



YUCCA VALLEY DUTCH BROS. COFFEE

FOCUSED TRAFFIC ANALYSIS

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Prepared by:

Robert Kunzman
William Kunzman, P.E.



William Kunzman

KUNZMAN ASSOCIATES
1111 TOWN & COUNTRY ROAD, SUITE 34 □ ORANGE, CA 92868
TELEPHONE: (714) 904-2821 □ E-MAIL: BILL @ TRAFFIC-ENGINEER.COM
WEB: WWW.TRAFFIC-ENGINEER.COM

JN: 10091

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Yucca Valley Dutch Bros. Coffee

Focused Traffic Analysis

This report contains the updated traffic impact analysis for the Yucca Valley Dutch Bros. Coffee project. The project site is located north of Twentynine Palms Highway and east of Dumosa Avenue in the Town of Yucca Valley. The project site is proposed to be developed with a 950 square foot coffee shop with drive-thru.

The traffic report contains documentation of existing traffic conditions, traffic generated by the project, distribution of the project traffic to roads outside the project, and an analysis of future traffic conditions. Each of these topics is contained in a separate section of the report. The first section is "Findings", and subsequent sections expand upon the findings. In this way, information on any particular aspect of the study can be easily located by the reader.

Although this is a technical report, every effort has been made to write the report clearly and concisely. To assist the reader with those terms unique to transportation engineering, a glossary of terms is provided within Appendix A.

I. Findings

This section summarizes the existing traffic conditions, project traffic impacts, and the proposed mitigation measures.

A. Definition of Deficiency and Significant Impact

Level of Service D or better are generally acceptable along all City maintained roads and conventional state highways.

B. Existing Traffic Conditions

1. The project site is currently vacant and not generating significant traffic.
2. Existing roadways in the vicinity of the project include Dumosa Avenue, Antelope Trail, and Twentynine Palms Highway.
3. The delay and Level of Service for Existing traffic conditions have been calculated and are shown in Table 1. The study area intersections currently operate at acceptable Levels of Service during the peak hours for Existing traffic conditions.

C. Traffic Impacts

1. The project site is proposed to be developed with a 950 square foot coffee shop with drive-thru.
2. The development is projected to generate a total of approximately 507 daily vehicle trips, 82 of which will occur during the morning peak hour and 38 of which will occur during the evening peak hour.
3. The development is projected to generate a total of approximately 87 new daily vehicle trips, 15 of which will occur during the morning peak hour and 8 of which will occur during the evening peak hour.
4. The delay and Level of Service for Existing Plus Project traffic conditions have been calculated and are shown in. The study area intersections are projected to operate at acceptable Levels of Service during the peak hours for Existing Plus Project traffic conditions.
5. The delay and Level of Service Opening Year (2023) Without Project traffic conditions have been calculated and are shown in. The study area intersections are projected to operate at acceptable Levels of Service during the peak hours for Opening Year (2023) Without Project traffic conditions.

6. The delay and Level of Service Opening Year (2023) With Project traffic conditions have been calculated and are shown in. The study area intersections are projected to operate at acceptable Levels of Service during the peak hours for Opening Year (2023) With Project traffic conditions.

D. Mitigation Measures

The following measures are recommended to mitigate the impact of the project on traffic circulation:

1. Site-specific circulation and access recommendations are depicted on Figure 15.
2. Sufficient on-site parking should be provided to meet the Town of Yucca Valley parking code requirements.
3. Sight distance at the project accesses should be reviewed with respect to California Department of Transportation/Town of Yucca Valley standards in conjunction with the preparation of final grading, landscaping, and street improvement plans.
4. On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.
5. Participate in the phased construction of off-site traffic signals through payment of traffic signal mitigation fees. The traffic signals within the study area at buildout should specifically include an interconnect of the traffic signals to function in a coordinated system.
6. As is the case for any roadway design, the Town of Yucca Valley should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

II. Project Description

This section discusses the project's location and proposed development. Figure 1 shows the project location map and Figure 2 illustrates the site plan.

A. Location

The project site is located north of Twentynine Palms Highway and east of Dumosa Avenue in the Town of Yucca Valley.

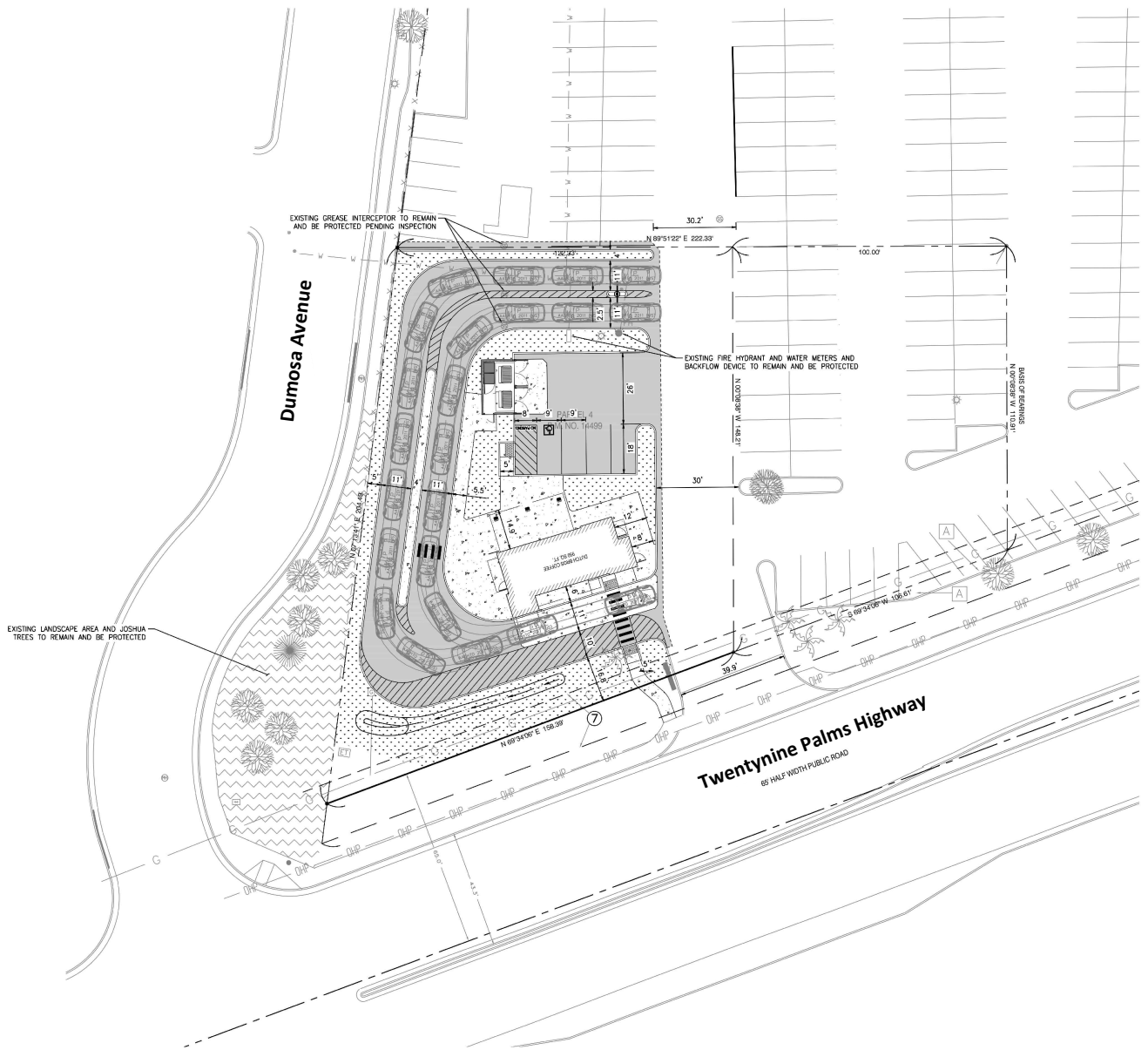
B. Proposed Development

The project site is proposed to be developed with a 950 square foot coffee shop with drive-thru.

Figure 1
Project Location Map



Figure 2
Site Plan



III. Existing Traffic Conditions

The traffic conditions as they exist today are discussed below and illustrated on Figures 3 to 7.

A. Study Area

The study area includes the following intersections:

Dumosa Avenue (NS) at:
Antelope Trail (EW) - #1
Twentynine Palms Highway (EW) - #2

Project Access (NS) at:
Twentynine Palms Highway (EW) - #3

B. Existing Travel Lanes and Intersection Controls

Figure 3 identifies the existing roadway conditions for study area roadways. The number of through lanes for existing roadways and the existing intersection controls are identified.

C. Existing Average Daily Traffic Volumes

Figure 4 depicts the existing average daily traffic volumes. The existing average daily traffic volumes have been factored from peak hour counts (see Appendix B) obtained by Kunzman Associates using the following formula for each intersection leg:

$$\text{PM Peak Hour (Approach Volume + Exit Volume)} \times 12 = \text{Leg Volume.}$$

This is a conservative estimate and may over estimate the average daily traffic volumes.

