6%	0%	1%	0%		0%						38%
AM Peak Hour	11:00	08:00	08:00	08:00	08:00	02:00		07:00						08:00
Volume	1	1256	250	4	36	1		2						1548
PM Volumes	4	11194	2122	10	288	5	0	6	0	0	0	0	0	13629
% PM	0%	51%	10%	0%	1%	0%		0%						62%
PM Peak Hour	12:00	14:00	15:00	13:00	15:00	12:00		14:00						14:00
Volume	2	1426	287	2	46	3		2						1755

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	3067	↔	14%	2982	↔	14%	3050	↔	14%	12892	↔	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	To
	10,423	11,568	0	0	21,

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TO
00:00	26		19		0	0	45		12:00	158		173		0	0	331
00:15	27		11		0	0	38		12:15	165		173		0	0	338
00:30	23		23		0	0	46		12:30	162		183		0	0	345
00:45	10	86	7	60	0	0	17	146	12:45	203	688	173	702	0	0	376
01:00	10		13		0	0	23		13:00	161		262		0	0	423
01:15	10		8		0	0	18		13:15	143		239		0	0	382
01:30	8		3		0	0	11		13:30	177		209		0	0	386
01:45	10	38	4	28	0	0	14	66	13:45	200	681	201	911	0	0	401
02:00	6		4		0	0	10		14:00	204		222		0	0	426
02:15	4		4		0	0	8		14:15	215		239		0	0	454
02:30	11		16		0	0	27		14:30	215		248		0	0	463
02:45	5	26	3	27	0	0	8	53	14:45	193	827	219	928	0	0	412
03:00	6		7		0	0	13		15:00	188		233		0	0	421
03:15	5		5		0	0	10		15:15	205		247		0	0	452
03:30	5		11		0	0	16		15:30	204		212		0	0	416
03:45	5	21	5	28	0	0	10	49	15:45	187	784	216	908	0	0	403
04:00	8		14		0	0	22		16:00	197		164		0	0	361
04:15	11		25		0	0	36		16:15	195		194		0	0	389
04:30	12		36		0	0	48		16:30	196		197		0	0	393
04:45	19	50	35	110	0	0	54	160	16:45	187	775	194	749	0	0	381
05:00	22		51		0	0	73		17:00	196		203		0	0	399
05:15	29		70		0	0	99		17:15	192		192		0	0	384
05:30	43		85		0	0	128		17:30	191		184		0	0	375
05:45	56	150	119	325	0	0	175	475	17:45	194	773	174	753	0	0	368
06:00	78		128		0	0	206		18:00	174		154		0	0	328
06:15	74		133		0	0	207		18:15	173		164		0	0	337
06:30	90		128		0	0	218		18:30	162		151		0	0	313
06:45	119	361	130	519	0	0	249	880	18:45	133	642	156	625	0	0	289
07:00	124		194		0	0	318		19:00	132		118		0	0	250
07:15	154		167		0	0	321		19:15	130		129		0	0	259
07:30	227		195		0	0	422		19:30	113		102		0	0	215
07:45	225	730	233	789	0	0	458	1519	19:45	98	473	105	454	0	0	203
08:00	183		250		0	0	433		20:00	99		85		0	0	184
08:15	174		209		0	0	383		20:15	94		107		0	0	201
08:30	169		247		0	0	416		20:30	113		94		0	0	207
08:45	126	652	190	896	0	0	316	1548	20:45	80	386	81	367	0	0	161
09:00	134		151		0	0	285		21:00	88		77		0	0	165
09:15	135		127		0	0	262		21:15	82		63		0	0	145
09:30	107		173		0	0	280		21:30	94		65		0	0	159
09:45	146	522	155	606	0	0	301	1128	21:45	74	338	50	255	0	0	124
10:00	114		159		0	0	273		22:00	59		63		0	0	122
10:15	144		155		0	0	299		22:15	54		55		0	0	109
10:30	136		154		0	0	290		22:30	40		39		0	0	79
10:45	126	520	171	639	0	0	297	1159	22:45	38	191	39	196	0	0	77
11:00	135		160		0	0	295		23:00	41		37		0	0	78
11:15	137		146		0	0	283		23:15	30		21		0	0	51
11:30	153		137		0	0	290		23:30	27		22		0	0	49
11:45	154	579	157	600	0	0	311	1179	23:45	32	130	13	93	0	0	45
TOTALS		3735		4627				8362	TOTALS		6688		6941			
SPLIT %		44.7%		55.3%				38.0%	SPLIT %		49.1%		50.9%			

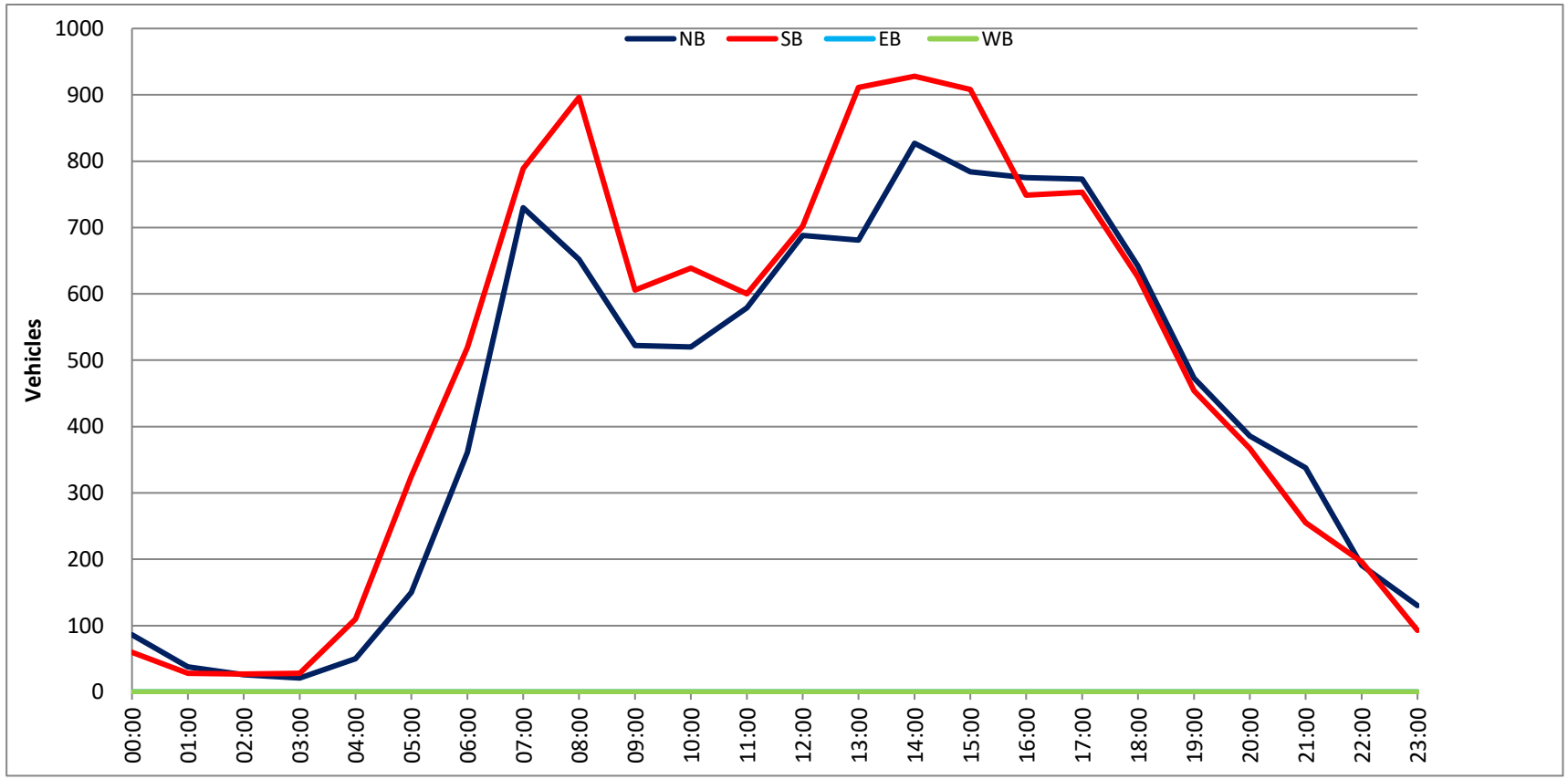
DAILY TOTALS	NB	SB	EB	WB	To
	10,423	11,568	0	0	21,

AM Peak Hour	07:30	07:45			07:30	PM Peak Hour	13:45	14:30		
AM Pk Volume	809	939			1696	PM Pk Volume	834	947		
Pk Hr Factor	0.891	0.939			0.926	Pk Hr Factor	0.970	0.955		
7 - 9 Volume	1382	1685	0	0	3067	4 - 6 Volume	1548	1502	0	0
7 - 9 Peak Hour	07:30	07:45			07:30	4 - 6 Peak Hour	16:00	16:15		
7 - 9 Pk Volume	809	939	0	0	1696	4 - 6 Pk Volume	775	788	0	0
Pk Hr Factor	0.891	0.939	0.000	0.000	0.926	Pk Hr Factor	0.984	0.970	0.000	0.000

Prepared by National Data & Surveying Services

Project #: CA19_4443_001 **City:** Spring Valley

Location: Kenwood Dr Bet. SR-94 WB Ramps & Kenora **Date:** 11/12/2019



Prepared by National Data & Surveying Services

CLASSIFICATION

Campo Rd Bet. Kenwood Dr & Conrad Dr

Day: Tuesday
Date: 11/12/2019

City: Spring Valley
Project #: CA19_4443_002

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	112	17	0	2	0	0	0	0	0	0	0	0	131
01:00	0	53	13	0	1	0	0	0	0	0	0	0	0	67
02:00	0	45	12	0	1	0	0	0	1	0	0	0	0	59
03:00	0	36	9	0	0	0	0	0	0	0	0	0	0	45
04:00	0	110	27	0	3	0	0	0	0	0	0	0	0	140
05:00	0	352	88	4	12	0	0	1	0	0	0	0	0	457
06:00	0	688	158	6	39	0	1	0	2	0	0	0	0	894
07:00	0	1370	278	9	52	4	0	0	0	0	0	0	0	1713
08:00	0	1419	293	6	57	0	0	1	2	0	0	0	0	1778
09:00	0	895	170	5	29	1	0	0	0	0	0	0	0	1100
10:00	0	976	186	6	35	1	0	1	2	0	0	0	0	1207
11:00	0	1017	198	6	39	1	0	1	0	0	0	0	0	1262
12:00 PM	0	1190	217	5	43	2	0	0	0	0	0	0	0	1457
13:00	0	1278	251	8	47	0	1	0	2	0	0	0	0	1587
14:00	0	1407	320	7	57	0	0	0	1	0	0	0	0	1792
15:00	0	1393	284	6	43	2	0	2	0	0	0	0	0	1730
16:00	0	1386	254	6	42	2	0	0	0	0	0	0	0	1690
17:00	0	1425	230	4	34	0	1	1	0	0	0	0	0	1695
18:00	0	1127	207	3	26	1	0	0	0	0	0	0	0	1364
19:00	0	805	141	2	20	0	0	1	2	0	0	0	0	971
20:00	0	621	105	2	13	1	0	0	0	0	0	0	0	742
21:00	0	496	65	2	13	0	0	0	0	0	0	0	0	576
22:00	0	307	48	2	5	0	0	0	0	0	0	0	0	362
23:00	0	200	30	0	5	0	0	0	0	0	0	0	0	235
Totals		18708	3601	89	618	15	3	8	12					23054
% of Totals		81%	16%	0%	3%	0%	0%	0%	0%					100%

AM Volumes	0	7073	1449	42	270	7	1	4	7	0	0	0	0	8853
% AM		31%	6%	0%	1%	0%	0%	0%	0%					38%
AM Peak Hour		08:00	08:00	07:00	08:00	07:00	06:00	05:00	06:00					08:00
Volume		1419	293	9	57	4	1	1	2					1778
PM Volumes	0	11635	2152	47	348	8	2	4	5	0	0	0	0	14201
% PM		50%	9%	0%	2%	0%	0%	0%	0%					62%
PM Peak Hour		17:00	14:00	13:00	14:00	12:00	13:00	15:00	13:00					14:00
Volume		1425	320	8	57	2	1	2	2					1792

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	3491	↔	15%	3044	↔	13%	3385	↔	15%	13134	↔	57%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	11,746	11,308	23,

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOT
00:00	0	0	26		17		43		12:00	0	0	199		156		355
00:15	0	0	22		8		30		12:15	0	0	207		146		353
00:30	0	0	23		19		42		12:30	0	0	194		148		342
00:45	0	0	10	81	6	50	16	131	12:45	0	0	241	841	166	616	407
01:00	0	0	14		12		26		13:00	0	0	182		243		425
01:15	0	0	12		7		19		13:15	0	0	145		231		376
01:30	0	0	8		5		13		13:30	0	0	209		168		377
01:45	0	0	7	41	2	26	9	67	13:45	0	0	224	760	185	827	409
02:00	0	0	11		5		16		14:00	0	0	229		185		414
02:15	0	0	9		4		13		14:15	0	0	240		231		471
02:30	0	0	9		11		20		14:30	0	0	263		216		479
02:45	0	0	5	34	5	25	10	59	14:45	0	0	250	982	178	810	428
03:00	0	0	9		6		15		15:00	0	0	228		193		421
03:15	0	0	2		3		5		15:15	0	0	254		196		450
03:30	0	0	8		7		15		15:30	0	0	239		178		417
03:45	0	0	6	25	4	20	10	45	15:45	0	0	251	972	191	758	442
04:00	0	0	8		15		23		16:00	0	0	254		177		431
04:15	0	0	13		21		34		16:15	0	0	250		186		436
04:30	0	0	12		29		41		16:30	0	0	230		195		425
04:45	0	0	16	49	26	91	42	140	16:45	0	0	224	958	174	732	398
05:00	0	0	23		51		74		17:00	0	0	261		182		443
05:15	0	0	32		64		96		17:15	0	0	242		171		413
05:30	0	0	42		77		119		17:30	0	0	229		190		419
05:45	0	0	59	156	109	301	168	457	17:45	0	0	259	991	161	704	420
06:00	0	0	75		131		206		18:00	0	0	217		146		363
06:15	0	0	66		128		194		18:15	0	0	229		159		388
06:30	0	0	76		150		226		18:30	0	0	194		121		315
06:45	0	0	110	327	158	567	268	894	18:45	0	0	163	803	135	561	298
07:00	0	0	97		237		334		19:00	0	0	165		115		280
07:15	0	0	129		255		384		19:15	0	0	150		115		265
07:30	0	0	204		270		474		19:30	0	0	130		96		226
07:45	0	0	211	641	310	1072	521	1713	19:45	0	0	117	562	83	409	200
08:00	0	0	174		326		500		20:00	0	0	104		83		187
08:15	0	0	156		331		487		20:15	0	0	109		73		182
08:30	0	0	157		305		462		20:30	0	0	119		82		201
08:45	0	0	118	605	211	1173	329	1778	20:45	0	0	101	433	71	309	172
09:00	0	0	116		156		272		21:00	0	0	93		76		169
09:15	0	0	143		121		264		21:15	0	0	93		56		149
09:30	0	0	122		157		279		21:30	0	0	90		59		149
09:45	0	0	146	527	139	573	285	1100	21:45	0	0	70	346	39	230	109
10:00	0	0	128		146		274		22:00	0	0	67		45		112
10:15	0	0	172		148		320		22:15	0	0	55		45		100
10:30	0	0	146		164		310		22:30	0	0	49		35		84
10:45	0	0	147	593	156	614	303	1207	22:45	0	0	38	209	28	153	66
11:00	0	0	143		154		297		23:00	0	0	45		29		74
11:15	0	0	169		148		317		23:15	0	0	37		19		56
11:30	0	0	158		132		290		23:30	0	0	30		30		60
11:45	0	0	198	668	160	594	358	1262	23:45	0	0	30	142	15	93	45
TOTALS				3747		5106		8853	TOTALS				7999		6202	
SPLIT %				42.3%		57.7%		38.4%	SPLIT %				56.3%		43.7%	

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	11,746	11,308	23,

AM Peak Hour			11:45	07:45	07:30	PM Peak Hour			15:15	13:00
AM Pk Volume			798	1272	1982	PM Pk Volume			998	827
Pk Hr Factor			0.964	0.961	0.951	Pk Hr Factor			0.982	0.851
7 - 9 Volume	0	0	1246	2245	3491	4 - 6 Volume	0	0	1949	1436
7 - 9 Peak Hour			07:30	07:45	07:30	4 - 6 Peak Hour			17:00	16:15
7 - 9 Pk Volume	0	0	745	1272	1982	4 - 6 Pk Volume	0	0	991	737
Pk Hr Factor	0.000	0.000	0.883	0.961	0.951	Pk Hr Factor	0.000	0.000	0.949	0.945

Prepared by National Data & Surveying Services

Project #: CA19_4443_002 **City:** Spring Valley

Location: Campo Rd Bet. Kenwood Dr & Conrad Dr **Date:** 11/12/2019

Prepared by National Data & Surveying Services

CLASSIFICATION

Campo Rd 250' E/O Conrad Dr

Day: Tuesday
Date: 11/12/2019

City: Spring Valley
Project #: CA19_4443_003

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	106	11	0	0	0	0	0	0	0	0	0	0	117
01:00	0	59	9	0	1	0	0	0	0	0	0	0	0	69
02:00	0	46	10	0	1	0	0	0	0	0	0	0	0	57
03:00	0	37	7	0	0	0	0	0	0	0	0	0	0	44
04:00	0	80	17	0	1	0	0	0	0	0	0	0	0	98
05:00	0	274	53	4	3	0	0	0	0	0	0	0	0	334
06:00	2	594	95	10	21	1	0	1	0	0	0	0	0	724
07:00	1	1154	182	9	24	4	0	0	0	0	0	0	0	1374
08:00	6	1138	166	8	29	2	0	0	4	0	0	0	0	1353
09:00	0	765	109	4	18	2	0	0	0	0	0	0	0	898
10:00	0	831	122	6	22	2	0	1	1	0	0	0	0	985
11:00	0	883	126	6	21	0	0	0	0	0	0	0	0	1036
12:00 PM	3	1014	135	10	23	2	0	0	0	0	0	0	0	1187
13:00	1	1045	146	7	31	1	0	0	1	0	0	0	0	1232
14:00	0	1221	206	10	36	1	0	2	1	0	0	0	0	1477
15:00	1	1206	176	4	22	3	0	0	0	0	0	0	0	1412
16:00	0	1229	179	6	25	4	0	0	0	0	0	0	0	1443
17:00	0	1277	151	4	23	0	0	0	0	0	0	0	0	1455
18:00	2	1014	134	3	15	1	0	0	0	0	0	0	0	1169
19:00	0	730	106	2	10	0	0	0	0	0	0	0	0	848
20:00	0	573	74	2	6	1	0	0	0	0	0	0	0	656
21:00	0	462	46	2	11	0	0	0	0	0	0	0	0	521
22:00	0	300	32	2	3	0	0	0	0	0	0	0	0	337
23:00	0	187	17	0	3	0	0	0	0	0	0	0	0	207
Totals	16	16225	2309	99	349	24		4	7					19033
% of Totals	0%	85%	12%	1%	2%	0%		0%	0%					100%

AM Volumes	9	5967	907	47	141	11	0	2	5	0	0	0	0	7089
% AM	0%	31%	5%	0%	1%	0%		0%	0%					37%
AM Peak Hour	08:00	07:00	07:00	06:00	08:00	07:00		06:00	08:00					07:00
Volume	6	1154	182	10	29	4		1	4					1374
PM Volumes	7	10258	1402	52	208	13	0	2	2	0	0	0	0	11944
% PM	0%	54%	7%	0%	1%	0%		0%	0%					63%
PM Peak Hour	12:00	17:00	14:00	12:00	14:00	16:00		14:00	13:00					14:00
Volume	3	1277	206	10	36	4		2	1					1477

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2727	↔	14%	2419	↔	13%	2898	↔	15%	10989	↔	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	9,944	9,089	19,

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOT
00:00	0	0	25		16		41		12:00	0	0	167		136		303
00:15	0	0	19		9		28		12:15	0	0	173		121		294
00:30	0	0	17		17		34		12:30	0	0	150		123		273
00:45	0	0	7	68	7	49	14	117	12:45	0	0	190	680	127	507	317
01:00	0	0	12		12		24		13:00	0	0	160		193		353
01:15	0	0	9		7		16		13:15	0	0	121		169		290
01:30	0	0	10		4		14		13:30	0	0	164		139		303
01:45	0	0	11	42	4	27	15	69	13:45	0	0	154	599	132	633	286
02:00	0	0	8		6		14		14:00	0	0	176		155		331
02:15	0	0	5		3		8		14:15	0	0	213		164		377
02:30	0	0	10		13		23		14:30	0	0	237		160		397
02:45	0	0	8	31	4	26	12	57	14:45	0	0	226	852	146	625	372
03:00	0	0	9		3		12		15:00	0	0	181		155		336
03:15	0	0	2		3		5		15:15	0	0	209		152		361
03:30	0	0	9		6		15		15:30	0	0	223		125		348
03:45	0	0	8	28	4	16	12	44	15:45	0	0	209	822	158	590	367
04:00	0	0	4		9		13		16:00	0	0	216		152		368
04:15	0	0	10		13		23		16:15	0	0	229		153		382
04:30	0	0	9		22		31		16:30	0	0	195		150		345
04:45	0	0	13	36	18	62	31	98	16:45	0	0	208	848	140	595	348
05:00	0	0	18		35		53		17:00	0	0	232		140		372
05:15	0	0	25		46		71		17:15	0	0	201		135		336
05:30	0	0	28		53		81		17:30	0	0	223		155		378
05:45	0	0	43	114	86	220	129	334	17:45	0	0	236	892	133	563	369
06:00	0	0	49		103		152		18:00	0	0	184		117		301
06:15	0	0	43		108		151		18:15	0	0	190		138		328
06:30	0	0	72		128		200		18:30	0	0	155		108		263
06:45	0	0	82	246	139	478	221	724	18:45	0	0	160	689	117	480	277
07:00	0	0	75		202		277		19:00	0	0	149		99		248
07:15	0	0	100		211		311		19:15	0	0	135		108		243
07:30	0	0	143		236		379		19:30	0	0	112		81		193
07:45	0	0	170	488	237	886	407	1374	19:45	0	0	98	494	66	354	164
08:00	0	0	134		258		392		20:00	0	0	97		78		175
08:15	0	0	137		211		348		20:15	0	0	98		64		162
08:30	0	0	150		196		346		20:30	0	0	103		63		166
08:45	0	0	111	532	156	821	267	1353	20:45	0	0	97	395	56	261	153
09:00	0	0	95		120		215		21:00	0	0	85		68		153
09:15	0	0	113		110		223		21:15	0	0	80		47		127
09:30	0	0	89		132		221		21:30	0	0	95		48		143
09:45	0	0	121	418	118	480	239	898	21:45	0	0	65	325	33	196	98
10:00	0	0	100		128		228		22:00	0	0	62		38		100
10:15	0	0	147		132		279		22:15	0	0	49		44		93
10:30	0	0	116		126		242		22:30	0	0	47		35		82
10:45	0	0	126	489	110	496	236	985	22:45	0	0	41	199	21	138	62
11:00	0	0	103		133		236		23:00	0	0	42		27		69
11:15	0	0	137		129		266		23:15	0	0	28		21		49
11:30	0	0	141		114		255		23:30	0	0	30		21		51
11:45	0	0	152	533	127	503	279	1036	23:45	0	0	24	124	14	83	38
TOTALS				3025		4064		7089	TOTALS				6919		5025	
SPLIT %				42.7%		57.3%		37.2%	SPLIT %				57.9%		42.1%	

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	9,944	9,089	19,

AM Peak Hour			11:45	07:15	07:30	PM Peak Hour			17:00	13:00
AM Pk Volume			642	942	1526	PM Pk Volume			892	633
Pk Hr Factor			0.928	0.913	0.937	Pk Hr Factor			0.945	0.820
7 - 9 Volume	0	0	1020	1707	2727	4 - 6 Volume	0	0	1740	1158
7 - 9 Peak Hour			07:45	07:15	07:30	4 - 6 Peak Hour			17:00	16:00
7 - 9 Pk Volume	0	0	591	942	1526	4 - 6 Pk Volume	0	0	892	595
Pk Hr Factor	0.000	0.000	0.869	0.913	0.937	Pk Hr Factor	0.000	0.000	0.945	0.972

Prepared by National Data & Surveying Services

Project #: CA19_4443_003 **City:** Spring Valley

Location: Campo Rd 250' E/O Conrad Dr **Date:** 11/12/2019

Prepared by National Data & Surveying Services

CLASSIFICATION

Campo Rd Bet. Bonita St & Barcelona St

Day: Tuesday
Date: 11/12/2019

City: Spring Valley
Project #: CA19_4443_004

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	98	10	0	1	0	0	0	0	0	0	0	0	109
01:00	0	55	4	0	0	0	0	0	0	0	0	0	0	59
02:00	0	40	5	0	1	0	0	0	0	0	0	0	0	46
03:00	0	36	7	0	0	0	0	0	0	0	0	0	0	43
04:00	0	57	7	0	1	0	0	0	0	0	0	0	0	65
05:00	0	212	33	2	3	0	0	0	0	0	0	0	0	250
06:00	1	470	60	9	14	2	0	0	2	0	0	0	0	558
07:00	1	1103	134	6	20	4	0	0	0	0	0	0	0	1268
08:00	1	1233	151	5	25	0	0	2	3	0	0	0	0	1420
09:00	1	733	99	5	11	0	0	1	0	0	0	0	0	850
10:00	0	763	109	4	17	1	0	0	2	0	0	0	0	896
11:00	1	857	94	4	22	1	0	1	0	0	0	0	0	980
12:00 PM	3	907	126	6	20	1	0	0	0	0	0	0	0	1063
13:00	1	1020	125	7	21	2	0	0	2	0	0	0	0	1178
14:00	0	1117	161	8	20	2	0	0	0	0	0	0	0	1308
15:00	0	1118	130	4	13	1	0	0	0	0	0	0	0	1266
16:00	2	1119	142	6	15	2	0	0	1	0	0	0	0	1287
17:00	0	1118	112	4	13	0	0	0	0	0	0	0	0	1247
18:00	2	926	95	3	9	1	0	0	0	0	0	0	0	1036
19:00	0	636	65	2	9	0	0	0	0	0	0	0	0	712
20:00	0	496	44	2	5	0	0	0	0	0	0	0	0	547
21:00	0	382	32	2	0	0	0	0	0	0	0	0	0	416
22:00	0	245	20	2	0	0	0	0	0	0	0	0	0	267
23:00	0	161	13	0	2	0	0	0	0	0	0	0	0	176
Totals	13	14902	1778	81	242	17		4	10					17047
% of Totals	0%	87%	10%	0%	1%	0%		0%	0%					100%

AM Volumes	5	5657	713	35	115	8	0	4	7	0	0	0	0	6544
% AM	0%	33%	4%	0%	1%	0%		0%	0%					38%
AM Peak Hour	06:00	08:00	08:00	06:00	08:00	07:00		08:00	08:00					08:00
Volume	1	1233	151	9	25	4		2	3					1420
PM Volumes	8	9245	1065	46	127	9	0	0	3	0	0	0	0	10503
% PM	0%	54%	6%	0%	1%	0%			0%					62%
PM Peak Hour	12:00	16:00	14:00	14:00	13:00	13:00			13:00					14:00
Volume	3	1119	161	8	21	2			2					1308

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2688	↔	16%	2241	↔	13%	2534	↔	15%	9584	↔	56%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	8,649	8,398	17,

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TO
00:00	0	0	20		18		38		12:00	0	0	148		120		268
00:15	0	0	17		9		26		12:15	0	0	149		122		271
00:30	0	0	16		11		27		12:30	0	0	131		112		243
00:45	0	0	9	62	9	47	18	109	12:45	0	0	170	598	111	465	281
01:00	0	0	11		9		20		13:00	0	0	153		199		352
01:15	0	0	7		5		12		13:15	0	0	126		157		283
01:30	0	0	9		4		13		13:30	0	0	153		138		291
01:45	0	0	9	36	5	23	14	59	13:45	0	0	119	551	133	627	252
02:00	0	0	7		7		14		14:00	0	0	152		159		311
02:15	0	0	5		3		8		14:15	0	0	187		162		349
02:30	0	0	7		10		17		14:30	0	0	187		133		320
02:45	0	0	4	23	3	23	7	46	14:45	0	0	203	729	125	579	328
03:00	0	0	6		0		6		15:00	0	0	184		149		333
03:15	0	0	6		4		10		15:15	0	0	198		138		336
03:30	0	0	9		5		14		15:30	0	0	191		112		303
03:45	0	0	6	27	7	16	13	43	15:45	0	0	170	743	124	523	294
04:00	0	0	4		4		8		16:00	0	0	190		137		327
04:15	0	0	8		10		18		16:15	0	0	200		142		342
04:30	0	0	5		14		19		16:30	0	0	176		126		302
04:45	0	0	7	24	13	41	20	65	16:45	0	0	188	754	128	533	316
05:00	0	0	12		27		39		17:00	0	0	198		130		328
05:15	0	0	13		39		52		17:15	0	0	180		109		289
05:30	0	0	16		44		60		17:30	0	0	199		141		340
05:45	0	0	25	66	74	184	99	250	17:45	0	0	177	754	113	493	290
06:00	0	0	30		77		107		18:00	0	0	152		107		259
06:15	0	0	27		93		120		18:15	0	0	165		112		277
06:30	0	0	59		87		146		18:30	0	0	152		99		251
06:45	0	0	64	180	121	378	185	558	18:45	0	0	146	615	103	421	249
07:00	0	0	67		176		243		19:00	0	0	117		81		198
07:15	0	0	85		200		285		19:15	0	0	120		85		205
07:30	0	0	107		226		333		19:30	0	0	107		66		173
07:45	0	0	159	418	248	850	407	1268	19:45	0	0	86	430	50	282	136
08:00	0	0	129		344		473		20:00	0	0	81		61		142
08:15	0	0	120		273		393		20:15	0	0	91		54		145
08:30	0	0	130		188		318		20:30	0	0	93		46		139
08:45	0	0	93	472	143	948	236	1420	20:45	0	0	77	342	44	205	121
09:00	0	0	85		119		204		21:00	0	0	73		49		122
09:15	0	0	101		107		208		21:15	0	0	66		36		102
09:30	0	0	82		117		199		21:30	0	0	72		34		106
09:45	0	0	106	374	133	476	239	850	21:45	0	0	53	264	33	152	86
10:00	0	0	101		105		206		22:00	0	0	56		29		85
10:15	0	0	125		116		241		22:15	0	0	39		32		71
10:30	0	0	98		140		238		22:30	0	0	35		22		57
10:45	0	0	109	433	102	463	211	896	22:45	0	0	40	170	14	97	54
11:00	0	0	100		124		224		23:00	0	0	33		17		50
11:15	0	0	117		127		244		23:15	0	0	28		18		46
11:30	0	0	126		121		247		23:30	0	0	22		22		44
11:45	0	0	137	480	128	500	265	980	23:45	0	0	21	104	15	72	36
TOTALS				2595		3949		6544	TOTALS				6054		4449	
SPLIT %				39.7%		60.3%		38.4%	SPLIT %				57.6%		42.4%	

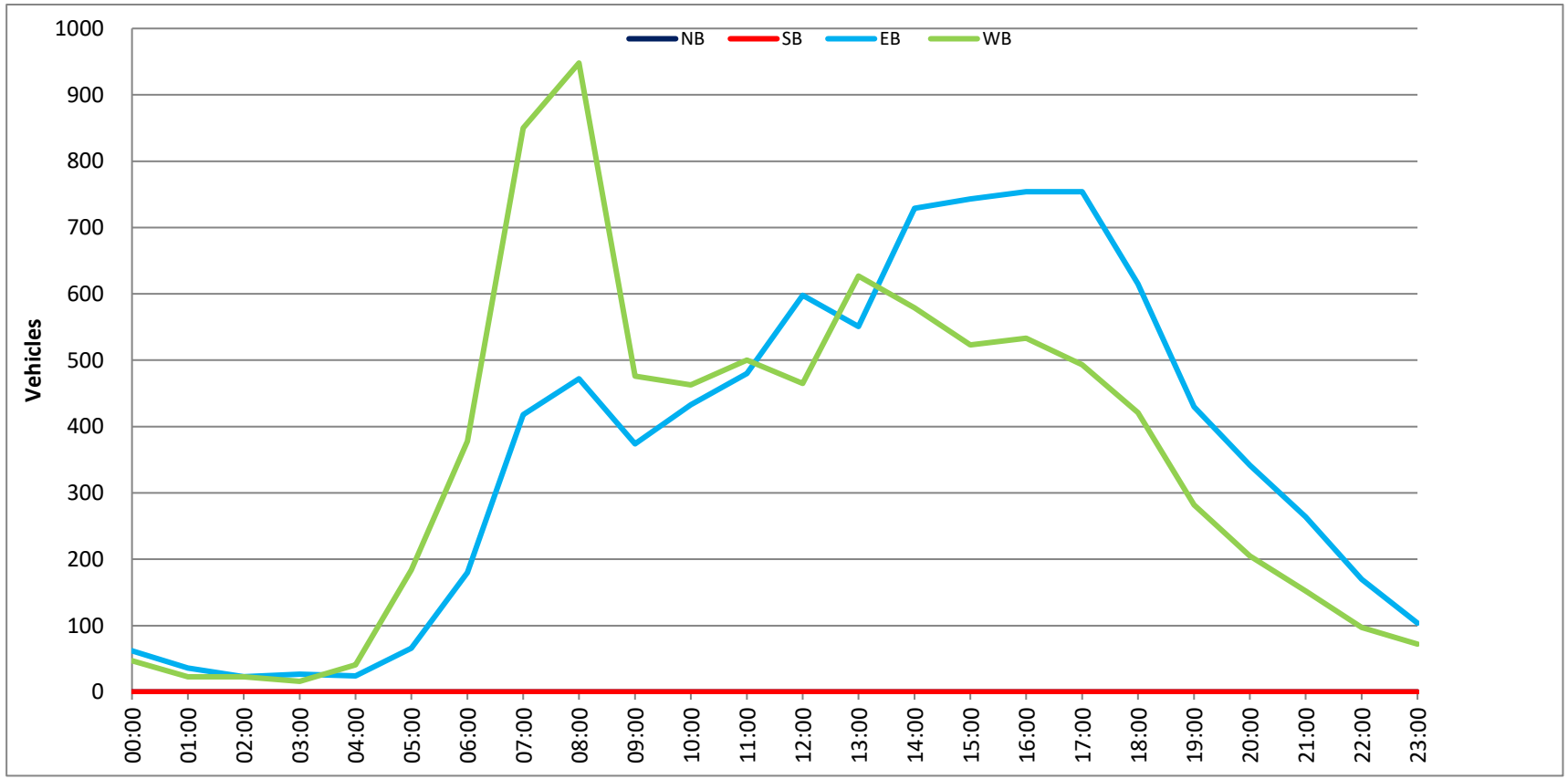
DAILY TOTALS	NB	SB	EB	WB	To
	0	0	8,649	8,398	17,

AM Peak Hour			11:45	07:30	07:30	PM Peak Hour			14:45	13:00
AM Pk Volume			565	1091	1606	PM Pk Volume			776	627
Pk Hr Factor			0.948	0.793	0.849	Pk Hr Factor			0.956	0.788
7 - 9 Volume	0	0	890	1798	2688	4 - 6 Volume	0	0	1508	1026
7 - 9 Peak Hour			07:45	07:30	07:30	4 - 6 Peak Hour			16:45	16:00
7 - 9 Pk Volume	0	0	538	1091	1606	4 - 6 Pk Volume	0	0	765	533
Pk Hr Factor	0.000	0.000	0.846	0.793	0.849	Pk Hr Factor	0.000	0.000	0.961	0.938

Prepared by National Data & Surveying Services

Project #: CA19_4443_004 **City:** Spring Valley

Location: Campo Rd Bet. Bonita St & Barcelona St **Date:** 11/12/2019



Prepared by National Data & Surveying Services

CLASSIFICATION

Campo Rd Bet. Cordoba Ave & Granada Ave & Casa De Oro Blvd

Day: Tuesday
Date: 11/12/2019

City: Spring Valley
Project #: CA19_4443_005e

East Bound

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	48	2	0	0	0	0	0	0	0	0	0	0	50
01:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15
02:00	0	8	3	0	1	0	0	0	0	0	0	0	0	12
03:00	0	14	5	0	0	0	0	0	0	0	0	0	0	19
04:00	0	33	3	0	1	0	0	0	0	0	0	0	0	37
05:00	0	63	15	0	0	0	0	0	0	0	0	0	0	78
06:00	0	173	26	4	2	1	0	0	0	0	0	0	0	206
07:00	1	293	39	3	7	2	0	0	0	0	0	0	0	345
08:00	0	350	45	2	3	0	0	3	0	0	0	0	0	403
09:00	2	241	37	3	1	0	0	1	0	0	0	0	0	285
10:00	0	291	45	2	6	3	0	0	0	0	0	0	0	347
11:00	0	332	43	2	6	0	0	0	0	0	0	0	0	383
12:00 PM	0	377	47	4	6	0	0	0	0	0	0	0	0	434
13:00	0	377	59	3	8	1	0	0	0	0	0	0	0	448
14:00	0	473	59	2	7	0	0	0	0	0	0	0	0	541
15:00	0	496	56	2	8	0	0	0	0	0	0	0	0	562
16:00	0	464	52	4	5	0	0	0	0	0	0	0	0	525
17:00	0	463	43	2	6	0	0	0	0	0	0	0	0	514
18:00	1	364	40	2	2	0	0	0	0	0	0	0	0	409
19:00	0	247	20	1	0	0	0	0	0	0	0	0	0	268
20:00	0	212	19	1	0	0	0	0	0	0	0	0	0	232
21:00	0	137	11	1	0	0	0	0	0	0	0	0	0	149
22:00	0	103	8	1	0	0	0	0	0	0	0	0	0	112
23:00	0	75	6	0	1	0	0	0	0	0	0	0	0	82
Totals	4	5648	684	39	70	7		4						6456
% of Totals	0%	87%	11%	1%	1%	0%		0%						100%

AM Volumes	3	1860	264	16	27	6	0	4	0	0	0	0	0	2180
% AM	0%	29%	4%	0%	0%	0%		0%						34%
AM Peak Hour	09:00	08:00	08:00	06:00	07:00	10:00		08:00						08:00
Volume	2	350	45	4	7	3		3						403
PM Volumes	1	3788	420	23	43	1	0	0	0	0	0	0	0	4276
% PM	0%	59%	7%	0%	1%	0%								66%
PM Peak Hour	18:00	15:00	13:00	12:00	13:00	13:00								15:00
Volume	1	496	59	4	8	1								562

Directional Peak Periods All Classes	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
	Volume		%	Volume		%	Volume		%	Volume		%
	748	⟷	12%	882	⟷	14%	1039	⟷	16%	3787	⟷	59%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by National Data & Surveying Services

CLASSIFICATION

Campo Rd Bet. Granada Ave & Case De Oro Blvd & SR-94 WB Ramps

Day: Tuesday
Date: 11/12/2019

City: Spring Valley
Project #: CA19_4443_006

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	84	12	0	0	0	0	0	0	0	0	0	0	96
01:00	0	33	6	0	0	0	0	0	0	0	0	0	0	39
02:00	0	22	6	0	2	0	0	0	0	0	0	0	0	30
03:00	0	37	7	0	2	0	0	0	0	0	0	0	0	46
04:00	0	68	20	0	3	0	0	0	0	0	0	0	0	91
05:00	1	177	48	2	7	0	0	0	0	0	0	0	0	235
06:00	1	436	100	9	17	1	0	1	0	0	0	0	0	565
07:00	1	881	140	6	25	6	0	0	1	0	0	0	0	1060
08:00	1	907	162	4	18	2	0	0	3	0	0	0	0	1097
09:00	0	528	112	6	9	1	0	0	0	0	0	0	0	656
10:00	2	564	99	4	12	2	0	0	0	0	0	0	0	683
11:00	1	671	117	4	19	1	0	0	0	0	0	0	0	813
12:00 PM	3	697	110	7	16	0	0	0	0	0	0	0	0	833
13:00	0	715	131	6	19	2	0	1	0	0	0	0	0	874
14:00	4	914	151	8	18	1	0	0	0	0	0	0	0	1096
15:00	3	907	148	5	18	0	0	1	0	0	0	0	0	1082
16:00	2	806	115	8	14	1	0	0	0	0	0	0	0	946
17:00	2	813	108	4	13	0	0	0	0	0	0	0	0	940
18:00	1	661	93	3	13	0	0	0	0	0	0	0	0	771
19:00	0	481	60	2	7	0	0	0	0	0	0	0	0	550
20:00	0	372	53	2	5	0	0	0	0	0	0	0	0	432
21:00	0	264	38	2	2	0	0	0	0	0	0	0	0	306
22:00	0	180	21	2	0	0	0	0	0	0	0	0	0	203
23:00	0	131	19	0	2	0	0	0	2	0	0	0	0	154
Totals	22	11349	1876	84	241	17		3	6					13598
% of Totals	0%	83%	14%	1%	2%	0%		0%	0%					100%

AM Volumes	7	4408	829	35	114	13	0	1	4	0	0	0	0	5411
% AM	0%	32%	6%	0%	1%	0%		0%	0%					40%
AM Peak Hour	10:00	08:00	08:00	06:00	07:00	07:00		06:00	08:00					08:00
Volume	2	907	162	9	25	6		1	3					1097
PM Volumes	15	6941	1047	49	127	4	0	2	2	0	0	0	0	8187
% PM	0%	51%	8%	0%	1%	0%		0%	0%					60%
PM Peak Hour	14:00	14:00	14:00	14:00	13:00	13:00		13:00	23:00					14:00
Volume	4	914	151	8	19	2		1	2					1096

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	2157	↔	16%	1707	↔	13%	1886	↔	14%	7848	↔	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	7,464	6,134	13,

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOT
00:00	0	0	11		13		24		12:00	0	0	111		100		211
00:15	0	0	14		13		27		12:15	0	0	121		91		212
00:30	0	0	10		17		27		12:30	0	0	108		93		201
00:45	0	0	11	46	7	50	18	96	12:45	0	0	117	457	92	376	209
01:00	0	0	6		11		17		13:00	0	0	140		99		239
01:15	0	0	0		3		3		13:15	0	0	129		103		232
01:30	0	0	7		2		9		13:30	0	0	123		84		207
01:45	0	0	4	17	6	22	10	39	13:45	0	0	104	496	92	378	196
02:00	0	0	6		4		10		14:00	0	0	147		81		228
02:15	0	0	5		6		11		14:15	0	0	166		121		287
02:30	0	0	2		2		4		14:30	0	0	170		120		290
02:45	0	0	4	17	1	13	5	30	14:45	0	0	164	647	127	449	291
03:00	0	0	3		2		5		15:00	0	0	143		113		256
03:15	0	0	5		1		6		15:15	0	0	161		155		316
03:30	0	0	13		1		14		15:30	0	0	147		117		264
03:45	0	0	10	31	11	15	21	46	15:45	0	0	132	583	114	499	246
04:00	0	0	9		4		13		16:00	0	0	140		105		245
04:15	0	0	13		3		16		16:15	0	0	134		85		219
04:30	0	0	21		5		26		16:30	0	0	132		109		241
04:45	0	0	21	64	15	27	36	91	16:45	0	0	163	569	78	377	241
05:00	0	0	36		12		48		17:00	0	0	166		122		288
05:15	0	0	27		12		39		17:15	0	0	123		99		222
05:30	0	0	50		24		74		17:30	0	0	139		89		228
05:45	0	0	45	158	29	77	74	235	17:45	0	0	118	546	84	394	202
06:00	0	0	60		37		97		18:00	0	0	127		95		222
06:15	0	0	77		55		132		18:15	0	0	115		72		187
06:30	0	0	86		64		150		18:30	0	0	105		83		188
06:45	0	0	108	331	78	234	186	565	18:45	0	0	88	435	86	336	174
07:00	0	0	103		115		218		19:00	0	0	97		60		157
07:15	0	0	99		139		238		19:15	0	0	86		69		155
07:30	0	0	100		163		263		19:30	0	0	73		50		123
07:45	0	0	170	472	171	588	341	1060	19:45	0	0	69	325	46	225	115
08:00	0	0	134		199		333		20:00	0	0	67		55		122
08:15	0	0	141		143		284		20:15	0	0	49		62		111
08:30	0	0	137		120		257		20:30	0	0	66		46		112
08:45	0	0	118	530	105	567	223	1097	20:45	0	0	46	228	41	204	87
09:00	0	0	93		90		183		21:00	0	0	48		35		83
09:15	0	0	81		71		152		21:15	0	0	47		40		87
09:30	0	0	77		68		145		21:30	0	0	35		35		70
09:45	0	0	97	348	79	308	176	656	21:45	0	0	32	162	34	144	66
10:00	0	0	83		74		157		22:00	0	0	30		29		59
10:15	0	0	95		70		165		22:15	0	0	25		23		48
10:30	0	0	107		85		192		22:30	0	0	22		27		49
10:45	0	0	84	369	85	314	169	683	22:45	0	0	28	105	19	98	47
11:00	0	0	110		85		195		23:00	0	0	22		20		42
11:15	0	0	115		96		211		23:15	0	0	26		16		42
11:30	0	0	108		93		201		23:30	0	0	18		12		30
11:45	0	0	108	441	98	372	206	813	23:45	0	0	21	87	19	67	40
TOTALS				2824		2587		5411	TOTALS				4640		3547	
SPLIT %				52.2%		47.8%		39.8%	SPLIT %				56.7%		43.3%	

DAILY TOTALS	NB	SB	EB	WB	To
	0	0	7,464	6,134	13,

AM Peak Hour			07:45	07:30	07:30	PM Peak Hour			14:00	14:30
AM Pk Volume			582	676	1221	PM Pk Volume			647	515
Pk Hr Factor			0.856	0.849	0.895	Pk Hr Factor			0.951	0.831
7 - 9 Volume	0	0	1002	1155	2157	4 - 6 Volume	0	0	1115	771
7 - 9 Peak Hour			07:45	07:30	07:30	4 - 6 Peak Hour			16:15	16:30
7 - 9 Pk Volume	0	0	582	676	1221	4 - 6 Pk Volume	0	0	595	408
Pk Hr Factor	0.000	0.000	0.856	0.849	0.895	Pk Hr Factor	0.000	0.000	0.896	0.836

Prepared by National Data & Surveying Services

Project #: CA19_4443_006 **City:** Spring Valley

Location: Campo Rd Bet. Granada Ave & Case De Oro **Date:** 11/12/2019

Prepared by National Data & Surveying Services

CLASSIFICATION

Conrad Dr N/O Campo Rd

Day: Tuesday
Date: 11/12/2019

City: Spring Valley
Project #: CA19_4443_007

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	25	0	0	0	0	0	0	0	0	0	0	0	25
01:00	0	10	0	0	0	0	0	0	0	0	0	0	0	10
02:00	0	6	1	0	0	0	0	0	0	0	0	0	0	7
03:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7
04:00	0	24	2	0	0	0	0	0	0	0	0	0	0	26
05:00	0	134	10	0	0	0	0	0	0	0	0	0	0	144
06:00	0	223	11	0	0	1	0	0	0	0	0	0	0	235
07:00	0	506	44	1	3	0	0	0	0	0	0	0	0	554
08:00	0	703	61	1	5	0	0	0	0	0	0	0	0	770
09:00	0	236	30	0	1	0	0	0	0	0	0	0	0	267
10:00	0	227	22	2	6	0	0	0	0	0	0	0	0	257
11:00	0	269	8	0	2	1	0	0	0	0	0	0	0	280
12:00 PM	0	322	33	2	6	2	0	0	0	0	0	0	0	365
13:00	0	455	40	0	3	0	0	0	0	0	0	0	0	498
14:00	1	527	54	2	3	0	0	0	0	0	0	0	0	587
15:00	0	338	27	1	0	0	0	0	0	0	0	0	0	366
16:00	0	351	36	0	2	0	0	0	0	0	0	0	0	389
17:00	0	328	30	1	0	0	0	0	0	0	0	0	0	359
18:00	0	202	22	0	0	0	0	0	0	0	0	0	0	224
19:00	1	137	8	0	0	0	0	0	0	0	0	0	0	146
20:00	0	132	12	0	0	0	0	0	0	0	0	0	0	144
21:00	0	85	5	0	0	0	0	0	0	0	0	0	0	90
22:00	0	68	5	0	0	0	0	0	0	0	0	0	0	73
23:00	0	26	3	0	1	0	0	0	0	0	0	0	0	30
Totals	2	5341	464	10	32	4								5853
% of Totals	0%	91%	8%	0%	1%	0%								100%

AM Volumes	0	2370	189	4	17	2	0	0	0	0	0	0	0	2582
% AM		40%	3%	0%	0%	0%								44%
AM Peak Hour		08:00	08:00	10:00	10:00	06:00								08:00
Volume		703	61	2	6	1								770
PM Volumes	2	2971	275	6	15	2	0	0	0	0	0	0	0	3271
% PM	0%	51%	5%	0%	0%	0%								56%
PM Peak Hour	14:00	14:00	14:00	12:00	12:00	12:00								14:00
Volume	1	527	54	2	6	2								587

Directional Peak Periods	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
All Classes	Volume		%	Volume		%	Volume		%	Volume		%
	1324	↔	23%	863	↔	15%	748	↔	13%	2918	↔	50%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	To
	2,758	3,095	0	0	5,8

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOT
00:00	3		3		0	0	6		12:00	43		40		0	0	83
00:15	6		1		0	0	7		12:15	45		48		0	0	93
00:30	6		2		0	0	8		12:30	58		40		0	0	98
00:45	3	18	1	7	0	0	4	25	12:45	58	204	33	161	0	0	91
01:00	2		1		0	0	3		13:00	53		88		0	0	141
01:15	4		1		0	0	5		13:15	47		78		0	0	125
01:30	0		1		0	0	1		13:30	51		43		0	0	94
01:45	1	7	0	3	0	0	1	10	13:45	72	223	66	275	0	0	138
02:00	2		0		0	0	2		14:00	75		60		0	0	135
02:15	1		1		0	0	2		14:15	79		129		0	0	208
02:30	2		0		0	0	2		14:30	58		69		0	0	127
02:45	0	5	1	2	0	0	1	7	14:45	58	270	59	317	0	0	117
03:00	1		2		0	0	3		15:00	50		53		0	0	103
03:15	0		2		0	0	2		15:15	41		58		0	0	99
03:30	0		1		0	0	1		15:30	23		49		0	0	72
03:45	0	1	1	6	0	0	1	7	15:45	43	157	49	209	0	0	92
04:00	0		2		0	0	2		16:00	43		30		0	0	73
04:15	1		5		0	0	6		16:15	44		49		0	0	93
04:30	1		7		0	0	8		16:30	54		65		0	0	119
04:45	3	5	7	21	0	0	10	26	16:45	49	190	55	199	0	0	104
05:00	2		19		0	0	21		17:00	38		62		0	0	100
05:15	9		13		0	0	22		17:15	36		48		0	0	84
05:30	8		33		0	0	41		17:30	34		53		0	0	87
05:45	28	47	32	97	0	0	60	144	17:45	42	150	46	209	0	0	88
06:00	20		39		0	0	59		18:00	27		38		0	0	65
06:15	29		26		0	0	55		18:15	29		24		0	0	53
06:30	17		35		0	0	52		18:30	32		21		0	0	53
06:45	35	101	34	134	0	0	69	235	18:45	26	114	27	110	0	0	53
07:00	37		49		0	0	86		19:00	22		22		0	0	44
07:15	50		49		0	0	99		19:15	23		17		0	0	40
07:30	87		79		0	0	166		19:30	21		14		0	0	35
07:45	84	258	119	296	0	0	203	554	19:45	15	81	12	65	0	0	27
08:00	97		96		0	0	193		20:00	17		13		0	0	30
08:15	100		113		0	0	213		20:15	18		15		0	0	33
08:30	122		140		0	0	262		20:30	23		22		0	0	45
08:45	43	362	59	408	0	0	102	770	20:45	21	79	15	65	0	0	36
09:00	26		35		0	0	61		21:00	18		11		0	0	29
09:15	29		31		0	0	60		21:15	16		9		0	0	25
09:30	36		41		0	0	77		21:30	10		9		0	0	19
09:45	28	119	41	148	0	0	69	267	21:45	9	53	8	37	0	0	17
10:00	28		30		0	0	58		22:00	12		8		0	0	20
10:15	26		31		0	0	57		22:15	16		6		0	0	22
10:30	27		48		0	0	75		22:30	10		11		0	0	21
10:45	27	108	40	149	0	0	67	257	22:45	7	45	3	28	0	0	10
11:00	33		33		0	0	66		23:00	3		1		0	0	4
11:15	34		37		0	0	71		23:15	9		3		0	0	12
11:30	30		27		0	0	57		23:30	5		3		0	0	8
11:45	42	139	44	141	0	0	86	280	23:45	5	22	1	8	0	0	6
TOTALS		1170		1412				2582	TOTALS		1588		1683			
SPLIT %		45.3%		54.7%				44.1%	SPLIT %		48.5%		51.5%			

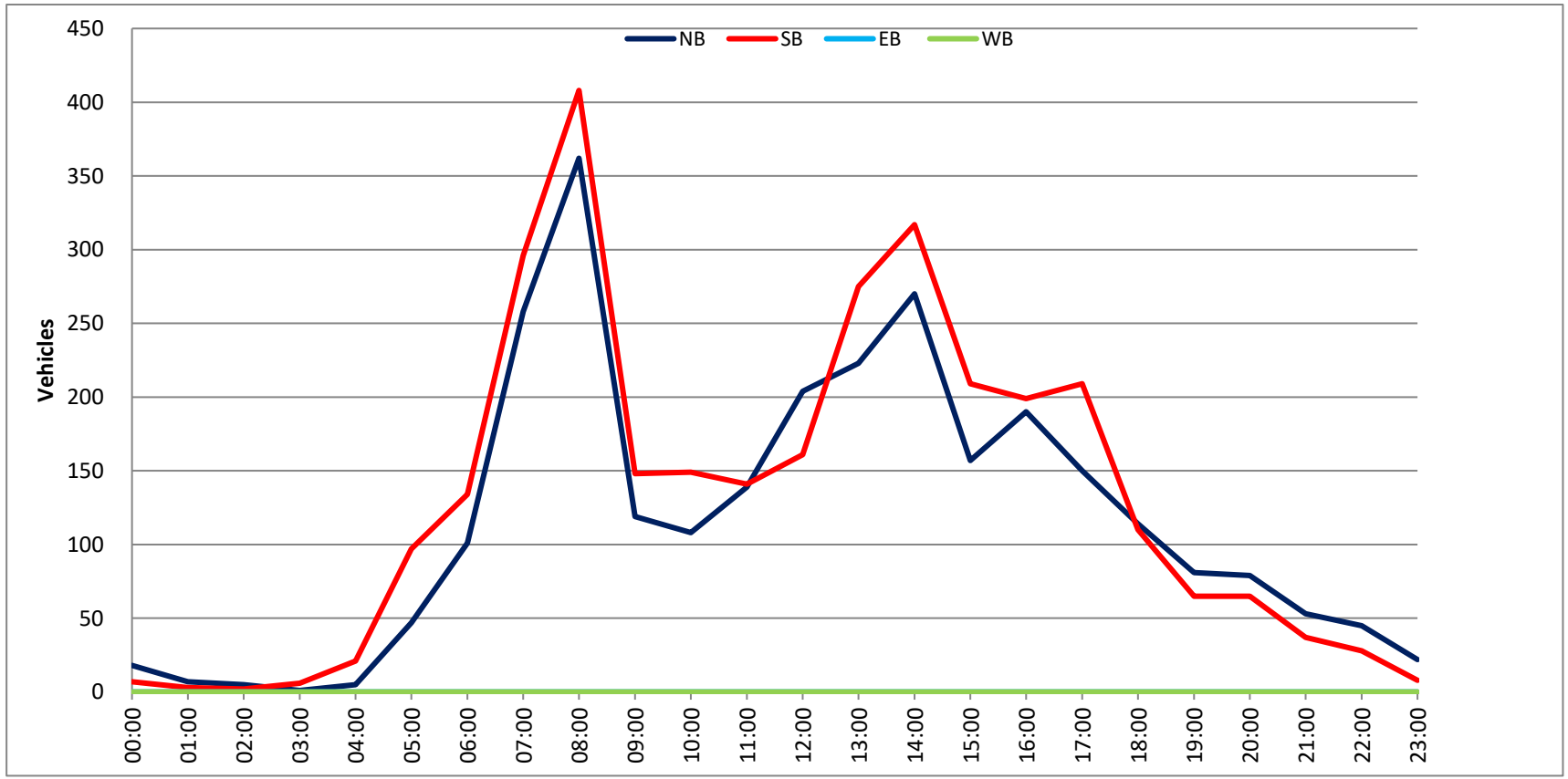
DAILY TOTALS	NB	SB	EB	WB	To
	2,758	3,095	0	0	5,8

AM Peak Hour	07:45	07:45			07:45	PM Peak Hour	13:45	13:45		
AM Pk Volume	403	468			871	PM Pk Volume	284	324		
Pk Hr Factor	0.826	0.836			0.831	Pk Hr Factor	0.899	0.628		
7 - 9 Volume	620	704	0	0	1324	4 - 6 Volume	340	408	0	0
7 - 9 Peak Hour	07:45	07:45			07:45	4 - 6 Peak Hour	16:00	16:15		
7 - 9 Pk Volume	403	468	0	0	871	4 - 6 Pk Volume	190	231	0	0
Pk Hr Factor	0.826	0.836	0.000	0.000	0.831	Pk Hr Factor	0.880	0.888	0.000	0.000

Prepared by National Data & Surveying Services

Project #: CA19_4443_007 **City:** Spring Valley

Location: Conrad Dr N/O Campo Rd **Date:** 11/12/2019



Prepared by National Data & Surveying Services

CLASSIFICATION

Barcelona St S/O Campo Rd

Day: Tuesday
Date: 11/12/2019

City: Spring Valley
Project #: CA19_4443_008

Summary

Time	# 1	# 2	# 3	# 4	# 5	# 6	# 7	# 8	# 9	# 10	# 11	# 12	# 13	Total
00:00 AM	0	55	1	0	0	0	0	0	0	0	0	0	0	56
01:00	0	34	3	0	0	0	0	0	0	0	0	0	0	37
02:00	0	19	1	0	1	0	0	0	0	0	0	0	0	21
03:00	0	13	3	0	0	0	0	0	0	0	0	0	0	16
04:00	0	30	13	0	2	0	0	0	0	0	0	0	0	45
05:00	0	101	37	0	4	0	0	0	0	0	0	0	0	142
06:00	0	211	23	0	2	0	0	0	0	0	0	0	0	236
07:00	4	477	51	2	6	2	0	1	0	0	0	0	0	543
08:00	1	368	36	0	6	1	0	2	0	0	0	0	0	414
09:00	2	261	31	0	3	0	0	2	1	0	0	0	0	300
10:00	0	247	35	0	11	0	0	0	0	0	0	0	0	293
11:00	3	340	40	4	8	2	0	1	0	0	0	0	0	398
12:00 PM	3	335	45	2	5	2	0	1	1	0	0	0	0	394
13:00	1	362	44	5	2	1	0	1	1	0	0	0	0	417
14:00	1	373	56	2	7	3	0	1	0	0	0	0	0	443
15:00	3	403	61	0	4	0	0	1	1	0	0	0	0	473
16:00	5	435	44	0	2	1	0	1	1	0	0	0	0	489
17:00	2	510	32	1	2	0	0	1	0	0	0	0	0	548
18:00	0	380	30	0	7	3	0	0	0	0	0	0	0	420
19:00	0	291	27	2	1	2	0	0	0	0	0	0	0	323
20:00	0	232	18	0	0	0	0	0	0	0	0	0	0	250
21:00	0	200	18	0	0	0	0	0	0	0	0	0	0	218
22:00	0	122	10	0	1	0	0	0	0	0	0	0	0	133
23:00	0	96	7	0	0	0	0	0	0	0	0	0	0	103
Totals	25	5895	666	18	74	17		12	5					6712
% of Totals	0%	88%	10%	0%	1%	0%		0%	0%					100%

AM Volumes	10	2156	274	6	43	5	0	6	1	0	0	0	0	2501
% AM	0%	32%	4%	0%	1%	0%		0%	0%					37%
AM Peak Hour	07:00	07:00	07:00	11:00	10:00	07:00		08:00	09:00					07:00
Volume	4	477	51	4	11	2		2	1					543
PM Volumes	15	3739	392	12	31	12	0	6	4	0	0	0	0	4211
% PM	0%	56%	6%	0%	0%	0%		0%	0%					63%
PM Peak Hour	16:00	17:00	15:00	13:00	14:00	14:00		12:00	12:00					17:00
Volume	5	510	61	5	7	3		1	1					548

Directional Peak Periods All Classes	AM 7-9			NOON 12-2			PM 4-6			Off Peak Volumes		
	Volume		%	Volume		%	Volume		%	Volume		%
	957	↔	14%	811	↔	12%	1037	↔	15%	3907	↔	58%

Classification Definitions

1 Motorcycles
2 Passenger Cars
3 2-Axle, 4-Tire Single Units
4 Buses
5 2-Axle, 6-Tire Single Units
6 3-Axle Single Units
7 > =4-Axle Single Units
8 <=4-Axle Single Trailers
9 5-Axle Single Trailers
10 >=6-Axle Single Trailers
11 <=5-Axle Multi-Trailers
12 6-Axle Multi-Trailers
13 >=7-Axle Multi-Trailers

Prepared by NDS/ATD

DAILY TOTALS	NB	SB	EB	WB	To
	3,459	3,253	0	0	6,7

AM Period	NB		SB		EB	WB	TOTAL		PM Period	NB		SB		EB	WB	TOT
00:00	5		10		0	0	15		12:00	59		49		0	0	108
00:15	13		7		0	0	20		12:15	57		44		0	0	101
00:30	5		9		0	0	14		12:30	43		46		0	0	89
00:45	4	27	3	29	0	0	7	56	12:45	57	216	39	178	0	0	96
01:00	3		5		0	0	8		13:00	51		69		0	0	120
01:15	8		8		0	0	16		13:15	55		58		0	0	113
01:30	5		2		0	0	7		13:30	49		46		0	0	95
01:45	1	17	5	20	0	0	6	37	13:45	43	198	46	219	0	0	89
02:00	3		6		0	0	9		14:00	44		56		0	0	100
02:15	2		3		0	0	5		14:15	59		54		0	0	113
02:30	4		0		0	0	4		14:30	60		51		0	0	111
02:45	2	11	1	10	0	0	3	21	14:45	56	219	63	224	0	0	119
03:00	3		0		0	0	3		15:00	59		71		0	0	130
03:15	2		3		0	0	5		15:15	50		71		0	0	121
03:30	1		1		0	0	2		15:30	52		61		0	0	113
03:45	5	11	1	5	0	0	6	16	15:45	40	201	69	272	0	0	109
04:00	5		2		0	0	7		16:00	57		68		0	0	125
04:15	7		0		0	0	7		16:15	45		77		0	0	122
04:30	8		2		0	0	10		16:30	54		61		0	0	115
04:45	16	36	5	9	0	0	21	45	16:45	51	207	76	282	0	0	127
05:00	21		6		0	0	27		17:00	49		76		0	0	125
05:15	25		9		0	0	34		17:15	43		95		0	0	138
05:30	29		5		0	0	34		17:30	66		79		0	0	145
05:45	38	113	9	29	0	0	47	142	17:45	61	219	79	329	0	0	140
06:00	44		14		0	0	58		18:00	38		88		0	0	126
06:15	42		11		0	0	53		18:15	45		56		0	0	101
06:30	44		16		0	0	60		18:30	46		55		0	0	101
06:45	42	172	23	64	0	0	65	236	18:45	42	171	50	249	0	0	92
07:00	80		26		0	0	106		19:00	39		52		0	0	91
07:15	76		38		0	0	114		19:15	35		39		0	0	74
07:30	98		50		0	0	148		19:30	41		52		0	0	93
07:45	109	363	66	180	0	0	175	543	19:45	32	147	33	176	0	0	65
08:00	79		50		0	0	129		20:00	23		35		0	0	58
08:15	63		35		0	0	98		20:15	30		46		0	0	76
08:30	64		34		0	0	98		20:30	21		41		0	0	62
08:45	60	266	29	148	0	0	89	414	20:45	23	97	31	153	0	0	54
09:00	50		35		0	0	85		21:00	25		47		0	0	72
09:15	61		23		0	0	84		21:15	25		30		0	0	55
09:30	33		30		0	0	63		21:30	13		27		0	0	40
09:45	44	188	24	112	0	0	68	300	21:45	20	83	31	135	0	0	51
10:00	53		31		0	0	84		22:00	17		28		0	0	45
10:15	41		29		0	0	70		22:15	13		23		0	0	36
10:30	46		29		0	0	75		22:30	11		15		0	0	26
10:45	41	181	23	112	0	0	64	293	22:45	15	56	11	77	0	0	26
11:00	41		27		0	0	68		23:00	16		16		0	0	32
11:15	33		59		0	0	92		23:15	11		11		0	0	22
11:30	50		49		0	0	99		23:30	10		16		0	0	26
11:45	85	209	54	189	0	0	139	398	23:45	14	51	9	52	0	0	23
TOTALS		1594		907				2501	TOTALS		1865		2346			
SPLIT %		63.7%		36.3%				37.3%	SPLIT %		44.3%		55.7%			

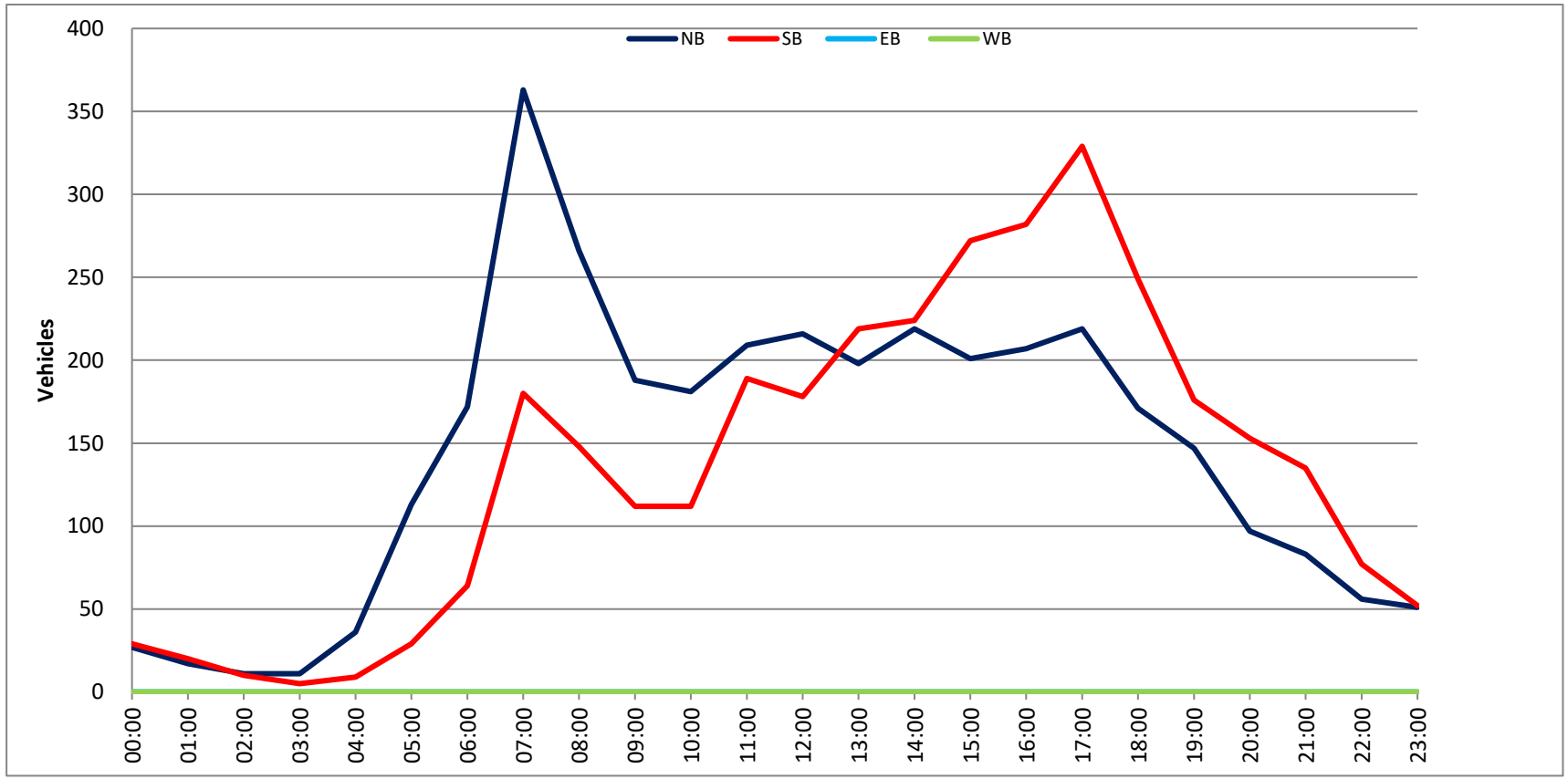
DAILY TOTALS	NB	SB	EB	WB	To
	3,459	3,253	0	0	6,7

AM Peak Hour	07:00	11:15			07:15	PM Peak Hour	14:15	17:15		
AM Pk Volume	363	211			566	PM Pk Volume	234	341		
Pk Hr Factor	0.833	0.894			0.809	Pk Hr Factor	0.975	0.897		
7 - 9 Volume	629	328	0	0	957	4 - 6 Volume	426	611	0	0
7 - 9 Peak Hour	07:00	07:15			07:15	4 - 6 Peak Hour	17:00	17:00		
7 - 9 Pk Volume	363	204	0	0	566	4 - 6 Pk Volume	219	329	0	0
Pk Hr Factor	0.833	0.773	0.000	0.000	0.809	Pk Hr Factor	0.830	0.866	0.000	0.000

Prepared by National Data & Surveying Services

Project #: CA19_4443_008 **City:** Spring Valley

Location: Barcelona St S/O Campo Rd **Date:** 11/12/2019



Prepared by National Data & Surveying Services

VOLUME

Casa De Oro Blvd E/O Campo Rd & Granada Ave

Day: Tuesday
Date: 11/12/2019

City: Spring Valley
Project #: CA19_4443_009

DAILY TOTALS	NB	SB	EB	WB	Total
	1,176	1,286	0	0	2,462

AM Period	NB		SB		EB		WB		TOTAL		PM Period	NB		SB		EB		WB		TOTAL	
00:00	4		0						4		12:00	26		18						44	
00:15	0		0						0		12:15	31		13						44	
00:30	2		2						4		12:30	24		19						43	
00:45	0	6	0	2					0	8	12:45	23	104	22	72					45	176
01:00	1		0						1		13:00	25		35						60	
01:15	0		0						0		13:15	22		16						38	
01:30	0		1						1		13:30	23		23						46	
01:45	0	1	0	1					0	2	13:45	26	96	14	88					40	184
02:00	0		0						0		14:00	22		23						45	
02:15	2		0						2		14:15	32		19						51	
02:30	1		1						2		14:30	16		28						44	
02:45	0	3	0	1					0	4	14:45	26	96	25	95					51	191
03:00	1		0						1		15:00	19		16						35	
03:15	1		2						3		15:15	33		23						56	
03:30	0		3						3		15:30	25		32						57	
03:45	0	2	1	6					1	8	15:45	29	106	25	96					54	202
04:00	0		1						1		16:00	33		10						43	
04:15	2		0						2		16:15	26		13						39	
04:30	1		3						4		16:30	26		30						56	
04:45	0	3	2	6					2	9	16:45	32	117	17	70					49	187
05:00	0		5						5		17:00	29		17						46	
05:15	2		7						9		17:15	18		27						45	
05:30	2		10						12		17:30	30		22						52	
05:45	4	8	9	31					13	39	17:45	25	102	25	91					50	193
06:00	3		13						16		18:00	20		19						39	
06:15	3		17						20		18:15	14		12						26	
06:30	4		13						17		18:30	20		19						39	
06:45	6	16	21	64					27	80	18:45	19	73	14	64					33	137
07:00	9		16						25		19:00	10		15						25	
07:15	13		28						41		19:15	9		12						21	
07:30	13		39						52		19:30	14		9						23	
07:45	20	55	46	129					66	184	19:45	17	50	12	48					29	98
08:00	25		41						66		20:00	11		9						20	
08:15	10		34						44		20:15	11		6						17	
08:30	19		14						33		20:30	18		9						27	
08:45	9	63	13	102					22	165	20:45	9	49	7	31					16	80
09:00	16		28						44		21:00	8		6						14	
09:15	11		23						34		21:15	9		6						15	
09:30	9		26						35		21:30	9		5						14	
09:45	12	48	21	98					33	146	21:45	6	32	3	20					9	52
10:00	11		25						36		22:00	6		3						9	
10:15	15		14						29		22:15	3		3						6	
10:30	10		23						33		22:30	4		1						5	
10:45	13	49	21	83					34	132	22:45	8	21	3	10					11	31
11:00	15		11						26		23:00	2		0						2	
11:15	14		21						35		23:15	1		1						2	
11:30	11		18						29		23:30	0		2						2	
11:45	28	68	20	70					48	138	23:45	5	8	5	8					10	16
TOTALS		322		593						915	TOTALS		854		693						1547
SPLIT %		35.2%		64.8%						37.2%	SPLIT %		55.2%		44.8%						62.8%

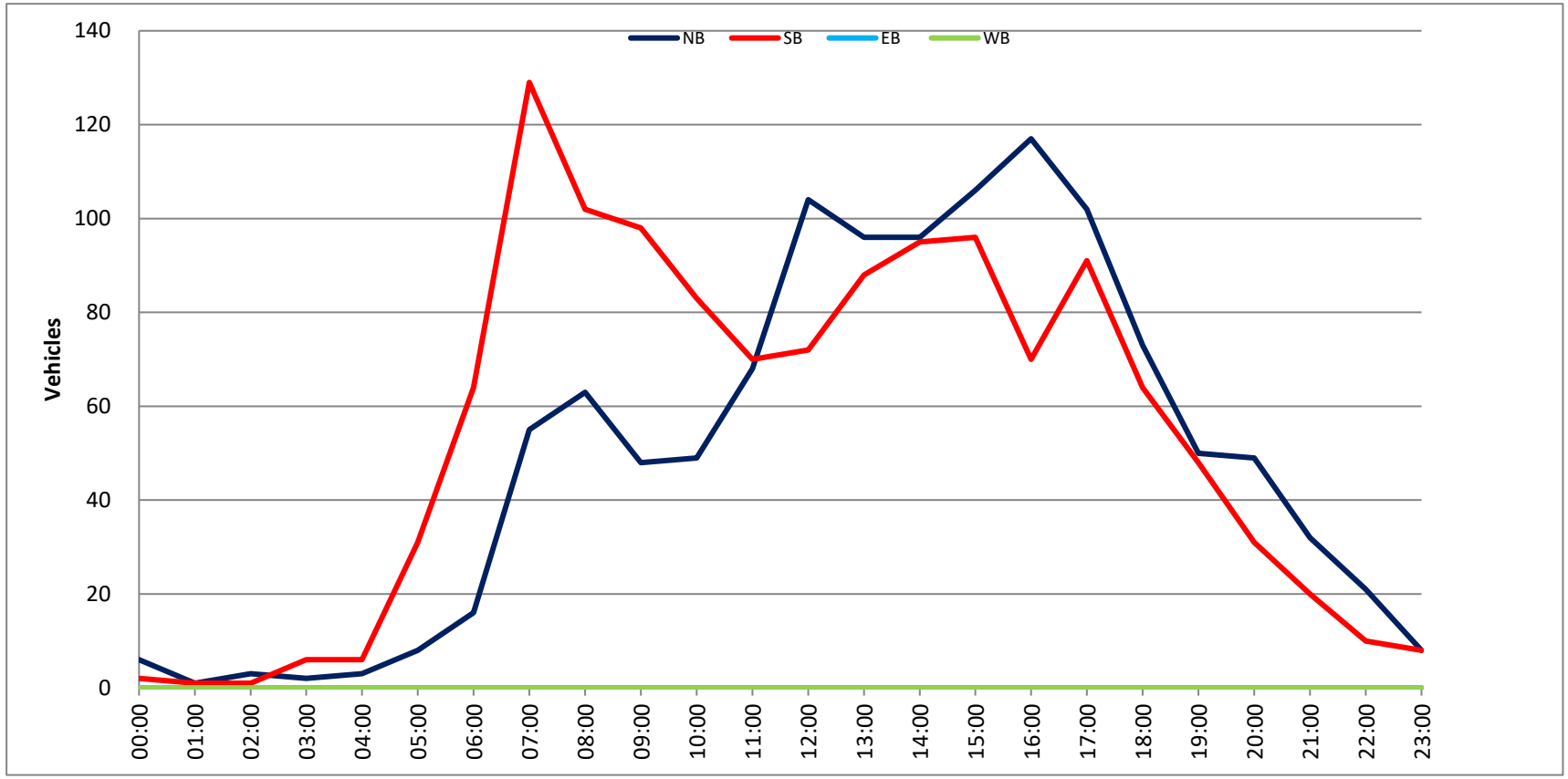
DAILY TOTALS	NB	SB	EB	WB	Total
	1,176	1,286	0	0	2,462

AM Peak Hour	11:45	07:30			07:30	PM Peak Hour	15:15	12:45			15:15
AM Pk Volume	109	160			228	PM Pk Volume	120	96			210
Pk Hr Factor	0.879	0.870			0.864	Pk Hr Factor	0.909	0.686			0.921
7 - 9 Volume	118	231	0	0	349	4 - 6 Volume	219	161	0	0	380
7 - 9 Peak Hour	07:45	07:30			07:30	4 - 6 Peak Hour	16:00	16:30			16:30
7 - 9 Pk Volume	74	160	0	0	228	4 - 6 Pk Volume	117	91	0	0	196
Pk Hr Factor	0.740	0.870	0.000	0.000	0.864	Pk Hr Factor	0.886	0.758	0.000	0.000	0.875

Prepared by National Data & Surveying Services

Project #: CA19_4443_009 **City:** Spring Valley

Location: Casa De Oro Blvd E/O Campo Rd & Granada **Date:** 11/12/2019



Prepared by National Data & Surveying Services

VOLUME

Ramona Dr Bet. Madrid Way & Casa De Oro Blvd

Day: Tuesday
Date: 11/12/2019

City: Spring Valley
Project #: CA19_4443_010

DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	599	632	1,231

AM Period	NB	SB	EB		WB		TOTAL		PM Period	NB	SB	EB		WB		TOTAL	
00:00			0		0		0		12:00			6		8		14	
00:15			2		1		3		12:15			7		9		16	
00:30			0		0		0		12:30			9		4		13	
00:45			1	3	0	1	1	4	12:45			24	46	10	31	34	77
01:00			0		0		0		13:00			34		33		67	
01:15			0		0		0		13:15			9		15		24	
01:30			0		0		0		13:30			12		9		21	
01:45			0		0		0		13:45			11	66	3	60	14	126
02:00			0		0		0		14:00			7		21		28	
02:15			0		0		0		14:15			7		14		21	
02:30			0		0		0		14:30			12		10		22	
02:45			1	1	0		1	1	14:45			11	37	13	58	24	95
03:00			0		0		0		15:00			9		8		17	
03:15			0		0		0		15:15			11		7		18	
03:30			0		0		0		15:30			12		10		22	
03:45			0		0		0		15:45			19	51	18	43	37	94
04:00			0		0		0		16:00			11		11		22	
04:15			0		1		1		16:15			10		15		25	
04:30			0		0		0		16:30			8		3		11	
04:45			0		1	2	1	2	16:45			17	46	13	42	30	88
05:00			0		1		1		17:00			14		15		29	
05:15			1		4		5		17:15			16		6		22	
05:30			0		7		7		17:30			8		13		21	
05:45			2	3	4	16	6	19	17:45			10	48	6	40	16	88
06:00			3		7		10		18:00			8		9		17	
06:15			1		5		6		18:15			11		2		13	
06:30			2		3		5		18:30			5		5		10	
06:45			1	7	4	19	5	26	18:45			2	26	6	22	8	48
07:00			6		12		18		19:00			5		3		8	
07:15			19		11		30		19:15			5		3		8	
07:30			32		27		59		19:30			1		3		4	
07:45			58	115	40	90	98	205	19:45			1	12	1	10	2	22
08:00			18		69		87		20:00			4		0		4	
08:15			6		21		27		20:15			3		0		3	
08:30			6		10		16		20:30			4		3		7	
08:45			7	37	5	105	12	142	20:45			2	13	1	4	3	17
09:00			7		9		16		21:00			3		1		4	
09:15			4		12		16		21:15			3		3		6	
09:30			6		6		12		21:30			1		2		3	
09:45			4	21	6	33	10	54	21:45			4	11	1	7	5	18
10:00			5		3		8		22:00			3		0		3	
10:15			5		5		10		22:15			0		3		3	
10:30			8		3		11		22:30			2		0		2	
10:45			3	21	6	17	9	38	22:45			1	6	0	3	1	9
11:00			5		6		11		23:00			0		0		0	
11:15			5		8		13		23:15			2		0		2	
11:30			8		6		14		23:30			0		1		1	
11:45			6	24	8	28	14	52	23:45			3	5	0	1	3	6
TOTALS				232		311		543	TOTALS				367		321		688
SPLIT %				42.7%		57.3%		44.1%	SPLIT %				53.3%		46.7%		55.9%