D. Existing Intersection Delay

The technique used to assess the capacity needs of an intersection is known as the intersection Delay Method (see Appendix D). To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection.

The existing delay and Level of Service for intersections in the vicinity of the project are shown in Table 1. Existing delay is based upon manual peak hour intersection turning movement counts obtained by Kunzman Associates in February 2022. Traffic count worksheets are provided in Appendix B.

There are two peak hours in a weekday. The morning peak hour is between 7:00 AM and 9:00 AM, and the evening peak hour is between 4:00 PM and 6:00 PM. The actual peak hour within the two hour interval is the four consecutive 15 minute periods with the highest total volume when all movements are added together. Thus, the evening peak hour at one intersection may be 4:45 PM to 5:45 PM if those four consecutive 15 minute periods have the highest combined volume.

The study area intersections currently operate at acceptable Levels of Service during the peak hours for Existing traffic conditions. Existing delay worksheets are provided in Appendix D.

E. Existing Town of Yucca Valley Circulation Element

Figure 5 shows the current Town of Yucca Valley General Plan Circulation Element. Both existing and future roadways are included in the Circulation Element of the General Plan and are graphically depicted on Figure 5. This figure shows the nature and extent of arterial highways that are needed to adequately serve the ultimate development depicted by the land use element of the General Plan. The Town of Yucca Valley General Plan roadway cross-sections are illustrated on Figure 6.

F. Pedestrian Facilities

The existing pedestrian facilities are shown on Figure 7.

Table 1

Existing Intersection Delay and Level of Service Analysis

Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Peak Hour Delay-LOS ²	
		Northbound			Southbound			Eastbound			Westbound			Morning	Evening
		L	T	R	L	T	R	L	T	R	L	T	R		
Dumosa Avenue (NS) at: Antelope Trail (EW) - #1	AWS	0	<1>	0	0	<1>	0	0	<1>	0	0	<1>	0	6.9-A	7.4-A
Twentynine Palms Highway (EW) - #2	TS	0.5	0.5	1	1	0.5	0.5	1	2	d	1	1.5	0.5	17.8-B	20.0-B
Project Access (NS) at: Twentynine Palms Highway (EW) - #3	CSS	0	0	0	0	0	1	0	2	0	0	1.5	0.5	10.6-B	11.7-B

¹ When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; <1> = Shared Left/Through/Right Lane; 1> = Right Turn Overlap; 1>> = Free Right Turn; 1 = Improvement.

² Delay and Level of Service has been calculated using the following analysis software: Vistro, Version 6.00-03. Per the Highway Capacity Manual, overall average intersection delay and Level of Service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and Level of Service for the worst individual movement (or movements sharing a single lane) are shown.

³ AWS = All Way Stop; TS = Traffic Signal; CSS = Cross Street Stop

Figure 3
Existing Through Travel Lanes and Intersection Controls

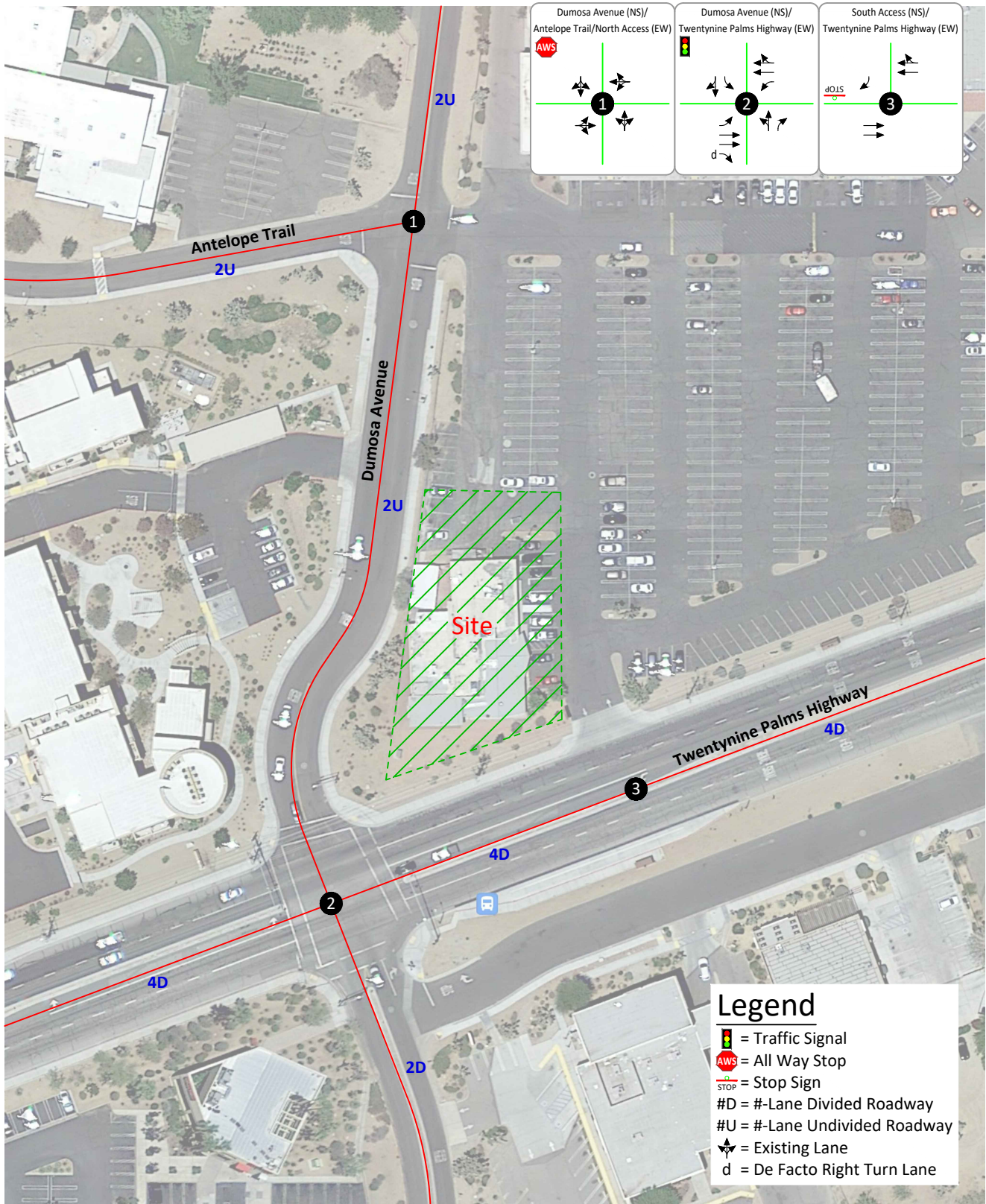


Figure 4
Existing Average Daily Traffic Volumes

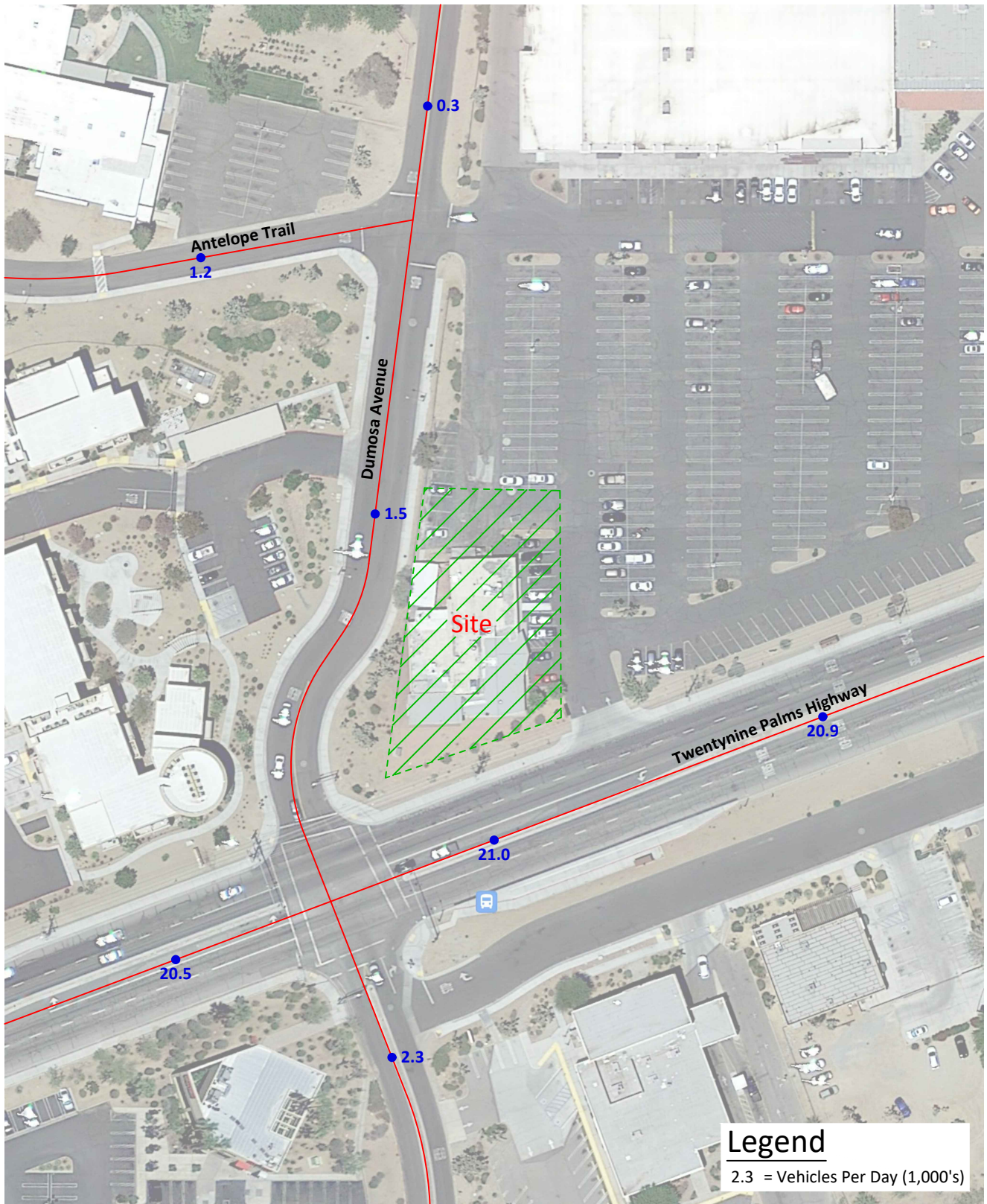


Figure 5
Town of Yucca Valley General Plan Circulation Element

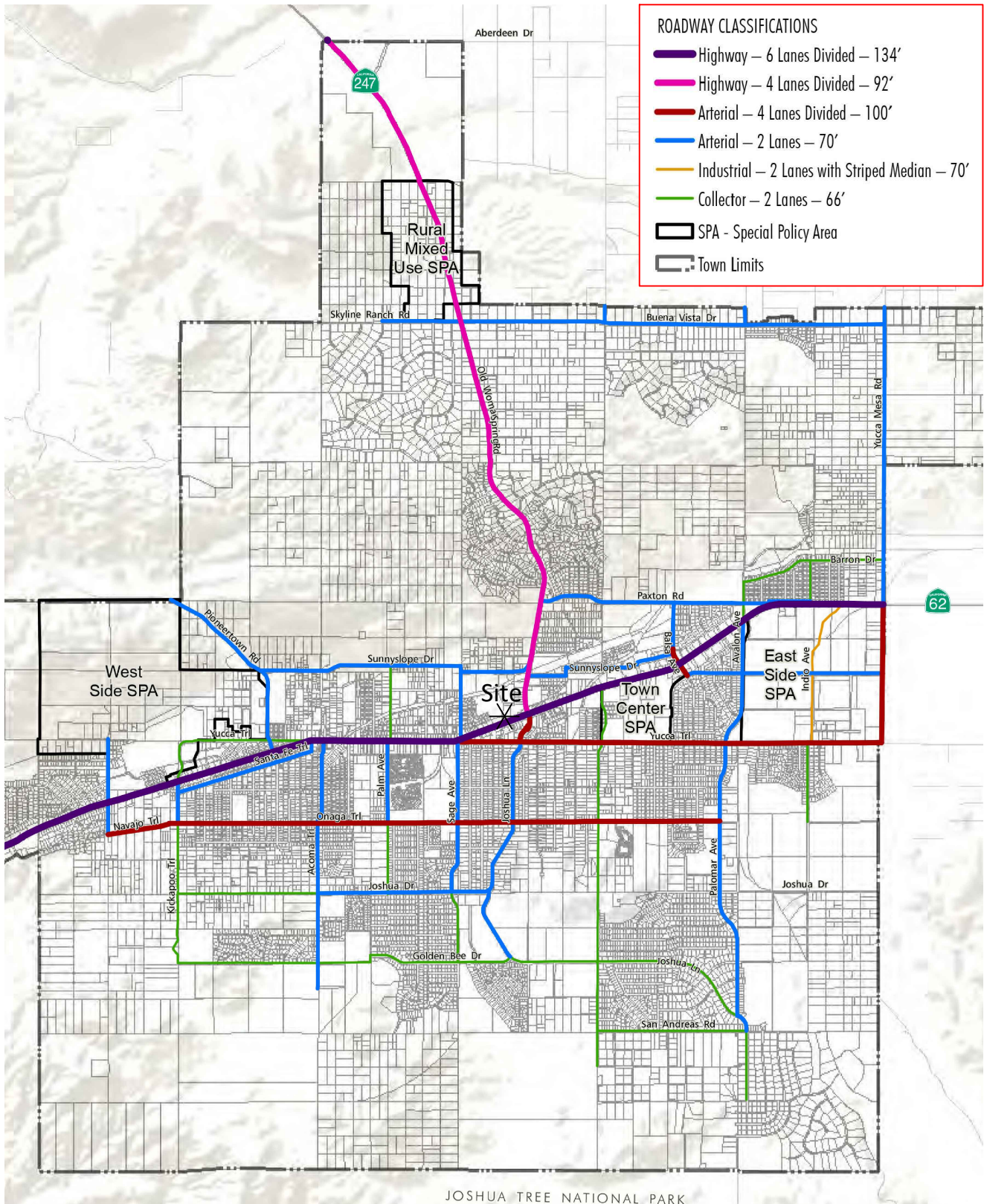
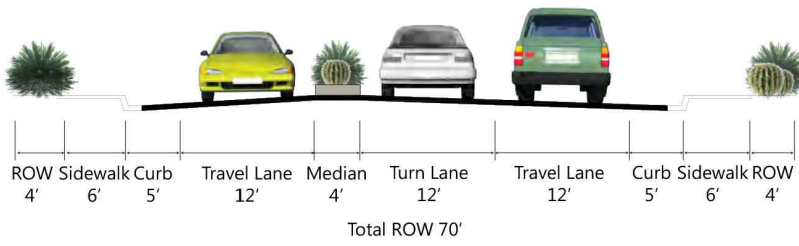
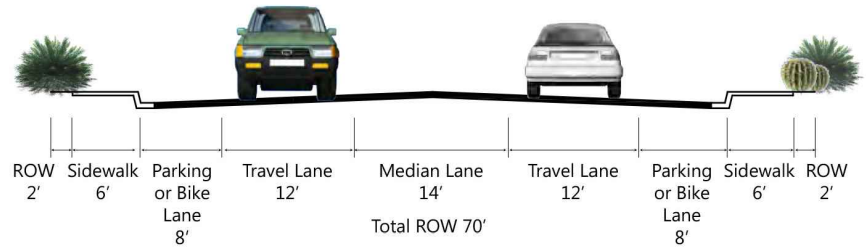


Figure 6 Town of Yucca Valley General Plan Roadway Cross-Sections

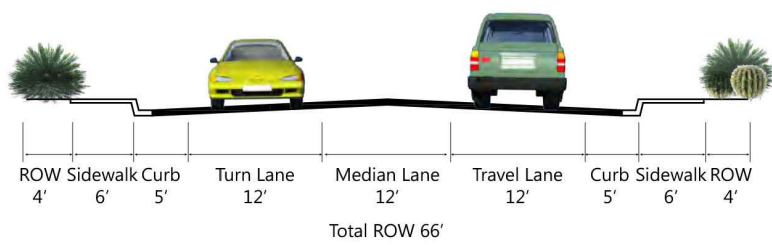
ARTERIAL - 2 LANES DIVIDED



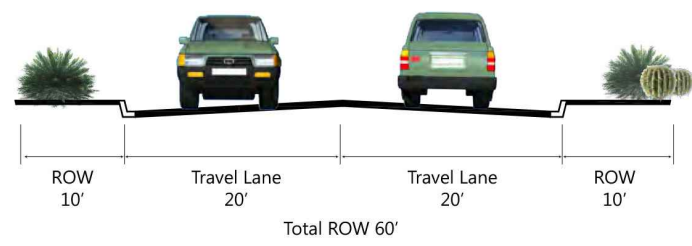
INDUSTRIAL - 2 LANES (WITH STRIPED MEDIAN LANE)



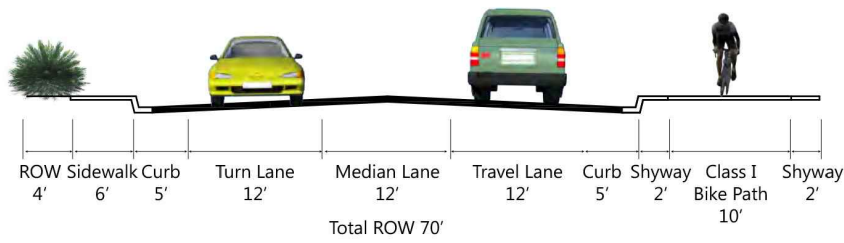
COLLECTOR - 2 LANES (WITH OPTIONAL STRIPED MEDIAN LANE)