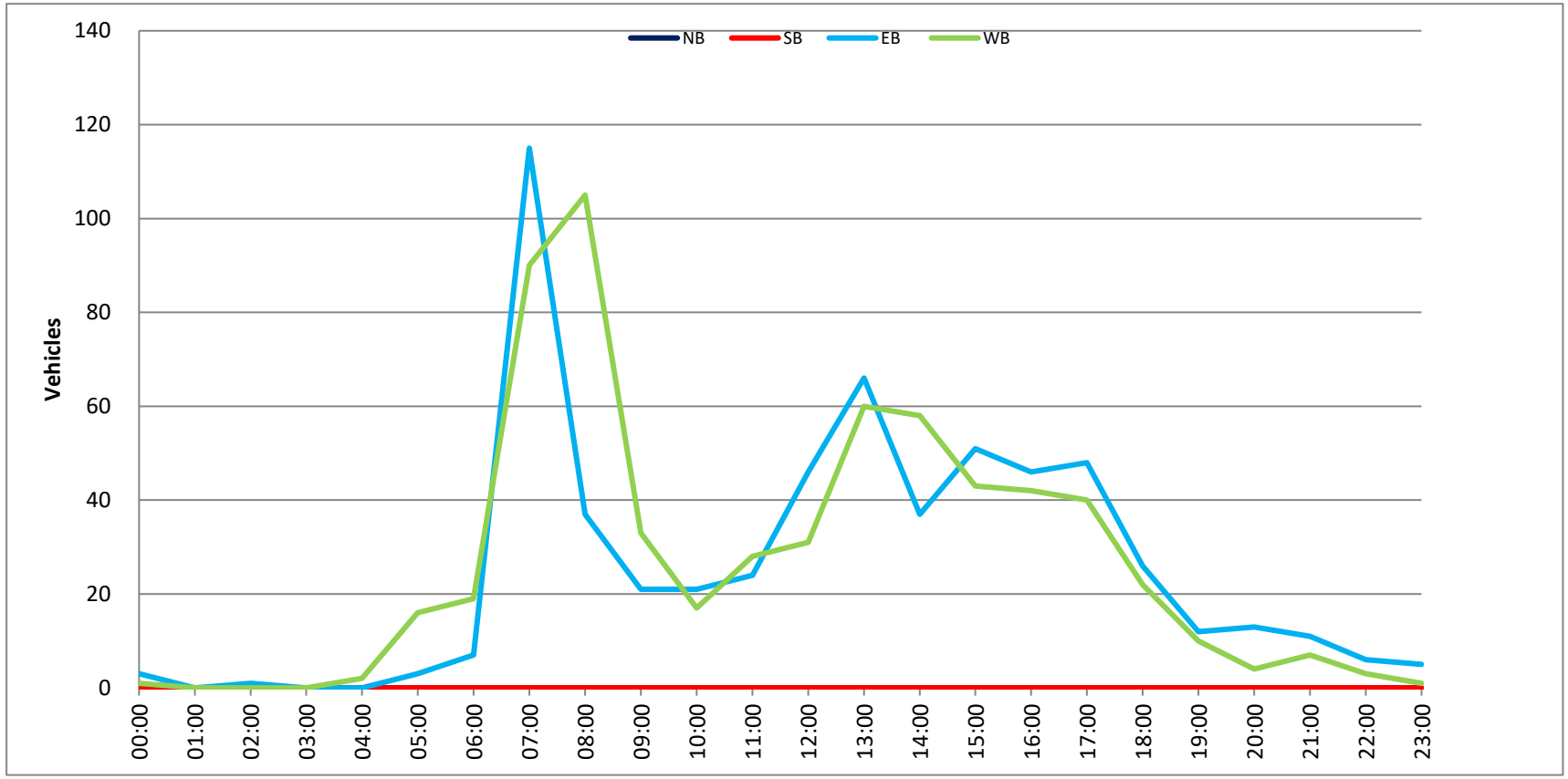
DAILY TOTALS	NB	SB	EB	WB	Total
	0	0	599	632	1,231

AM Peak Hour			07:15	07:30	07:15	PM Peak Hour			12:45	12:45	12:45
AM Pk Volume			127	157	274	PM Pk Volume			79	67	146
Pk Hr Factor			0.547	0.569	0.699	Pk Hr Factor			0.581	0.508	0.545
7 - 9 Volume	0	0	152	195	347	4 - 6 Volume	0	0	94	82	176
7 - 9 Peak Hour			07:15	07:30	07:15	4 - 6 Peak Hour			16:30	16:45	16:45
7 - 9 Pk Volume	0	0	127	157	274	4 - 6 Pk Volume	0	0	55	47	102
Pk Hr Factor	0.000	0.000	0.547	0.569	0.699	Pk Hr Factor	0.000	0.000	0.809	0.783	0.850

Prepared by National Data & Surveying Services

Project #: CA19_4443_010 **City:** Spring Valley

Location: Ramona Dr Bet. Madrid Way & Casa De Oro **Date:** 11/12/2019



Prepared by National Data & Surveying Services

Kenwood Dr & SR-94 EB Ramps

Peak Hour Turning Movement Count

ID: 19-04442-001
City: Spring Valley

Day: Tuesday
Date: 11/12/2019

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NONE	NONE
04:15 PM - 05:15 PM	04:00 PM - 06:00 PM

Kenwood Dr — SOUTHBOUND

AM	0	460	55	0	891	AM
NOON	0	0	0	0	0	NOON
PM	0	462	81	0	923	PM

SR-94 EB Ramps — EASTBOUND

AM	NOON	PM		
0	0	0		
0	0	0		0
339	0	496		1.5
1	0	4		0.5
102	0	204		1
AM	NOON	PM		

SR-94 EB Ramps — WESTBOUND

PM	NOON	AM		
0	0	0		0
0	0	0		0
0	0	0		0
0	0	0		0
295	0	315		
PM	NOON	AM		

Kenwood Dr — NORTHBOUND

PM	666	0	0	427	210	PM
NOON	0	0	0	0	0	NOON
AM	562	0	0	552	259	AM

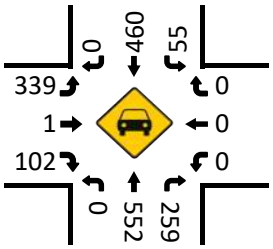
	0	2	0	0
	0	0	2	1

CONTROL

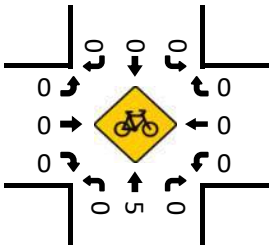
3-Way Stop (NB/SB/EB)

TEV	1768	0	1884
	AM	NOON	PM
PHF	0.92		0.91

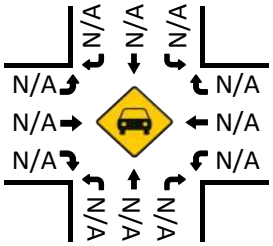
Total Vehicles (AM)



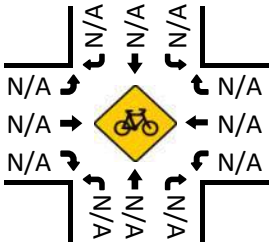
Bikes (AM)



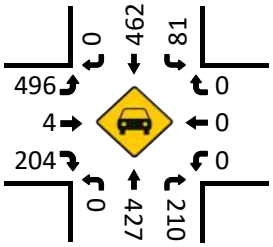
Total Vehicles (Noon)



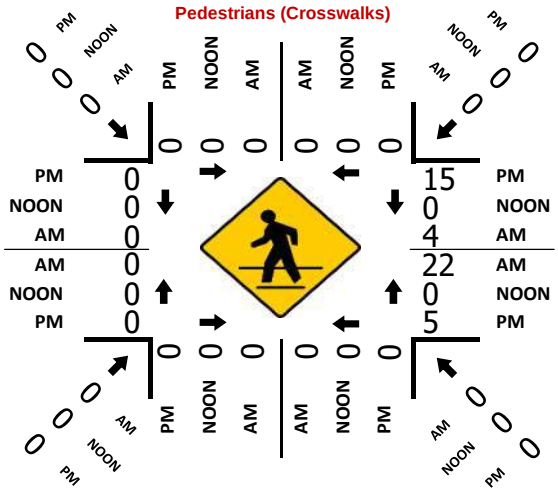
Bikes (NOON)



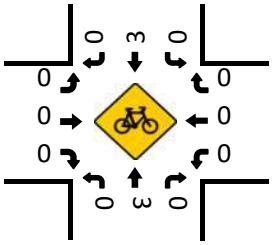
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Kenwood Dr & SR-94 WB Ramps

Peak Hour Turning Movement Count

ID: 19-04442-002
City: Spring Valley

Day: Tuesday
Date: 11/12/2019

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NONE	NONE
04:15 PM - 05:15 PM	04:00 PM - 06:00 PM

Kenwood Dr — SOUTHBOUND

AM	562	337	0	0	809	AM
NOON	0	0	0	0	0	NOON
PM	421	370	0	0	788	PM
	0	2	0	0		

SR-94 WB Ramps — EASTBOUND

AM	NOON	PM	
832	0	619	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

SR-94 WB Ramps — WESTBOUND

PM	NOON	AM	
63	0	143	1
0	0	47	0
176	0	178	1
0	0	0	0
0	0	0	
PM	NOON	AM	

CONTROL

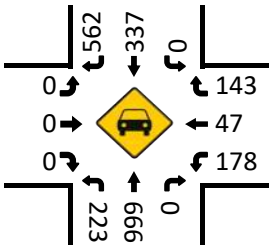
3-Way Stop (NB/SB/WB)

TEV	2156	0	1953
	AM	NOON	PM
PHF	0.96		0.94

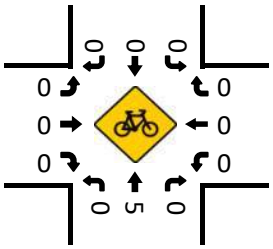
Kenwood Dr — NORTHBOUND

PM	546	0	198	725	0	PM
NOON	0	0	0	0	0	NOON
AM	515	0	223	666	0	AM
		0	1	2	0	

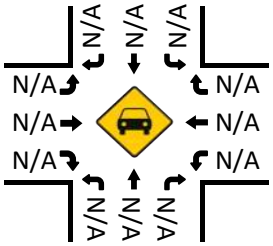
Total Vehicles (AM)



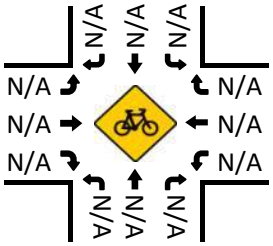
Bikes (AM)



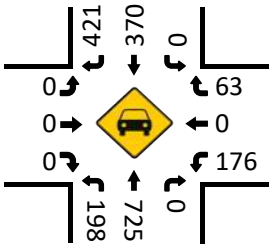
Total Vehicles (Noon)



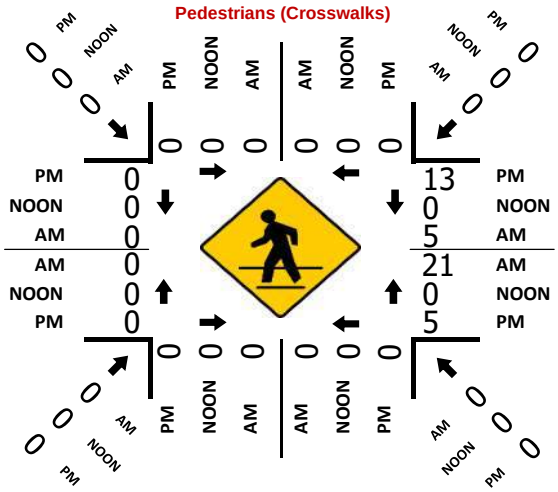
Bikes (NOON)



Total Vehicles (PM)



Pedestrians (Crosswalks)


PM
NOON
AM
0
0
0
0
0
0
0
0
0

Prepared by National Data & Surveying Services

Kenwood Dr & Kenora Dr

Peak Hour Turning Movement Count

ID: 19-04442-003
City: Spring Valley

Day: Tuesday
Date: 11/12/2019

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:15 PM - 05:15 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

SOUTHBOUND (Kenwood Dr)

AM	0	797	6	0	764	AM
NOON	0	0	0	0	0	NOON
PM	0	660	18	0	709	PM

EASTBOUND (Kenora Dr)

AM	NOON	PM		
0	0	0		
0	0	0		0
0	0	0		0
0	0	0		0
0	0	0		0
AM	NOON	PM		

WESTBOUND (Kenora Dr)

PM	NOON	AM	
36	0	33	0
0	0	0	1
129	0	119	0
0	0	0	0
131	0	72	
PM	NOON	AM	

NORTHBOUND (Kenwood Dr)

PM	789	0	0	673	113	PM
NOON	0	0	0	0	0	NOON
AM	916	0	0	731	66	AM

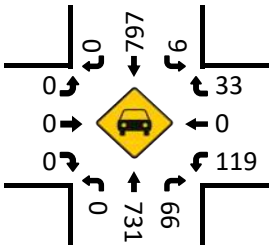
	0	2	0	0
	0	0	2	0

CONTROL

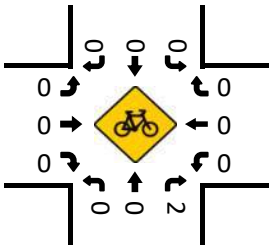
1-Way Stop (WB)

TEV	1752	0	1629
	AM	NOON	PM
PHF	0.92		0.99

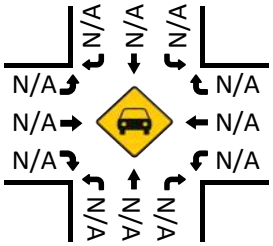
Total Vehicles (AM)



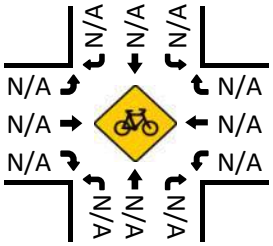
Bikes (AM)



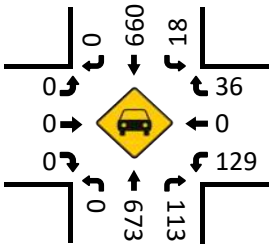
Total Vehicles (Noon)



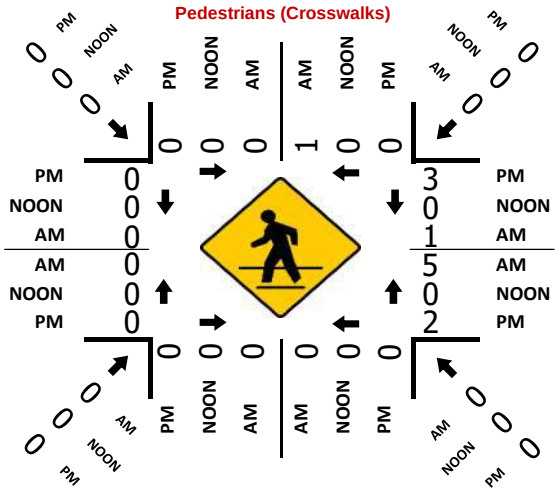
Bikes (NOON)



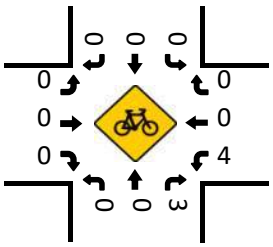
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Kenwood Dr & Campo Rd

Peak Hour Turning Movement Count

ID: 19-04442-004
City: Spring Valley

Day: Tuesday
Date: 11/12/2019

PEAK HOURS		COUNT PERIODS
07:30 AM - 08:30 AM		07:00 AM - 09:00 AM
NONE		NONE
04:00 PM - 05:00 PM		04:00 PM - 06:00 PM

SOUTHBOUND (Kenwood Dr)

AM	0	0	0	1	4	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	2	3	PM

EASTBOUND (Campo Rd)

AM	NOON	PM		
722	0	294		
0	0	0	0	
0	0	0	0	
182	0	349	1.5	
74	0	108	0.5	

WESTBOUND (Campo Rd)

PM	NOON	AM	
1	0	1	0
191	0	517	1
553	0	736	2
0	0	0	0
961	0	744	

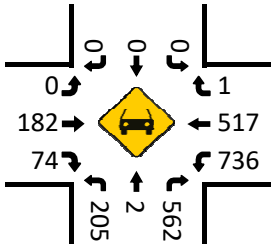
NORTHBOUND (Kenwood Dr)

PM	661	0	103	0	612	PM
NOON	0	0	0	0	0	NOON
AM	810	0	205	2	562	AM

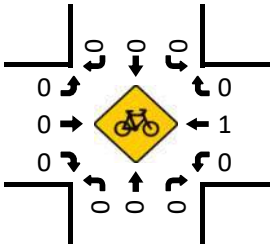
	AM	NOON	PM
	0	0	0
	0	1	0
	0	0	2

CONTROL			
Signalized			
TEV	2280	0	1919
	AM	NOON	PM
PHF	0.96		0.99

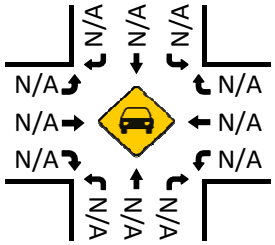
Total Vehicles (AM)



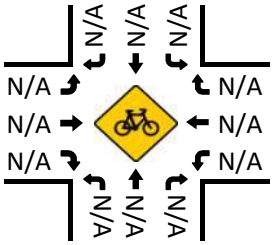
Bikes (AM)



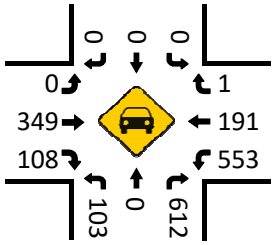
Total Vehicles (Noon)



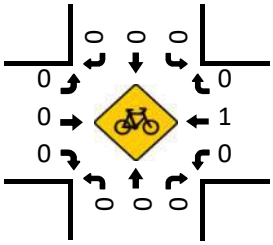
Bikes (NOON)



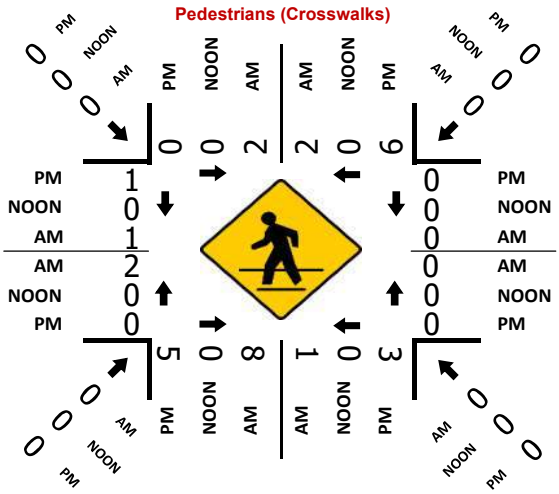
Total Vehicles (PM)



Bikes (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

Conrad Dr & Campo Rd

Peak Hour Turning Movement Count

ID: 19-04442-005
City: Spring Valley

Day: Tuesday
Date: 11/12/2019

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NONE	NONE
04:15 PM - 05:15 PM	04:00 PM - 06:00 PM

Conrad Dr — SOUTHBOUND

AM	378	10	146	0	337	AM
NOON	0	0	0	0	0	NOON
PM	157	13	79	0	187	PM
	1	0.5	0.5	0		

Campo Rd — EASTBOUND

AM	NOON	PM	
1277	0	741	
0	0	0	0
225	0	135	1
457	0	819	2
10	0	15	0
AM	NOON	PM	

Campo Rd — WESTBOUND

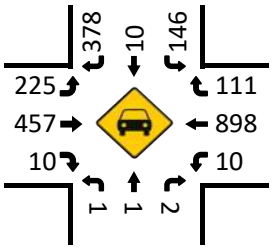
	PM	NOON	AM
0	52	0	111
2	584	0	898
1	14	0	10
0	0	0	0
	910	0	605
	PM	NOON	AM

CONTROL			
Signalized			
TEV	2249	0	1880
	AM	NOON	PM
PHF	0.97		0.97

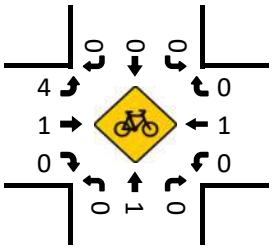
Conrad Dr — NORTHBOUND

PM	42	0	0	0	12	PM
NOON	0	0	0	0	0	NOON
AM	30	0	1	1	2	AM
		0	0	0	0	

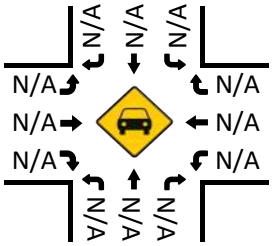
Total Vehicles (AM)



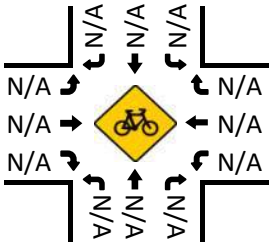
Bikes (AM)



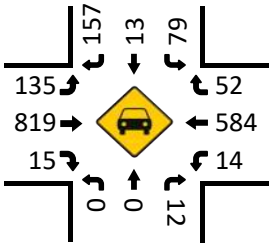
Total Vehicles (Noon)



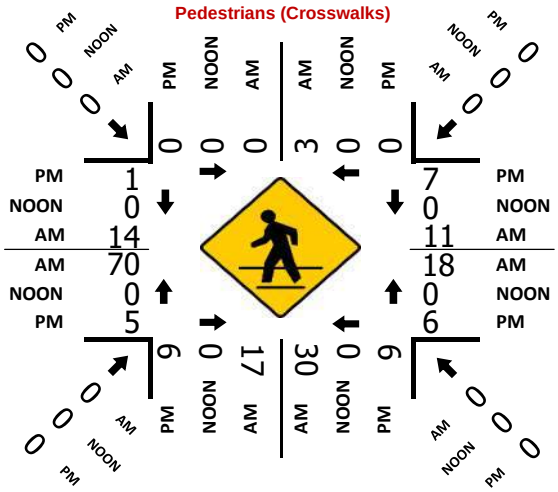
Bikes (NOON)



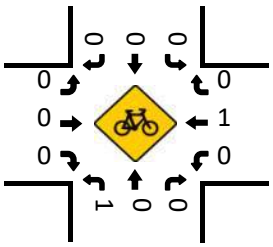
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Bonita St & Campo Rd

Peak Hour Turning Movement Count

ID: 19-04442-006
City: Spring Valley

Day: Tuesday
Date: 11/12/2019

PEAK HOURS

AM	07:30 AM - 08:30 AM
NOON	NONE
PM	04:00 PM - 05:00 PM

COUNT PERIODS

AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Bonita St — SOUTHBOUND

AM	60	12	45	0	156	AM
NOON	0	0	0	0	0	NOON
PM	40	18	33	0	75	PM

Campo Rd — EASTBOUND

AM	NOON	PM		
1106	0	607		
0	0	0		0
44	0	41		1
450	0	675		2
35	0	55		0
AM	NOON	PM		

Campo Rd — WESTBOUND

PM	NOON	AM	
19	0	92	0
493	0	978	2
23	0	29	1
0	0	0	0
762	0	525	
PM	NOON	AM	

Bonita St — NORTHBOUND

PM	96	0	74	15	54	PM
NOON	0	0	0	0	0	NOON
AM	76	0	68	20	30	AM

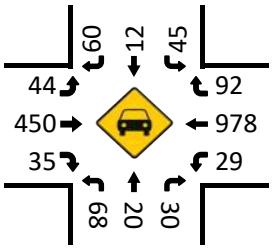
	0	1	0	0
	0	0	1	0

CONTROL

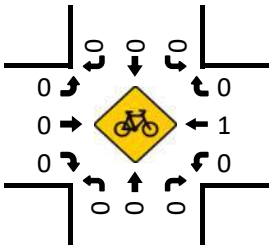
Signalized

TEV	1863	0	1540
	AM	NOON	PM
PHF	0.87		0.94

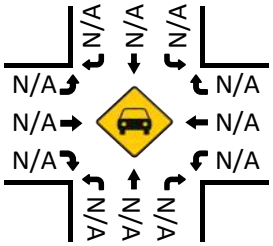
Total Vehicles (AM)



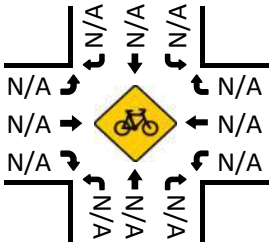
Bikes (AM)



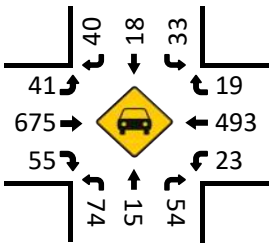
Total Vehicles (Noon)



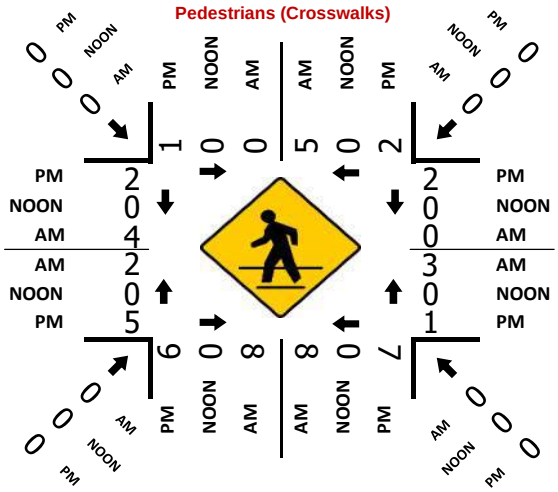
Bikes (NOON)



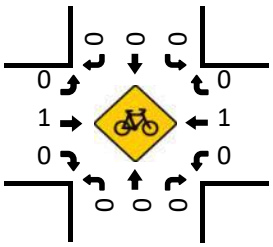
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Barcelona St & Campo Rd

Peak Hour Turning Movement Count

ID: 19-04442-007
City: Spring Valley

Day: Tuesday
Date: 11/12/2019

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

Barcelona St — SOUTHBOUND

AM	18	12	20	0	81	AM
NOON	0	0	0	0	0	NOON
PM	22	26	22	0	39	PM
	0	1	0	0		

Campo Rd — EASTBOUND

AM	NOON	PM	
1100	0	532	
0	0	0	0
13	0	10	1
340	0	494	2
158	0	236	0

Campo Rd — WESTBOUND

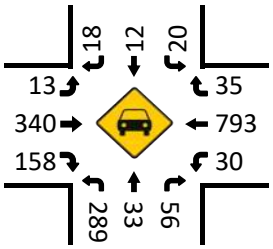
	PM	NOON	AM
0	20	0	35
2	363	0	793
1	57	0	30
0	0	0	0
	579	0	416

Barcelona St — NORTHBOUND

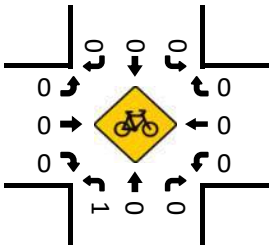
PM	319	0	147	9	63	PM
NOON	0	0	0	0	0	NOON
AM	200	0	289	33	56	AM
		0	0	1	0	

CONTROL			
Signalized			
TEV	1797	0	1469
	AM	NOON	PM
PHF	0.89		0.97

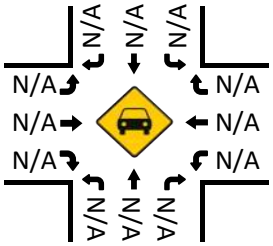
Total Vehicles (AM)



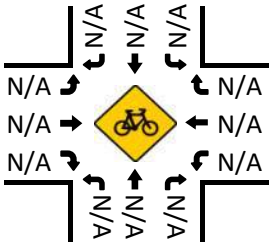
Bikes (AM)



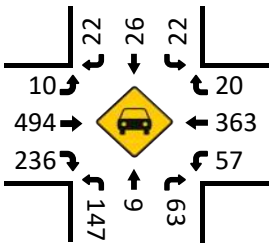
Total Vehicles (Noon)



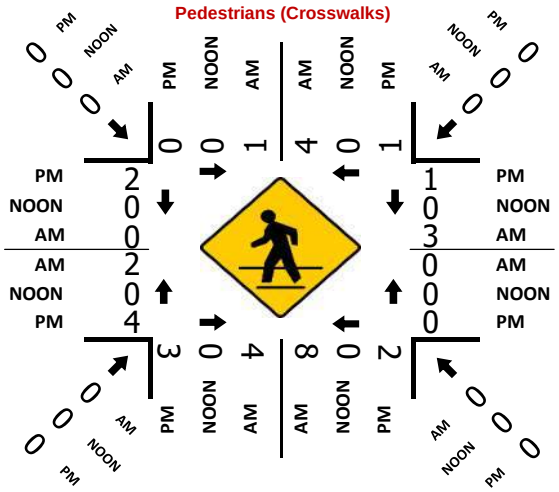
Bikes (NOON)



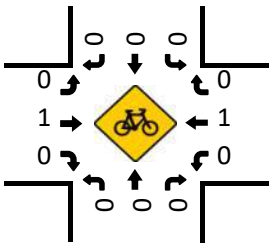
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Cordoba Ave & Campo Rd

Peak Hour Turning Movement Count

ID: 19-04442-008
City: Spring Valley

Day: Tuesday
Date: 11/12/2019

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NONE	NONE
04:15 PM - 05:15 PM	04:00 PM - 06:00 PM

Cordoba Ave — SOUTHBOUND

AM	35	5	44	0	88	AM
NOON	0	0	0	0	0	NOON
PM	49	11	33	0	92	PM

Campo Rd — EASTBOUND

AM	NOON	PM	
838	0	423	
0	0	0	0
32	0	60	0
400	0	527	2
17	0	17	0
AM	NOON	PM	

Campo Rd — WESTBOUND

	PM	NOON	AM
0	28	0	45
2	365	0	798
0	27	0	33
0	0	0	0
	580	0	459
	PM	NOON	AM

Cordoba Ave — NORTHBOUND

PM	56	1	9	4	20	PM
NOON	0	0	0	0	0	NOON
AM	55	0	5	11	15	AM

Turning movements (left, through, right, U-turn):

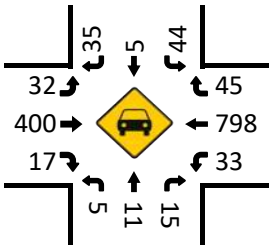
0	1	0	0
0	0	1	0

CONTROL

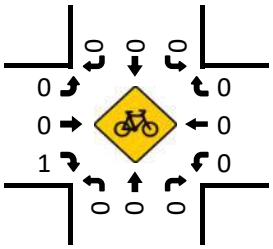
2-Way Stop (NB/SB)

TEV	1440	0	1151
	AM	NOON	PM
PHF	0.84		0.95

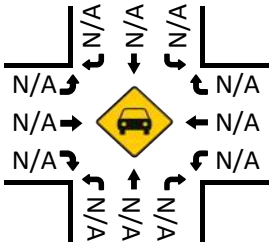
Total Vehicles (AM)



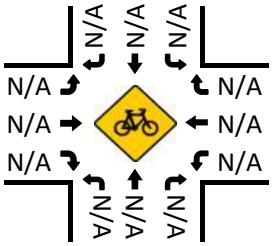
Bikes (AM)



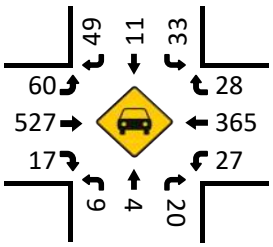
Total Vehicles (Noon)



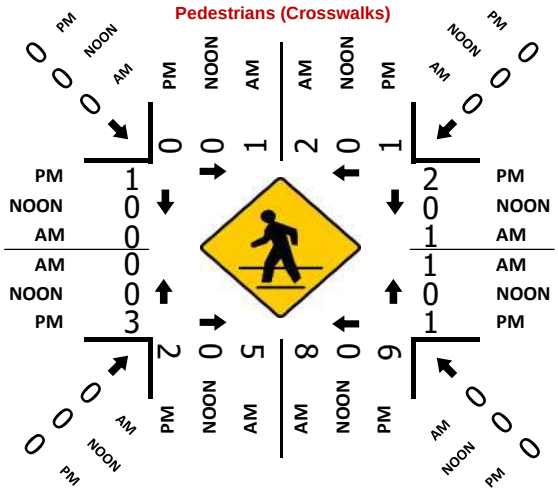
Bikes (NOON)



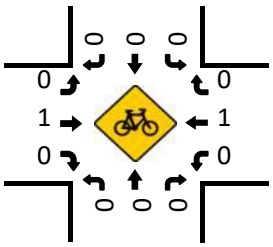
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Granada Ave/Casa De Oro Blvd & Campo Rd

Peak Hour Turning Movement Count

ID: 19-04442-009
City: Spring Valley

Day: Tuesday
Date: 11/12/2019

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NONE	NONE
04:45 PM - 05:45 PM	04:00 PM - 06:00 PM

Granada Ave/Casa De Oro Blvd — SOUTHBOUND

AM	15	3	40	0	44	AM
NOON	0	0	0	0	0	NOON
PM	9	3	28	0	15	PM
	0	1	0	0		

Campo Rd — EASTBOUND

AM	NOON	PM		
742	0	334		
0	0	0	0	
17	0	3	1	
345	0	474	2	
9	0	9	0	
AM	NOON	PM		

Campo Rd — WESTBOUND

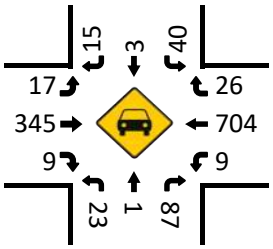
PM	NOON	AM	
11	0	26	0.5
312	0	704	1.5
19	0	9	1
0	0	0	0
551	0	472	
PM	NOON	AM	

Granada Ave/Casa De Oro Blvd — NORTHBOUND

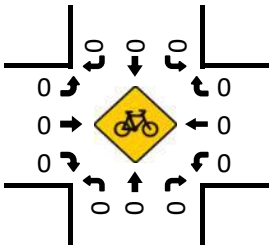
PM	31	0	13	1	49	PM
NOON	0	0	0	0	0	NOON
AM	21	0	23	1	87	AM
		0	0	0.5	0.5	

CONTROL			
Signalized			
TEV	1279	0	931
	AM	NOON	PM
PHF	0.83		0.93

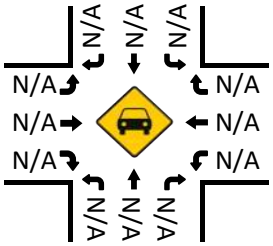
Total Vehicles (AM)



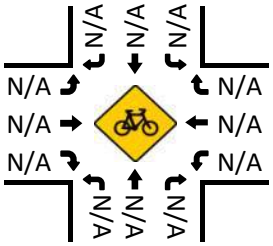
Bikes (AM)



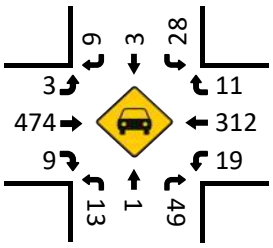
Total Vehicles (Noon)



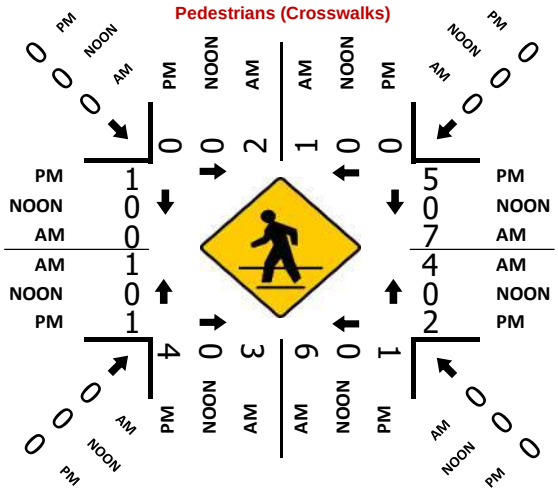
Bikes (NOON)



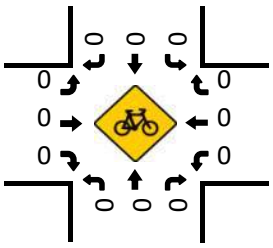
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Granada Ave/Casa De Oro Blvd & Campo Rd
City: Spring Valley
Control: Signalized

Project ID: 19-04442-009
Date: 11/12/2019

Total

NS/EW Streets:	Granada Ave/Casa De Oro Blvd					Granada Ave/Casa De Oro Blvd					Campo Rd					Campo Rd										
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					SOUTHBOUND2					
	0	0.5	0.5	0	0	0	1	0	0	0	1	2	0	0	0	1	1.5	0.5	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL
7:00 AM	8	0	19	0	0	6	0	1	0	0	1	52	3	0	5	1	109	7	0	9	0	15	0	10	1	247
7:15 AM	5	0	16	0	2	7	0	2	0	0	2	62	1	0	15	1	136	3	0	10	0	8	0	21	0	291
7:30 AM	7	0	28	0	8	9	0	2	0	0	4	53	5	0	19	2	116	5	0	8	0	9	2	29	5	311
7:45 AM	3	1	30	0	10	5	1	2	0	0	3	110	3	0	28	2	143	4	0	21	0	16	6	32	3	423
8:00 AM	10	0	13	0	5	15	1	6	0	0	7	84	1	0	14	2	230	10	0	17	0	13	7	56	2	493
8:15 AM	3	0	16	0	2	11	1	5	0	0	3	98	0	0	5	3	215	7	0	5	0	11	2	23	4	414
8:30 AM	4	0	12	0	2	12	0	3	0	1	0	104	1	0	8	1	114	2	0	7	0	8	1	12	1	293
8:45 AM	8	0	15	0	0	4	0	2	0	0	0	73	2	0	7	1	51	2	0	9	0	6	0	11	0	191
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL
TOTAL VOLUMES :	48	1	149	0	29	69	3	23	0	1	20	636	16	0	101	13	1114	40	0	86	0	86	18	194	16	2663
APPROACH %'s :	21.15%	0.44%	65.64%	0.00%	12.78%	71.88%	3.13%	23.96%	0.00%	1.04%	2.59%	82.28%	2.07%	0.00%	13.07%	1.04%	88.91%	3.19%	0.00%	6.86%	0.00%	27.39%	5.73%	61.78%	5.10%	
PEAK HR :	07:30 AM - 08:30 AM																									TOTAL
PEAK HR VOL :	23	1	87	0	25	40	3	15	0	0	17	345	9	0	66	9	704	26	0	51	0	49	17	140	14	1641
PEAK HR FACTOR :	0.575	0.250	0.725	0.000	0.625	0.667	0.750	0.625	0.000	0.000	0.607	0.784	0.450	0.000	0.589	0.750	0.765	0.650	0.000	0.607	0.000	0.766	0.607	0.625	0.700	0.832
			0.773					0.659					0.759					0.763					0.705			

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					SOUTHBOUND2					
	0	0.5	0.5	0	0	0	1	0	0	0	1	2	0	0	0	1	1.5	0.5	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL
4:00 PM	1	1	13	0	4	13	0	1	0	0	2	97	7	0	19	3	95	10	0	10	0	8	2	10	1	297
4:15 PM	3	2	17	0	2	4	0	2	0	1	1	106	2	0	19	1	77	2	0	14	0	6	2	15	5	281
4:30 PM	5	1	9	0	0	8	0	7	0	1	2	111	7	0	21	4	75	1	0	6	0	8	3	12	1	282
4:45 PM	5	0	13	0	3	12	2	3	0	0	0	128	2	0	21	5	84	1	0	15	0	8	0	17	1	320
5:00 PM	3	0	16	0	3	8	1	1	0	1	0	124	2	0	22	8	73	1	0	7	0	11	1	20	1	303
5:15 PM	3	0	7	0	0	8	0	2	0	0	2	100	2	0	21	4	73	8	0	9	0	6	3	16	1	265
5:30 PM	2	1	13	0	1	0	0	3	0	0	1	122	3	0	19	2	82	1	0	13	0	14	1	25	1	304
5:45 PM	5	1	9	0	5	1	1	1	0	0	0	101	4	0	13	2	54	1	0	12	0	9	0	22	1	242
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL
TOTAL VOLUMES :	27	6	97	0	18	54	4	20	0	3	8	889	29	0	155	29	613	25	0	86	0	70	12	137	12	2294
APPROACH %'s :	18.24%	4.05%	65.54%	0.00%	12.16%	66.67%	4.94%	24.69%	0.00%	3.70%	0.74%	82.24%	2.68%	0.00%	14.34%	3.85%	81.41%	3.32%	0.00%	11.42%	0.00%	30.30%	5.19%	59.31%	5.19%	
PEAK HR :	04:45 PM - 05:45 PM																									TOTAL
PEAK HR VOL :	13	1	49	0	7	28	3	9	0	1	3	474	9	0	83	19	312	11	0	44	0	39	5	78	4	1192
PEAK HR FACTOR :	0.650	0.250	0.766	0.000	0.583	0.583	0.375	0.750	0.000	0.250	0.375	0.926	0.750	0.000	0.943	0.594	0.929	0.344	0.000	0.733	0.000	0.696	0.417	0.780	1.000	0.931
			0.795					0.603					0.942					0.919					0.768			

Prepared by National Data & Surveying Services

Campo Rd & SR-94 WB On-Ramps/Agua Dulce Blvd

Peak Hour Turning Movement Count

ID: 19-04442-010
City: Spring Valley

Day: Tuesday
Date: 11/12/2019

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

Campo Rd — SOUTHBOUND

AM	189	322	16	2	817	AM
NOON	0	0	0	0	0	NOON
PM	126	443	8	2	430	PM

SR-94 WB On-Ramps/Agua Dulce — EASTBOUND

AM	NOON	PM	
846	0	708	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
AM	NOON	PM	

SR-94 WB On-Ramps/Agua Dulce — WESTBOUND

PM	NOON	AM	
155	0	289	0
63	0	162	1
201	0	194	0
0	0	0	0
82	0	199	
PM	NOON	AM	

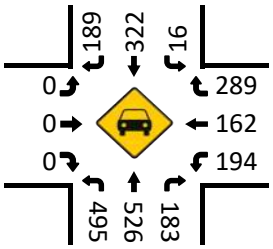
Campo Rd — NORTHBOUND

PM	644	0	519	273	74	PM
NOON	0	0	0	0	0	NOON
AM	517	1	495	526	183	AM

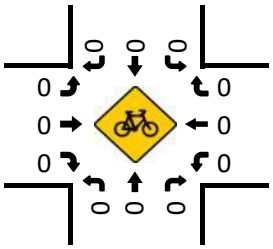
0	2	1	0
0	1	2	0

CONTROL			
Signalized			
TEV	2379	0	1864
	AM	NOON	PM
PHF	0.92		0.94

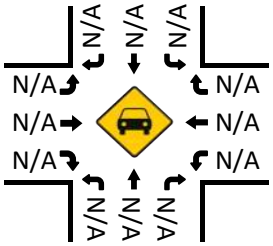
Total Vehicles (AM)



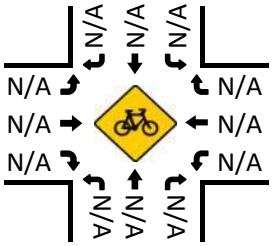
Bikes (AM)



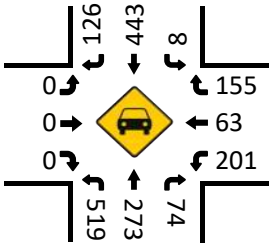
Total Vehicles (Noon)



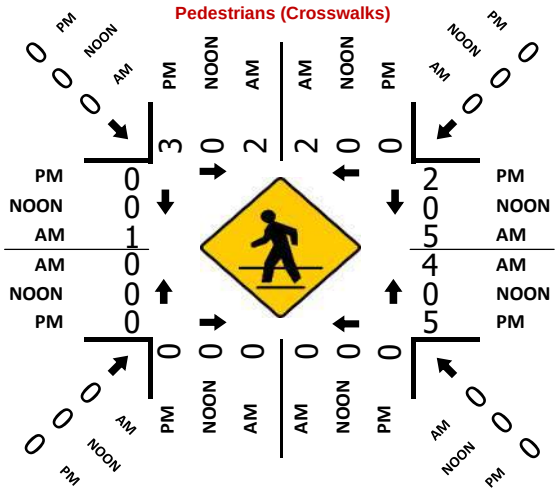
Bikes (NOON)



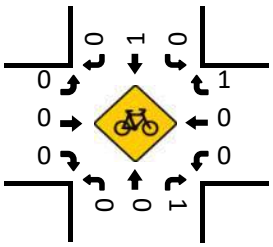
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

Campo Rd & SR-94 EB Ramps

Peak Hour Turning Movement Count

ID: 19-04442-011
City: Spring Valley

Day: Tuesday
Date: 11/12/2019

PEAK HOURS	
AM	07:15 AM - 08:15 AM
NOON	NONE
PM	04:45 PM - 05:45 PM

COUNT PERIODS	
AM	07:00 AM - 09:00 AM
NOON	NONE
PM	04:00 PM - 06:00 PM

Campo Rd — SOUTHBOUND

AM	0	282	180	0	1320	AM
NOON	0	0	0	0	0	NOON
PM	0	456	189	0	861	PM

SR-94 EB Ramps — EASTBOUND

AM	NOON	PM	
0	0	0	
0	0	0	0
196	0	139	0.5
5	0	1	0.5
571	0	800	1
AM	NOON	PM	

WESTBOUND — SR-94 EB Ramps

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
398	0	425	
PM	NOON	AM	

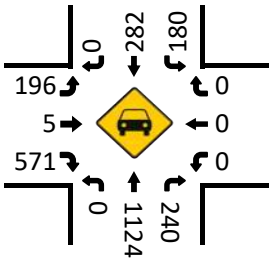
Campo Rd — NORTHBOUND

PM	1256	0	0	722	208	PM
NOON	0	0	0	0	0	NOON
AM	853	0	0	1124	240	AM

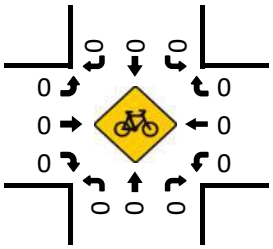
Turning movements (red): 0 2 1 0 | 0 0 2 1

CONTROL			
Signalized			
TEV	2598	0	2515
	AM	NOON	PM
PHF	0.92		0.95

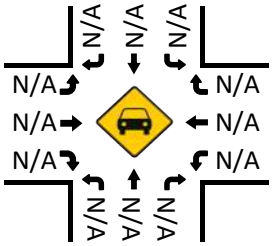
Total Vehicles (AM)



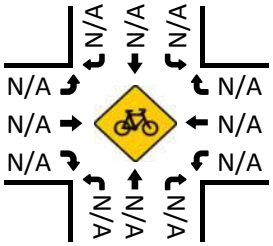
Bikes (AM)



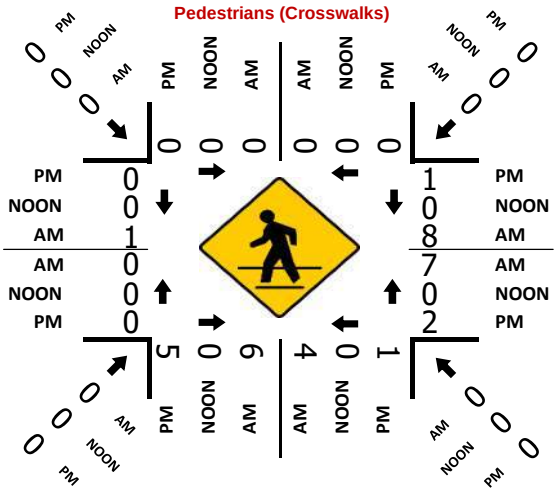
Total Vehicles (Noon)



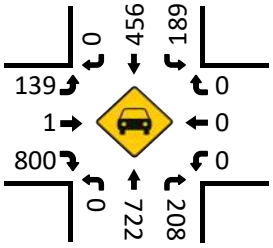
Bikes (NOON)



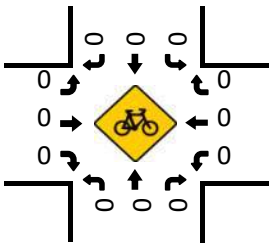
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

SR-94 WB Off-Ramps & Agua Dulce Blvd

Peak Hour Turning Movement Count

ID: 19-04442-012
City: Spring Valley

Day: Tuesday
Date: 11/12/2019

PEAK HOURS	COUNT PERIODS
07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

SOUTHBOUND — SR-94 WB Off-Ramps

AM	0	0	0	0	0	AM
NOON	0	0	0	0	0	NOON
PM	0	0	0	0	0	PM

EASTBOUND — Agua Dulce Blvd

AM	NOON	PM	
648	0	423	⇦
0	0	0	↶ 0
0	0	0	↱ 0
202	0	81	→ 1
0	0	0	↳ 0

WESTBOUND — Agua Dulce Blvd

PM	NOON	AM	
0	0	0	0 ↰
107	0	334	1 ←
0	0	0	0 ↰
0	0	0	0 ↰
95	0	262	⇨

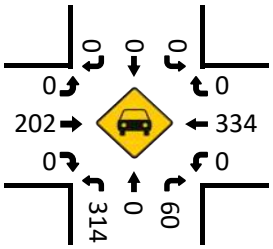
NORTHBOUND — SR-94 WB Off-Ramps

PM	0	0	316	0	14	PM
NOON	0	0	0	0	0	NOON
AM	0	0	314	0	60	AM

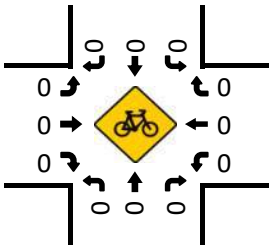
↲ 0	↓ 0	↳ 0	↳ 0
↶ 0	↶ 1	↑ 0	↱ 1

CONTROL			
1-Way Stop (NB)			
TEV	910	0	518
	AM	NOON	PM
PHF	0.87		0.83

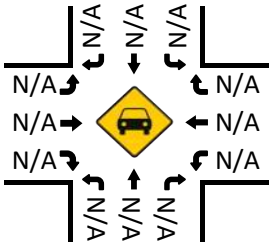
Total Vehicles (AM)



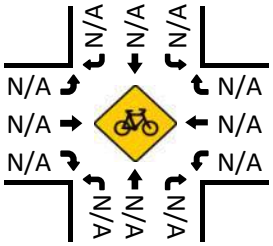
Bikes (AM)



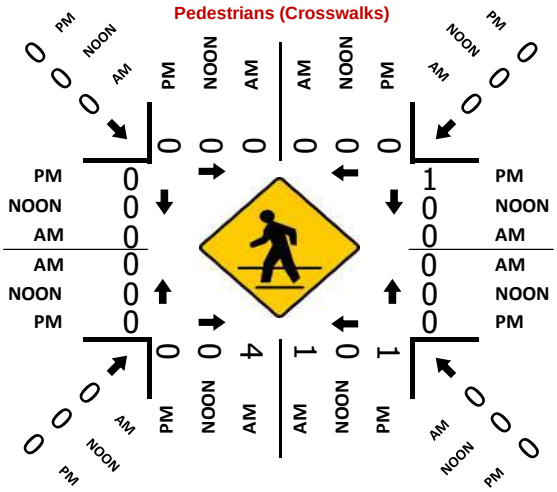
Total Vehicles (Noon)



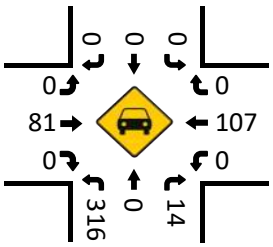
Bikes (NOON)



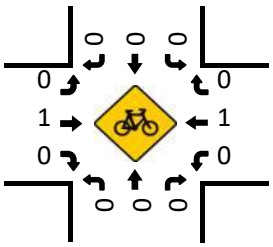
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Michael Baker
INTERNATIONAL

Attachment C:
Parking Survey Data

Prepared by National Data & Surveying Services

Parking Study

Location: Spring Valley Parking- On Street

City: Spring Valley

Date: 12/13/2019

Day: Friday

Segment	Street	From	To	Curb	Space	Restrictions	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	Note
001 S	San Juan St	Lot 40	Conrad St	Regular	9	Unrestricted	6	8	8	7	8	8	7	
001N	San Juan St	School DWY	Bonita St	Regular	7	Unrestricted	3	5	5	4	4	4	3	
002N	Dolores St	Cordoba Ave	Barcelona St	Regular	10	Unrestricted	9	9	10	10	10	9	9	
002S	Dolores St	Barcelona St	Cordoba Ave	Regular	10	Unrestricted	3	3	7	8	9	7	8	
003N	Dolores St	Granda Ave	Cordoba Ave	Regular	8	Unrestricted	4	4	4	4	5	5	6	
003S	Dolores St	Cordoba Ave	Granda Ave	Regular	8	Unrestricted	4	4	4	4	4	4	4	
004E	Conrad Dr	Campo Rd	San Juan Rd	Regular	7	Unrestricted	4	5	5	4	5	5	5	
004W	Conrad Dr	San Juan St	Campo Rd	Regular	6	Unrestricted	2	4	4	4	4	3	2	
005E	Bonita St	Campo Rd	Bonita St	Regular	7	Unrestricted	3	3	3	4	5	5	4	
005W	Bonita St	San Juan St	Campo Rd	Regular	10	Unrestricted	3	5	5	4	3	3	4	
006E	Bonita St	Dolores St	Campo Rd	Regular	5	Unrestricted	4	5*	5	5*	5*	5*	4	*One vehicle parked illegally in front of driveway (Vehicle not included in occupancy)
006W	Bonita St	Campo Rd	Dolores St	Regular	8	Unrestricted	6	6	6	5	5	5	5	
007E	Barcelona St	Campo Rd	San Juan St	Regular	7	Unrestricted	6	7	6	4	4	4	3	
007W	Barcelona St	San Juan St	Campo Rd	Regular	7	Unrestricted	3	4	4	3	3	3	4	
008 E	Barcelona St	Dolores St	Campo Rd	Regular	5	Unrestricted	5	5	4	3	3	4	4	
008 W	Barcelona St	Campo Rd	Dolores St	Regular	6	Unrestricted	6	6	5	5	5	5	5	
009E	Cordoba Ave	Campo Rd	San Juan St	Regular	8	Unrestricted	1	1	2	2	2	2	1	
009W	Cordoba Ave	San Juan St	Campo Rd	Regular	5	Unrestricted	0	0	0	0	1	1	0	
010E	Cordoba Ave	Dolores St	Campo Rd	Regular	6	Unrestricted	6	6	5	4	4	5	3	
010W	Cordoba Ave	Campo Rd	Dolores St	Regular	8	Unrestricted	4	4	3	4	3	4	2	
011E	Granda Ave	Campo Rd	San Juan St	Regular	8	Unrestricted	6	6	7	8	8	7	6	
011W	Granda Ave	San Juan St	Campo Rd	Regular	5	Unrestricted	3	3	4	4	2	2	2	
012E	Granda Ave	Dolores St	Campo Rd	Regular	8	Unrestricted	1	1	1	0	0	1	0	
012W	Granda Ave	Campo Rd	Dolores St	Regular	7	Unrestricted	0	0	1	0	0	0	0	

Prepared by National Data & Surveying Services

Parking Study

Location: Spring Valley Parking- Off Street
City: Spring Valley

Date: 12/13/2019
Day: Friday

Lot	Restriction	Space	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	Notes
13	Regular	11	3	2	2	4	4	3	5	
14	Regular	11	3	4	2	4	4	4	5	
15	Regular	103	20	25	35	26	27	17	21	
	HC	4	0	0	1	1	0	0	0	
	HC Van	2	0	0	1	1	0	0	0	
16	Regular	24	3	3	1	2	4	4	6	
	HC Van	1	0	0	0	0	0	0	0	
17	Regular	9	4	6	8	8	5	9	6	
	HC	1	0	1	1	0	0	0	0	
	Round Table	8	2	3	6	6	3	4	4	
	Customer Only	2	1	1	2	2	2	1	1	
	Patient/Customer	5	5	3	3	5	5	5	5	
18	Regular	27	14	14	14	13	11	6	5	
	HC	1	0	0	0	0	0	0	0	
	Reserved for Pastor	1	0	0	1	1	0	0	0	
19	Regular	34	19	22	19	21	19	25	23	
	HC	1	0	0	0	0	0	0	0	
	HC Van	1	0	0	0	0	0	0	0	
20	Regular	15	10	10	8	5	7	9	4	
	HC Van	1	1	0	0	0	0	0	0	
21	Regular	33	9	7	16	6	7	7	8	
	HC	1	0	0	0	0	0	0	0	
	HC Van	1	0	1	0	0	0	0	1	
22	Regular	10	1	1	2	1	1	1	0	
	HC Van	1	0	0	0	0	0	0	0	
23	Regular	2	1	2	1	0	1	2	1	
	HC Van	1	0	0	0	0	0	0	0	
24	Regular	69	15	19	22	22	28	30	28	
	HC	2	0	1	0	0	1	0	0	
	HC Van	2	0	1	0	0	0	1	1	
25	Regular	117	32	36	31	45	36	43	43	
	HC	3	0	0	1	1	0	1	0	
	HC Van	3	0	1	0	0	0	0	1	
26	Regular	5	0	0	0	0	0	0	0	
27	Unmarked Spaces		0	0	0	1	1	1	1	Unmarked inventory (Vehicles using vaccums)
28	Regular	49	23	24	24	24	24	22	21	
	HC	1	0	0	0	0	0	0	0	
	HC Van	1	0	0	0	0	0	0	0	
29	Regular	16	14	15	15	16	14	15	13	
30	Regular	54	5	6	6	6	6	5	5	
31	Regular	89	40	48	45	38	26	23	27	
	HC	8	1	2	3	4	3	3	2	
	Veteran Parking	1	0	1	0	0	1	1	0	
	Family Parking	1	1	0	0	1	1	1	1	
	15 Min (Green)	10	2	1	3	2	4	3	3	
32	Regular	10	2	3	4	4	5	5	4	
	HC Van	1	0	0	0	0	0	0	0	
33	Regular	130	43	55	68	71	85	75	61	
	HC	3	0	0	0	2	3	2	1	
	HC Van	1	0	0	0	1	1	0	0	
34	Regular	20	10	11	11	10	10	10	8	
35	Regular	59	21	27	31	33	35	32	24	
	HC	5	1	2	2	3	3	2	2	
	HC Van	1	0	1	1	0	0	0	0	
36	Regular	109	47	58	59	62	64	61	53	
	HC	1	0	0	1	0	0	0	0	
	HC Van	1	0	0	0	0	0	0	0	
37	Regular	4	1	2	2	1	2	2	1	
	HC Van	1	0	0	0	0	0	0	0	
38	Regular	2	2	1	1	2	2	2	1	
	Unmarked Spaces		3	4	4	4	5	4	4	
39	Regular	35	6	8	10	12	14	15	13	
	HC	1	0	0	1	0	0	0	0	
	HC Van	1	0	0	0	0	0	0	0	
40	Regular	50	7	7	7	6	7	7	6	
41	Regular	118	36	45	49	51	42	38	39	
	HC	7	0	0	0	1	1	2	1	
	20 Min (Green)	45	16	23	25	28	29	29	26	
42	Regular	8	3	4	4	4	5	5	4	

43	Regular	31	8	10	9	7	6	6	7	
	HC	1	0	0	0	1	1	0	0	
44	Regular	22	7	10	9	6	5	7	6	
	HC	2	0	0	0	1	2	1	1	
	HC Van	1	0	0	0	1	0	0	0	
45	Regular	15	3	4	9	12	15	14	11	
	HC	2	0	0	0	1	0	0	0	
	HC Van	1	0	0	0	1	1	1	0	
	La Postas	6	3	4	4	5	6	6	5	
	Pawn Shop (Green)	4	0	0	0	0	0	0	0	
46	Regular	8	0	0	2	4	4	4	3	
	HC Van	1	0	0	0	0	0	0	0	
47	Regular	13	1	2	4	5	7	6	6	
	HC	1	0	0	1	0	0	0	0	
048	Regular	16	5	6	8	10	11	13	10	
	HC	1	0	0	0	1	1	1	0	
	Customer Only	9	1	2	3	5	7	5	4	
	Unmarked Spaces		1	1	1	1	1	0	0	
49	Regular	11	11	11	10	11	11	10	9	
	Unmarked Spaces		2	3	2	2	5	4	3	
50	Regular	14	3	3	4	3	5	4	4	
51	Regular	4	1	1	1	1	2	2	1	
52	Regular	13	10	10	11	9	11	10	9	
	HC	1	0	0	0	0	0	0	0	
	Dental	6	2	2	3	1	2	2	1	
53	Regular	10	4	5	5	3	4	3	3	
54	Regular	6	4	4	3	2	3	2	2	
	HC	1	0	0	0	0	0	0	0	
55	Regular	14	3	5	5	5	5	3	4	
	HC	1	0	0	0	0	0	0	0	
56	Regular	8	6	8	8	8	8	8	8	
	HC	1	1	1	1	1	1	1	1	
57	Regular	6	0	0	0	0	0	0	0	
	HC	1	0	0	0	0	0	0	0	
58	Regular	17	8	10	15	10	10	7	5	
	HC	1	0	0	0	0	0	0	0	
59	Regular	17	13	13	15	17	17	15	15	
	HC	1	0	1	1	1	0	0	0	
060 Dirt	Unmarked Spaces		0	0	0	0	0	0	0	
61	Regular	4	2	2	2	2	2	2	1	
	HC	1	0	0	0	0	0	0	0	
62	HC	1	0	0	0	0	0	0	0	
	Unmarked Spaces		5	5	4	4	5	4	4	
063 Carwash	Unmarked Spaces		3	4	3	3	3	4	2	
64	Regular	25	1	1	5	6	7	5	5	
	HC	1	0	0	1	1	0	0	0	
65	Regular	6	3	3	3	3	3	3	3	
66	Regular	17	11	13	14	14	13	15	11	
	HC	1	0	0	0	0	0	0	0	
67	Regular	16	1	2	2	2	3	2	3	
68	Regular	8	8	8	8	7	7	8	6	
	HC	1	1	1	1	0	0	0	0	
69	Regular	13	2	4	0	2	0	0	0	
	HC	1	0	0	0	0	0	0	0	
	HC Van	1	0	0	0	0	0	0	0	
70	Regular	23	23	23	21	23	20	21	19	
	HC	1	1	1	1	1	0	0	0	
	Reserved	2	1	1	0	1	1	1	0	
	Unmarked Spaces		2	2	1	1	2	0	0	
71	Regular	21	8	10	13	13	15	15	16	
	HC	1	0	0	0	0	0	0	0	
72	Regular	26	7	10	13	11	12	13	11	
	HC	1	1	1	0	0	0	0	0	
	HC Van	1	1	1	0	0	0	0	0	

INTERSECTION: CampoRd @ CasadeOro @ Granad 750

QuicNet System Parameters

Group Assignment: **#NAME?**
Field Master Assignment: **#NAME?**
System Reference Number: **18**
Commications Channel: **#NAME?**
Drop Address: **8**
Area Number: **6**
Area Address: **8**

N/S Street Name: **######**
E/W Street Name: **######**

Last *QuicNet* Database Change: **4/3/2014 12:10**

Notes:

Field Change Record					
Change	By	Date	Change	By	Date

Excl Ped Assignment	**#NAME?**
Exclusive Walk	**0**
Exclusive FDW	**0**
All Red Clear	**0.0**

Exclusive Ped Phase

Note: Set the Exclusive Ped Outputs on the "Outputs / General" page

Walk Output	**0**
Don't Walk Output	**0**

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green	4	6	4	4	8	6	0	4
	Extension	1.0	4.0	1.0	1.0	4.0	2.0	0.0	1.0
	Max	20	45	30	28	24	45	0	25
	Max 2	0	0	0	0	0	0	0	0
	Cond Serve Check	0	0	0	0	0	0	0	0
Clear	Yellow Change	3.9	4.3	3.2	3.2	3.9	4.3	0.0	3.2
	Red Clear	0.5	1.0	1.0	1.0	0.5	1.0	0.0	1.0
Pedestrian Timing	Walk	0	7	7	7	0	7	0	0
	Ped Clear - FDW	0	11	11	19	0	11	0	0
	Adv / Delay Walk	0	0	0	0	0	0	0	0
	PE Min Ped FDW	0	0	0	0	0	0	0	0
Volume Density	Type 3 Disconnect	0	0	0	0	0	0	0	0
	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Added Initial	0	0	0	0	0	0	0	0
	Min Gap	2.0	4.0	1.0	1.0	5.0	2.0	0.0	1.0
	Max Gap	2.0	3.0	0.5	0.5	5.0	1.0	0.0	0.5
	Reduce Every	24.0	6.0	10.0	10.0	24.0	6.0	0.0	10.0

Phase Timing - Bank 1

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternate Timing - Bank 1

Red Lock	**#NAME?**	Red Rest	**#NAME?**
Yellow Lock	**#NAME?**	Dual Entry	**#NAME?**
Simultaneous Gap	**#NAME?**	Sequential Timing	**#NAME?**
Rest In Walk	**#NAME?**	Inhibit Ped Reservice	**#NAME?**
Advance Walk	**#NAME?**	Semi-Actuated	**#NAME?**
Flashing Walk	**#NAME?**	Guaranteed Passage	**#NAME?**
Max Extension	**#NAME?**	Conditional Service	**#NAME?**

Phase Functions - Page 1

Minimum Recall	**#NAME?**	Soft Recall	**#NAME?**
Ped Recall	**#NAME?**	External Recall	**#NAME?**
Maximum Recall	**#NAME?**	Manual Control Calls	**#NAME?**
Green Flash	**#NAME?**	Fast Green Flash	**#NAME?**
Overlap Green Flash	**#NAME?**	Fast Overlap G. Flash	**#NAME?**

Phase Functions - Page 2

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green	0	0	0	0	0	0	0	0
	Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max	0	0	0	0	0	0	0	0
	Max 2	0	0	0	0	0	0	0	0
	Cond Serve Check	0	0	0	0	0	0	0	0
Clear	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Timing	Walk	0	0	0	0	0	0	0	0
	Ped Clear - FDW	0	0	0	0	0	0	0	0
	Adv / Delay Walk	0	0	0	0	0	0	0	0
	PE Min Ped FDW	0	0	0	0	0	0	0	0
Volume Density	Type 3 Disconnect	0	0	0	0	0	0	0	0
	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Added Initial	0	0	0	0	0	0	0	0
	Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 2

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green	0	0	0	0	0	0	0	0
	Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max	0	0	0	0	0	0	0	0
	Max 2	0	0	0	0	0	0	0	0
	Cond Serve Check	0	0	0	0	0	0	0	0
Clear	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Timing	Walk	0	0	0	0	0	0	0	0
	Ped Clear - FDW	0	0	0	0	0	0	0	0
	Adv / Delay Walk	0	0	0	0	0	0	0	0
	PE Min Ped FDW	0	0	0	0	0	0	0	0
Volume Density	Type 3 Disconnect	0	0	0	0	0	0	0	0
	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Added Initial	0	0	0	0	0	0	0	0
	Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 3

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternate Timing - Bank 2

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternate Timing - Bank 3

INTERSECTION: Barcelona St @ Campo Rd 750

QuicNet System Parameters

Group Assignment: **######**
Field Master Assignment: **######**
System Reference Number: **17**
Commications Channel: **######**
Drop Address: **7**
Area Number: **6**
Area Address: **7**

N/S Street Name: **######**
E/W Street Name: **######**

Last *QuicNet* Database Change: **5/6/2014 13:22**

Notes:

Field Change Record					
Change	By	Date	Change	By	Date

Excl Ped Assignment	**#NAME?**
Exclusive Walk	**0**
Exclusive FDW	**0**
All Red Clear	**0.0**

Note: Set the Exclusive Ped Outputs on the "Outputs / General" page

Walk Output	**0**
Don't Walk Output	**0**

Exclusive Ped Phase

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green	4	6	0	4	4	6	0	0
	Extension	2.0	2.0	0.0	3.0	2.0	2.0	0.0	0.0
	Max	30	45	0	36	30	45	0	0
	Max 2	0	0	0	0	0	0	0	0
	Cond Serve Check	0	0	0	0	0	0	0	0
Clear	Yellow Change	3.2	3.6	0.0	3.2	3.2	3.6	0.0	0.0
	Red Clear	0.5	1.0	0.0	1.0	0.5	1.0	0.0	0.0
Pedestrian Timing	Walk	0	7	0	7	0	7	0	0
	Ped Clear - FDW	0	12	0	19	0	13	0	0
	Adv / Delay Walk	0	0	0	0	0	0	0	0
	PE Min Ped FDW	0	0	0	0	0	0	0	0
Volume Density	Type 3 Disconnect	0	0	0	0	0	0	0	0
	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Added Initial	0	0	0	0	0	0	0	0
	Min Gap	2.0	1.5	0.0	3.0	2.0	1.5	0.0	0.0
	Max Gap	2.0	2.1	0.0	3.0	2.0	2.1	0.0	0.0
	Reduce Every	0.0	7.0	0.0	0.0	0.0	7.0	0.0	0.0

Phase Timing - Bank 1

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternate Timing - Bank 1

Red Lock	**#NAME?**	Red Rest	**#NAME?**
Yellow Lock	**#NAME?**	Dual Entry	**#NAME?**
Simultaneous Gap	**#NAME?**	Sequential Timing	**#NAME?**
Rest In Walk	**#NAME?**	Inhibit Ped Reservice	**#NAME?**
Advance Walk	**#NAME?**	Semi-Actuated	**#NAME?**
Flashing Walk	**#NAME?**	Guaranteed Passage	**#NAME?**
Max Extension	**#NAME?**	Conditional Service	**#NAME?**

Phase Functions - Page 1

Minimum Recall	**#NAME?**	Soft Recall	**#NAME?**
Ped Recall	**#NAME?**	External Recall	**#NAME?**
Maximum Recall	**#NAME?**	Manual Control Calls	**#NAME?**
Green Flash	**#NAME?**	Fast Green Flash	**#NAME?**
Overlap Green Flash	**#NAME?**	Fast Overlap G. Flash	**#NAME?**

Phase Functions - Page 2

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green	0	0	0	0	0	0	0	0
	Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max	0	0	0	0	0	0	0	0
	Max 2	0	0	0	0	0	0	0	0
	Cond Serve Check	0	0	0	0	0	0	0	0
Clear	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Timing	Walk	0	0	0	0	0	0	0	0
	Ped Clear - FDW	0	0	0	0	0	0	0	0
	Adv / Delay Walk	0	0	0	0	0	0	0	0
	PE Min Ped FDW	0	0	0	0	0	0	0	0
Volume Density	Type 3 Disconnect	0	0	0	0	0	0	0	0
	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Added Initial	0	0	0	0	0	0	0	0
	Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 2

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green	0	0	0	0	0	0	0	0
	Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max	0	0	0	0	0	0	0	0
	Max 2	0	0	0	0	0	0	0	0
	Cond Serve Check	0	0	0	0	0	0	0	0
Clear	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Timing	Walk	0	0	0	0	0	0	0	0
	Ped Clear - FDW	0	0	0	0	0	0	0	0
	Adv / Delay Walk	0	0	0	0	0	0	0	0
	PE Min Ped FDW	0	0	0	0	0	0	0	0
Volume Density	Type 3 Disconnect	0	0	0	0	0	0	0	0
	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Added Initial	0	0	0	0	0	0	0	0
	Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 3

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternate Timing - Bank 2

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternate Timing - Bank 3

INTERSECTION: Bonita St @ Campo Rd 750

QuicNet System Parameters

Group Assignment: **NONE**
Field Master Assignment: **NONE**
System Reference Number: **16**
Commications Channel: **Not Assigned**
Drop Address: **6**
Area Number: **6**
Area Address: **6**

N/S Street Name: **Bonita St**
E/W Street Name: **Campo Rd**

Last *QuicNet* Database Change: **8/1/2016 11:51**

Notes:

Field Change Record					
Change	By	Date	Change	By	Date

Excl Ped Assignment	_____
Exclusive Walk	0
Exclusive FDW	0
All Red Clear	0.0

Note: Set the Exclusive Ped Outputs on the "Outputs / General" page

Walk Output	0
Don't Walk Output	0

Exclusive Ped Phase

	Phase 1	2	3	4	5	6	7	8
Basic Phase Timing								
Min Green	4	6	0	4	4	6	0	4
Extension	1.5	2.0	0.0	2.0	1.5	2.0	0.0	2.0
Max	20	50	0	27	20	50	0	27
Max 2	0	0	0	0	0	0	0	0
Cond Serve Check	0	0	0	0	0	0	0	0
Clear								
Yellow Change	3.6	4.1	0.0	3.6	3.6	4.1	0.0	3.6
Red Clear	0.5	1.0	0.0	1.0	0.5	1.0	0.0	1.0
Pedestrian Timing								
Walk	0	7	0	7	0	7	0	7
Ped Clear - FDW	0	12	0	19	0	12	0	19
Adv / Delay Walk	0	0	0	0	0	0	0	0
PE Min Ped FDW	0	0	0	0	0	0	0	0
Volume Density								
Type 3 Disconnect	0	0	0	0	0	0	0	0
Added per Vehicle	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Max Added Initial	0	0	0	0	0	10	0	0
Min Gap	1.0	1.0	0.0	5.0	1.0	1.0	0.0	5.0
Max Gap	1.5	2.0	0.0	5.0	1.5	2.0	0.0	5.0
Reduce Every	10.0	10.0	0.0	24.0	10.0	10.0	0.0	24.0

Phase Timing - Bank 1

	Phase 1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternate Timing - Bank 1

Red Lock	_____	Red Rest	_____
Yellow Lock	_____	Dual Entry	_2_4_6_8
Simultaneous Gap	_____	Sequential Timing	_____
Rest In Walk	_____	Inhibit Ped Reservice	_____
Advance Walk	_____	Semi-Actuated	_____
Flashing Walk	_____	Guaranteed Passage	_____
Max Extension	_____	Conditional Service	_____

Phase Functions - Page 1

Minimum Recall	_2___6__	Soft Recall	_____
Ped Recall	_____	External Recall	_____
Maximum Recall	_____	Manual Control Calls	_____
Green Flash	_____	Fast Green Flash	_____
Overlap Green Flash	_____	Fast Overlap G. Flash	_____

Phase Functions - Page 2

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green	0	0	0	0	0	0	0	0
	Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max	0	0	0	0	0	0	0	0
	Max 2	0	0	0	0	0	0	0	0
	Cond Serve Check	0	0	0	0	0	0	0	0
Clear	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Timing	Walk	0	0	0	0	0	0	0	0
	Ped Clear - FDW	0	0	0	0	0	0	0	0
	Adv / Delay Walk	0	0	0	0	0	0	0	0
	PE Min Ped FDW	0	0	0	0	0	0	0	0
Volume Density	Type 3 Disconnect	0	0	0	0	0	0	0	0
	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Added Initial	0	0	0	0	0	0	0	0
	Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 2

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green	0	0	0	0	0	0	0	0
	Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max	0	0	0	0	0	0	0	0
	Max 2	0	0	0	0	0	0	0	0
	Cond Serve Check	0	0	0	0	0	0	0	0
Clear	Yellow Change	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Red Clear	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedestrian Timing	Walk	0	0	0	0	0	0	0	0
	Ped Clear - FDW	0	0	0	0	0	0	0	0
	Adv / Delay Walk	0	0	0	0	0	0	0	0
	PE Min Ped FDW	0	0	0	0	0	0	0	0
Volume Density	Type 3 Disconnect	0	0	0	0	0	0	0	0
	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Added Initial	0	0	0	0	0	0	0	0
	Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Bank 3

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternate Timing - Bank 2

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Alternate Timing - Bank 3

QuicNet® System	
System ID	**15**
Group	**NONE**
Field Master	**NONE**
N-S Street	**Conrad**
E-W Street	**Campo**
Communications	
Channel	**UDP:8002:10.197.1.11**
Address	**5**
Area Number	**6**
Area Address	**5**
Database	
Last Changed	**3/19/2019 9:24**

QuicNet Timing Notes

Phase Timing - Bank 1								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	4	6	4	0	6	4	4	0
Extension	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0
Max	25	40	30	0	40	30	30	0
Max 2	0	0	0	0	0	0	0	0
Cond Serve Check	0	0	0	0	0	0	0	0
Clearance Timing								
Yellow Change	3.6	4.1	3.4	0.0	3.6	4.1	4.8	0.0
Red Clear	0.5	1.0	1.0	0.0	0.5	1.0	1.0	0.0
Pedestrian Timing								
Walk	0	7	0	0	0	7	0	0
Pedestrian Change	0	22	15	0	0	29	12	0
Advance/Delay Walk	0	0	7	0	0	0	7	0
PE Min. Ped. Change	0	0	0	0	0	0	0	0
Volume-Density								
Type 3 Disconnect	0	0	0	0	0	0	0	0
Add per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0
Min Gap	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0
Max Gap	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0
Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Alternate Timing								
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped. Change	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Timing - Exclusive Pedestrian	
Exclusive Ped Assignment	_____
Exclusive Walk	0
Exclusive Pedestrian Change	0
Red Clear	0.0
Walk Output	0
Don't Walk Output	0

Phase Functions - Page 1	
Red Lock	_____
Yellow Lock	__3___7_
Simultaneous Gap	_____
Rest In Walk	_____
Advance Walk	__3___7_
Flashing Walk	_____
Max Extension	_____
Red Rest	_____
Dual Entry	_____
Sequential Timing	_____
Inhibit Ped Reservice	_____
Delay Walk	_____
Guaranteed Passage	_____
Conditional Service	_____

Phase Functions - Page 2	
Minimum Recall	_2__5___
Ped Recall	_____
Maximum Recall	_____
Green Flash	_____
Overlap Green Flash	_____
Flashing Yellow Arrow for PPLT	_____
Max2	_____
Soft Recall	_____
External Recall	_____
Manual Control Calls	_____
Fast Green Flash	_____
Fast Overlap Green Flash	_____
Semi-Actuated	_____

Michael Baker
INTERNATIONAL

Attachment E:
Existing Conditions
Synchro Worksheets

Intersection	
Intersection Delay, s/veh	28.5
Intersection LOS	D

Movement	WBL	WBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Vol, veh/h	0	0	1	102	0	552	259	55	460	0
Future Vol, veh/h	0	0	1	102	0	552	259	55	460	0
Peak Hour Factor	0.92	0.92	0.88	0.88	0.85	0.85	0.85	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	116	0	649	305	63	523	0
Number of Lanes	0	0	1	1	0	2	1	0	2	0

Approach	NE	SW
Opposing Approach	SW	NE
Opposing Lanes	2	3
Conflicting Approach Left	SE	
Conflicting Lanes Left	3	0
Conflicting Approach Right		SE
Conflicting Lanes Right	0	3
HCM Control Delay	27.4	39.2
HCM LOS	D	E

Lane	NELn1	NELn2	NELn3	SELn1	SELn2	SELn3	SWLn1	SWLn2
Vol Left, %	0%	0%	0%	100%	100%	0%	26%	0%
Vol Thru, %	100%	100%	0%	0%	0%	0%	74%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	276	276	259	170	171	102	208	307
LT Vol	0	0	0	170	171	0	55	0
Through Vol	276	276	0	0	0	0	153	307
RT Vol	0	0	259	0	0	102	0	0
Lane Flow Rate	325	325	305	193	194	116	237	348
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.762	0.762	0.495	0.475	0.478	0.246	0.601	0.872
Departure Headway (Hd)	8.444	8.444	5.844	8.986	8.986	7.755	9.141	9.005
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	432	432	609	403	403	466	395	404
Service Time	6.144	6.144	3.642	6.686	6.686	5.455	6.861	6.725
HCM Lane V/C Ratio	0.752	0.752	0.501	0.479	0.481	0.249	0.6	0.861
HCM Control Delay	33.5	33.5	14.3	19.6	19.6	13	24.7	49
HCM Lane LOS	D	D	B	C	C	B	C	E
HCM 95th-tile Q	6.4	6.4	2.7	2.5	2.5	1	3.8	8.7

Intersection	
Intersection Delay, s/veh	79.3
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	178	47	143	223	666	0	0	337	562
Future Vol, veh/h	0	0	0	178	47	143	223	666	0	0	337	562
Peak Hour Factor	0.96	0.96	0.96	0.79	0.79	0.79	0.86	0.86	0.86	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	225	59	181	259	774	0	0	374	624
Number of Lanes	0	0	0	0	1	1	1	2	0	0	2	1

Approach	WB	NE	SW
Opposing Approach		SW	NE
Opposing Lanes	0	3	3
Conflicting Approach Left	NE		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right	SW	WB	
Conflicting Lanes Right	3	2	0
HCM Control Delay	48.6	52.1	121.7
HCM LOS	E	F	F

Lane	NELn1	NELn2	NELn3	WBLn1	WBLn2	SWLn1	SWLn2	SWLn3
Vol Left, %	100%	0%	0%	79%	0%	0%	0%	0%
Vol Thru, %	0%	100%	100%	21%	0%	100%	100%	0%
Vol Right, %	0%	0%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	223	333	333	225	143	169	169	562
LT Vol	223	0	0	178	0	0	0	0
Through Vol	0	333	333	47	0	169	169	0
RT Vol	0	0	0	0	143	0	0	562
Lane Flow Rate	259	387	387	285	181	187	187	624
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.704	0.997	0.809	0.893	0.513	0.527	0.527	1.319
Departure Headway (Hd)	10.45	9.929	8.121	11.931	10.811	10.137	10.137	7.604
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	347	368	449	305	335	358	358	481
Service Time	8.15	7.629	5.821	9.631	8.511	7.868	7.868	5.334
HCM Lane V/C Ratio	0.746	1.052	0.862	0.934	0.54	0.522	0.522	1.297
HCM Control Delay	34.6	78.7	37.2	63.9	24.4	23.7	23.7	180.5
HCM Lane LOS	D	F	E	F	C	C	C	F
HCM 95th-tile Q	5.1	11.6	7.5	8.2	2.8	2.9	2.9	27.3

Intersection	
Int Delay, s/veh	8.9

Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	119	33	731	66	6	797
Future Vol, veh/h	119	33	731	66	6	797
Conflicting Peds, #/hr	0	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	89	89	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	125	35	821	74	7	886

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1321	454	0	0	901	0
Stage 1	864	-	-	-	-	-
Stage 2	457	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	148	553	-	-	750	-
Stage 1	373	-	-	-	-	-
Stage 2	604	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	144	550	-	-	746	-
Mov Cap-2 Maneuver	144	-	-	-	-	-
Stage 1	371	-	-	-	-	-
Stage 2	593	-	-	-	-	-