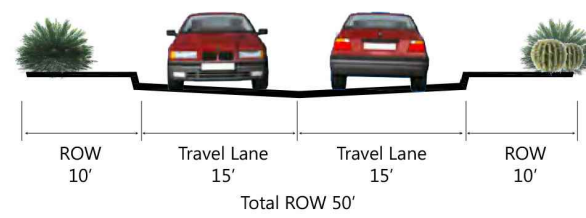
LOCAL



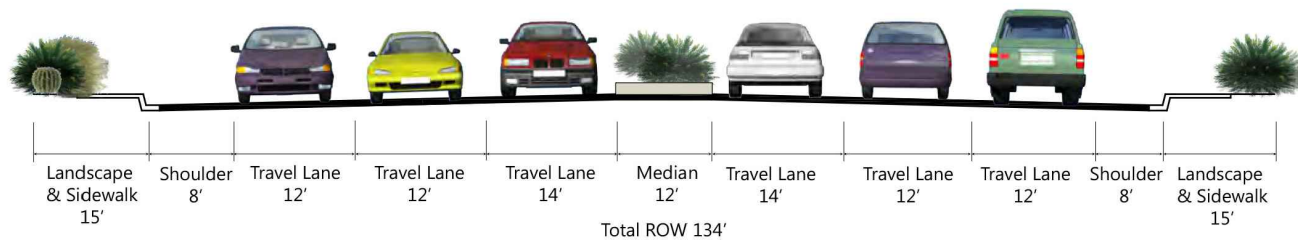
COLLECTOR WITH CLASS I BIKE PATH - 2 LANES (WITH OPTIONAL STRIPED MEDIAN LANE)



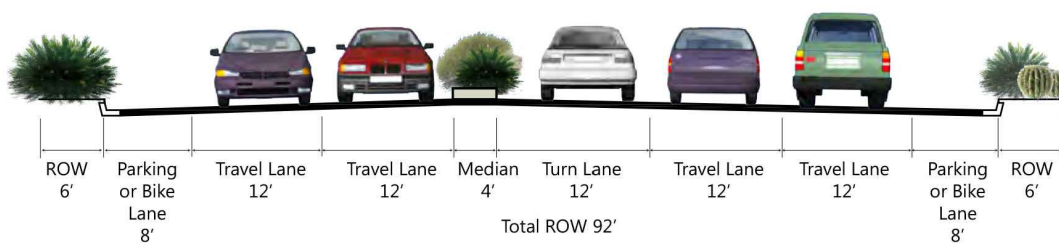
RURAL LOCAL



HIGHWAY - 6 LANES DIVIDED



HIGHWAY - 4 LANES DIVIDED



ARTERIAL - 4 LANES DIVIDED

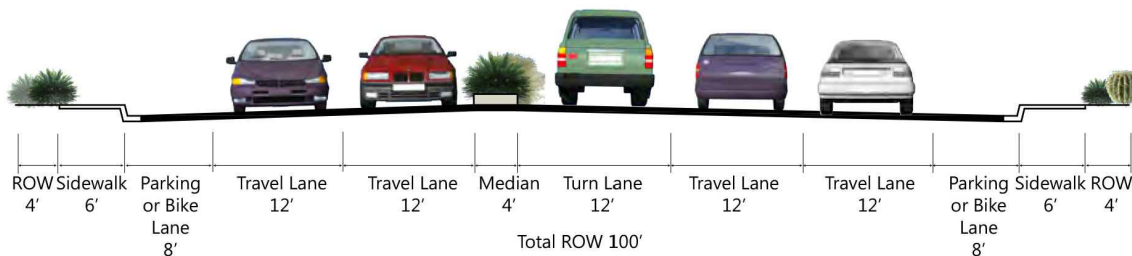
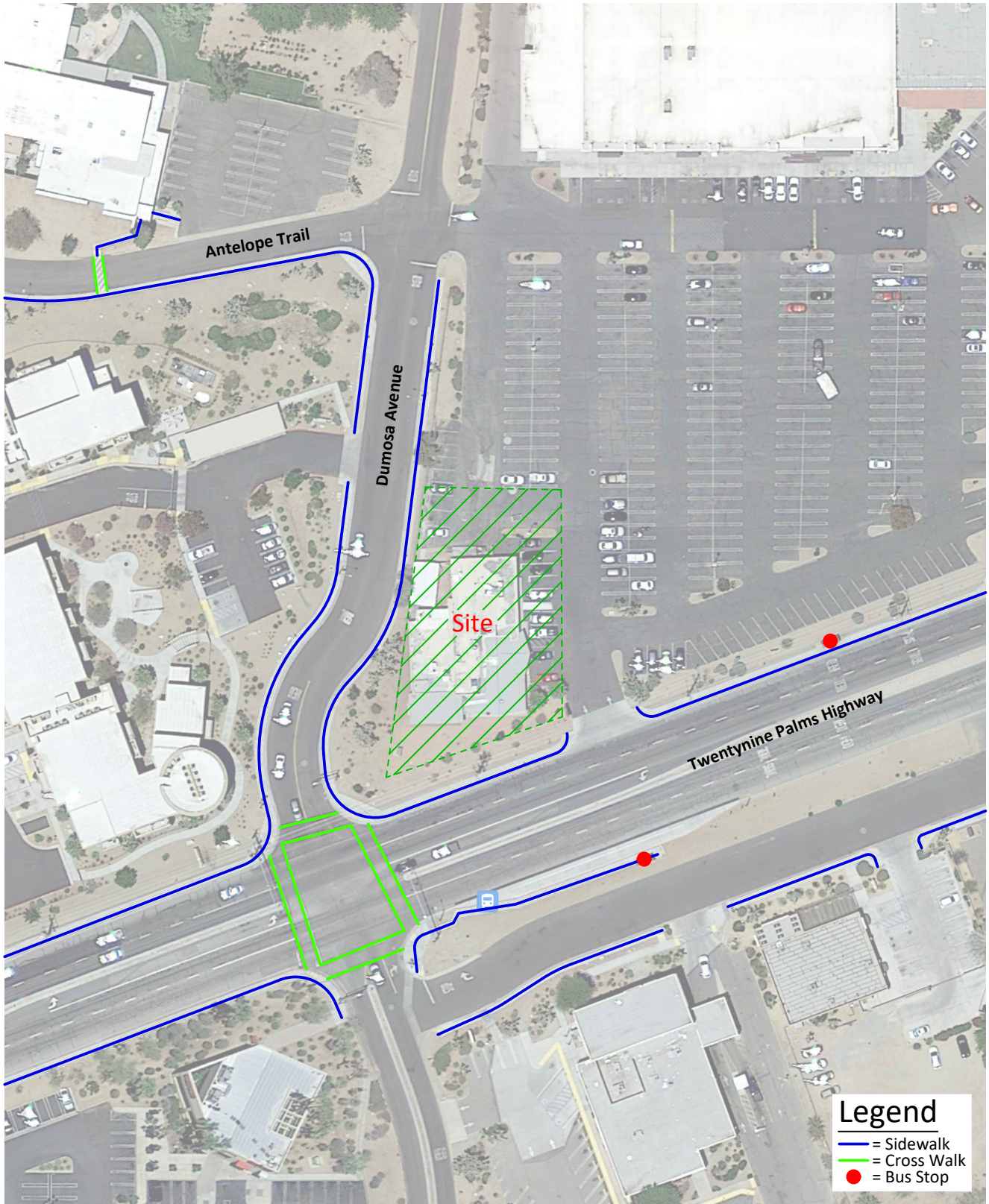


Figure 7
Existing Pedestrian Facilities



IV. Project Traffic

The project site is proposed to be developed with a 950 square foot coffee shop with drive-thru. The proposed project will have access to Dumas Avenue and Twentynine Palms Highway.

A. Trip Generation

The trips generated by the project is determined by multiplying an appropriate trip generation rate by the quantity of land use. Trip generation rates are predicated on the assumption that energy costs, the availability of roadway capacity, the availability of vehicles to drive, and life styles remain similar to what are known today. A major change in these variables may affect trip generation rates.

Trip generation rates were determined for daily traffic, morning peak hour inbound and outbound traffic, and evening peak hour inbound and outbound traffic for the proposed land uses. By multiplying the trip generation rates by the land use quantities, the traffic volumes are determined. Table 2 exhibits the trip generation rates, project peak hour volumes, and project daily traffic volumes. The trip generation rates are from the Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017.

The proposed development is projected to generate a total of approximately 507 daily vehicle trips, 82 of which will occur during the morning peak hour and 38 of which will occur during the evening peak hour (see Table 2).

Traffic volumes shown in Table 2 consist of the total trips generated for the project land uses. It should be noted that for the coffee shops, a large portion of the traffic would come from pass-by trips, trips that are currently on the roadway system. In order to analyze a realistic scenario in terms of the assignment of traffic, the traffic volumes from the coffee shop has been reduced as a result of pass-by trips (see Appendix C).

The proposed development is projected to generate a total of approximately 87 new daily vehicle trips, 15 of which will occur during the morning peak hour and 8 of which will occur during the evening peak hour (see Table 2).

B. Trip Distribution

Figures 8 and 9 contain the directional distributions of the project traffic for the proposed land uses.

To determine the trip distributions for the proposed project, peak hour traffic counts of the existing directional distribution of traffic for existing areas in the

vicinity of the site, the previously prepared traffic impact analysis, and other additional information on future development and traffic impacts in the area were reviewed.

C. Trip Assignment

Based on the identified trip generation and distributions, project average daily traffic volumes have been calculated and shown on Figure 10. Morning and evening peak hour intersection turning movement volumes expected from the project are shown in Appendix D.

D. Traffic Contribution

Figure 11 shows the project trip contribution test volumes.

E. Modal Split

The traffic reducing potential of public transit has not been considered in this report. Essentially the traffic projections are conservative in that public transit might be able to reduce the traffic volumes.

Table 2**Project Trip Generation¹**

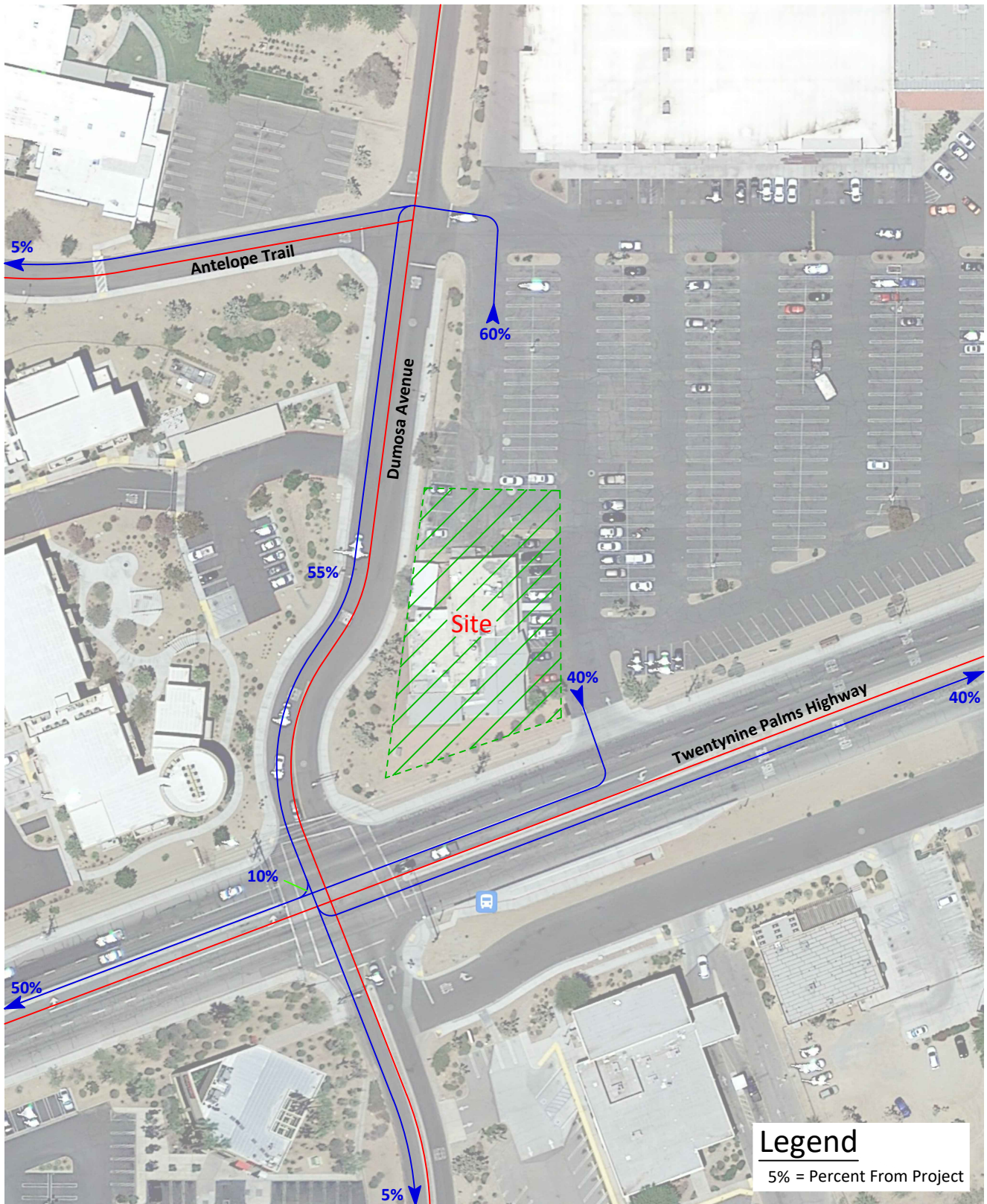
Land Use	Quantity	Units ²	Peak Hour						Daily
			Morning			Evening			
			Inbound	Outbound	Total	Inbound	Outbound	Total	
<u>Trip Generation Rates</u>									
Coffee/Donut Shop with Drive-Through Window (937)	1.000	TSF	43.80	42.08	85.88	19.50	19.49	38.99	533.57
<u>Trips Generated</u>									
Coffee/Donut Shop with Drive-Through Window (937)	0.950	TSF	42	40	82	19	19	38	507
Pass-By (83%, 83%, 83%)			-34	-33	-67	-15	-15	-30	-420
Total New Trips			8	7	15	4	4	8	87

¹ Source: Institute of Transportation Engineers, Trip Generation, 10th Edition, 2017, Land Use Category 937.

² TSF - Thousand Square Feet

³ Source: Institute of Transportation Engineers, Trip Generation Handbook, 3rd Edition, 2017.