Approach	WB	NE	SW
HCM Control Delay, s	106.8	0	0.2
HCM LOS	F		

Minor Lane/Major Mvmt	NET	NER	WBLn1	SWL	SWT
Capacity (veh/h)	-	-	171	746	-
HCM Lane V/C Ratio	-	-	0.936	0.009	-
HCM Control Delay (s)	-	-	106.8	9.9	0.1
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	7.1	0	-

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Volume (vph)	182	74	736	517	205	562
Future Volume (vph)	182	74	736	517	205	562
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.0	4.1	5.1	4.4	4.1
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	1863	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	1863	1770	2787
Peak-hour factor, PHF	0.83	0.83	0.91	0.91	0.89	0.89
Adj. Flow (vph)	219	89	809	568	230	631
RTOR Reduction (vph)	0	0	0	0	0	311
Lane Group Flow (vph)	219	89	809	568	230	320
Turn Type	NA	Free	Prot	NA	Prot	pm+ov
Protected Phases	6		5	2	3	5
Permitted Phases		Free				3
Actuated Green, G (s)	35.7	100.0	33.3	45.9	17.4	50.7
Effective Green, g (s)	35.7	100.0	33.3	45.9	17.4	50.7
Actuated g/C Ratio	0.36	1.00	0.33	0.46	0.17	0.51
Clearance Time (s)	5.1		4.1	5.1	4.4	4.1
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	1263	1583	1143	855	307	1413
v/s Ratio Prot	0.06		c0.24	c0.30	c0.13	0.08
v/s Ratio Perm		0.06				0.04
v/c Ratio	0.17	0.06	0.71	0.66	0.75	0.23
Uniform Delay, d1	22.0	0.0	29.1	21.1	39.2	13.7
Progression Factor	1.00	1.00	1.29	0.67	1.00	1.00
Incremental Delay, d2	0.3	0.1	1.3	3.1	8.5	0.0
Delay (s)	22.3	0.1	38.8	17.3	47.7	13.8
Level of Service	C	A	D	B	D	B
Approach Delay (s)	15.9			29.9	22.8	
Approach LOS	B			C	C	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	457	10	10	898	111	0	0	2	146	10	378
Future Volume (vph)	225	457	10	10	898	111	0	0	2	146	10	378
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.1	5.1		5.1	5.1				5.1		5.8	4.1
Lane Util. Factor	1.00	0.95		1.00	0.95				1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00				1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00				1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.98				0.86		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00				1.00		0.96	1.00
Satd. Flow (prot)	1770	3526		1770	3476				1611		1780	1583
Flt Permitted	0.95	1.00		0.27	1.00				1.00		0.96	1.00
Satd. Flow (perm)	1770	3526		497	3476				1611		1780	1583
Peak-hour factor, PHF	0.82	0.82	0.82	0.92	0.92	0.92	0.50	0.50	0.50	0.86	0.86	0.86
Adj. Flow (vph)	274	557	12	11	976	121	0	0	4	170	12	440
RTOR Reduction (vph)	0	2	0	0	10	0	0	0	2	0	0	38
Lane Group Flow (vph)	274	567	0	11	1087	0	0	0	2	0	182	402
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA		Perm	NA				Perm	Split	NA	pm+ov
Protected Phases	1	6			2					7	7	1
Permitted Phases				2					2			7
Actuated Green, G (s)	23.1	35.7		45.9	45.9				45.9		16.0	39.1
Effective Green, g (s)	23.1	35.7		45.9	45.9				45.9		16.0	39.1
Actuated g/C Ratio	0.23	0.36		0.46	0.46				0.46		0.16	0.39
Clearance Time (s)	4.1	5.1		5.1	5.1				5.1		5.8	4.1
Vehicle Extension (s)	2.0	2.0		2.0	2.0				2.0		2.0	2.0
Lane Grp Cap (vph)	408	1258		228	1595				739		284	618
v/s Ratio Prot	c0.15	0.16			c0.31						0.10	c0.15
v/s Ratio Perm				0.02					0.00			0.10
v/c Ratio	0.67	0.45		0.05	0.68				0.00		0.64	0.65
Uniform Delay, d1	35.0	24.6		15.0	21.3				14.7		39.3	24.9
Progression Factor	1.14	0.83		0.80	0.63				1.00		1.00	1.00
Incremental Delay, d2	3.3	1.1		0.3	2.0				0.0		3.7	1.9
Delay (s)	43.1	21.6		12.4	15.4				14.7		43.0	26.8
Level of Service	D	C		B	B				B		D	C
Approach Delay (s)		28.6			15.4			14.7			31.5	
Approach LOS		C			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	450	35	29	978	92	68	20	30	45	12	60
Future Volume (veh/h)	44	450	35	29	978	92	68	20	30	45	12	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	517	40	36	1222	115	89	26	39	60	16	80
Peak Hour Factor	0.87	0.87	0.87	0.80	0.80	0.80	0.76	0.76	0.76	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	2341	181	45	2258	212	155	42	48	118	36	110
Arrive On Green	0.07	1.00	1.00	0.03	0.69	0.69	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	3343	258	1781	3277	308	722	307	349	500	266	806
Grp Volume(v), veh/h	51	274	283	36	661	676	154	0	0	156	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1824	1781	1777	1807	1378	0	0	1571	0	0
Q Serve(g_s), s	2.8	0.0	0.0	2.0	18.4	18.6	1.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.8	0.0	0.0	2.0	18.4	18.6	11.0	0.0	0.0	9.4	0.0	0.0
Prop In Lane	1.00		0.14	1.00		0.17	0.58		0.25	0.38		0.51
Lane Grp Cap(c), veh/h	65	1245	1277	45	1225	1246	244	0	0	264	0	0
V/C Ratio(X)	0.78	0.22	0.22	0.80	0.54	0.54	0.63	0.00	0.00	0.59	0.00	0.00
Avail Cap(c_a), veh/h	287	1245	1277	287	1225	1246	595	0	0	630	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	0.77	0.77	0.77	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	45.9	0.0	0.0	48.5	7.7	7.7	42.0	0.0	0.0	41.3	0.0	0.0
Incr Delay (d2), s/veh	6.6	0.4	0.4	8.7	1.3	1.3	1.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.1	0.1	1.0	6.3	6.4	3.8	0.0	0.0	3.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	0.4	0.4	57.2	9.0	9.0	43.0	0.0	0.0	42.1	0.0	0.0
LnGrp LOS	D	A	A	E	A	A	D	A	A	D	A	A
Approach Vol, veh/h		608			1373			154			156	
Approach Delay, s/veh		4.7			10.3			43.0			42.1	
Approach LOS		A			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.6	75.1		18.2	7.8	74.0		18.2
Change Period (Y+Rc), s	4.1	5.1		4.6	4.1	5.1		4.6
Max Green Setting (Gmax), s	16.1	32.1		38.0	16.1	32.1		38.0
Max Q Clear Time (g_c+I1), s	4.0	2.0		11.4	4.8	20.6		13.0
Green Ext Time (p_c), s	0.0	2.1		0.6	0.0	4.8		0.6

Intersection Summary	
HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	340	158	30	793	35	289	33	56	20	12	18
Future Volume (veh/h)	13	340	158	30	793	35	289	33	56	20	12	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	420	195	38	1017	45	352	40	68	26	15	23
Peak Hour Factor	0.81	0.81	0.81	0.78	0.78	0.78	0.82	0.82	0.82	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	26	1205	554	48	1810	80	442	43	73	257	152	201
Arrive On Green	0.03	1.00	1.00	0.03	0.52	0.52	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	1781	2365	1086	1781	3466	153	1117	127	216	610	449	594
Grp Volume(v), veh/h	16	314	301	38	521	541	460	0	0	64	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1675	1781	1777	1843	1459	0	0	1654	0	0
Q Serve(g_s), s	0.9	0.0	0.0	2.1	19.8	19.8	27.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	0.0	0.0	2.1	19.8	19.8	30.4	0.0	0.0	2.5	0.0	0.0
Prop In Lane	1.00		0.65	1.00		0.08	0.77		0.15	0.41		0.36
Lane Grp Cap(c), veh/h	26	905	853	48	928	962	558	0	0	611	0	0
V/C Ratio(X)	0.63	0.35	0.35	0.79	0.56	0.56	0.83	0.00	0.00	0.10	0.00	0.00
Avail Cap(c_a), veh/h	287	905	853	287	928	962	617	0	0	673	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.98	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	48.3	0.0	0.0	48.4	16.2	16.2	31.6	0.0	0.0	22.7	0.0	0.0
Incr Delay (d2), s/veh	8.8	1.0	1.1	10.2	0.5	0.5	8.3	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.3	0.3	1.1	7.6	7.9	11.8	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	1.0	1.1	58.6	16.6	16.6	39.9	0.0	0.0	22.8	0.0	0.0
LnGrp LOS	E	A	A	E	B	B	D	A	A	C	A	A
Approach Vol, veh/h		631			1100			460			64	
Approach Delay, s/veh		2.5			18.1			39.9			22.8	
Approach LOS		A			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.4	55.5		38.1	5.1	56.8		38.1
Change Period (Y+Rc), s	3.7	4.6		* 4.2	3.7	4.6		* 4.2
Max Green Setting (Gmax), s	16.1	33.4		* 38	16.1	33.4		* 38
Max Q Clear Time (g_c+I1), s	4.1	2.0		4.5	2.9	21.8		32.4
Green Ext Time (p_c), s	0.0	2.5		0.3	0.0	3.6		1.5

Intersection Summary	
HCM 6th Ctrl Delay	18.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	17.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	32	400	17	33	798	45	5	11	15	44	5	35
Future Vol, veh/h	32	400	17	33	798	45	5	11	15	44	5	35
Conflicting Peds, #/hr	3	0	13	13	0	3	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	75	75	75	41	41	41	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	476	20	44	1064	60	12	27	37	54	6	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1127	0	0	509	0	0	1198	1790	261	1513	1770	565
Stage 1	-	-	-	-	-	-	575	575	-	1185	1185	-
Stage 2	-	-	-	-	-	-	623	1215	-	328	585	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	616	-	-	1052	-	-	141	80	738	82	82	468
Stage 1	-	-	-	-	-	-	470	501	-	201	261	-
Stage 2	-	-	-	-	-	-	440	252	-	659	496	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	614	-	-	1039	-	-	109	71	729	~ 51	73	467
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	71	-	~ 51	73	-
Stage 1	-	-	-	-	-	-	435	464	-	188	249	-
Stage 2	-	-	-	-	-	-	373	241	-	553	460	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.3	57.5	270.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	140	614	-	-	1039	-	-	83
HCM Lane V/C Ratio	0.54	0.062	-	-	0.042	-	-	1.249
HCM Control Delay (s)	57.5	11.3	-	-	8.6	-	-	270.4
HCM Lane LOS	F	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	2.6	0.2	-	-	0.1	-	-	7.7

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

9: Granada Ave & Campo Rd & Casa De Oro Blvd

Movement	EBL2	EBL	EBR	EBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR	NWL2
Lane Configurations												
Traffic Volume (vph)	17	66	345	9	23	1	25	87	40	3	15	9
Future Volume (vph)	17	66	345	9	23	1	25	87	40	3	15	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4	5.3			4.2				4.2		4.4
Lane Util. Factor		1.00	0.88			1.00				1.00		1.00
Frpb, ped/bikes		1.00	1.00			1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00				1.00		1.00
Frt		1.00	0.85			0.89				0.97		1.00
Flt Protected		0.95	1.00			0.99				0.97		0.95
Satd. Flow (prot)		1770	2787			1641				1738		1770
Flt Permitted		0.95	1.00			0.93				0.33		0.95
Satd. Flow (perm)		1770	2787			1537				586		1770
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.78	0.78	0.78	0.78	0.66	0.66	0.66	0.76
Adj. Flow (vph)	22	87	454	12	29	1	32	112	61	5	23	12
RTOR Reduction (vph)	0	0	83	0	0	55	0	0	0	11	0	0
Lane Group Flow (vph)	0	109	383	0	0	119	0	0	0	78	0	12
Confl. Bikes (#/hr)				3								
Turn Type	Prot	Prot	Prot		Perm	NA			Perm	NA		Prot
Protected Phases	5	5	2			8				4		1
Permitted Phases					8				4			
Actuated Green, G (s)		9.7	29.9			10.6				14.1		0.9
Effective Green, g (s)		9.7	29.9			10.6				14.1		0.9
Actuated g/C Ratio		0.11	0.33			0.12				0.16		0.01
Clearance Time (s)		4.4	5.3			4.2				4.2		4.4
Vehicle Extension (s)		4.0	4.0			1.0				1.0		1.0
Lane Grp Cap (vph)		189	920			180				91		17
v/s Ratio Prot		c0.06	0.14									0.01
v/s Ratio Perm						c0.08				c0.13		
v/c Ratio		0.58	0.42			0.66				0.86		0.71
Uniform Delay, d1		38.4	23.5			38.2				37.2		44.7
Progression Factor		1.00	1.00			1.00				1.00		1.00
Incremental Delay, d2		5.0	0.4			6.9				49.2		72.3
Delay (s)		43.5	23.9			45.1				86.4		117.0
Level of Service		D	C			D				F		F
Approach Delay (s)		27.6				45.1				86.4		
Approach LOS		C				D				F		

Intersection Summary			
HCM 2000 Control Delay	72.6	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.5	Sum of lost time (s)	22.3
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NWL	NWR	NWR2	SWL2	SWL	SWR	SWR2
Lane Configurations							
Traffic Volume (vph)	704	26	51	49	17	140	14
Future Volume (vph)	704	26	51	49	17	140	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3				4.2	4.2	
Lane Util. Factor	0.97				1.00	0.95	
Frpb, ped/bikes	1.00				1.00	1.00	
Flpb, ped/bikes	1.00				1.00	1.00	
Frt	0.99				0.94	0.85	
Flt Protected	0.96				0.97	1.00	
Satd. Flow (prot)	3407				1696	1504	
Flt Permitted	0.96				0.97	1.00	
Satd. Flow (perm)	3407				1696	1504	
Peak-hour factor, PHF	0.76	0.76	0.76	0.71	0.71	0.71	0.71
Adj. Flow (vph)	926	34	67	69	24	197	20
RTOR Reduction (vph)	125	0	0	0	0	129	0
Lane Group Flow (vph)	902	0	0	0	160	21	0
Confl. Bikes (#/hr)							
Turn Type	Prot			Perm	Prot	Prot	
Protected Phases	6				3	3	
Permitted Phases				3			
Actuated Green, G (s)	21.1				12.7	12.7	
Effective Green, g (s)	21.1				12.7	12.7	
Actuated g/C Ratio	0.23				0.14	0.14	
Clearance Time (s)	5.3				4.2	4.2	
Vehicle Extension (s)	2.0				1.0	1.0	
Lane Grp Cap (vph)	794				238	211	
v/s Ratio Prot	c0.26					0.01	
v/s Ratio Perm					0.09		
v/c Ratio	1.14				0.67	0.10	
Uniform Delay, d1	34.7				36.9	33.9	
Progression Factor	1.00				1.00	1.00	
Incremental Delay, d2	76.4				5.8	0.1	
Delay (s)	111.1				42.7	34.0	
Level of Service	F				D	C	
Approach Delay (s)	111.2				38.5		
Approach LOS	F				D		

Intersection Summary

10: Campo Rd/Campo Rd & SR-94 WB Ramps/Agua Dulce Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	194	162	289	18	322	189	496	526	183
Future Volume (veh/h)	0	0	0	194	162	289	18	322	189	496	526	183
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1900	1870	1900	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h				234	195	348	22	393	230	557	591	206
Peak Hour Factor				0.83	0.83	0.83	0.82	0.82	0.82	0.89	0.89	0.89
Percent Heavy Veh, %				0	2	0	2	2	2	2	2	2
Cap, veh/h				203	169	302	75	629	363	528	1421	494
Arrive On Green				0.40	0.40	0.40	0.04	0.29	0.29	0.30	0.55	0.55
Sat Flow, veh/h				514	428	765	1781	2169	1253	1781	2586	900
Grp Volume(v), veh/h				777	0	0	22	321	302	557	406	391
Grp Sat Flow(s),veh/h/ln				1707	0	0	1781	1777	1645	1781	1777	1708
Q Serve(g_s), s				51.4	0.0	0.0	1.6	20.4	20.8	38.5	17.3	17.4
Cycle Q Clear(g_c), s				51.4	0.0	0.0	1.6	20.4	20.8	38.5	17.3	17.4
Prop In Lane				0.30		0.45	1.00		0.76	1.00		0.53
Lane Grp Cap(c), veh/h				675	0	0	75	515	477	528	976	939
V/C Ratio(X)				1.15	0.00	0.00	0.29	0.62	0.63	1.06	0.42	0.42
Avail Cap(c_a), veh/h				675	0	0	137	515	477	528	976	939
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	1.00	0.50	0.50	0.50
Uniform Delay (d), s/veh				39.3	0.0	0.0	60.4	40.0	40.1	45.8	17.1	17.1
Incr Delay (d2), s/veh				84.4	0.0	0.0	0.8	5.6	6.3	43.7	0.7	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				37.0	0.0	0.0	0.7	9.5	9.1	22.9	7.0	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				123.7	0.0	0.0	61.2	45.6	46.4	89.4	17.8	17.8
LnGrp LOS				F	A	A	E	D	D	F	B	B
Approach Vol, veh/h					777			645			1354	
Approach Delay, s/veh					123.7			46.5			47.3	
Approach LOS					F			D			D	

Timer - Assigned Phs	1	2		5	6	8
Phs Duration (G+Y+Rc), s	11.1	78.7		44.8	45.0	57.7
Change Period (Y+Rc), s	5.6	6.8		6.3	* 6.8	6.3
Max Green Setting (Gmax), s	10.0	49.9		38.5	* 21	51.4
Max Q Clear Time (g_c+I1), s	3.6	19.4		40.5	22.8	53.4
Green Ext Time (p_c), s	0.0	5.3		0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	68.5
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	196	5	571	0	0	0	180	282	0	0	1124	240
Future Volume (vph)	196	5	571	0	0	0	180	282	0	0	1124	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.3	4.5				5.6	6.3			6.3	6.3
Lane Util. Factor		1.00	1.00				1.00	0.95			0.95	1.00
Frt		1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected		0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)		1776	1583				1770	3539			3539	1583
Flt Permitted		0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)		1776	1583				1770	3539			3539	1583
Peak-hour factor, PHF	0.81	0.81	0.81	0.92	0.92	0.92	0.75	0.75	0.75	0.92	0.92	0.92
Adj. Flow (vph)	242	6	705	0	0	0	240	376	0	0	1222	261
RTOR Reduction (vph)	0	0	49	0	0	0	0	0	0	0	0	124
Lane Group Flow (vph)	0	248	656	0	0	0	240	376	0	0	1222	137
Turn Type	Perm	NA	custom				Prot	NA			NA	Perm
Protected Phases		4	5				1	6			2	
Permitted Phases	4		4									2
Actuated Green, G (s)		23.5	51.1				20.8	41.8			47.5	47.5
Effective Green, g (s)		23.5	51.1				20.8	41.8			47.5	47.5
Actuated g/C Ratio		0.21	0.46				0.19	0.38			0.43	0.43
Clearance Time (s)		6.3	4.5				5.6	6.3			6.3	6.3
Vehicle Extension (s)		3.0	3.0				2.0	3.0			3.0	3.0
Lane Grp Cap (vph)		379	735				334	1344			1528	683
v/s Ratio Prot			c0.22				0.14	0.11			c0.35	
v/s Ratio Perm		0.14	0.19									0.09
v/c Ratio		0.65	0.89				0.72	0.28			0.80	0.20
Uniform Delay, d1		39.5	26.9				41.9	23.7			27.1	19.4
Progression Factor		1.00	1.00				1.00	1.00			1.00	1.00
Incremental Delay, d2		4.0	13.1				6.0	0.5			4.5	0.7
Delay (s)		43.6	40.1				47.9	24.2			31.6	20.1
Level of Service		D	D				D	C			C	C
Approach Delay (s)		41.0			0.0			33.4			29.6	
Approach LOS		D			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.2
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	110.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↖	↗
Traffic Vol, veh/h	202	0	0	334	314	60
Future Vol, veh/h	202	0	0	334	314	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	67	67	59	59
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	337	0	0	499	532	102

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	836	337
Stage 1	-	-	-	-	337	-
Stage 2	-	-	-	-	499	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	~ 337	705
Stage 1	-	0	0	-	723	-
Stage 2	-	0	0	-	610	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	~ 337	705
Mov Cap-2 Maneuver	-	-	-	-	~ 337	-
Stage 1	-	-	-	-	723	-
Stage 2	-	-	-	-	610	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	256
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	337	705	-	-
HCM Lane V/C Ratio	1.579	0.144	-	-
HCM Control Delay (s)	$ 302.8	11	-	-
HCM Lane LOS	F	B	-	-
HCM 95th %tile Q(veh)	30.9	0.5	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Intersection Delay, s/veh	31.5
Intersection LOS	D

Movement	WBL	WBR	SEL	SER	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations										
Traffic Vol, veh/h	0	0	4	204	0	427	210	81	462	0
Future Vol, veh/h	0	0	4	204	0	427	210	81	462	0
Peak Hour Factor	0.92	0.92	0.96	0.96	0.84	0.84	0.84	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	4	213	0	508	250	92	525	0
Number of Lanes	0	0	1	1	0	2	1	0	2	0

Approach	NE	SW
Opposing Approach	SW	NE
Opposing Lanes	2	3
Conflicting Approach Left	SE	
Conflicting Lanes Left	3	0
Conflicting Approach Right		SE
Conflicting Lanes Right	0	3
HCM Control Delay	24.3	49.4
HCM LOS	C	E

Lane	NELn1	NELn2	NELn3	SELn1	SELn2	SELn3	SWLn1	SWLn2
Vol Left, %	0%	0%	0%	100%	100%	0%	34%	0%
Vol Thru, %	100%	100%	0%	0%	0%	0%	66%	100%
Vol Right, %	0%	0%	100%	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	214	214	210	248	252	204	235	308
LT Vol	0	0	0	248	252	0	81	0
Through Vol	214	214	0	0	0	0	154	308
RT Vol	0	0	210	0	0	204	0	0
Lane Flow Rate	254	254	250	258	263	212	267	350
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.659	0.659	0.474	0.643	0.653	0.456	0.72	0.926
Departure Headway (Hd)	9.341	9.341	6.828	8.954	8.954	7.722	9.702	9.524
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	386	386	525	406	407	470	371	382
Service Time	7.112	7.112	4.599	6.654	6.654	5.422	7.478	7.301
HCM Lane V/C Ratio	0.658	0.658	0.476	0.635	0.646	0.451	0.72	0.916
HCM Control Delay	28.5	28.5	15.7	26.4	27	16.7	34	61.1
HCM Lane LOS	D	D	C	D	D	C	D	F
HCM 95th-tile Q	4.5	4.5	2.5	4.3	4.5	2.3	5.4	9.8

Intersection	
Intersection Delay, s/veh	23.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	176	0	63	198	725	0	0	370	421
Future Vol, veh/h	0	0	0	176	0	63	198	725	0	0	370	421
Peak Hour Factor	0.96	0.96	0.96	0.89	0.89	0.89	0.92	0.92	0.92	0.98	0.98	0.98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	198	0	71	215	788	0	0	378	430
Number of Lanes	0	0	0	0	1	1	1	2	0	0	2	1

Approach	WB	NE	SW
Opposing Approach		SW	NE
Opposing Lanes	0	3	3
Conflicting Approach Left	NE		WB
Conflicting Lanes Left	3	0	2
Conflicting Approach Right	SW	WB	
Conflicting Lanes Right	3	2	0
HCM Control Delay	21.5	28.6	18.8
HCM LOS	C	D	C

Lane	NELn1	NELn2	NELn3	WBLn1	WBLn2	SWLn1	SWLn2	SWLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	0%	0%
Vol Thru, %	0%	100%	100%	0%	0%	100%	100%	0%
Vol Right, %	0%	0%	0%	0%	100%	0%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	363	363	176	63	185	185	421
LT Vol	198	0	0	176	0	0	0	0
Through Vol	0	363	363	0	0	185	185	0
RT Vol	0	0	0	0	63	0	0	421
Lane Flow Rate	215	394	394	198	71	189	189	430
Geometry Grp	8	8	8	8	8	8	8	8
Degree of Util (X)	0.5	0.858	0.664	0.549	0.172	0.434	0.434	0.689
Departure Headway (Hd)	8.356	7.843	6.064	9.991	8.772	8.271	8.271	5.771
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	433	465	599	360	408	436	436	627
Service Time	6.082	5.569	3.79	7.768	6.548	5.999	5.999	3.499
HCM Lane V/C Ratio	0.497	0.847	0.658	0.55	0.174	0.433	0.433	0.686
HCM Control Delay	19.2	42.3	20	24.4	13.4	17.2	17.2	20.3
HCM Lane LOS	C	E	C	C	B	C	C	C
HCM 95th-tile Q	2.7	8.7	4.9	3.2	0.6	2.1	2.1	5.4

Intersection	
Int Delay, s/veh	7.2

Movement	WBL	WBR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	129	36	673	113	18	660
Future Vol, veh/h	129	36	673	113	18	660
Conflicting Peds, #/hr	0	0	0	6	6	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	98	98	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	137	38	687	115	20	717

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1150	407	0	0	808	0
Stage 1	751	-	-	-	-	-
Stage 2	399	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	192	593	-	-	813	-
Stage 1	427	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	183	590	-	-	808	-
Mov Cap-2 Maneuver	183	-	-	-	-	-
Stage 1	424	-	-	-	-	-
Stage 2	620	-	-	-	-	-

Approach	WB	NE	SW
HCM Control Delay, s	69.1	0	0.4
HCM LOS	F		

Minor Lane/Major Mvmt	NET	NER	WBLn1	SWL	SWT
Capacity (veh/h)	-	-	215	808	-
HCM Lane V/C Ratio	-	-	0.816	0.024	-
HCM Control Delay (s)	-	-	69.1	9.6	0.2
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	6	0.1	-

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Volume (vph)	349	108	553	191	103	612
Future Volume (vph)	349	108	553	191	103	612
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.0	4.1	5.1	4.4	4.1
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	1863	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	1863	1770	2787
Peak-hour factor, PHF	0.95	0.95	0.97	0.97	0.96	0.96
Adj. Flow (vph)	367	114	570	197	107	638
RTOR Reduction (vph)	0	0	0	0	0	385
Lane Group Flow (vph)	367	114	570	197	107	253
Turn Type	NA	Free	Prot	NA	Prot	pm+ov
Protected Phases	6		5	2	3	5
Permitted Phases		Free				3
Actuated Green, G (s)	46.8	100.0	26.4	60.7	13.2	39.6
Effective Green, g (s)	46.8	100.0	26.4	60.7	13.2	39.6
Actuated g/C Ratio	0.47	1.00	0.26	0.61	0.13	0.40
Clearance Time (s)	5.1		4.1	5.1	4.4	4.1
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	1656	1583	906	1130	233	1103
v/s Ratio Prot	c0.10		c0.17	0.11	c0.06	0.06
v/s Ratio Perm		0.07				0.03
v/c Ratio	0.22	0.07	0.63	0.17	0.46	0.23
Uniform Delay, d1	15.8	0.0	32.5	8.6	40.1	20.1
Progression Factor	1.00	1.00	1.50	0.38	1.00	1.00
Incremental Delay, d2	0.3	0.1	1.0	0.3	0.5	0.0
Delay (s)	16.1	0.1	49.6	3.6	40.6	20.1
Level of Service	B	A	D	A	D	C
Approach Delay (s)	12.3			37.8	23.0	
Approach LOS	B			D	C	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	819	15	14	584	52	0	0	12	79	13	157
Future Volume (vph)	135	819	15	14	584	52	0	0	12	79	13	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.1	5.1		5.1	5.1				5.1		5.8	4.1
Lane Util. Factor	1.00	0.95		1.00	0.95				1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00				1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00				1.00		1.00	1.00
Frt	1.00	1.00		1.00	0.99				0.86		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00				1.00		0.96	1.00
Satd. Flow (prot)	1770	3528		1770	3492				1611		1786	1583
Flt Permitted	0.95	1.00		0.17	1.00				1.00		0.96	1.00
Satd. Flow (perm)	1770	3528		321	3492				1611		1786	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.96	0.96	0.96	0.75	0.75	0.75	0.93	0.93	0.93
Adj. Flow (vph)	145	881	16	15	608	54	0	0	16	85	14	169
RTOR Reduction (vph)	0	1	0	0	5	0	0	0	6	0	0	128
Lane Group Flow (vph)	145	896	0	15	657	0	0	0	10	0	99	41
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA		Perm	NA				Perm	Split	NA	pm+ov
Protected Phases	1	6			2					7	7	1
Permitted Phases				2					2			7
Actuated Green, G (s)	12.5	46.8		60.7	60.7				60.7		11.8	24.3
Effective Green, g (s)	12.5	46.8		60.7	60.7				60.7		11.8	24.3
Actuated g/C Ratio	0.12	0.47		0.61	0.61				0.61		0.12	0.24
Clearance Time (s)	4.1	5.1		5.1	5.1				5.1		5.8	4.1
Vehicle Extension (s)	2.0	2.0		2.0	2.0				2.0		2.0	2.0
Lane Grp Cap (vph)	221	1651		194	2119				977		210	384
v/s Ratio Prot	c0.08	c0.25			c0.19						c0.06	0.01
v/s Ratio Perm				0.05					0.01			0.01
v/c Ratio	0.66	0.54		0.08	0.31				0.01		0.47	0.11
Uniform Delay, d1	41.7	19.0		8.1	9.5				7.8		41.2	29.4
Progression Factor	1.11	0.77		0.65	0.67				1.00		1.00	1.00
Incremental Delay, d2	5.1	1.2		0.8	0.4				0.0		0.6	0.0
Delay (s)	51.3	15.9		6.0	6.7				7.8		41.8	29.5
Level of Service	D	B		A	A				A		D	C
Approach Delay (s)		20.9			6.7			7.8			34.0	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	675	55	23	493	19	74	15	54	33	18	40
Future Volume (veh/h)	41	675	55	23	493	19	74	15	54	33	18	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	45	734	60	24	514	20	85	17	62	52	29	63
Peak Hour Factor	0.92	0.92	0.92	0.96	0.96	0.96	0.87	0.87	0.87	0.63	0.63	0.63
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	2346	192	35	2413	94	147	31	75	111	60	95
Arrive On Green	0.06	1.00	1.00	0.02	0.69	0.69	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1781	3326	272	1781	3484	135	673	225	545	449	438	690
Grp Volume(v), veh/h	45	392	402	24	262	272	164	0	0	144	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1821	1781	1777	1843	1443	0	0	1578	0	0
Q Serve(g_s), s	2.5	0.0	0.0	1.3	5.3	5.3	2.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	0.0	0.0	1.3	5.3	5.3	11.1	0.0	0.0	8.5	0.0	0.0
Prop In Lane	1.00		0.15	1.00		0.07	0.52		0.38	0.36		0.44
Lane Grp Cap(c), veh/h	57	1253	1284	35	1230	1276	253	0	0	266	0	0
V/C Ratio(X)	0.79	0.31	0.31	0.69	0.21	0.21	0.65	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	287	1253	1284	287	1230	1276	604	0	0	635	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	0.99	0.99	0.99	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	46.4	0.0	0.0	48.7	5.5	5.5	41.9	0.0	0.0	40.8	0.0	0.0
Incr Delay (d2), s/veh	7.1	0.5	0.5	8.7	0.4	0.4	1.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.2	0.2	0.7	1.8	1.9	4.0	0.0	0.0	3.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	0.5	0.5	57.4	5.9	5.9	42.9	0.0	0.0	41.4	0.0	0.0
LnGrp LOS	D	A	A	E	A	A	D	A	A	D	A	A
Approach Vol, veh/h		839			558			164			144	
Approach Delay, s/veh		3.4			8.1			42.9			41.4	
Approach LOS		A			A			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.0	75.6		18.3	7.3	74.3		18.3
Change Period (Y+Rc), s	4.1	5.1		4.6	4.1	5.1		4.6
Max Green Setting (Gmax), s	16.1	32.1		38.0	16.1	32.1		38.0
Max Q Clear Time (g_c+I1), s	3.3	2.0		10.5	4.5	7.3		13.1
Green Ext Time (p_c), s	0.0	3.2		0.6	0.0	2.0		0.7

Intersection Summary	
HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	494	236	57	363	20	147	9	63	22	26	22
Future Volume (veh/h)	10	494	236	57	363	20	147	9	63	22	26	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	10	509	243	59	374	21	156	10	67	29	34	29
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.94	0.94	0.94	0.76	0.76	0.76
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	17	1513	720	76	2329	130	242	13	79	120	137	96
Arrive On Green	0.02	1.00	1.00	0.04	0.68	0.68	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1781	2336	1111	1781	3421	191	986	71	427	396	741	523
Grp Volume(v), veh/h	10	387	365	59	194	201	233	0	0	92	0	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1670	1781	1777	1836	1484	0	0	1659	0	0
Q Serve(g_s), s	0.6	0.0	0.0	3.3	3.9	3.9	10.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	0.0	0.0	3.3	3.9	3.9	15.0	0.0	0.0	4.5	0.0	0.0
Prop In Lane	1.00		0.66	1.00		0.10	0.67		0.29	0.32		0.32
Lane Grp Cap(c), veh/h	17	1151	1082	76	1210	1250	334	0	0	353	0	0
V/C Ratio(X)	0.58	0.34	0.34	0.77	0.16	0.16	0.70	0.00	0.00	0.26	0.00	0.00
Avail Cap(c_a), veh/h	287	1151	1082	287	1210	1250	611	0	0	661	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	48.8	0.0	0.0	47.4	5.7	5.7	39.1	0.0	0.0	35.1	0.0	0.0
Incr Delay (d2), s/veh	10.4	0.8	0.8	6.1	0.0	0.0	2.6	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.2	0.2	1.6	1.3	1.3	5.8	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	0.8	0.8	53.5	5.7	5.7	41.8	0.0	0.0	35.5	0.0	0.0
LnGrp LOS	E	A	A	D	A	A	D	A	A	D	A	A
Approach Vol, veh/h		762			454			233			92	
Approach Delay, s/veh		1.6			11.9			41.8			35.5	
Approach LOS		A			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.0	69.4		22.6	4.7	72.7		22.6
Change Period (Y+Rc), s	3.7	4.6		* 4.2	3.7	4.6		* 4.2
Max Green Setting (Gmax), s	16.1	33.4		* 38	16.1	33.4		* 38
Max Q Clear Time (g_c+I1), s	5.3	2.0		6.5	2.6	5.9		17.0
Green Ext Time (p_c), s	0.0	3.2		0.5	0.0	1.4		1.4

Intersection Summary	
HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	527	17	27	365	28	10	4	20	33	11	49
Future Vol, veh/h	60	527	17	27	365	28	10	4	20	33	11	49
Conflicting Peds, #/hr	3	0	13	13	0	3	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	96	96	96	77	77	77	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	573	18	28	380	29	13	5	26	42	14	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	412	0	0	604	0	0	978	1193	309	873	1188	208
Stage 1	-	-	-	-	-	-	725	725	-	454	454	-
Stage 2	-	-	-	-	-	-	253	468	-	419	734	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1143	-	-	970	-	-	205	186	687	244	187	798
Stage 1	-	-	-	-	-	-	383	428	-	555	568	-
Stage 2	-	-	-	-	-	-	729	560	-	582	424	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1140	-	-	958	-	-	163	168	678	214	169	796
Mov Cap-2 Maneuver	-	-	-	-	-	-	163	168	-	214	169	-
Stage 1	-	-	-	-	-	-	357	399	-	522	550	-
Stage 2	-	-	-	-	-	-	635	542	-	521	395	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.6	19.2	21.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	297	1140	-	-	958	-	-	331
HCM Lane V/C Ratio	0.149	0.057	-	-	0.029	-	-	0.36
HCM Control Delay (s)	19.2	8.3	-	-	8.9	-	-	21.9
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0.1	-	-	1.6

Movement	EBL2	EBL	EBR	EBR2	NBL	NBT	NBR	NBR2	SBL	SBT	SBR	NWL2
Lane Configurations												
Traffic Volume (vph)	3	83	474	9	13	1	7	49	29	3	9	19
Future Volume (vph)	3	83	474	9	13	1	7	49	29	3	9	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.4	5.3			4.2				4.2		4.4
Lane Util. Factor		1.00	0.88			1.00				1.00		1.00
Frpb, ped/bikes		1.00	1.00			1.00				1.00		1.00
Flpb, ped/bikes		1.00	1.00			1.00				1.00		1.00
Frt		1.00	0.85			0.89				0.97		1.00
Flt Protected		0.95	1.00			0.99				0.97		0.95
Satd. Flow (prot)		1770	2787			1645				1746		1770
Flt Permitted		0.95	1.00			0.92				0.38		0.95
Satd. Flow (perm)		1770	2787			1526				686		1770
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.80	0.80	0.80	0.80	0.60	0.60	0.60	0.92
Adj. Flow (vph)	3	88	504	10	16	1	9	61	48	5	15	21
RTOR Reduction (vph)	0	0	78	0	0	57	0	0	0	9	0	0
Lane Group Flow (vph)	0	91	436	0	0	30	0	0	0	59	0	21
Confl. Bikes (#/hr)				3								
Turn Type	Prot	Prot	Prot		Perm	NA			Perm	NA		Prot
Protected Phases	5	5	2			8				4		1
Permitted Phases					8				4			
Actuated Green, G (s)		8.4	29.1			4.4				10.9		1.7
Effective Green, g (s)		8.4	29.1			4.4				10.9		1.7
Actuated g/C Ratio		0.11	0.39			0.06				0.14		0.02
Clearance Time (s)		4.4	5.3			4.2				4.2		4.4
Vehicle Extension (s)		4.0	4.0			1.0				1.0		1.0
Lane Grp Cap (vph)		197	1078			89				99		40
v/s Ratio Prot		c0.05	c0.16									0.01
v/s Ratio Perm						c0.02				c0.09		
v/c Ratio		0.46	0.40			0.33				0.59		0.53
Uniform Delay, d1		31.3	16.8			34.0				30.1		36.4
Progression Factor		1.00	1.00			1.00				1.00		1.00
Incremental Delay, d2		2.3	0.3			0.8				6.2		5.6
Delay (s)		33.6	17.1			34.8				36.2		42.0
Level of Service		C	B			C				D		D
Approach Delay (s)		19.6				34.8				36.2		
Approach LOS		B				C				D		

Intersection Summary			
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	75.2	Sum of lost time (s)	22.3
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NWL	NWR	NWR2	SWL2	SWL	SWR	SWR2
Lane Configurations							
Traffic Volume (vph)	312	11	44	39	5	78	4
Future Volume (vph)	312	11	44	39	5	78	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3				4.2	4.2	
Lane Util. Factor	0.97				1.00	0.95	
Frpb, ped/bikes	1.00				1.00	1.00	
Flpb, ped/bikes	1.00				1.00	1.00	
Frt	0.98				0.95	0.85	
Flt Protected	0.96				0.97	1.00	
Satd. Flow (prot)	3388				1715	1504	
Flt Permitted	0.96				0.97	1.00	
Satd. Flow (perm)	3388				1715	1504	
Peak-hour factor, PHF	0.92	0.92	0.92	0.77	0.77	0.77	0.77
Adj. Flow (vph)	339	12	48	51	6	101	5
RTOR Reduction (vph)	117	0	0	0	0	72	0
Lane Group Flow (vph)	282	0	0	0	84	7	0
Confl. Bikes (#/hr)							
Turn Type	Prot			Perm	Prot	Prot	
Protected Phases	6				3	3	
Permitted Phases				3			
Actuated Green, G (s)	22.4				6.8	6.8	
Effective Green, g (s)	22.4				6.8	6.8	
Actuated g/C Ratio	0.30				0.09	0.09	
Clearance Time (s)	5.3				4.2	4.2	
Vehicle Extension (s)	2.0				1.0	1.0	
Lane Grp Cap (vph)	1009				155	136	
v/s Ratio Prot	0.08					0.00	
v/s Ratio Perm					0.05		
v/c Ratio	0.28				0.54	0.05	
Uniform Delay, d1	20.2				32.7	31.3	
Progression Factor	1.00				1.00	1.00	
Incremental Delay, d2	0.1				2.1	0.1	
Delay (s)	20.3				34.8	31.3	
Level of Service	C				C	C	
Approach Delay (s)	21.4				33.1		
Approach LOS	C				C		