Figure 8
Project Outbound Trip Distribution



Legend
5% = Percent From Project



Figure 9
Project Inbound Trip Distribution

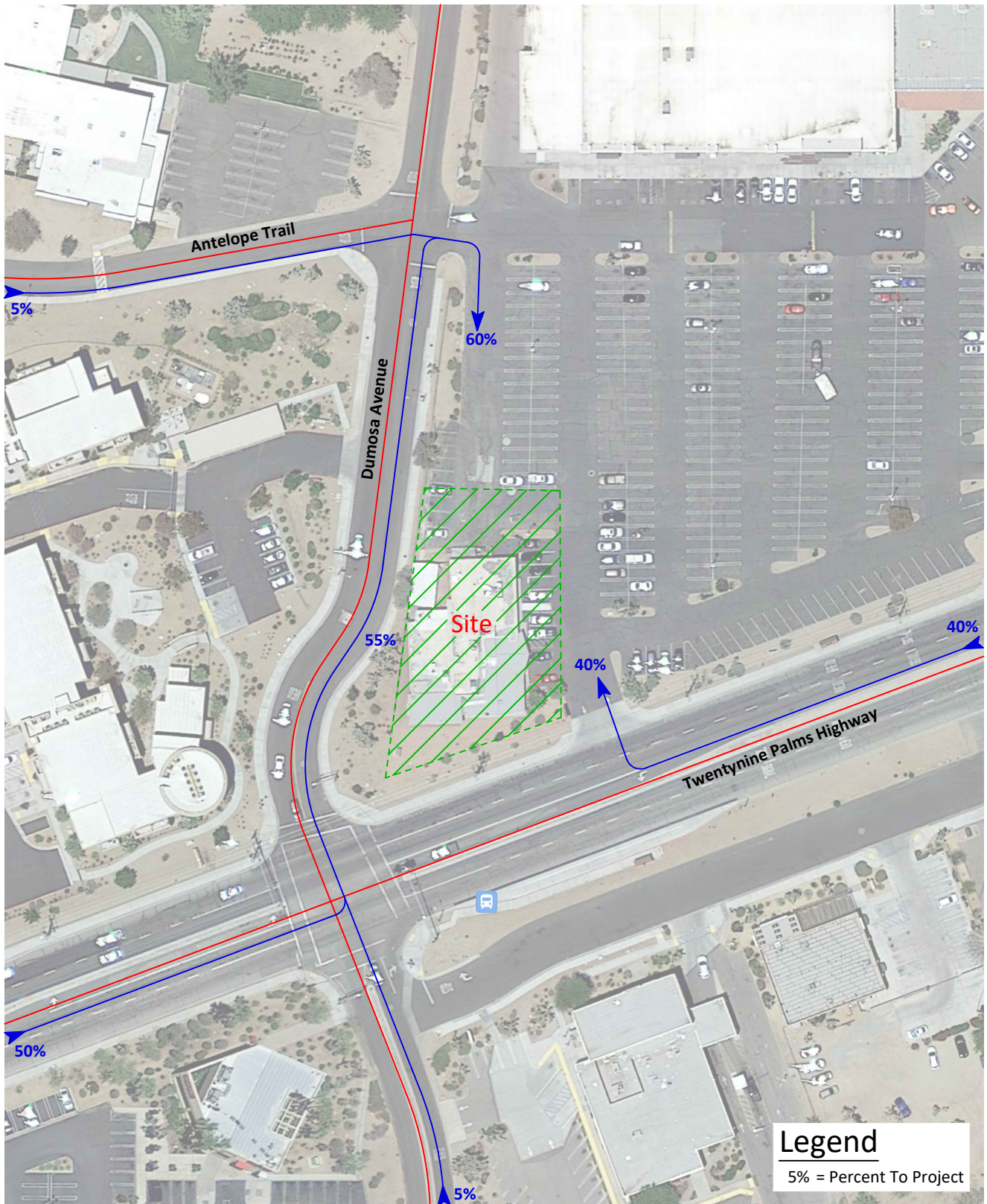


Figure 10
Project Average Daily Traffic Volumes

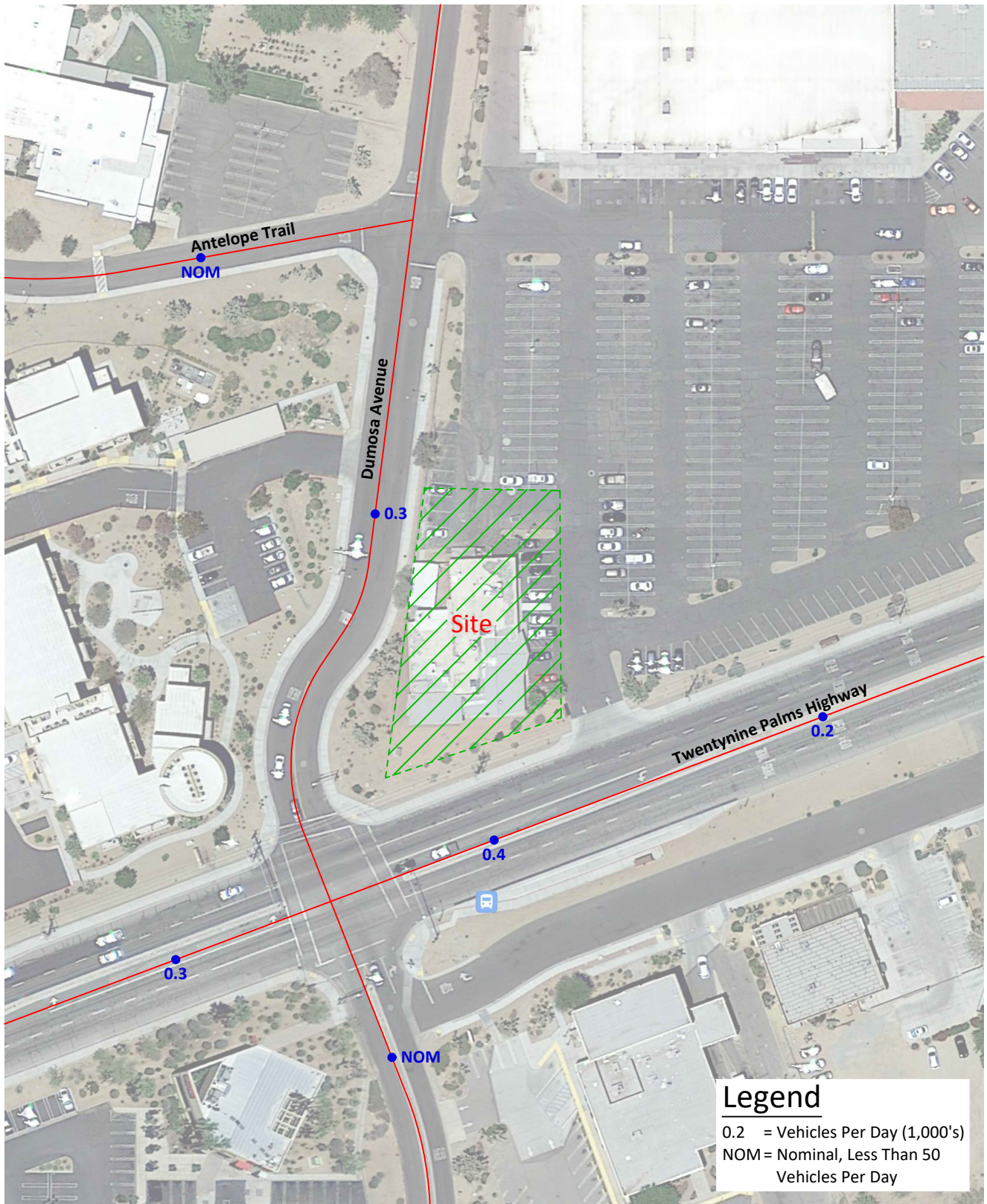
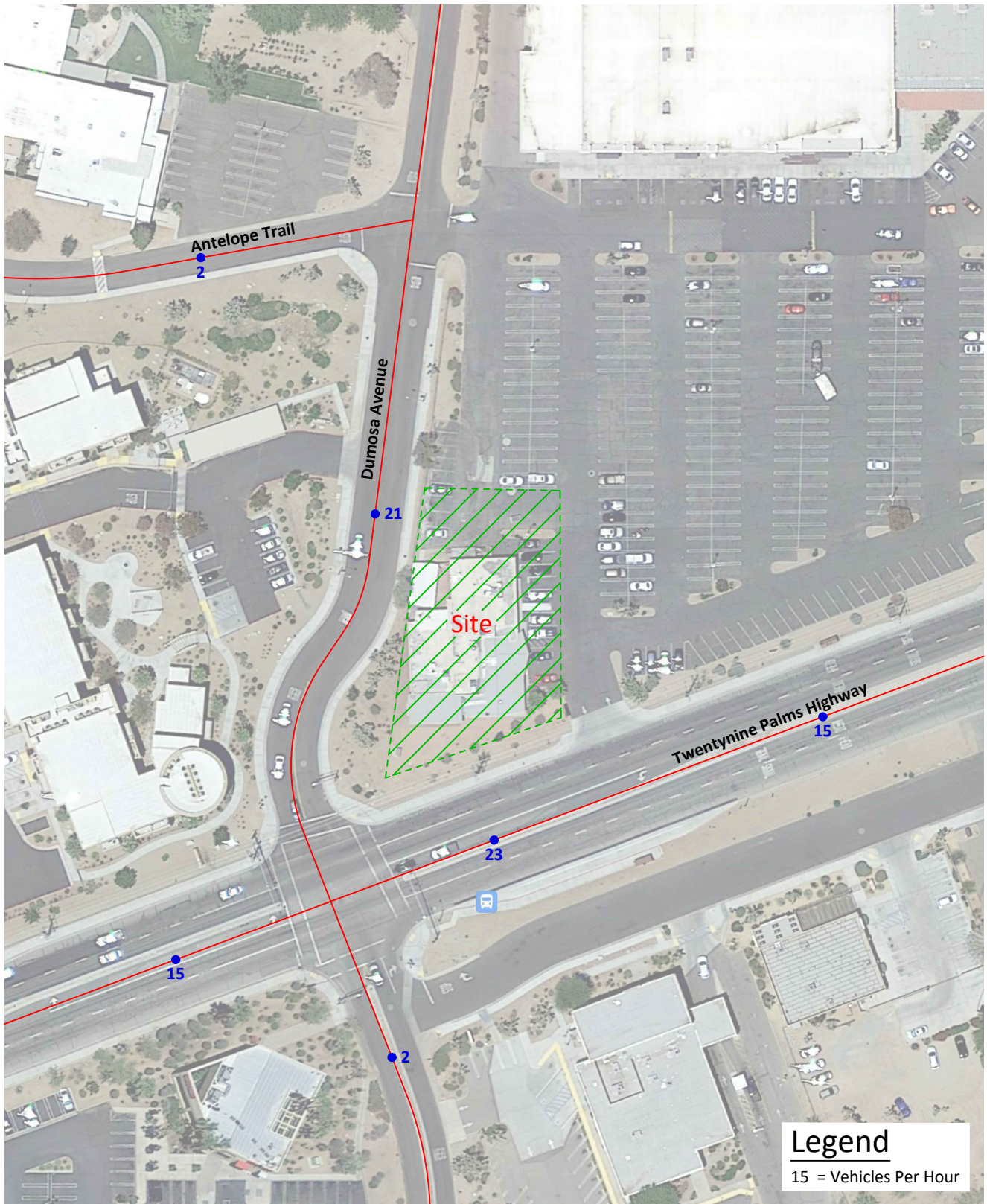


Figure 11
Project Trip Contribution Test Volumes



V. Existing Plus Project Traffic Conditions

The traffic conditions for Existing Plus Project are discussed below and illustrated on Figure 12.

A. Method of Projection

To assess Existing Plus Project traffic conditions, project traffic is combined with existing traffic.

B. Existing Plus Project Average Daily Traffic Volumes

Existing Plus Project average daily traffic volumes are as illustrated on Figure 12.

C. Existing Plus Project Intersection Delay

The technique used to assess the capacity needs of an intersection is known as the Intersection Delay Method (see Appendix D). To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection.

The delay and Level of Service for Existing Plus Project traffic conditions have been calculated and are shown in Table 3. The study area intersections are projected to operate at acceptable Levels of Service during the peak hours for Existing Plus Project traffic conditions.

Existing Plus Project delay worksheets are provided in Appendix D. Existing Plus Project morning and evening peak hour intersection turning movement volumes are shown in Appendix D.