Intersection Summary

10: Campo Rd/Campo Rd & SR-94 WB Ramps/Agua Dulce Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEU	SEL	SET	SER	NWL	NWT
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	201	63	155	2	8	443	126	519	273
Future Volume (veh/h)	0	0	0	201	63	155	2	8	443	126	519	273
Initial Q (Qb), veh				0	0	0		0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00		1.00		1.00	1.00	
Parking Bus, Adj				1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No				No			No
Adj Sat Flow, veh/h/ln				1900	1870	1900		1870	1870	1870	1870	1870
Adj Flow Rate, veh/h				242	76	187		9	509	145	558	294
Peak Hour Factor				0.83	0.83	0.83		0.87	0.87	0.87	0.93	0.93
Percent Heavy Veh, %				0	2	0		2	2	2	2	2
Cap, veh/h				262	82	202		38	608	172	530	1398
Arrive On Green				0.32	0.32	0.32		0.02	0.22	0.22	0.30	0.50
Sat Flow, veh/h				822	258	635		1781	2733	775	1781	2772
Grp Volume(v), veh/h				505	0	0		9	330	324	558	187
Grp Sat Flow(s),veh/h/ln				1715	0	0		1781	1777	1731	1781	1777
Q Serve(g_s), s				34.1	0.0	0.0		0.6	21.3	21.5	35.7	7.0
Cycle Q Clear(g_c), s				34.1	0.0	0.0		0.6	21.3	21.5	35.7	7.0
Prop In Lane				0.48		0.37		1.00		0.45	1.00	
Lane Grp Cap(c), veh/h				546	0	0		38	395	385	530	896
V/C Ratio(X)				0.92	0.00	0.00		0.23	0.84	0.84	1.05	0.21
Avail Cap(c_a), veh/h				629	0	0		148	395	385	530	896
HCM Platoon Ratio				1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00		1.00	1.00	1.00	0.77	0.77
Uniform Delay (d), s/veh				39.5	0.0	0.0		57.7	44.6	44.6	42.2	16.5
Incr Delay (d2), s/veh				18.2	0.0	0.0		1.1	18.5	19.5	49.1	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				17.0	0.0	0.0		0.3	11.2	11.1	22.4	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				57.7	0.0	0.0		58.9	63.0	64.2	91.2	16.9
LnGrp LOS				E	A	A		E	E	E	F	B
Approach Vol, veh/h					505				663			932
Approach Delay, s/veh					57.7				63.5			61.4
Approach LOS					E				E			E

Timer - Assigned Phs	1	2			5	6		8				
Phs Duration (G+Y+Rc), s	8.2	67.3			42.0	33.5		44.5				
Change Period (Y+Rc), s	5.6	6.8			6.3	* 6.8		6.3				
Max Green Setting (Gmax), s	10.0	47.3			35.7	* 21		44.0				
Max Q Clear Time (g_c+I1), s	2.6	9.2			37.7	23.5		36.1				
Green Ext Time (p_c), s	0.0	2.2			0.0	0.0		2.1				

Intersection Summary	
HCM 6th Ctrl Delay	61.2
HCM 6th LOS	E

Notes

User approved ignoring U-Turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	NWR
Lane Configurations	
Traffic Volume (veh/h)	74
Future Volume (veh/h)	74
Initial Q (Qb), veh	0
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1870
Adj Flow Rate, veh/h	80
Peak Hour Factor	0.93
Percent Heavy Veh, %	2
Cap, veh/h	374
Arrive On Green	0.50
Sat Flow, veh/h	741
Grp Volume(v), veh/h	187
Grp Sat Flow(s),veh/h/ln	1737
Q Serve(g_s), s	7.2
Cycle Q Clear(g_c), s	7.2
Prop In Lane	0.43
Lane Grp Cap(c), veh/h	876
V/C Ratio(X)	0.21
Avail Cap(c_a), veh/h	876
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.77
Uniform Delay (d), s/veh	16.5
Incr Delay (d2), s/veh	0.4
Initial Q Delay(d3),s/veh	0.0
%ile BackOfQ(50%),veh/ln	2.9
Unsig. Movement Delay, s/veh	
LnGrp Delay(d),s/veh	17.0
LnGrp LOS	B
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	139	1	800	0	0	0	189	456	0	0	722	208
Future Volume (vph)	139	1	800	0	0	0	189	456	0	0	722	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.3	5.1				5.6	6.3			6.3	6.3
Lane Util. Factor		1.00	1.00				1.00	0.95			0.95	1.00
Frt		1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected		0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)		1775	1583				1770	3539			3539	1583
Flt Permitted		0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)		1775	1583				1770	3539			3539	1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.92	0.92	0.92	0.96	0.96	0.96	0.89	0.89	0.89
Adj. Flow (vph)	143	1	825	0	0	0	197	475	0	0	811	234
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	0	144
Lane Group Flow (vph)	0	144	790	0	0	0	197	475	0	0	811	90
Turn Type	Perm	NA	custom				Prot	NA			NA	Perm
Protected Phases		4	5				1	6			2	
Permitted Phases	4		4									2
Actuated Green, G (s)		17.4	45.3				19.9	27.0			34.5	34.5
Effective Green, g (s)		17.4	45.3				19.9	27.0			34.5	34.5
Actuated g/C Ratio		0.19	0.50				0.22	0.30			0.38	0.38
Clearance Time (s)		6.3	5.1				5.6	6.3			6.3	6.3
Vehicle Extension (s)		3.0	2.0				2.0	3.0			3.0	3.0
Lane Grp Cap (vph)		343	796				391	1061			1356	606
v/s Ratio Prot			c0.31				0.11	0.13			c0.23	
v/s Ratio Perm		0.08	0.19									0.06
v/c Ratio		0.42	0.99				0.50	0.45			0.60	0.15
Uniform Delay, d1		31.9	22.2				30.7	25.5			22.2	18.1
Progression Factor		1.00	1.00				1.00	1.00			1.00	1.00
Incremental Delay, d2		0.8	29.8				0.4	1.4			2.0	0.5
Delay (s)		32.7	51.9				31.1	26.8			24.2	18.7
Level of Service		C	D				C	C			C	B
Approach Delay (s)		49.1			0.0			28.1			22.9	
Approach LOS		D			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.2
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	8.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↖	↗
Traffic Vol, veh/h	81	0	0	107	316	14
Future Vol, veh/h	81	0	0	107	316	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	72	72	67	67	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	113	0	0	160	340	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	273	113
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	160	-
Critical Hdwy	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	716	940
Stage 1	-	0	0	-	912	-
Stage 2	-	0	0	-	869	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	716	940
Mov Cap-2 Maneuver	-	-	-	-	716	-
Stage 1	-	-	-	-	912	-
Stage 2	-	-	-	-	869	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	716	940	-	-
HCM Lane V/C Ratio	0.475	0.016	-	-
HCM Control Delay (s)	14.5	8.9	-	-
HCM Lane LOS	B	A	-	-
HCM 95th %tile Q(veh)	2.6	0	-	-

Michael Baker
INTERNATIONAL

Attachment F: Parking Utilization Worksheets

On-Street Parking Utilization

Parking Zone	Street	Segment	Side-of-Street	Inventory		10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM
01	San Juan St	School Driveway to Bonita St.	North	7	Occupancy	3	5	5	4	4	4	3
					Percent	42.9%	71.4%	71.4%	57.1%	57.1%	57.1%	42.9%
		Conrad Dr. to 180' East of Conrad Dr.	South	9	Occupancy	6	8	8	7	8	8	7
					Percent	66.7%	88.9%	88.9%	77.8%	88.9%	88.9%	77.8%
02	Dolores St	Barcelona St. to Cordoba Ave.	North	10	Occupancy	9	9	10	10	10	9	9
					Percent	90.0%	90.0%	100.0%	100.0%	100.0%	90.0%	90.0%
			South	10	Occupancy	3	3	7	8	9	7	8
					Percent	30.0%	30.0%	70.0%	80.0%	90.0%	70.0%	80.0%
03	Dolores St	Cordoba Ave. to Granada Ave.	North	8	Occupancy	4	4	4	4	5	5	6
					Percent	50.0%	50.0%	50.0%	50.0%	62.5%	62.5%	75.0%
			South	8	Occupancy	4	4	4	4	4	4	4
					Percent	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
04	Conrad Dr	San Juan St. to Campo Rd.	East	7	Occupancy	4	5	5	4	5	5	5
					Percent	57.1%	71.4%	71.4%	57.1%	71.4%	71.4%	71.4%
			West	6	Occupancy	2	4	4	4	4	3	2
					Percent	33.3%	66.7%	66.7%	66.7%	66.7%	50.0%	33.3%
05	Bonita St	San Juan St. to Campo Rd.	East	7	Occupancy	3	3	3	4	5	5	4
					Percent	42.9%	42.9%	42.9%	57.1%	71.4%	71.4%	57.1%
			West	10	Occupancy	3	5	5	4	3	3	4
					Percent	30.0%	50.0%	50.0%	40.0%	30.0%	30.0%	40.0%
06	Bonita St	Campo Rd. to Dolores St.	East	5	Occupancy	4	5	5	5	5	5	4
					Percent	80.0%	100.0%	100.0%	100.0%	100.0%	100.0%	80.0%
			West	8	Occupancy	6	6	6	5	5	5	5
					Percent	75.0%	75.0%	75.0%	62.5%	62.5%	62.5%	62.5%
07	Barcelona St	San Juan St. to Campo Rd.	East	7	Occupancy	6	7	6	4	4	4	3
					Percent	85.7%	100.0%	85.7%	57.1%	57.1%	57.1%	42.9%
			West	7	Occupancy	3	4	4	3	3	3	4
					Percent	42.9%	57.1%	57.1%	42.9%	42.9%	42.9%	57.1%
08	Barcelona St	Campo Rd. to Dolores St.	East	5	Occupancy	5	5	4	3	3	4	4
					Percent	100.0%	100.0%	80.0%	60.0%	60.0%	80.0%	80.0%
			West	6	Occupancy	6	6	5	5	5	5	5
					Percent	100.0%	100.0%	83.3%	83.3%	83.3%	83.3%	83.3%
09	Cordoba Ave	San Juan St. to Campo Rd.	East	8	Occupancy	1	1	2	2	2	2	1
					Percent	12.5%	12.5%	25.0%	25.0%	25.0%	25.0%	12.5%
			West	5	Occupancy	0	0	0	0	1	1	0
					Percent	0.0%	0.0%	0.0%	0.0%	20.0%	20.0%	0.0%
10	Cordoba Ave	Campo Rd. to Dolores St.	East	6	Occupancy	6	6	5	4	4	5	3
					Percent	100.0%	100.0%	83.3%	66.7%	66.7%	83.3%	50.0%
			West	8	Occupancy	4	4	3	4	3	4	2
					Percent	50.0%	50.0%	37.5%	50.0%	37.5%	50.0%	25.0%
11	Granda Ave	San Juan St. to Campo Rd.	East	8	Occupancy	6	6	7	8	8	7	6
					Percent	75.0%	75.0%	87.5%	100.0%	100.0%	87.5%	75.0%
			West	5	Occupancy	3	3	4	4	2	2	2
					Percent	60.0%	60.0%	80.0%	80.0%	40.0%	40.0%	40.0%
12	Granda Ave	Campo Rd. to Dolores St.	East	8	Occupancy	1	1	1	0	0	1	0
					Percent	12.5%	12.5%	12.5%	0.0%	0.0%	12.5%	0.0%
			West	7	Occupancy	0	0	1	0	0	0	0
					Percent	0.0%	0.0%	14.3%	0.0%	0.0%	0.0%	0.0%

Total On-Street Inventory	175	Total Occupancy	92	104	108	100	102	101	91
		Total Utilization	52.6%	59.4%	61.7%	57.1%	58.3%	57.7%	52.0%

	> 85%
	70% - 85%
	55% - 70%
	< 55%

Off-Street Parking Utilization

Parking Zone	Type	Inventory		10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM
13	Regular	11	Total Occupancy	3	2	2	4	4	3	5
			Percent	**27.3%**	**18.2%**	**18.2%**	**36.4%**	**36.4%**	**27.3%**	**45.5%**
14	Regular	11	Total Occupancy	3	4	2	4	4	4	5
			Percent	**27.3%**	**36.4%**	**18.2%**	**36.4%**	**36.4%**	**36.4%**	**45.5%**
15	Regular	103		20	25	35	26	27	17	21
	Handicap	4		0	0	1	1	0	0	0
	Handicap Van	2		0	0	1	1	0	0	0
	Total Inventory	109	Total Occupancy	20	25	37	28	27	17	21
			Percent	**18.3%**	**22.9%**	**33.9%**	**25.7%**	**24.8%**	**15.6%**	**19.3%**
16	Regular	24		3	3	1	2	4	4	6
	Handicap Van	1		0	0	0	0	0	0	0
	Total Inventory	25	Total Occupancy	3	3	1	2	4	4	6
			Percent	**12.0%**	**12.0%**	**4.0%**	**8.0%**	**16.0%**	**16.0%**	**24.0%**
17	Regular	9		4	6	8	8	5	9	6
	Handicap	1		0	1	1	0	0	0	0
	Round Table	8		2	3	6	6	3	4	4
	Customer Only	2		1	1	2	2	2	1	1
	Patient/Customer	5		5	3	3	5	5	5	5
	Total Inventory	25	Total Occupancy	12	14	20	21	15	19	16
			Percent	**48.0%**	**56.0%**	**80.0%**	**84.0%**	**60.0%**	**76.0%**	**64.0%**
18	Regular	27		14	14	14	13	11	6	5
	Handicap	1		0	0	0	0	0	0	0
	Reserved for Pastor	1		0	0	1	1	0	0	0
	Total Inventory	29	Total Occupancy	14	14	15	14	11	6	5
			Percent	**48.3%**	**48.3%**	**51.7%**	**48.3%**	**37.9%**	**20.7%**	**17.2%**
19	Regular	34		19	22	19	21	19	25	23
	Handicap	1		0	0	0	0	0	0	0
	Handicap Van	1		0	0	0	0	0	0	0
	Total Inventory	36	Total Occupancy	19	22	19	21	19	25	23
			Percent	**52.8%**	**61.1%**	**52.8%**	**58.3%**	**52.8%**	**69.4%**	**63.9%**
20	Regular	15		10	10	8	5	7	9	4
	Handicap Van	1		1	0	0	0	0	0	0
	Total Inventory	16	Total Occupancy	11	10	8	5	7	9	4
			Percent	**68.8%**	**62.5%**	**50.0%**	**31.3%**	**43.8%**	**56.3%**	**25.0%**
21	Regular	33		9	7	16	6	7	7	8
	Handicap	1		0	0	0	0	0	0	0
	Handicap Van	1		0	1	0	0	0	0	1
	Total Inventory	35	Total Occupancy	9	8	16	6	7	7	9
			Percent	**25.7%**	**22.9%**	**45.7%**	**17.1%**	**20.0%**	**20.0%**	**25.7%**
22	Regular	10		1	1	2	1	1	1	0
	Handicap Van	1		0	0	0	0	0	0	0
	Total Inventory	11	Total Occupancy	1	1	2	1	1	1	0
			Percent	**9.1%**	**9.1%**	**18.2%**	**9.1%**	**9.1%**	**9.1%**	**0.0%**
23	Regular	2		1	2	1	0	1	2	1
	Handicap Van	1		0	0	0	0	0	0	0
	Total Inventory	3	Total Occupancy	1	2	1	0	1	2	1
			Percent	**33.3%**	**66.7%**	**33.3%**	**0.0%**	**33.3%**	**66.7%**	**33.3%**
24	Regular	69		15	19	22	22	28	30	28
	Handicap	2		0	1	0	0	1	0	0
	Handicap Van	2		0	1	0	0	0	1	1
	Total Inventory	73	Total Occupancy	15	21	22	22	29	31	29
			Percent	**20.5%**	**28.8%**	**30.1%**	**30.1%**	**39.7%**	**42.5%**	**39.7%**
25	Regular	117		32	36	31	45	36	43	43
	Handicap	3		0	0	1	1	0	1	0
	Handicap Van	3		0	1	0	0	0	0	1
	Total Inventory	123	Total Occupancy	32	37	32	46	36	44	44
			Percent	**26.0%**	**30.1%**	**26.0%**	**37.4%**	**29.3%**	**35.8%**	**35.8%**
26	Regular	5	Total Occupancy	0	0	0	0	0	0	0
			Percent	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
27	Unmarked Spaces	(1)		0	0	0	1	1	1	1

Off-Street Parking Utilization

Parking Zone	Type	Inventory		10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM
28	Regular	49		23	24	24	24	24	22	21
	Handicap	1		0	0	0	0	0	0	0
	Handicap Van	1		0	0	0	0	0	0	0
	Total Inventory	51	Total Occupancy	23	24	24	24	24	22	21
			Percent	**45.1%**	**47.1%**	**47.1%**	**47.1%**	**47.1%**	**43.1%**	**41.2%**
29	Regular	16	Total Occupancy	14	15	15	16	14	15	13
			Percent	**87.5%**	**93.8%**	**93.8%**	**100.0%**	**87.5%**	**93.8%**	**81.3%**
30	Regular	54	Total Occupancy	5	6	6	6	6	5	5
			Percent	**9.3%**	**11.1%**	**11.1%**	**11.1%**	**11.1%**	**9.3%**	**9.3%**
31	Regular	89		40	48	45	38	26	23	27
	Handicap	8		1	2	3	4	3	3	2
	Veteran Parking	1		0	1	0	0	1	1	0
	Family Parking	1		1	0	0	1	1	1	1
	15 Min (Green)	10		2	1	3	2	4	3	3
	Total Inventory	109	Total Occupancy	44	52	51	45	35	31	33
			Percent	**40.4%**	**47.7%**	**46.8%**	**41.3%**	**32.1%**	**28.4%**	**30.3%**
32	Regular	10		2	3	4	4	5	5	4
	Handicap Van	1		0	0	0	0	0	0	0
	Total Inventory	11	Total Occupancy	2	3	4	4	5	5	4
			Percent	**18.2%**	**27.3%**	**36.4%**	**36.4%**	**45.5%**	**45.5%**	**36.4%**
33	Regular	130		43	55	68	71	85	75	61
	Handicap	3		0	0	0	2	3	2	1
	Handicap Van	1		0	0	0	1	1	0	0
	Total Inventory	134	Total Occupancy	43	55	68	74	89	77	62
			Percent	**32.1%**	**41.0%**	**50.7%**	**55.2%**	**66.4%**	**57.5%**	**46.3%**
34	Regular	20	Total Occupancy	10	11	11	10	10	10	8
			Percent	**50.0%**	**55.0%**	**55.0%**	**50.0%**	**50.0%**	**50.0%**	**40.0%**
35	Regular	59		21	27	31	33	35	32	24
	Handicap	5		1	2	2	3	3	2	2
	Handicap Van	1		0	1	1	0	0	0	0
	Total Inventory	65	Total Occupancy	22	30	34	36	38	34	26
			Percent	**33.8%**	**46.2%**	**52.3%**	**55.4%**	**58.5%**	**52.3%**	**40.0%**
36	Regular	109		47	58	59	62	64	61	53
	Handicap	1		0	0	1	0	0	0	0
	Handicap Van	1		0	0	0	0	0	0	0
	Total Inventory	111	Total Occupancy	47	58	60	62	64	61	53
			Percent	**42.3%**	**52.3%**	**54.1%**	**55.9%**	**57.7%**	**55.0%**	**47.7%**
37	Regular	4		1	2	2	1	2	2	1
	Handicap Van	1		0	0	0	0	0	0	0
	Total Inventory	5	Total Occupancy	1	2	2	1	2	2	1
			Percent	**20.0%**	**40.0%**	**40.0%**	**20.0%**	**40.0%**	**40.0%**	**20.0%**
38	Regular	2		2	1	1	2	2	2	1
	Unmarked Spaces	(2)		3	4	4	4	5	4	4
	Total Inventory	2	Total Occupancy	5	5	5	6	7	6	5
			Percent	**250.0%**	**250.0%**	**250.0%**	**300.0%**	**350.0%**	**300.0%**	**250.0%**
39	Regular	35		6	8	10	12	14	15	13
	Handicap	1		0	0	1	0	0	0	0
	Handicap Van	1		0	0	0	0	0	0	0
	Total Inventory	37	Total Occupancy	6	8	11	12	14	15	13
			Percent	**16.2%**	**21.6%**	**29.7%**	**32.4%**	**37.8%**	**40.5%**	**35.1%**
40	Regular	50	Total Occupancy	7	7	7	6	7	7	6
			Percent	**14.0%**	**14.0%**	**14.0%**	**12.0%**	**14.0%**	**14.0%**	**12.0%**
41	Regular	118		36	45	49	51	42	38	39
	Handicap	7		0	0	0	1	1	2	1
	20 Min (Green)	45		16	23	25	28	29	29	26
	Total Inventory	170	Total Occupancy	52	68	74	80	72	69	66
			Percent	**30.6%**	**40.0%**	**43.5%**	**47.1%**	**42.4%**	**40.6%**	**38.8%**
42	Regular	8	Total Occupancy	3	4	4	4	5	5	4
			Percent	**37.5%**	**50.0%**	**50.0%**	**50.0%**	**62.5%**	**62.5%**	**50.0%**
43	Regular	31		8	10	9	7	6	6	7
	Handicap	1		0	0	0	1	1	0	0
	Total Inventory	32	Total Occupancy	8	10	9	8	7	6	7
			Percent	**25.0%**	**31.3%**	**28.1%**	**25.0%**	**21.9%**	**18.8%**	**21.9%**

Off-Street Parking Utilization

Parking Zone	Type	Inventory		10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM
44	Regular	22		7	10	9	6	5	7	6
	Handicap	2		0	0	0	1	2	1	1
	Handicap Van	1		0	0	0	1	0	0	0
	Total Inventory	25	Total Occupancy	7	10	9	8	7	8	7
			Percent	28.0%	40.0%	36.0%	32.0%	28.0%	32.0%	28.0%
45	Regular	15		3	4	9	12	15	14	11
	Handicap	2		0	0	0	1	0	0	0
	Handicap Van	1		0	0	0	1	1	1	0
	La Posas	6		3	4	4	5	6	6	5
	Pawn Shop (Green)	4		0	0	0	0	0	0	0
	Total Inventory	28	Total Occupancy	6	8	13	19	22	21	16
			Percent	21.4%	28.6%	46.4%	67.9%	78.6%	75.0%	57.1%
46	Regular	8		0	0	2	4	4	4	3
	Handicap Van	1		0	0	0	0	0	0	0
	Total Inventory	9	Total Occupancy	0	0	2	4	4	4	3
			Percent	0.0%	0.0%	22.2%	44.4%	44.4%	44.4%	33.3%
47	Regular	13		1	2	4	5	7	6	6
	Handicap	1		0	0	1	0	0	0	0
	Total Inventory	14	Total Occupancy	1	2	5	5	7	6	6
			Percent	7.1%	14.3%	35.7%	35.7%	50.0%	42.9%	42.9%
048	Regular	16		5	6	8	10	11	13	10
	Handicap	1		0	0	0	1	1	1	0
	Customer Only	9		1	2	3	5	7	5	4
	Unmarked Spaces			1	1	1	1	1	0	0
	Total Inventory	26	Total Occupancy	7	9	12	17	20	19	14
			Percent	26.9%	34.6%	46.2%	65.4%	76.9%	73.1%	53.8%
49	Regular	11		11	11	10	11	11	10	9
	Unmarked Spaces			2	3	2	2	5	4	3
	Total Inventory	11	Total Occupancy	13	14	12	13	16	14	12
			Percent	118.2%	127.3%	109.1%	118.2%	145.5%	127.3%	109.1%
50	Regular	14	Total Occupancy	3	3	4	3	5	4	4
			Percent	21.4%	21.4%	28.6%	21.4%	35.7%	28.6%	28.6%
51	Regular	4	Total Occupancy	1	1	1	1	2	2	1
			Percent	25.0%	25.0%	25.0%	25.0%	50.0%	50.0%	25.0%
52	Regular	13		10	10	11	9	11	10	9
	Handicap	1		0	0	0	0	0	0	0
	Dental	6		2	2	3	1	2	2	1
	Total Inventory	20	Total Occupancy	12	12	14	10	13	12	10
			Percent	60.0%	60.0%	70.0%	50.0%	65.0%	60.0%	50.0%
53	Regular	10	Total Occupancy	4	5	5	3	4	3	3
			Percent	40.0%	50.0%	50.0%	30.0%	40.0%	30.0%	30.0%
54	Regular	6		4	4	3	2	3	2	2
	Handicap	1		0	0	0	0	0	0	0
	Total Inventory	7	Total Occupancy	4	4	3	2	3	2	2
			Percent	57.1%	57.1%	42.9%	28.6%	42.9%	28.6%	28.6%
55	Regular	14		3	5	5	5	5	3	4
	Handicap	1		0	0	0	0	0	0	0
	Total Inventory	15	Total Occupancy	3	5	5	5	5	3	4
			Percent	20.0%	33.3%	33.3%	33.3%	33.3%	20.0%	26.7%
56	Regular	8		6	8	8	8	8	8	8
	Handicap	1		1	1	1	1	1	1	1
	Total Inventory	9	Total Occupancy	7	9	9	9	9	9	9
			Percent	77.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
57	Regular	6		0	0	0	0	0	0	0
	Handicap	1		0	0	0	0	0	0	0
	Total Inventory	7	Total Occupancy	0	0	0	0	0	0	0
			Percent	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
58	Regular	17		8	10	15	10	10	7	5
	Handicap	1		0	0	0	0	0	0	0
	Total Inventory	18	Total Occupancy	8	10	15	10	10	7	5
			Percent	44.4%	55.6%	83.3%	55.6%	55.6%	38.9%	27.8%

Off-Street Parking Utilization

Parking Zone	Type	Inventory		10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM
59	Regular	17		13	13	15	17	17	15	15
	Handicap	1		0	1	1	1	0	0	0
	Total Inventory	18	Total Occupancy	13	14	16	18	17	15	15
			Percent	72.2%	77.8%	88.9%	100.0%	94.4%	83.3%	83.3%
060 Dirt	Unmarked Spaces	(3)	Total Occupancy	0	0	0	0	0	0	0
			Percent	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
61	Regular	4		2	2	2	2	2	2	1
	Handicap	1		0	0	0	0	0	0	0
	Total Inventory	5	Total Occupancy	2	2	2	2	2	2	1
			Percent	40.0%	40.0%	40.0%	40.0%	40.0%	40.0%	20.0%
62	Handicap	1		0	0	0	0	0	0	0
	Unmarked Spaces	(2)		5	5	4	4	5	4	4
	Total Inventory	1	Total Occupancy	5	5	4	4	5	4	4
			Percent	500.0%	500.0%	400.0%	400.0%	500.0%	400.0%	400.0%
063 Carwash	Unmarked Spaces	(4)	Total Occupancy	3	4	3	3	3	4	2
64	Regular	25		1	1	5	6	7	5	5
	Handicap	1		0	0	1	1	0	0	0
	Total Inventory	26	Total Occupancy	1	1	6	7	7	5	5
			Percent	3.8%	3.8%	23.1%	26.9%	26.9%	19.2%	19.2%
65	Regular	6	Total Occupancy	3	3	3	3	3	3	3
			Percent	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
66	Regular	17		11	13	14	14	13	15	11
	Handicap	1		0	0	0	0	0	0	0
	Total Inventory	18	Total Occupancy	11	13	14	14	13	15	11
			Percent	61.1%	72.2%	77.8%	77.8%	72.2%	83.3%	61.1%
67	Regular	16	Total Occupancy	1	2	2	2	3	2	3
			Percent	5.6%	11.1%	11.1%	11.1%	16.7%	11.1%	16.7%
68	Regular	13		2	4	0	2	0	0	0
	Handicap	1		0	0	0	0	0	0	0
	Handicap Van	1		0	0	0	0	0	0	0
	Total Inventory	15	Total Occupancy	2	4	0	2	0	0	0
			Percent	13.3%	26.7%	0.0%	13.3%	0.0%	0.0%	0.0%
69	Regular	8		8	8	8	7	7	8	6
	Handicap	1		1	1	1	0	0	0	0
	Total Inventory	9	Total Occupancy	9	9	9	7	7	8	6
			Percent	100.0%	100.0%	100.0%	77.8%	77.8%	88.9%	66.7%
70	Regular	23		23	23	21	23	20	21	19
	Handicap	1		1	1	1	1	0	0	0
	Reserved	2		1	1	0	1	1	1	0
	Unmarked Spaces	(2)		2	2	1	1	2	0	0
	Total Inventory	26	Total Occupancy	27	27	23	26	23	22	19
			Percent	103.8%	103.8%	88.5%	100.0%	88.5%	84.6%	73.1%
71	Regular	21		8	10	13	13	15	15	16
	Handicap	1		0	0	0	0	0	0	0
	Total Inventory	22	Total Occupancy	8	10	13	13	15	15	16
			Percent	36.4%	45.5%	59.1%	59.1%	68.2%	68.2%	72.7%
72	Regular	26		7	10	13	11	12	13	11
	Handicap	1		1	1	0	0	0	0	0
	Handicap Van	1		1	1	0	0	0	0	0
	Total Inventory	28	Total Occupancy	9	12	13	11	12	13	11
			Percent	32.1%	42.9%	46.4%	39.3%	42.9%	46.4%	39.3%

Total Off-Street Inventory	1794	Total Occupancy	602	715	776	786	798	760	685
		Total Utilization	33.6%	39.9%	43.3%	43.8%	44.5%	42.4%	38.2%

NOTES:

(1) Car Self-Wash Vacuum Stations - Not included in parking analysis

(2) Auto Repair. Vehicles temporarily stored in unmarked spaces

(3) Spring Valley Vetinary Clinic overflow parking

(4) Car Wash - Not included in parking analysis

	> 85%
	70% - 85%
	55% - 70%
	< 55%

19-4471 Casa Del Oro

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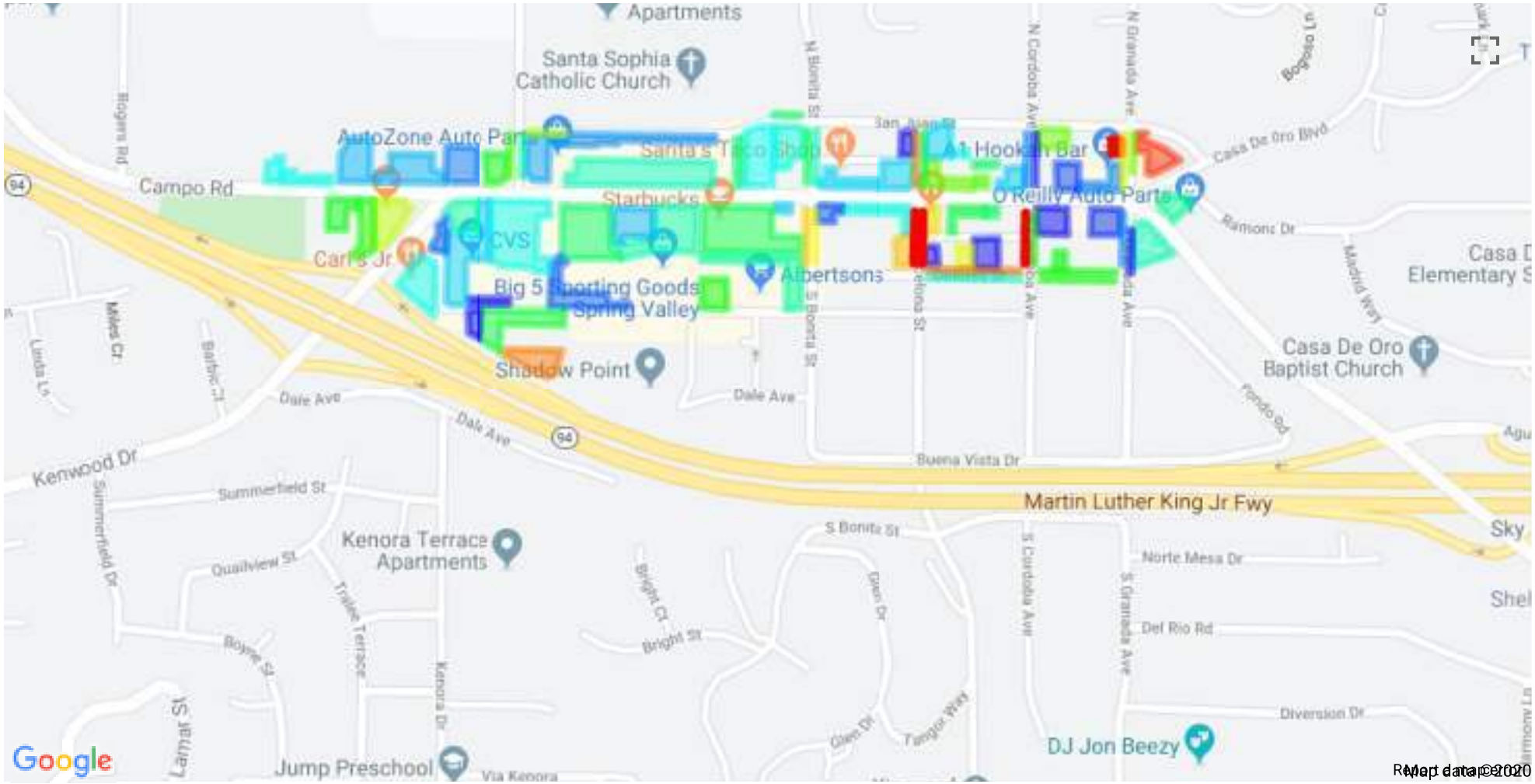
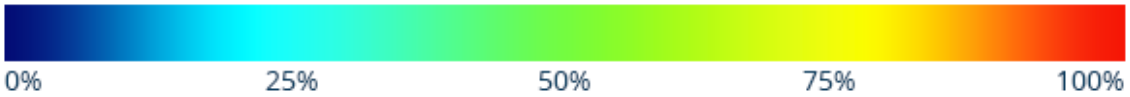
Time: 10:00 AM





19-4471 Casa Del Oro

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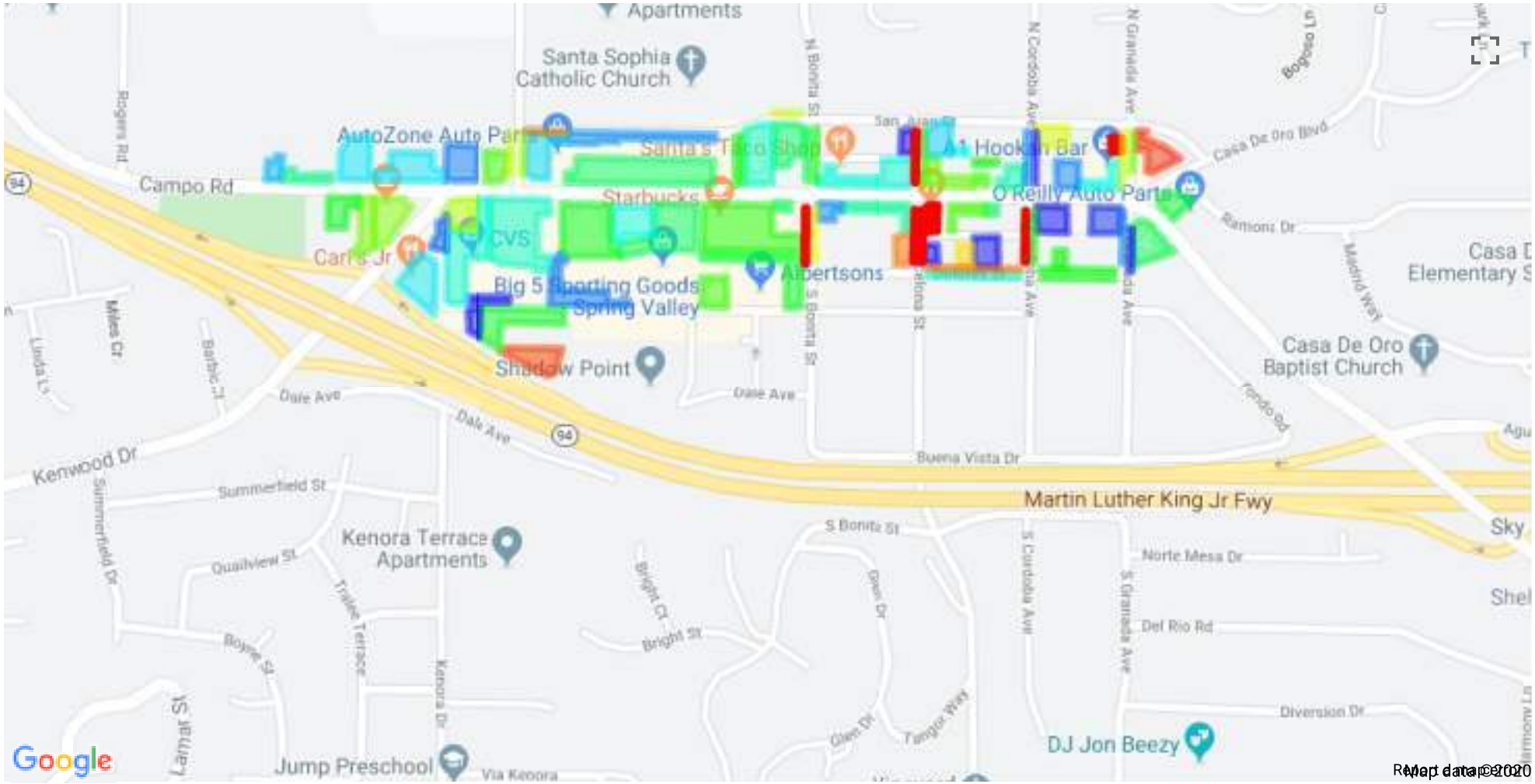

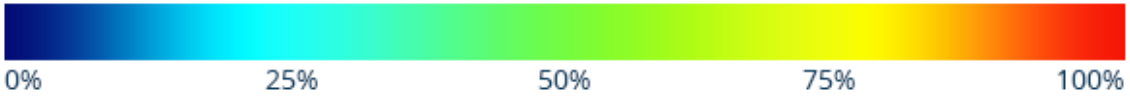

19-4471 Casa Del Oro

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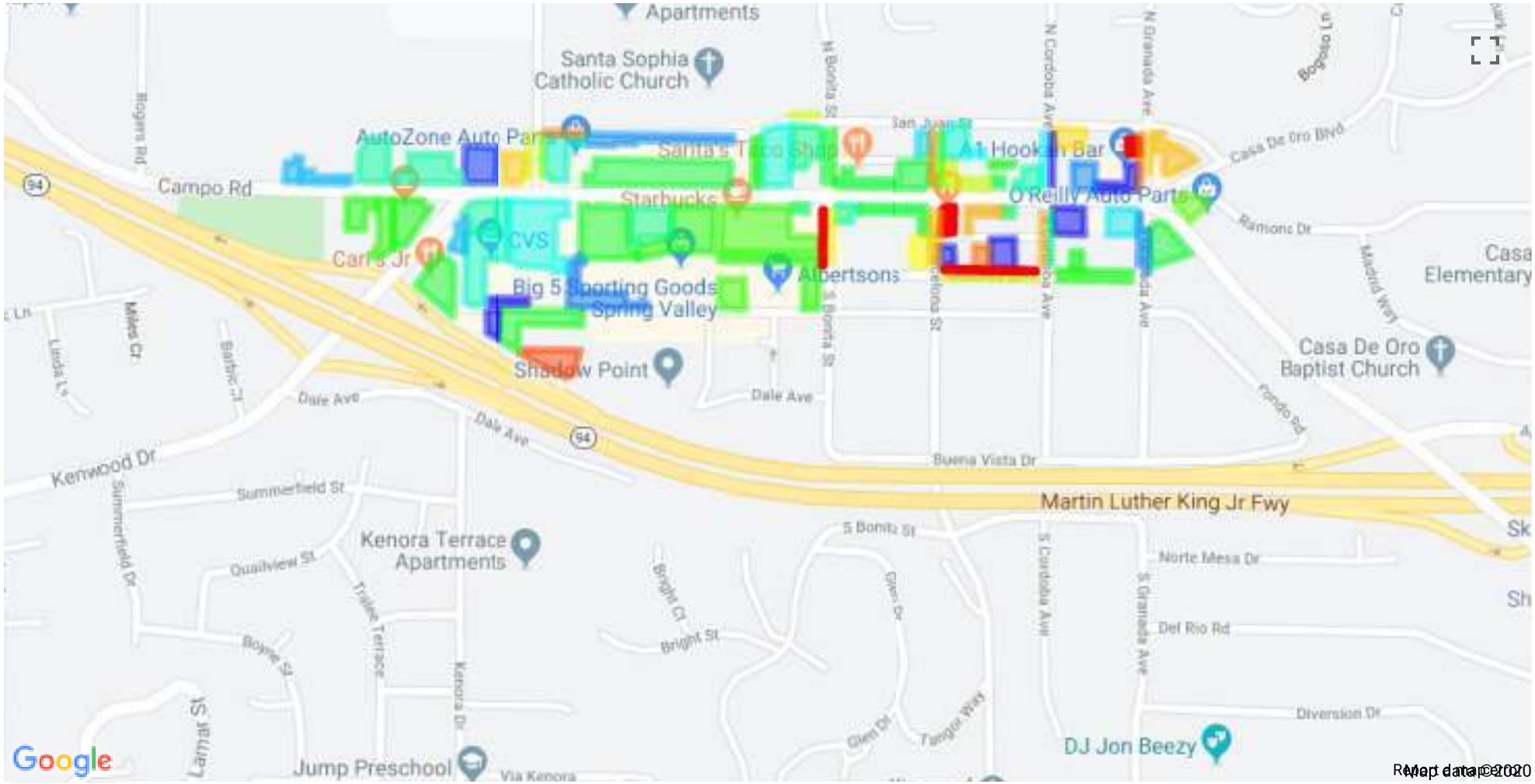

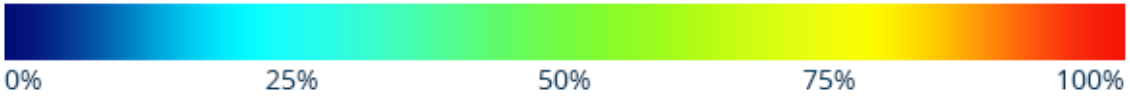

19-4471 Casa Del Oro

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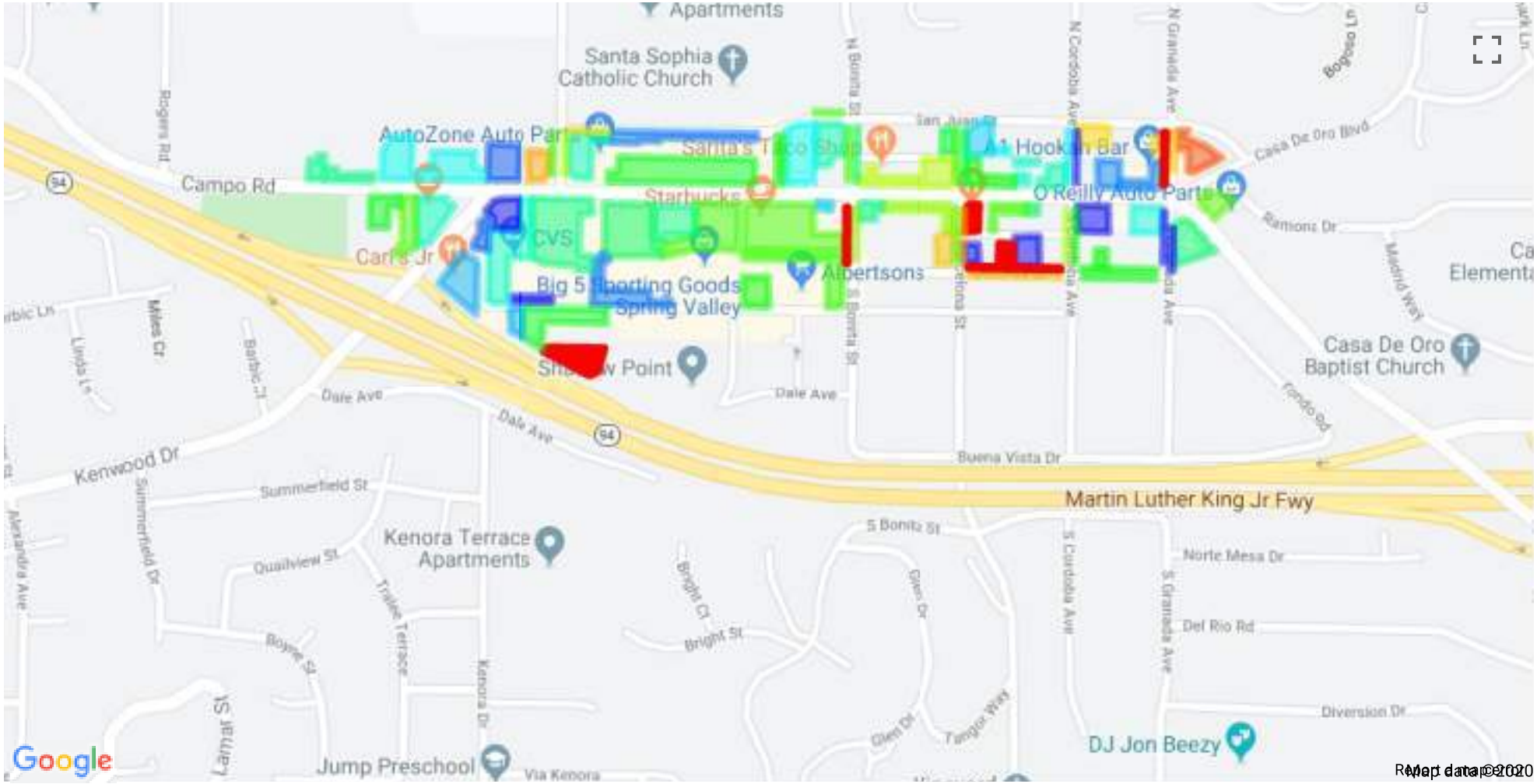

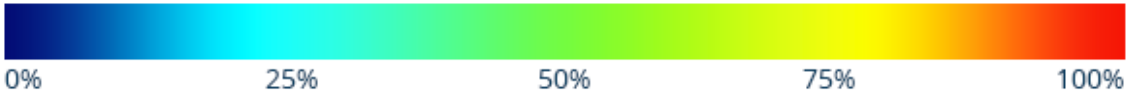

19-4471 Casa Del Oro

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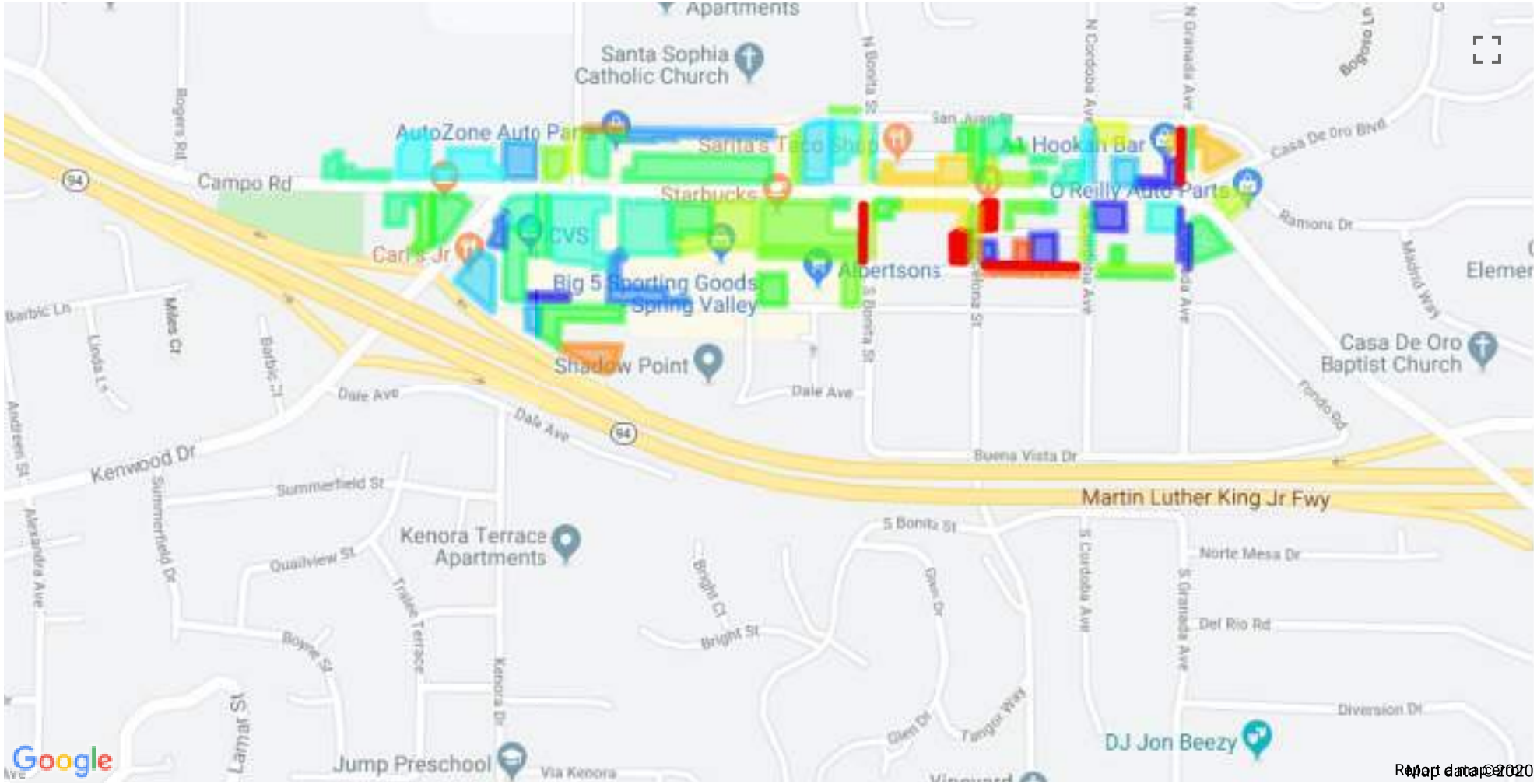

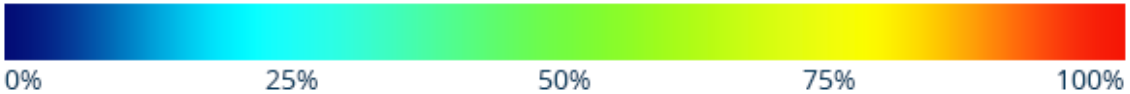

19-4471 Casa Del Oro

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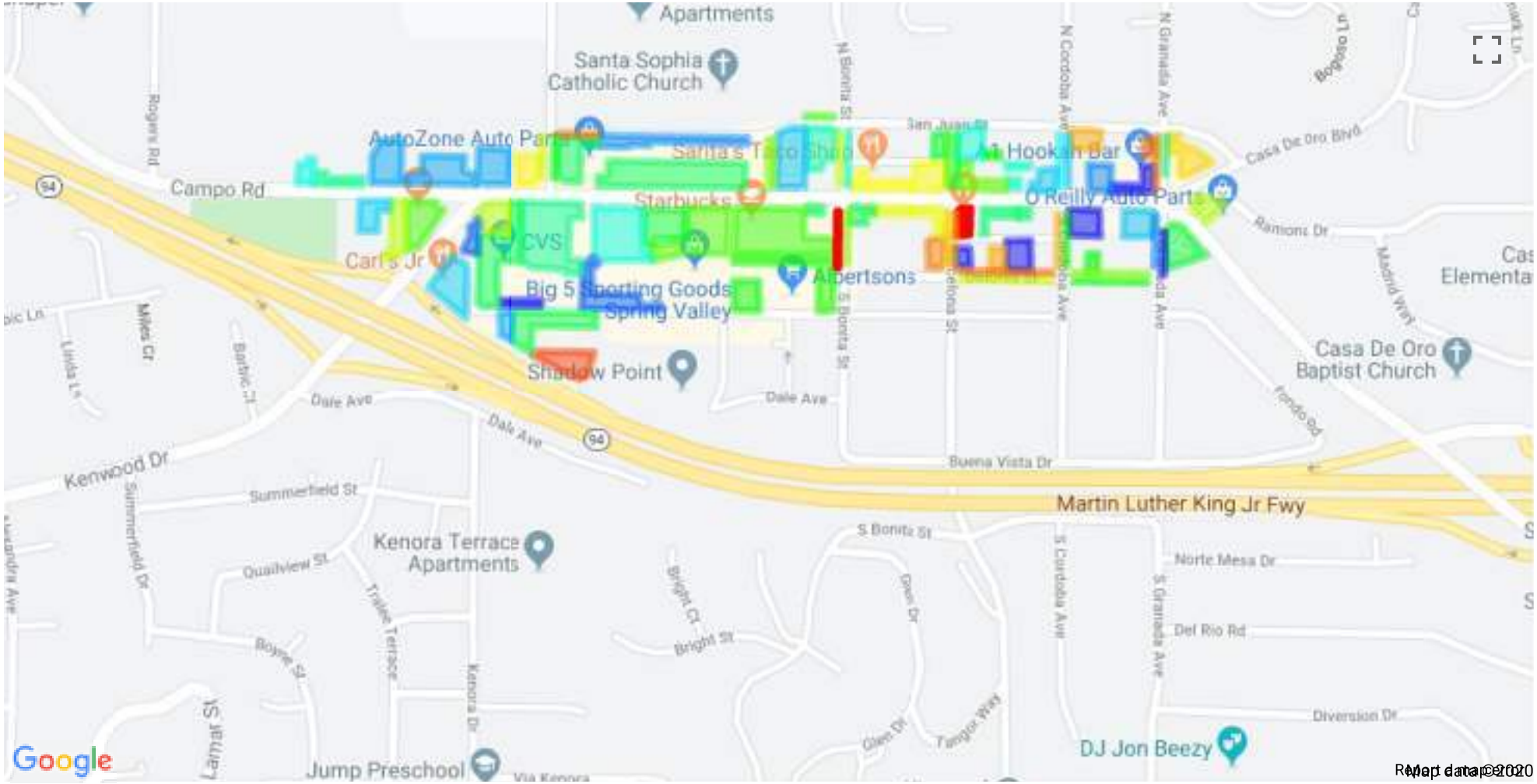

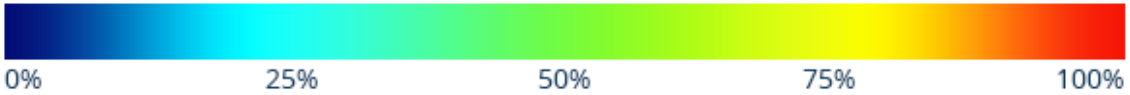

19-4471 Casa Del Oro

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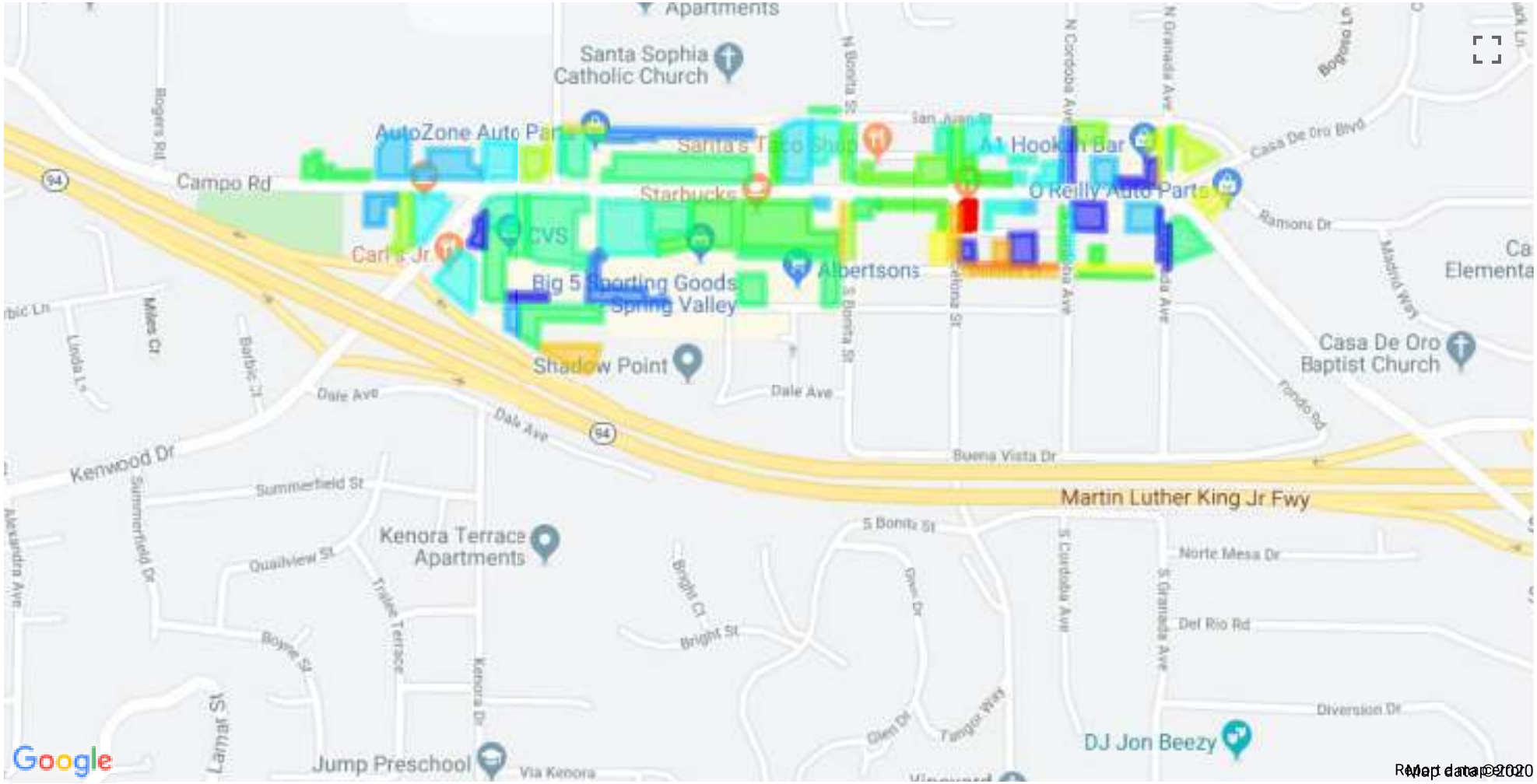
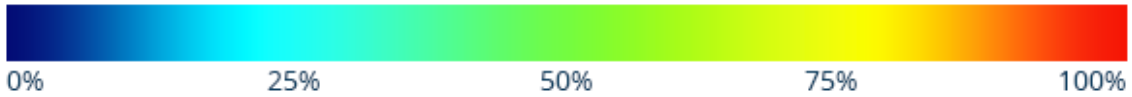




Michael Baker
INTERNATIONAL

Attachment G: Horizon Year 2035 With Project HCM Worksheets

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Volume (vph)	209	85	848	596	236	648
Future Volume (vph)	209	85	848	596	236	648
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.0	4.1	4.1	4.4	4.1
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	1863	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	1863	1770	2787
Peak-hour factor, PHF	0.83	0.83	0.91	0.91	0.89	0.89
Adj. Flow (vph)	252	102	932	655	265	728
RTOR Reduction (vph)	0	0	0	0	0	235
Lane Group Flow (vph)	252	102	932	655	265	493
Turn Type	NA	Free	Split	NA	Prot	pm+ov
Protected Phases	6		5	5	3	5
Permitted Phases		Free				3
Actuated Green, G (s)	18.7	100.0	50.6	50.6	17.1	67.7
Effective Green, g (s)	18.7	100.0	50.6	50.6	17.1	67.7
Actuated g/C Ratio	0.19	1.00	0.51	0.51	0.17	0.68
Clearance Time (s)	5.1		4.1	4.1	4.4	4.1
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	661	1583	1737	942	302	2001
v/s Ratio Prot	c0.07		0.27	c0.35	c0.15	0.12
v/s Ratio Perm		0.06				0.05
v/c Ratio	0.38	0.06	0.54	0.70	0.88	0.25
Uniform Delay, d1	35.6	0.0	16.7	18.8	40.4	6.3
Progression Factor	1.00	1.00	0.69	0.71	1.00	1.00
Incremental Delay, d2	1.7	0.1	0.1	1.2	23.1	0.0
Delay (s)	37.3	0.1	11.7	14.5	63.5	6.3
Level of Service	D	A	B	B	E	A
Approach Delay (s)	26.5			12.9	21.5	
Approach LOS	C			B	C	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	259	527	49	28	1035	128	26	7	12	168	21	436
Future Volume (vph)	259	527	49	28	1035	128	26	7	12	168	21	436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.1	5.1		5.1	5.1		5.1	5.1			5.8	4.1
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.98		1.00	0.91			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.96	1.00
Satd. Flow (prot)	1770	1836		1770	3476		1770	1690			1783	1583
Flt Permitted	0.95	1.00		0.36	1.00		0.24	1.00			0.73	1.00
Satd. Flow (perm)	1770	1836		664	3476		443	1690			1368	1583
Peak-hour factor, PHF	0.82	0.82	0.82	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86	0.86
Adj. Flow (vph)	316	643	60	30	1125	139	28	8	13	195	24	507
RTOR Reduction (vph)	0	4	0	0	9	0	0	7	0	0	0	78
Lane Group Flow (vph)	316	699	0	30	1255	0	28	14	0	0	219	429
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1!	8!			2!			4!			7!	1
Permitted Phases				2!			4!			7!		7
Actuated Green, G (s)	20.6	46.5		43.4	43.4		43.3	43.3			21.0	41.6
Effective Green, g (s)	20.6	46.5		43.4	43.4		43.3	43.3			21.0	41.6
Actuated g/C Ratio	0.21	0.46		0.43	0.43		0.43	0.43			0.21	0.42
Clearance Time (s)	4.1	5.1		5.1	5.1		5.1	5.1			5.8	4.1
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	364	853		288	1508		191	731			287	658
v/s Ratio Prot	c0.18	c0.38			c0.36			0.01				0.13
v/s Ratio Perm				0.05			0.06				c0.16	0.14
v/c Ratio	0.87	0.82		0.10	0.83		0.15	0.02			0.76	0.65
Uniform Delay, d1	38.4	23.1		16.8	25.1		17.2	16.2			37.2	23.4
Progression Factor	1.24	0.73		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	18.2	5.7		0.7	5.5		0.1	0.0			10.3	1.8
Delay (s)	65.7	22.7		17.5	30.6		17.3	16.2			47.5	25.2
Level of Service	E	C		B	C		B	B			D	C
Approach Delay (s)		36.0			30.3			16.8			31.9	
Approach LOS		D			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		

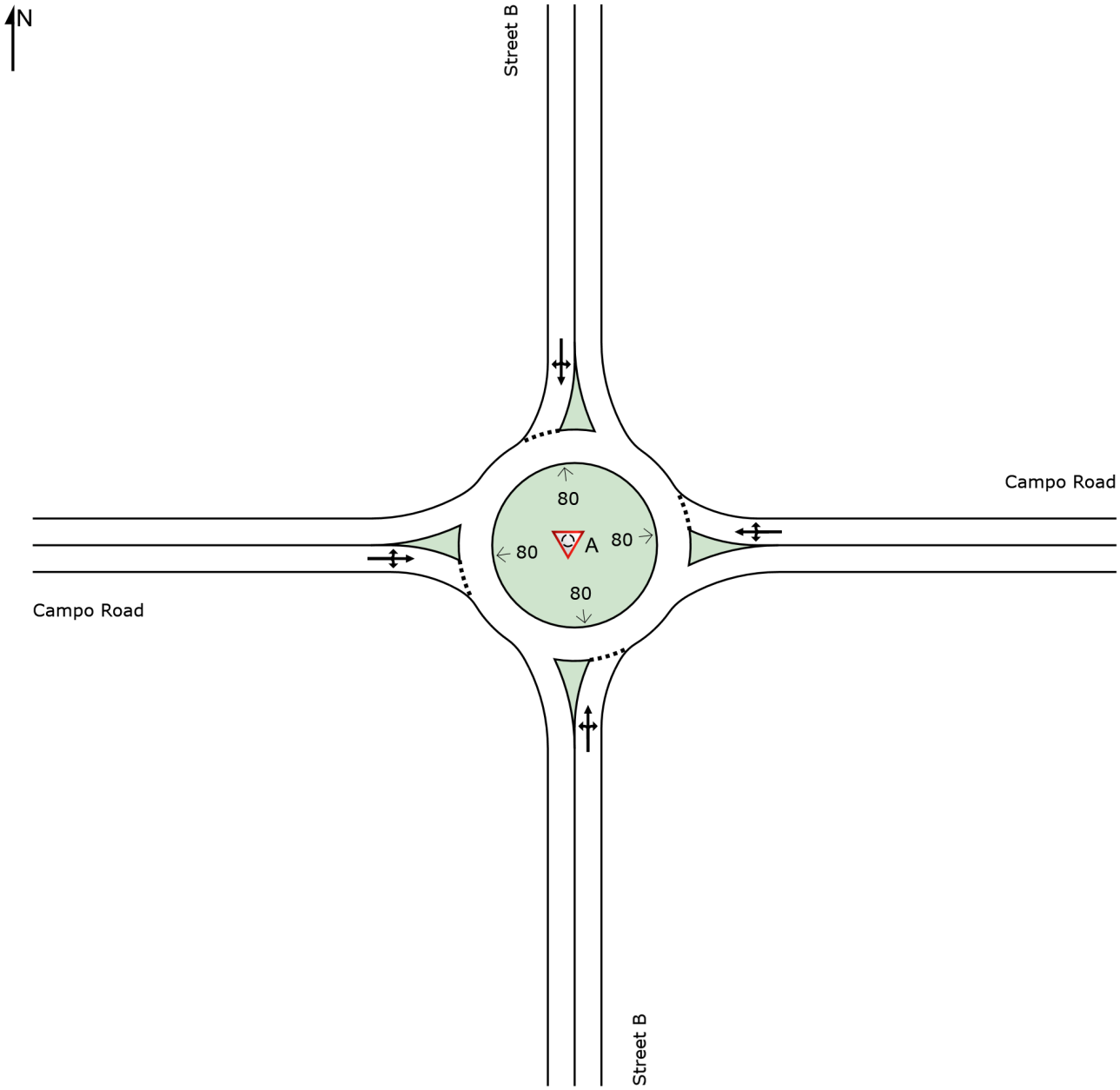
! Phase conflict between lane groups.
c Critical Lane Group

SITE LAYOUT

Site: A [Int. A (Site Folder: General)]

Campo Road / Street B
Site Category: HY 2035+P AM
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: A [Int. A (Site Folder: General)]

Campo Road / Street B
Site Category: HY 2035+P AM
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Street B														
3	L2	41	2.0	48	2.0	0.111	7.9	LOS A	0.4	10.5	0.64	0.64	0.64	31.4
8	T1	1	2.0	1	2.0	0.111	7.9	LOS A	0.4	10.5	0.64	0.64	0.64	31.4
18	R2	10	2.0	12	2.0	0.111	7.9	LOS A	0.4	10.5	0.64	0.64	0.64	30.7
Approach		52	2.0	61	2.0	0.111	7.9	LOS A	0.4	10.5	0.64	0.64	0.64	31.2
East: Campo Road														
1	L2	16	2.0	19	2.0	1.138	88.6	LOS F	157.0	3988.4	1.00	1.53	2.58	15.2
6	T1	1176	2.0	1384	2.0	1.138	88.6	LOS F	157.0	3988.4	1.00	1.53	2.58	15.2
16	R2	8	2.0	9	2.0	1.138	88.6	LOS F	157.0	3988.4	1.00	1.53	2.58	15.0
Approach		1200	2.0	1412	2.0	1.138	88.6	LOS F	157.0	3988.4	1.00	1.53	2.58	15.2
North: Street B														
7	L2	5	2.0	6	2.0	0.073	11.2	LOS B	0.2	6.3	0.75	0.75	0.75	31.0
4	T1	1	2.0	1	2.0	0.073	11.2	LOS B	0.2	6.3	0.75	0.75	0.75	31.1
14	R2	16	2.0	19	2.0	0.073	11.2	LOS B	0.2	6.3	0.75	0.75	0.75	30.4
Approach		22	2.0	26	2.0	0.073	11.2	LOS B	0.2	6.3	0.75	0.75	0.75	30.6
West: Campo Road														
5	L2	23	2.0	27	2.0	0.702	12.5	LOS B	8.6	217.8	0.29	0.09	0.29	31.0
2	T1	697	2.0	820	2.0	0.702	12.5	LOS B	8.6	217.8	0.29	0.09	0.29	31.1
12	R2	62	2.0	73	2.0	0.702	12.5	LOS B	8.6	217.8	0.29	0.09	0.29	30.3
Approach		782	2.0	920	2.0	0.702	12.5	LOS B	8.6	217.8	0.29	0.09	0.29	31.0
All Vehicles		2056	2.0	2419	2.0	1.138	56.8	LOS F	157.0	3988.4	0.72	0.96	1.64	19.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Project: H:\PDATA\175688_Casa De Oro\Traffic\Analysis\Synchro\3_HY 2035 With Project\HY AM.sip9

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	610	47	16	1276	8	0	0	17	0	0	21
Future Vol, veh/h	23	610	47	16	1276	8	0	0	17	0	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	663	51	17	1387	9	0	0	18	0	0	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1396	0	0	714	0	0	-	-	689	-	-	1392
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	-	6.22	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	-	3.318	-	-	3.318
Pot Cap-1 Maneuver	490	-	-	886	-	-	0	0	446	0	0	174
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	490	-	-	886	-	-	-	-	446	-	-	174
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.1	13.4	28.8
HCM LOS			B	D

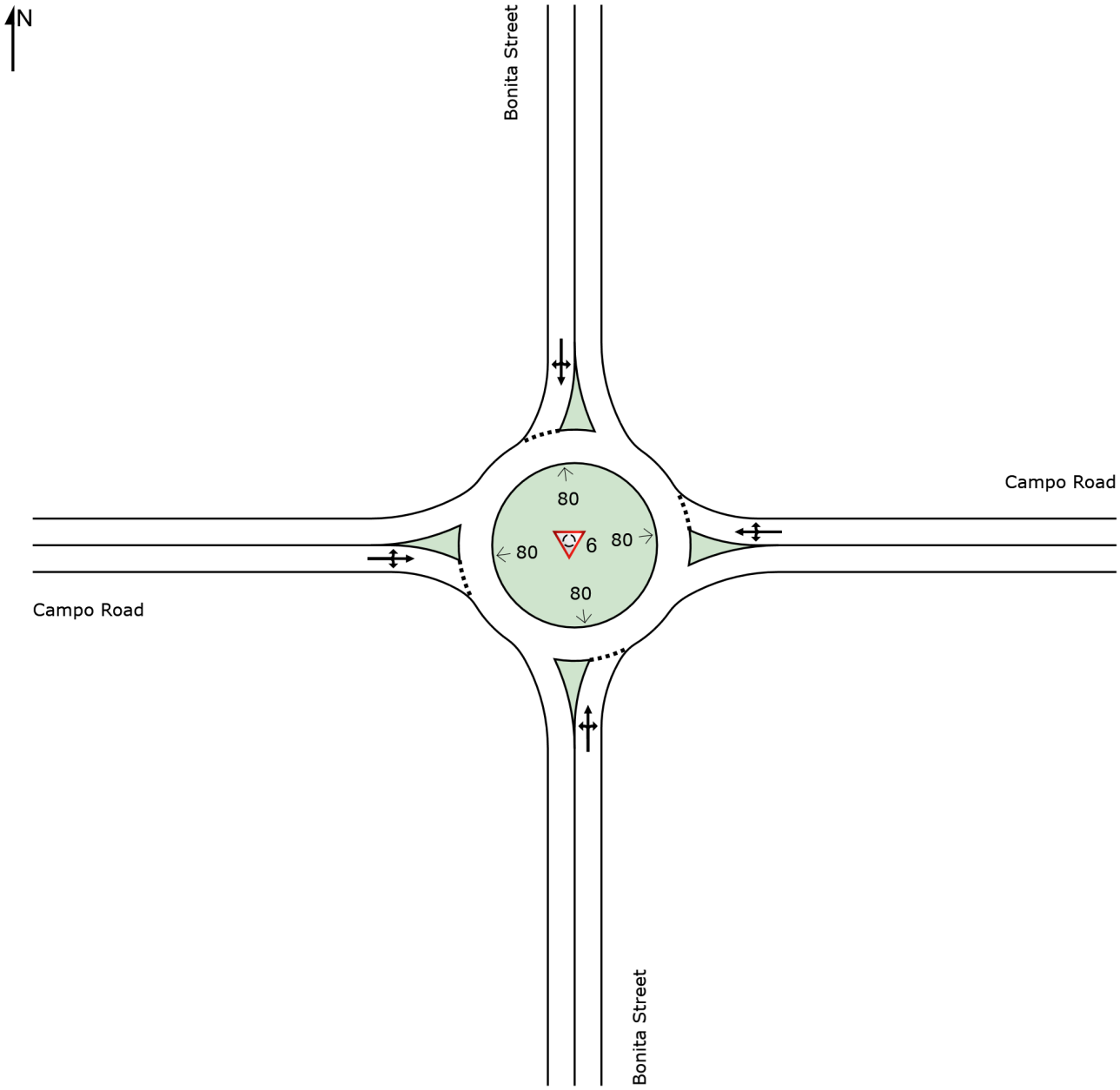
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	446	490	-	-	886	-	-	174
HCM Lane V/C Ratio	0.041	0.051	-	-	0.02	-	-	0.131
HCM Control Delay (s)	13.4	12.7	-	-	9.1	-	-	28.8
HCM Lane LOS	B	B	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0.1	-	-	0.4

SITE LAYOUT

Site: 6 [Int. 6 (Site Folder: General)]

Campo Road / Bonita Street
Site Category: HY 2035+P AM
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 6 [Int. 6 (Site Folder: General)]

Campo Road / Bonita Street
Site Category: HY 2035+P AM
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Bonita Street														
3	L2	79	2.0	104	2.0	0.287	9.5	LOS A	1.2	30.5	0.67	0.67	0.67	31.1
8	T1	23	2.0	30	2.0	0.287	9.5	LOS A	1.2	30.5	0.67	0.67	0.67	31.2
18	R2	35	2.0	46	2.0	0.287	9.5	LOS A	1.2	30.5	0.67	0.67	0.67	30.4
Approach		137	2.0	180	2.0	0.287	9.5	LOS A	1.2	30.5	0.67	0.67	0.67	30.9
East: Campo Road														
1	L2	33	2.0	41	2.0	1.452	221.7	LOS F	211.1	5360.7	1.00	4.30	7.65	8.0
6	T1	1128	2.0	1410	2.0	1.452	221.7	LOS F	211.1	5360.7	1.00	4.30	7.65	8.0
16	R2	106	2.0	133	2.0	1.452	221.7	LOS F	211.1	5360.7	1.00	4.30	7.65	8.0
Approach		1267	2.0	1584	2.0	1.452	221.7	LOS F	211.1	5360.7	1.00	4.30	7.65	8.0
North: Bonita Street														
7	L2	52	2.0	69	2.0	0.422	16.5	LOS C	1.9	49.3	0.79	0.87	1.10	28.7
4	T1	14	2.0	19	2.0	0.422	16.5	LOS C	1.9	49.3	0.79	0.87	1.10	28.7
14	R2	69	2.0	92	2.0	0.422	16.5	LOS C	1.9	49.3	0.79	0.87	1.10	28.1
Approach		135	2.0	180	2.0	0.422	16.5	LOS C	1.9	49.3	0.79	0.87	1.10	28.4
West: Campo Road														
5	L2	57	2.0	66	2.0	0.595	10.4	LOS B	4.9	124.6	0.50	0.30	0.50	31.8
2	T1	519	2.0	597	2.0	0.595	10.4	LOS B	4.9	124.6	0.50	0.30	0.50	31.8
12	R2	40	2.0	46	2.0	0.595	10.4	LOS B	4.9	124.6	0.50	0.30	0.50	31.1
Approach		616	2.0	708	2.0	0.595	10.4	LOS B	4.9	124.6	0.50	0.30	0.50	31.8
All Vehicles		2155	2.0	2652	2.0	1.452	136.9	LOS F	211.1	5360.7	0.83	2.75	4.82	11.4

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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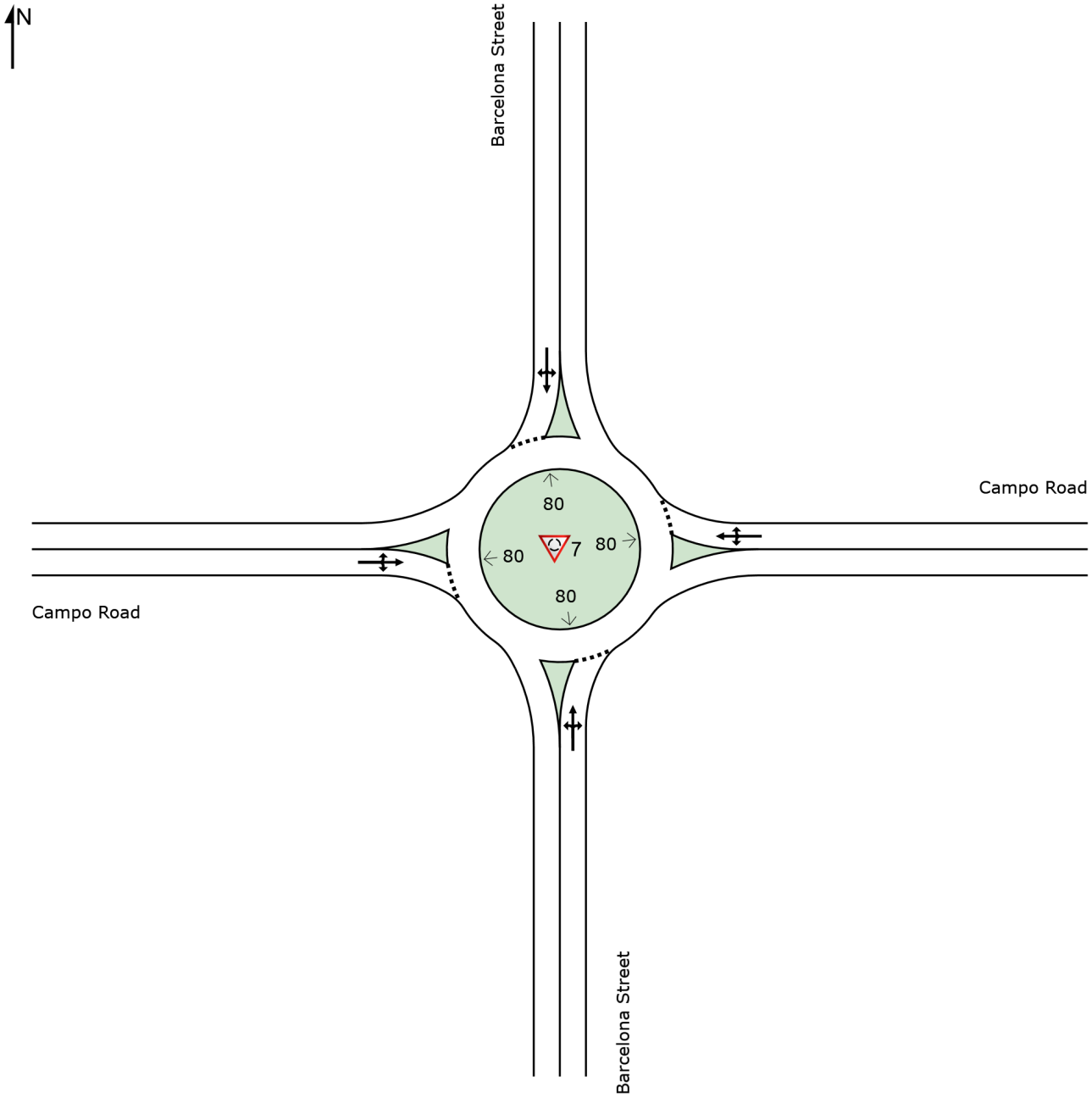
SITE LAYOUT

Site: 7 [Int. 7 (Site Folder: General)]

Campo Road / Barcelona Street
Site Category: HY 2035+P AM
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 7 [Int. 7 (Site Folder: General)]

Campo Road / Barcelona Street
Site Category: HY 2035+P AM
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Barcelona Street														
3	L2	334	2.0	407	2.0	0.690	17.8	LOS C	7.6	193.1	0.84	1.11	1.58	27.6
8	T1	38	2.0	46	2.0	0.690	17.8	LOS C	7.6	193.1	0.84	1.11	1.58	27.7
18	R2	65	2.0	79	2.0	0.690	17.8	LOS C	7.6	193.1	0.84	1.11	1.58	27.1
Approach		437	2.0	533	2.0	0.690	17.8	LOS C	7.6	193.1	0.84	1.11	1.58	27.6
East: Campo Road														
1	L2	66	2.0	85	2.0	1.592	286.9	LOS F	176.8	4490.9	1.00	5.66	13.26	6.5
6	T1	914	2.0	1172	2.0	1.592	286.9	LOS F	176.8	4490.9	1.00	5.66	13.26	6.5
16	R2	40	2.0	51	2.0	1.592	286.9	LOS F	176.8	4490.9	1.00	5.66	13.26	6.5
Approach		1020	2.0	1308	2.0	1.592	286.9	LOS F	176.8	4490.9	1.00	5.66	13.26	6.5
North: Barcelona Street														
7	L2	23	2.0	29	2.0	0.192	12.4	LOS B	0.7	17.4	0.75	0.75	0.75	30.3
4	T1	14	2.0	18	2.0	0.192	12.4	LOS B	0.7	17.4	0.75	0.75	0.75	30.3
14	R2	21	2.0	27	2.0	0.192	12.4	LOS B	0.7	17.4	0.75	0.75	0.75	29.6
Approach		58	2.0	74	2.0	0.192	12.4	LOS B	0.7	17.4	0.75	0.75	0.75	30.0
West: Campo Road														
5	L2	15	2.0	19	2.0	0.602	10.4	LOS B	5.1	129.9	0.47	0.27	0.47	31.9
2	T1	392	2.0	484	2.0	0.602	10.4	LOS B	5.1	129.9	0.47	0.27	0.47	32.0
12	R2	182	2.0	225	2.0	0.602	10.4	LOS B	5.1	129.9	0.47	0.27	0.47	31.2
Approach		589	2.0	727	2.0	0.602	10.4	LOS B	5.1	129.9	0.47	0.27	0.47	31.7
All Vehicles		2104	2.0	2642	2.0	1.592	148.8	LOS F	176.8	4490.9	0.82	3.12	7.03	10.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	461	19	38	920	52	0	0	33	0	0	69
Future Vol, veh/h	37	461	19	38	920	52	0	0	33	0	0	69
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	50	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	501	21	41	1000	57	0	0	36	0	0	75