Table 3

Existing Plus Project Intersection Delay and Level of Service Analysis

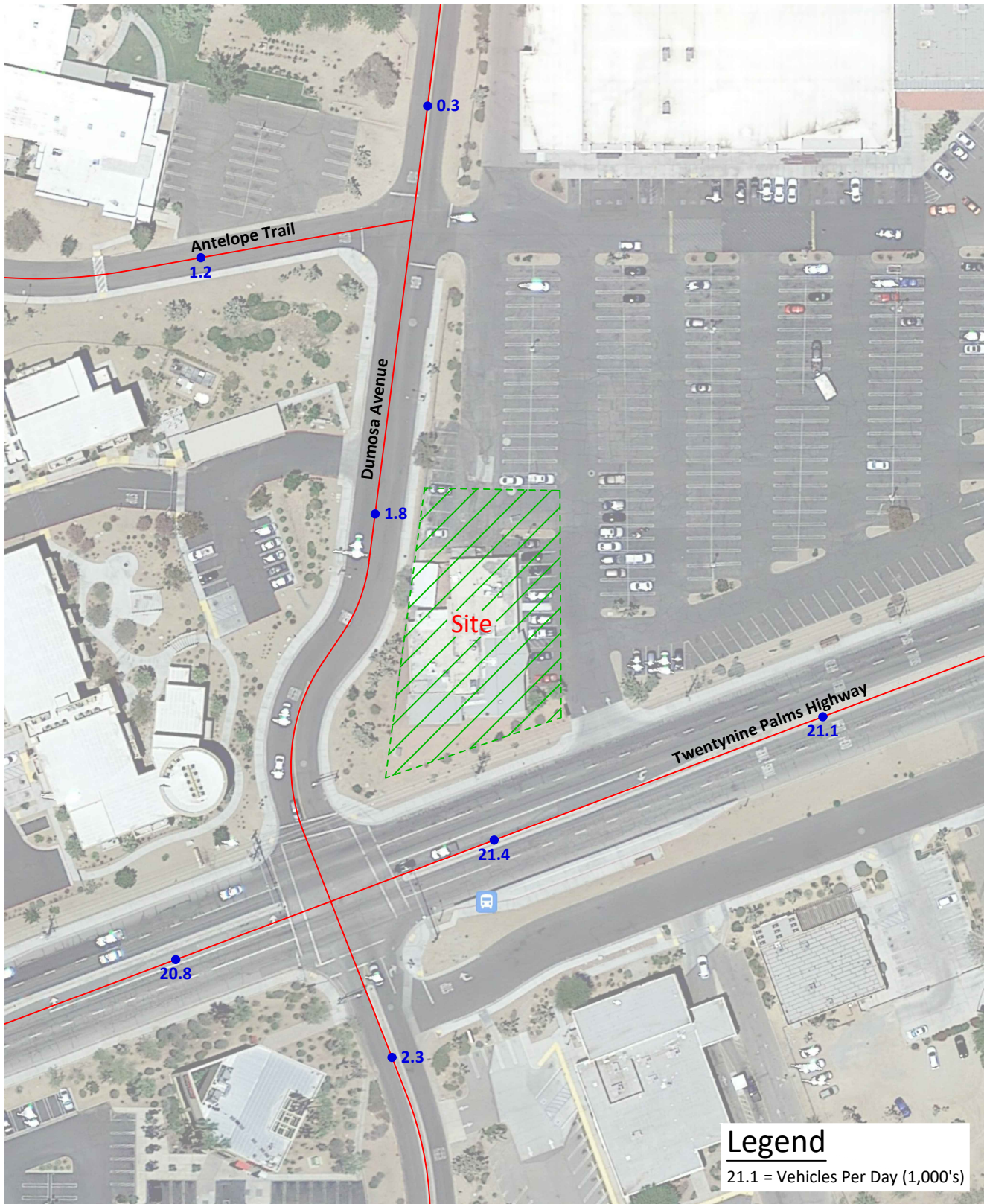
Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Peak Hour Delay-LOS ²	
		Northbound			Southbound			Eastbound			Westbound			Morning	Evening
		L	T	R	L	T	R	L	T	R	L	T	R		
Dumosa Avenue (NS) at: Antelope Trail (EW) - #1 Twentynine Palms Highway (EW) - #2	AWS TS	0 0.5	<1> 0.5	0 1	0 1	<1> 0.5	0 0.5	0 1	<1> 2	0 d	0 1	<1> 1.5	0 0.5	7.1-A 18.1-B	7.4-A 20.1-C
Project Access (NS) at: Twentynine Palms Highway (EW) - #3	CSS	0	0	0	0	0	1	0	2	0	0	1.5	0.5	10.9-B	11.8-B

¹ When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; <1> = Shared Left/Through/Right Lane; 1> = Right Turn Overlap; 1>> = Free Right Turn; 1 = Improvement.

² Delay and Level of Service has been calculated using the following analysis software: Vistro, Version 6.00-03. Per the Highway Capacity Manual, overall average intersection delay and Level of Service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and Level of Service for the worst individual movement (or movements sharing a single lane) are shown.

³ AWS = All Way Stop; TS = Traffic Signal; CSS = Cross Street Stop

Figure 12
Existing Plus Project Average Daily Traffic Volumes



VI. Opening Year (2023) Traffic Conditions

The traffic conditions for Opening Year (2023) are discussed below and illustrated on Figures 13 and 14.

A. Method of Projection

Future volumes for Opening Year (2023) have been calculated using straight line growth based on a 10% annual growth rate over existing. This is more than enough to compensate for one year of annual growth and any CoViD-19 traffic fluctuations.

B. Opening Year (2023) Average Daily Traffic Volumes

Opening Year (2023) Without Project average daily traffic volumes are as illustrated on Figure 13 and Opening Year (2023) With Project average daily traffic volumes are as illustrated on Figure 14.

C. Opening Year (2023) Intersection Delay

The technique used to assess the capacity needs of an intersection is known as the Intersection Delay Method (see Appendix D). To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection.

The delay and Level of Service for Opening Year (2023) Without Project traffic conditions have been calculated and are shown in Table 4. The study area intersections are projected to operate at acceptable Levels of Service during the peak hours for Opening Year (2023) Without Project traffic conditions.

The delay and Level of Service for Opening Year (2023) With Project traffic conditions have been calculated and are shown in Table 5. The study area intersections are projected to operate at acceptable Levels of Service during the peak hours for Opening Year (2023) With Project traffic conditions.

Opening Year (2024) delay worksheets are provided in Appendix D. Opening Year (2023) morning and evening peak hour intersection turning movement volumes are shown in Appendix D.

Table 4

Opening Year (2023) Without Project Intersection Delay and Level of Service Analysis

Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Peak Hour Delay-LOS ²	
		Northbound			Southbound			Eastbound			Westbound			Morning	Evening
		L	T	R	L	T	R	L	T	R	L	T	R		
Dumosa Avenue (NS) at: Antelope Trail (EW) - #1	AWS	0	<1>	0	0	<1>	0	0	<1>	0	0	<1>	0	7.0-A	7.4-A
Twentynine Palms Highway (EW) - #2	TS	0.5	0.5	1	1	0.5	0.5	1	2	d	1	1.5	0.5	18.5-B	20.0-B
Project Access (NS) at: Twentynine Palms Highway (EW) - #3	CSS	0	0	0	0	0	1	0	2	0	0	1.5	0.5	10.9-B	12.2-B

¹ When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; <1> = Shared Left/Through/Right Lane; 1> = Right Turn Overlap; 1>> = Free Right Turn; 1 = Improvement.

² Delay and Level of Service has been calculated using the following analysis software: Vistro, Version 6.00-03. Per the Highway Capacity Manual, overall average intersection delay and Level of Service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and Level of Service for the worst individual movement (or movements sharing a single lane) are shown.

³ AWS = All Way Stop; TS = Traffic Signal; CSS = Cross Street Stop

Table 5

Opening Year (2023) With Project Intersection Delay and Level of Service Analysis

Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Peak Hour Delay-LOS ²	
		Northbound			Southbound			Eastbound			Westbound			Morning	Evening
		L	T	R	L	T	R	L	T	R	L	T	R		
Dumosa Avenue (NS) at: Antelope Trail (EW) - #1 Twentynine Palms Highway (EW) - #2	AWS TS	0 0.5	<1> 0.5	0 1	0 1	<1> 0.5	0 0.5	0 1	<1> 2	0 d	0 1	<1> 1.5	0 0.5	7.1-A 18.8-B	7.5-A 20.1-C
Project Access (NS) at: Twentynine Palms Highway (EW) - #3	CSS	0	0	0	0	0	1	0	2	0	0	1.5	0.5	12.2-B	12.4-B

¹ When a right turn lane is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes. L = Left; T = Through; R = Right; <1> = Shared Left/Through/Right Lane; 1> = Right Turn Overlap; 1>> = Free Right Turn; 1 = Improvement.

² Delay and Level of Service has been calculated using the following analysis software: Vistro, Version 6.00-03. Per the Highway Capacity Manual, overall average intersection delay and Level of Service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and Level of Service for the worst individual movement (or movements sharing a single lane) are shown.