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1057	0	0	522	0	0	-	-	512	-	-	1029
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	-	6.22	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	-	3.318	-	-	3.318
Pot Cap-1 Maneuver	659	-	-	1044	-	-	0	0	562	0	0	284
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	659	-	-	1044	-	-	-	-	562	-	-	284
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.3	11.8	22.2
HCM LOS			B	C

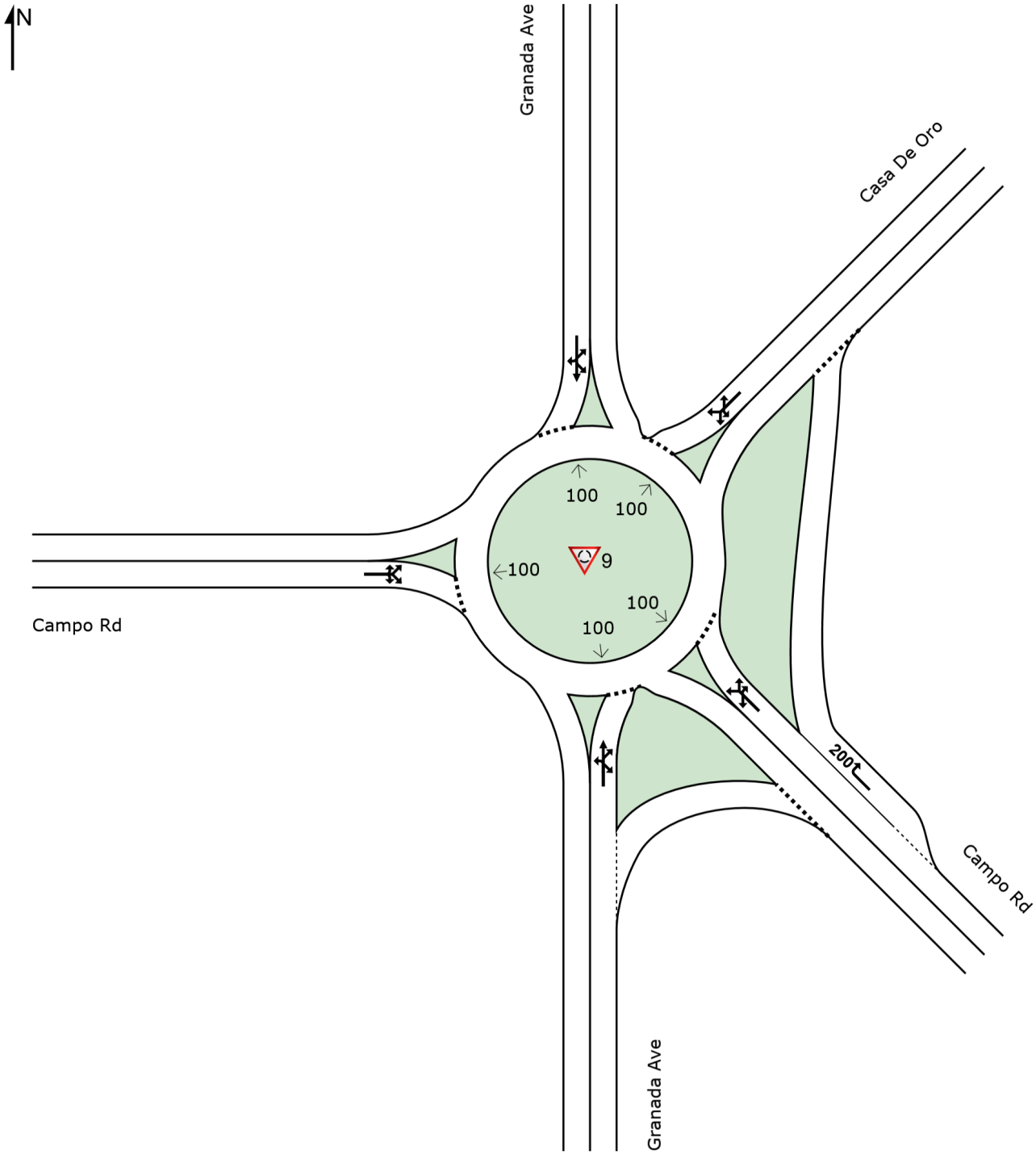
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	562	659	-	-	1044	-	-	284
HCM Lane V/C Ratio	0.064	0.061	-	-	0.04	-	-	0.264
HCM Control Delay (s)	11.8	10.8	-	-	8.6	-	-	22.2
HCM Lane LOS	B	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.1	-	-	1

SITE LAYOUT

Site: 9 [Int 9 (Site Folder: General)]

Campo / Granada / CDO 1-Lane
Site Category: HY 2035+P AM
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 9 [Int 9 (Site Folder: General)]

Campo / Granada / CDO 1-Lane
Site Category: HY 2035+P AM
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Granada Ave														
3	L2	27	2.0	35	2.0	0.318	10.5	LOS B	1.4	35.5	0.68	0.69	0.72	32.3
8	T1	1	2.0	1	2.0	0.318	10.5	LOS B	1.4	35.5	0.68	0.69	0.72	32.3
18a	R1	29	2.0	37	2.0	0.318	10.5	LOS B	1.4	35.5	0.68	0.69	0.72	32.0
18b	R3	100	2.0	128	2.0	0.318	9.6	LOS A	1.4	35.5	0.68	0.69	0.72	31.1
Approach		157	2.0	201	2.0	0.318	9.9	LOS A	1.4	35.5	0.68	0.69	0.72	31.5
SouthEast: Campo Rd														
3bx	L3	11	2.0	14	2.0	0.991	43.7	LOS E	60.1	1527.0	1.00	1.81	3.14	21.4
3ax	L1	812	2.0	1068	2.0	0.991	43.7	LOS E	60.1	1527.0	1.00	1.81	3.14	21.1
18ax	R1	30	2.0	39	2.0	0.991	43.7	LOS E	60.1	1527.0	1.00	1.81	3.14	21.1
18x	R2	58	2.0	76	2.0	0.062	3.5	LOS A	0.2	6.2	0.26	0.13	0.26	35.0
Approach		911	2.0	1199	2.0	0.991	41.2	LOS E	60.1	1527.0	0.95	1.70	2.96	21.6
NorthEast: Casa De Oro														
1x	L2	56	2.0	79	2.0	0.922	61.0	LOS F	10.3	260.7	0.96	1.58	3.19	18.7
1ax	L1	19	2.0	27	2.0	0.922	61.0	LOS F	10.3	260.7	0.96	1.58	3.19	18.5
16ax	R1	162	2.0	228	2.0	0.922	61.0	LOS F	10.3	260.7	0.96	1.58	3.19	18.6
16bx	R3	16	2.0	23	2.0	0.922	61.0	LOS F	10.3	260.7	0.96	1.58	3.19	18.2
Approach		253	2.0	356	2.0	0.922	61.0	LOS F	10.3	260.7	0.96	1.58	3.19	18.6
North: Granada Ave														
7b	L3	1	2.0	2	2.0	0.340	19.8	LOS C	1.3	33.0	0.84	0.90	1.06	27.9
7a	L1	46	2.0	70	2.0	0.340	19.8	LOS C	1.3	33.0	0.84	0.90	1.06	27.3
4	T1	3	2.0	5	2.0	0.340	19.8	LOS C	1.3	33.0	0.84	0.90	1.06	27.6
14	R2	17	2.0	26	2.0	0.340	19.8	LOS C	1.3	33.0	0.84	0.90	1.06	26.9
Approach		67	2.0	102	2.0	0.340	19.8	LOS C	1.3	33.0	0.84	0.90	1.06	27.3
West: Campo Rd														
5	L2	35	2.0	46	2.0	0.621	11.6	LOS B	5.7	144.0	0.64	0.50	0.69	31.7
5a	L1	77	2.0	101	2.0	0.621	11.6	LOS B	5.7	144.0	0.64	0.50	0.69	31.3
12a	R1	398	2.0	524	2.0	0.621	11.6	LOS B	5.7	144.0	0.64	0.50	0.69	31.4
12	R2	11	2.0	14	2.0	0.621	11.6	LOS B	5.7	144.0	0.64	0.50	0.69	30.8
Approach		521	2.0	686	2.0	0.621	11.6	LOS B	5.7	144.0	0.64	0.50	0.69	31.4
All Vehicles		1909	2.0	2543	2.0	0.991	32.6	LOS D	60.1	1527.0	0.84	1.25	2.12	23.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations						
Traffic Volume (vph)	403	124	638	220	119	706
Future Volume (vph)	403	124	638	220	119	706
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.1	4.0	4.1	4.1	4.4	4.1
Lane Util. Factor	0.95	1.00	0.97	1.00	1.00	0.88
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	3433	1863	1770	2787
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	3433	1863	1770	2787
Peak-hour factor, PHF	0.95	0.95	0.97	0.97	0.96	0.96
Adj. Flow (vph)	424	131	658	227	124	735
RTOR Reduction (vph)	0	0	0	0	0	273
Lane Group Flow (vph)	424	131	658	227	124	462
Turn Type	NA	Free	Split	NA	Prot	pm+ov
Protected Phases	6		5	5	3	5
Permitted Phases		Free				3
Actuated Green, G (s)	34.6	90.0	29.8	29.8	12.0	41.8
Effective Green, g (s)	34.6	90.0	29.8	29.8	12.0	41.8
Actuated g/C Ratio	0.38	1.00	0.33	0.33	0.13	0.46
Clearance Time (s)	5.1		4.1	4.1	4.4	4.1
Vehicle Extension (s)	2.0		2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	1360	1583	1136	616	236	1421
v/s Ratio Prot	c0.12		c0.19	0.12	c0.07	0.11
v/s Ratio Perm		c0.08				0.06
v/c Ratio	0.31	0.08	0.58	0.37	0.53	0.33
Uniform Delay, d1	19.4	0.0	24.9	22.9	36.3	15.2
Progression Factor	1.00	1.00	0.98	0.95	1.00	1.00
Incremental Delay, d2	0.6	0.1	0.4	0.1	1.0	0.0
Delay (s)	20.0	0.1	24.9	21.8	37.3	15.3
Level of Service	B	A	C	C	D	B
Approach Delay (s)	15.3			24.1	18.4	
Approach LOS	B			C	B	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	945	95	48	674	60	78	19	46	91	34	181
Future Volume (vph)	155	945	95	48	674	60	78	19	46	91	34	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.1	5.1		5.1	5.1		5.1	5.1			5.8	4.1
Lane Util. Factor	1.00	1.00		1.00	0.95		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.89			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.96	1.00
Satd. Flow (prot)	1770	1834		1770	3492		1770	1666			1798	1583
Flt Permitted	0.95	1.00		0.12	1.00		0.67	1.00			0.62	1.00
Satd. Flow (perm)	1770	1834		215	3492		1249	1666			1154	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.96	0.96	0.96	0.92	0.92	0.92	0.93	0.93	0.93
Adj. Flow (vph)	167	1016	102	50	702	62	85	21	50	98	37	195
RTOR Reduction (vph)	0	3	0	0	8	0	0	40	0	0	0	105
Lane Group Flow (vph)	167	1115	0	50	757	0	85	31	0	0	135	90
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	1!	8!			2!			4!			7!	1
Permitted Phases				2!			4!			7!		7
Actuated Green, G (s)	11.8	62.2		43.0	43.0		17.6	17.6			20.2	32.0
Effective Green, g (s)	11.8	62.2		43.0	43.0		17.6	17.6			20.2	32.0
Actuated g/C Ratio	0.13	0.69		0.48	0.48		0.20	0.20			0.22	0.36
Clearance Time (s)	4.1	5.1		5.1	5.1		5.1	5.1			5.8	4.1
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	232	1267		102	1668		244	325			259	562
v/s Ratio Prot	0.09	c0.61			0.22			0.02				0.02
v/s Ratio Perm				0.23			0.07				c0.12	0.04
v/c Ratio	0.72	0.88		0.49	0.45		0.35	0.09			0.52	0.16
Uniform Delay, d1	37.5	11.0		16.0	15.7		31.2	29.7			30.7	19.8
Progression Factor	1.16	0.84		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	8.2	6.9		15.9	0.9		0.3	0.0			0.9	0.0
Delay (s)	51.7	16.1		31.9	16.6		31.6	29.7			31.5	19.9
Level of Service	D	B		C	B		C	C			C	B
Approach Delay (s)		20.7			17.5			30.7			24.6	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		

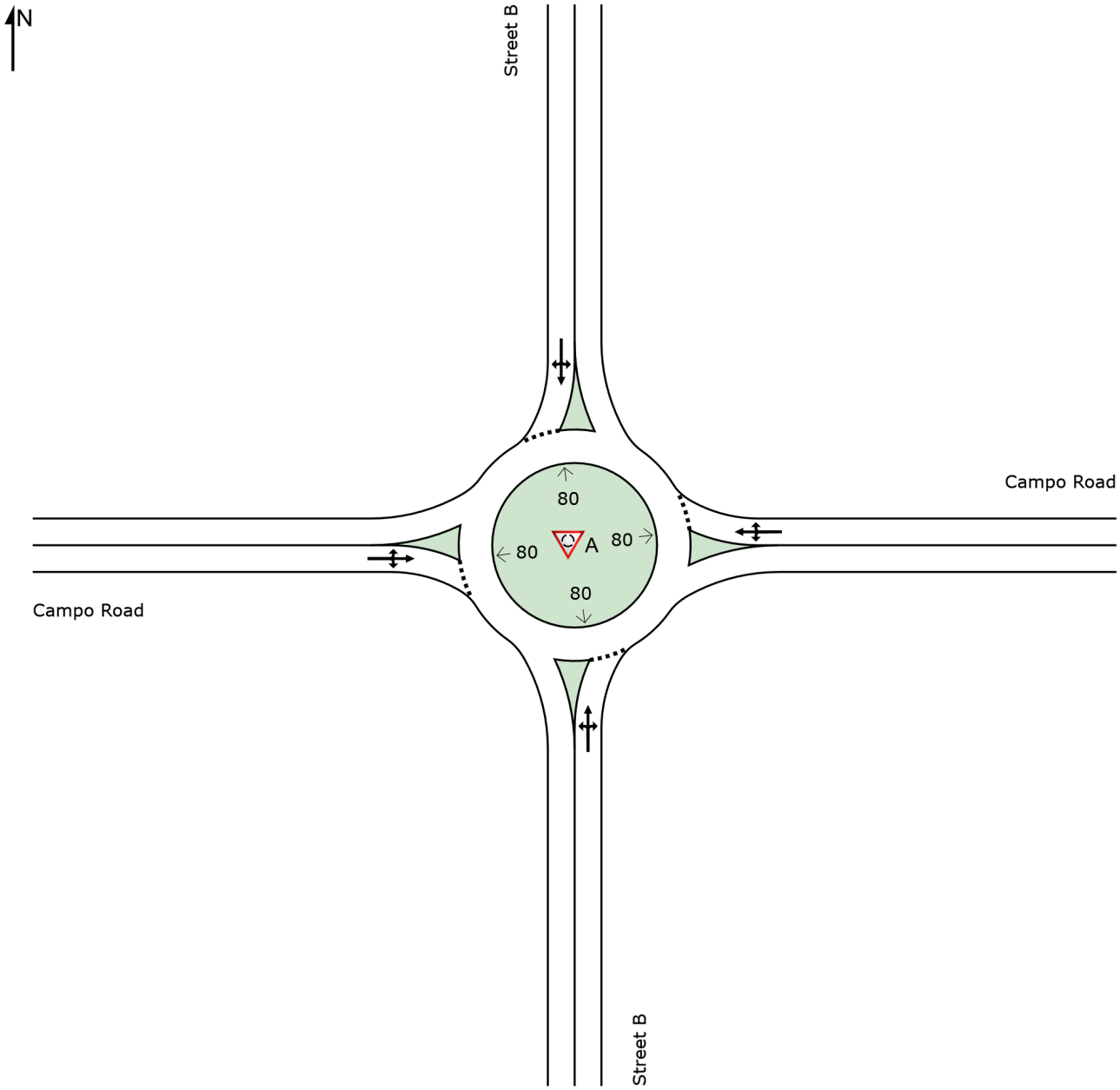
! Phase conflict between lane groups.
c Critical Lane Group

SITE LAYOUT

Site: A [Int. A (Site Folder: General)]

Campo Road / Street B
Site Category: HY 2035+P PM
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: A [Int. A (Site Folder: General)]

Campo Road / Street B
Site Category: HY 2035+P PM
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Street B														
3	L2	130	2.0	153	2.0	0.473	18.9	LOS C	2.3	57.4	0.81	0.92	1.21	27.2
8	T1	1	2.0	1	2.0	0.473	18.9	LOS C	2.3	57.4	0.81	0.92	1.21	27.3
18	R2	32	2.0	38	2.0	0.473	18.9	LOS C	2.3	57.4	0.81	0.92	1.21	26.7
Approach		163	2.0	192	2.0	0.473	18.9	LOS C	2.3	57.4	0.81	0.92	1.21	27.1
East: Campo Road														
1	L2	32	2.0	38	2.0	0.864	24.2	LOS C	29.9	760.5	1.00	1.29	2.00	26.7
6	T1	749	2.0	881	2.0	0.864	24.2	LOS C	29.9	760.5	1.00	1.29	2.00	26.7
16	R2	16	2.0	19	2.0	0.864	24.2	LOS C	29.9	760.5	1.00	1.29	2.00	26.2
Approach		797	2.0	938	2.0	0.864	24.2	LOS C	29.9	760.5	1.00	1.29	2.00	26.7
North: Street B														
7	L2	16	2.0	19	2.0	0.175	10.7	LOS B	0.6	16.3	0.71	0.71	0.71	31.2
4	T1	1	2.0	1	2.0	0.175	10.7	LOS B	0.6	16.3	0.71	0.71	0.71	31.3
14	R2	49	2.0	58	2.0	0.175	10.7	LOS B	0.6	16.3	0.71	0.71	0.71	30.6
Approach		66	2.0	78	2.0	0.175	10.7	LOS B	0.6	16.3	0.71	0.71	0.71	30.7
West: Campo Road														
5	L2	49	2.0	58	2.0	1.142	89.8	LOS F	193.0	4901.3	1.00	1.31	2.34	15.0
2	T1	1049	2.0	1234	2.0	1.142	89.8	LOS F	193.0	4901.3	1.00	1.31	2.34	15.0
12	R2	130	2.0	153	2.0	1.142	89.8	LOS F	193.0	4901.3	1.00	1.31	2.34	14.9
Approach		1228	2.0	1445	2.0	1.142	89.8	LOS F	193.0	4901.3	1.00	1.31	2.34	15.0
All Vehicles		2254	2.0	2652	2.0	1.142	59.2	LOS F	193.0	4901.3	0.98	1.26	2.09	18.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	890	97	32	700	16	0	0	52	0	0	65
Future Vol, veh/h	49	890	97	32	700	16	0	0	52	0	0	65
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	967	105	35	761	17	0	0	57	0	0	71

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	778	0	0	1072	0	0	-	-	1020	-	-	770
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	-	6.22	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	-	3.318	-	-	3.318
Pot Cap-1 Maneuver	839	-	-	650	-	-	0	0	287	0	0	401
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	839	-	-	650	-	-	-	-	287	-	-	401
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.5	20.6	15.9
HCM LOS			C	C

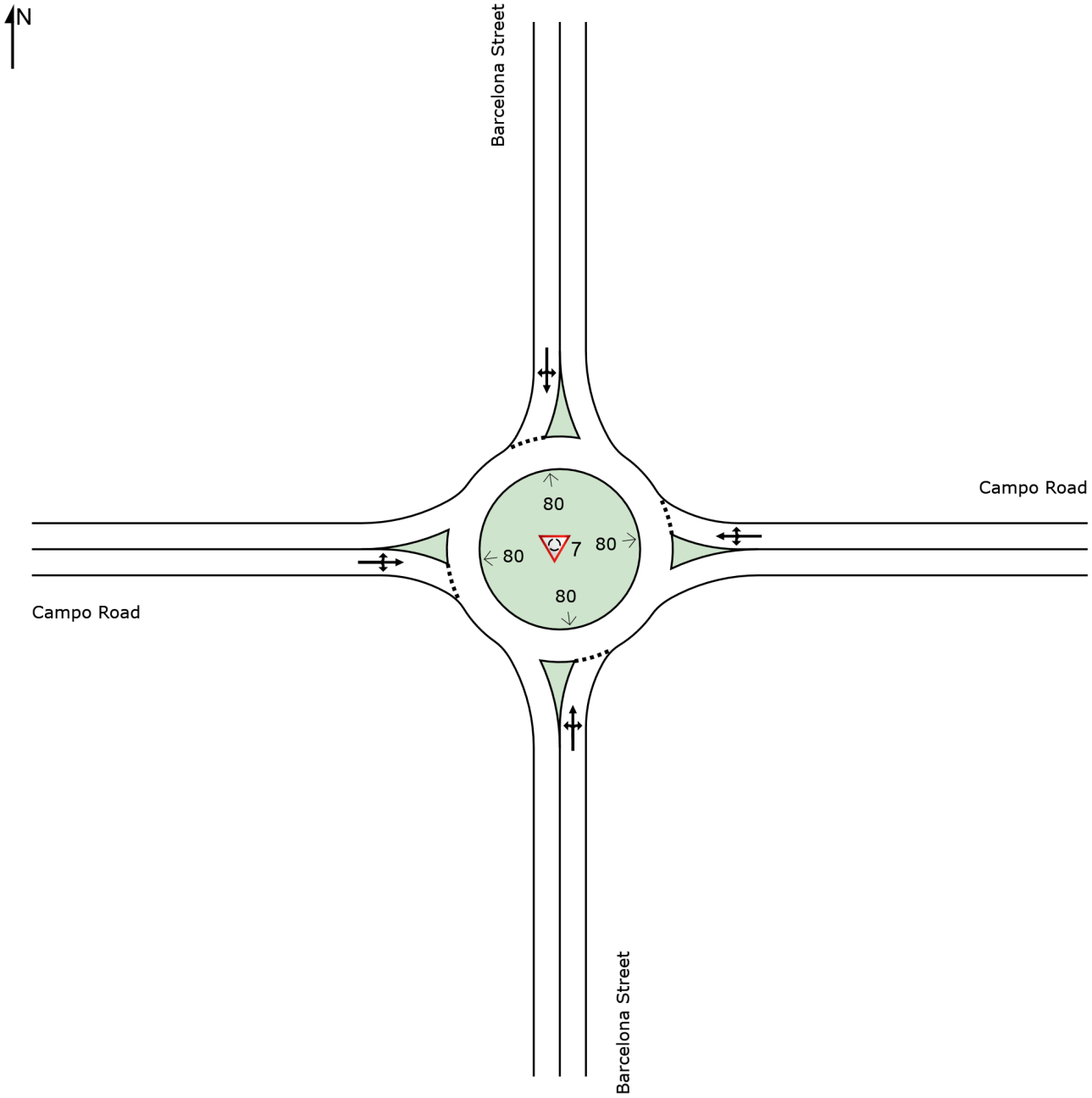
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	287	839	-	-	650	-	-	401
HCM Lane V/C Ratio	0.197	0.063	-	-	0.054	-	-	0.176
HCM Control Delay (s)	20.6	9.6	-	-	10.9	-	-	15.9
HCM Lane LOS	C	A	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.7	0.2	-	-	0.2	-	-	0.6

SITE LAYOUT

Site: 7 [Int. 7 (Site Folder: General)]

Campo Road / Barcelona Street
Site Category: HY 2035+P PM
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 6 [Int. 6 (Site Folder: General)]

Campo Road / Bonita Street
Site Category: HY 2035+P PM
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Bonita Street														
3	L2	85	2.0	98	2.0	0.388	13.9	LOS B	1.8	45.8	0.74	0.81	0.98	29.4
8	T1	17	2.0	20	2.0	0.388	13.9	LOS B	1.8	45.8	0.74	0.81	0.98	29.5
18	R2	63	2.0	72	2.0	0.388	13.9	LOS B	1.8	45.8	0.74	0.81	0.98	28.8
Approach		165	2.0	190	2.0	0.388	13.9	LOS B	1.8	45.8	0.74	0.81	0.98	29.2
East: Campo Road														
1	L2	27	2.0	28	2.0	0.584	10.6	LOS B	4.3	110.2	0.59	0.43	0.59	31.8
6	T1	569	2.0	593	2.0	0.584	10.6	LOS B	4.3	110.2	0.59	0.43	0.59	31.8
16	R2	22	2.0	23	2.0	0.584	10.6	LOS B	4.3	110.2	0.59	0.43	0.59	31.1
Approach		618	2.0	644	2.0	0.584	10.6	LOS B	4.3	110.2	0.59	0.43	0.59	31.8
North: Bonita Street														
7	L2	38	2.0	60	2.0	0.262	9.0	LOS A	1.1	27.6	0.66	0.66	0.66	31.8
4	T1	21	2.0	33	2.0	0.262	9.0	LOS A	1.1	27.6	0.66	0.66	0.66	31.8
14	R2	46	2.0	73	2.0	0.262	9.0	LOS A	1.1	27.6	0.66	0.66	0.66	31.1
Approach		105	2.0	167	2.0	0.262	9.0	LOS A	1.1	27.6	0.66	0.66	0.66	31.5
West: Campo Road														
5	L2	66	2.0	72	2.0	0.834	20.2	LOS C	19.1	484.2	0.87	0.67	1.07	27.9
2	T1	778	2.0	846	2.0	0.834	20.2	LOS C	19.1	484.2	0.87	0.67	1.07	28.0
12	R2	64	2.0	70	2.0	0.834	20.2	LOS C	19.1	484.2	0.87	0.67	1.07	27.4
Approach		908	2.0	987	2.0	0.834	20.2	LOS C	19.1	484.2	0.87	0.67	1.07	27.9
All Vehicles		1796	2.0	1987	2.0	0.834	15.6	LOS C	19.1	484.2	0.75	0.61	0.87	29.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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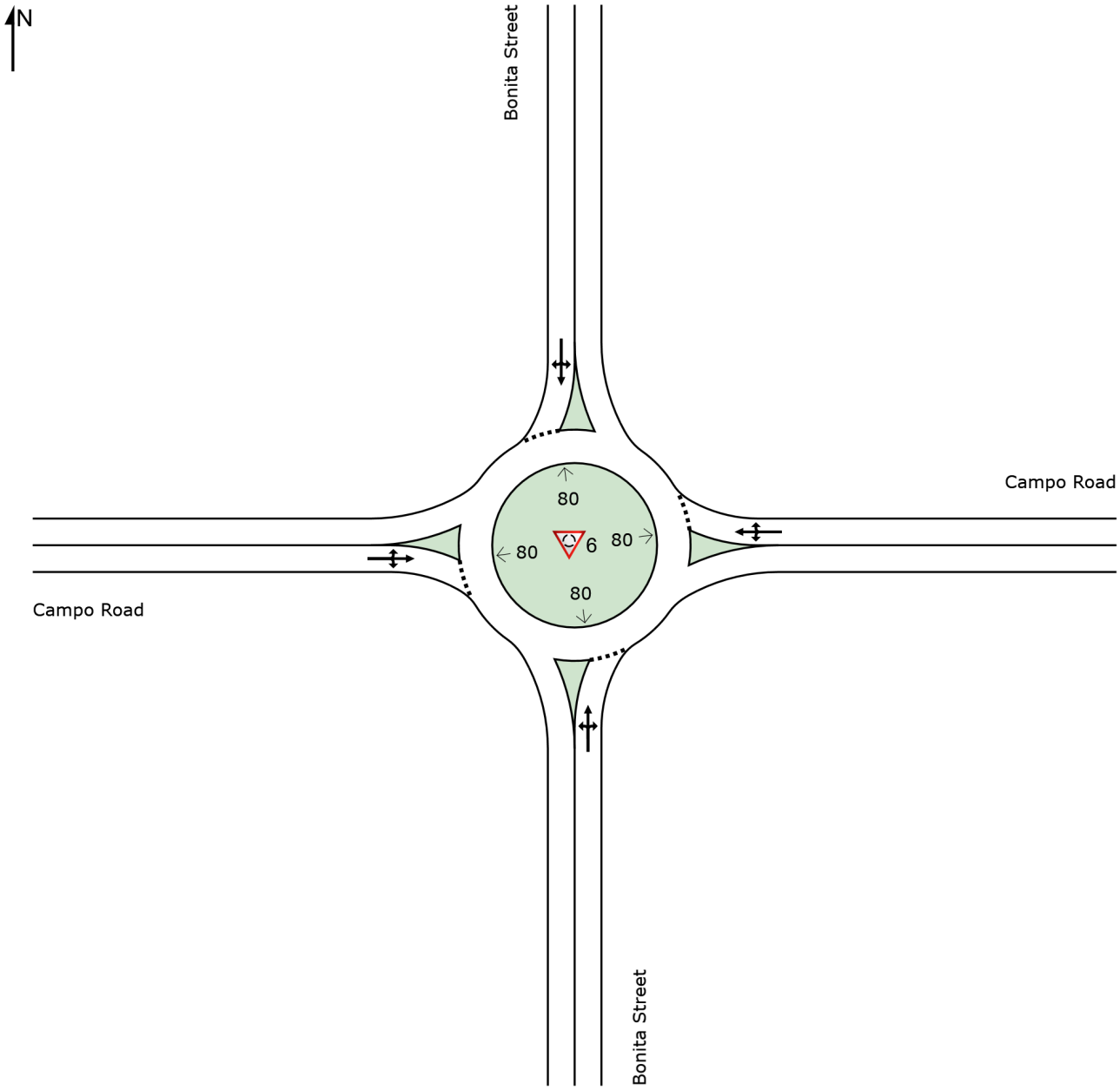
SITE LAYOUT

Site: 6 [Int. 6 (Site Folder: General)]

Campo Road / Bonita Street
Site Category: HY 2035+P PM
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 7 [Int. 7 (Site Folder: General)]

Campo Road / Barcelona Street
Site Category: HY 2035+P PM
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Barcelona Street														
3	L2	169	2.0	180	2.0	0.386	10.3	LOS B	2.0	50.3	0.69	0.73	0.82	30.6
8	T1	11	2.0	12	2.0	0.386	10.3	LOS B	2.0	50.3	0.69	0.73	0.82	30.6
18	R2	72	2.0	77	2.0	0.386	10.3	LOS B	2.0	50.3	0.69	0.73	0.82	29.9
Approach		252	2.0	268	2.0	0.386	10.3	LOS B	2.0	50.3	0.69	0.73	0.82	30.4
East: Campo Road														
1	L2	98	2.0	101	2.0	0.513	9.3	LOS A	3.4	86.4	0.55	0.40	0.55	32.1
6	T1	419	2.0	432	2.0	0.513	9.3	LOS A	3.4	86.4	0.55	0.40	0.55	32.1
16	R2	23	2.0	24	2.0	0.513	9.3	LOS A	3.4	86.4	0.55	0.40	0.55	31.4
Approach		540	2.0	557	2.0	0.513	9.3	LOS A	3.4	86.4	0.55	0.40	0.55	32.1
North: Barcelona Street														
7	L2	26	2.0	34	2.0	0.169	7.6	LOS A	0.7	16.9	0.63	0.63	0.63	32.5
4	T1	30	2.0	39	2.0	0.169	7.6	LOS A	0.7	16.9	0.63	0.63	0.63	32.6
14	R2	26	2.0	34	2.0	0.169	7.6	LOS A	0.7	16.9	0.63	0.63	0.63	31.8
Approach		82	2.0	108	2.0	0.169	7.6	LOS A	0.7	16.9	0.63	0.63	0.63	32.3
West: Campo Road														
5	L2	12	2.0	12	2.0	0.786	17.8	LOS C	18.4	467.2	0.83	0.85	1.29	28.9
2	T1	570	2.0	588	2.0	0.786	17.8	LOS C	18.4	467.2	0.83	0.85	1.29	28.9
12	R2	272	2.0	280	2.0	0.786	17.8	LOS C	18.4	467.2	0.83	0.85	1.29	28.3
Approach		854	2.0	880	2.0	0.786	17.8	LOS C	18.4	467.2	0.83	0.85	1.29	28.7
All Vehicles		1728	2.0	1813	2.0	0.786	13.5	LOS B	18.4	467.2	0.71	0.68	0.95	30.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
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LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
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Roundabout Capacity Model: US HCM 6.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	69	408	19	31	421	32	0	0	33	0	0	87
Future Vol, veh/h	69	408	19	31	421	32	0	0	33	0	0	87
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	0	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	75	443	21	34	458	35	0	0	36	0	0	95

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	493	0	0	464	0	0	-	-	454	-	-	476
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.12	-	-	4.12	-	-	-	-	6.22	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	-	-	3.318	-	-	3.318
Pot Cap-1 Maneuver	1071	-	-	1097	-	-	0	0	606	0	0	589
Stage 1	-	-	-	-	-	-	0	0	-	0	0	-
Stage 2	-	-	-	-	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1071	-	-	1097	-	-	-	-	606	-	-	589
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.5	11.3	12.3
HCM LOS			B	B

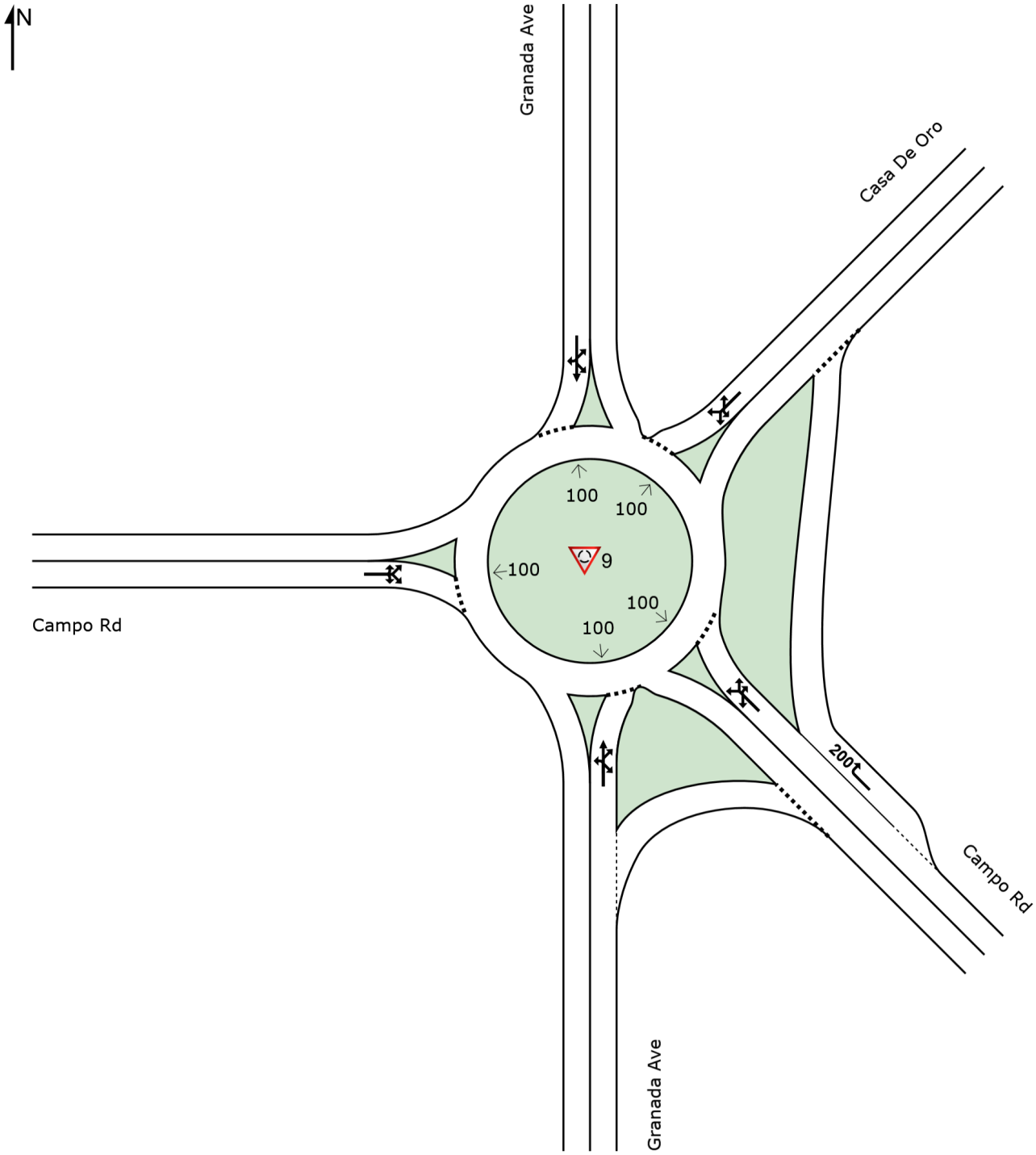
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	606	1071	-	-	1097	-	-	589
HCM Lane V/C Ratio	0.059	0.07	-	-	0.031	-	-	0.161
HCM Control Delay (s)	11.3	8.6	-	-	8.4	-	-	12.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.1	-	-	0.6

SITE LAYOUT

Site: 9 [Int 9 (Site Folder: General)]

Campo / Granada / CDO 1-Lane
Site Category: HY 2035+P PM
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 9 [Int 9 (Site Folder: General)]

Campo / Granada / CDO 1-Lane
Site Category: HY 2035+P PM
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Granada Ave														
3	L2	15	2.0	19	2.0	0.189	9.8	LOS A	0.7	18.5	0.67	0.67	0.67	32.6
8	T1	1	2.0	1	2.0	0.189	9.8	LOS A	0.7	18.5	0.67	0.67	0.67	32.6
18a	R1	8	2.0	10	2.0	0.189	9.8	LOS A	0.7	18.5	0.67	0.67	0.67	32.3
18b	R3	56	2.0	72	2.0	0.189	8.8	LOS A	0.7	18.5	0.67	0.67	0.67	31.4
Approach		80	2.0	103	2.0	0.189	9.1	LOS A	0.7	18.5	0.67	0.67	0.67	31.7
SouthEast: Campo Rd														
3bx	L3	22	2.0	29	2.0	0.438	7.6	LOS A	2.6	64.9	0.43	0.29	0.43	32.2
3ax	L1	359	2.0	472	2.0	0.438	7.6	LOS A	2.6	64.9	0.43	0.29	0.43	31.5
18ax	R1	13	2.0	17	2.0	0.438	7.6	LOS A	2.6	64.9	0.43	0.29	0.43	31.5
18x	R2	51	2.0	67	2.0	0.055	3.4	LOS A	0.2	5.4	0.25	0.13	0.25	35.0
Approach		445	2.0	586	2.0	0.438	7.1	LOS A	2.6	64.9	0.41	0.27	0.41	31.9
NorthEast: Casa De Oro														
1x	L2	45	2.0	63	2.0	0.267	7.8	LOS A	1.2	30.0	0.62	0.60	0.62	33.0
1ax	L1	5	2.0	7	2.0	0.267	7.8	LOS A	1.2	30.0	0.62	0.60	0.62	32.6
16ax	R1	90	2.0	127	2.0	0.267	7.8	LOS A	1.2	30.0	0.62	0.60	0.62	32.7
16bx	R3	4	2.0	6	2.0	0.267	7.8	LOS A	1.2	30.0	0.62	0.60	0.62	31.7
Approach		144	2.0	203	2.0	0.267	7.8	LOS A	1.2	30.0	0.62	0.60	0.62	32.7
North: Granada Ave														
7b	L3	1	2.0	2	2.0	0.111	6.9	LOS A	0.4	10.9	0.61	0.60	0.61	33.1
7a	L1	32	2.0	48	2.0	0.111	6.9	LOS A	0.4	10.9	0.61	0.60	0.61	32.4
4	T1	3	2.0	5	2.0	0.111	6.9	LOS A	0.4	10.9	0.61	0.60	0.61	32.7
14	R2	11	2.0	17	2.0	0.111	6.9	LOS A	0.4	10.9	0.61	0.60	0.61	31.8
Approach		47	2.0	71	2.0	0.111	6.9	LOS A	0.4	10.9	0.61	0.60	0.61	32.3
West: Campo Rd														
5	L2	12	2.0	16	2.0	0.759	16.0	LOS C	13.7	348.6	0.77	0.66	0.99	29.9
5a	L1	96	2.0	126	2.0	0.759	16.0	LOS C	13.7	348.6	0.77	0.66	0.99	29.6
12a	R1	546	2.0	718	2.0	0.759	16.0	LOS C	13.7	348.6	0.77	0.66	0.99	29.7
12	R2	11	2.0	14	2.0	0.759	16.0	LOS C	13.7	348.6	0.77	0.66	0.99	29.1
Approach		665	2.0	875	2.0	0.759	16.0	LOS C	13.7	348.6	0.77	0.66	0.99	29.7
All Vehicles		1381	2.0	1837	2.0	0.759	11.5	LOS B	13.7	348.6	0.63	0.53	0.73	30.9

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