³ AWS = All Way Stop; TS = Traffic Signal; CSS = Cross Street Stop

Figure 13
Opening Year (2023) Without Project Average Daily Traffic Volumes

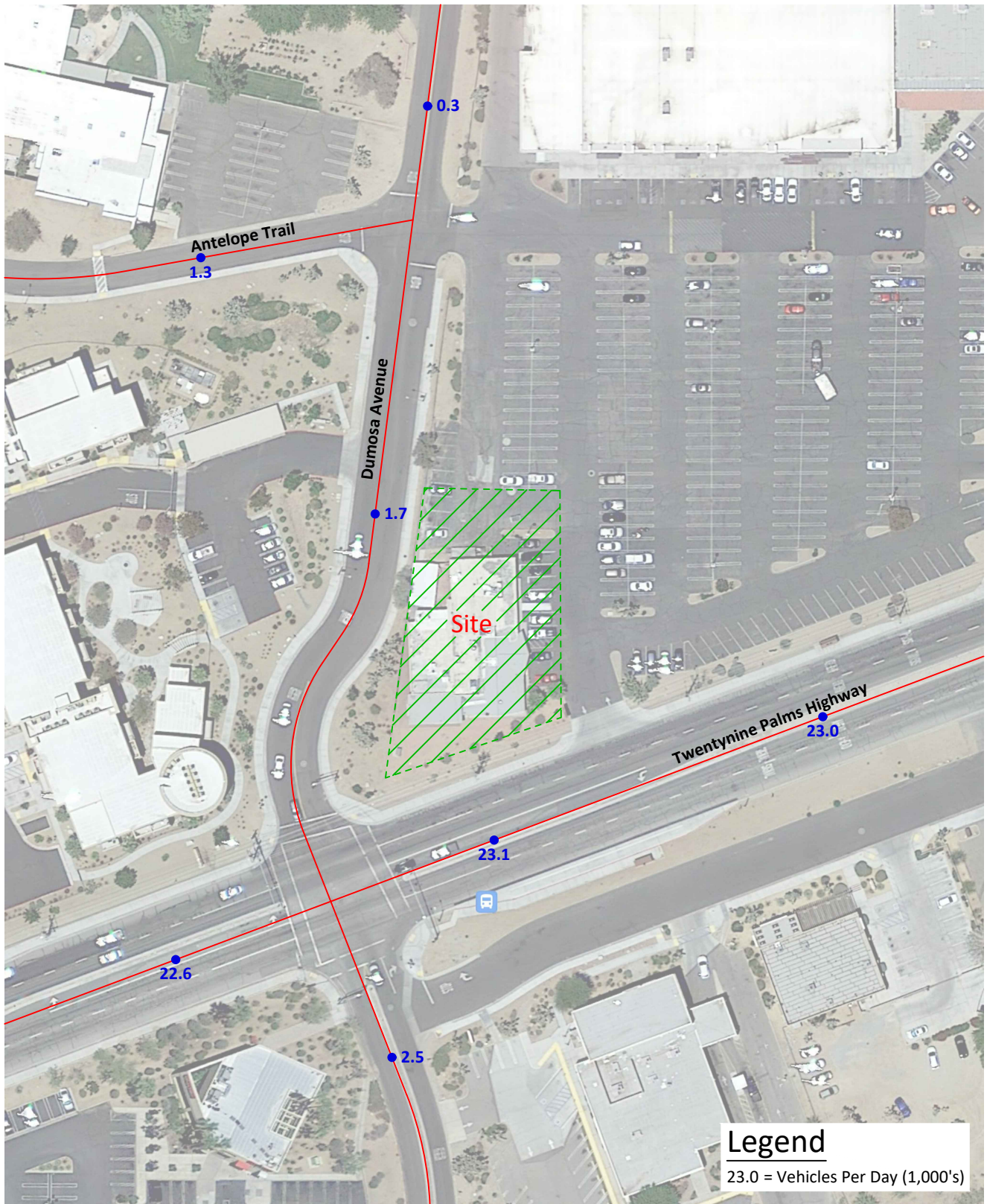
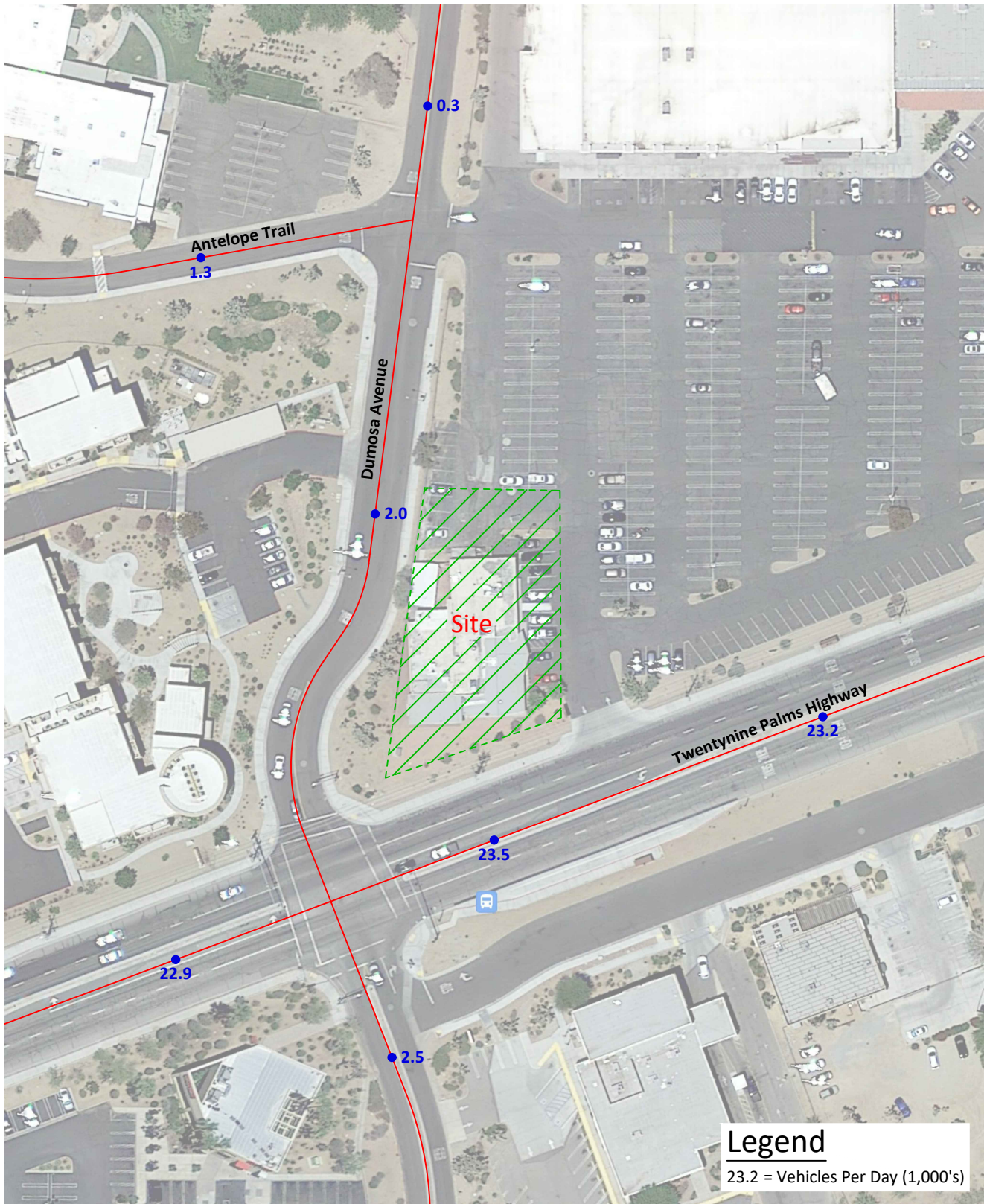


Figure 14
Opening Year (2023) With Project Average Daily Traffic Volumes



VII. Vehicle Miles of Travel

A. Screening Criteria

If a project is projected to generate less than 110 new daily vehicle trips, it is presumed to cause a less-than-significant impact to the local vehicle miles of travel.

B. Generators and Attractors

In order for a project to increase the local vehicle miles of travel, it has to either generate or attract new trips that are greater than the average vehicle miles of travel for the average trip generator or attracter in the area.

In order for a trip generator to increase the local vehicle miles of travel, it must require that the vehicle trips emanating from it are greater in length than the average vehicle miles of travel for the average trip generator in the area. An example of a development that would increase the average local vehicle miles of travel is large housing developments miles outside of town.

In order for an attracter to increase the local vehicle miles of travel, it must draw trips in from outside the local area that are greater in length than the average vehicle miles of travel for the average trip attractor in the area. An example of a developments that would increase the average local vehicle miles of travel is a regional shopping center.

C. Proposed Project

The proposed project is projected to generate approximately 87 new daily vehicle trips. That is below the 110 new daily vehicle trip screening criteria.

This project site is considered an attractor.

No further Vehicle Miles of Travel analysis is required.

IX. Recommendations

A. Site Access

The proposed project will have access to Dumas Avenue and Twentynine Palms Highway.

B. Roadway Improvements

1. On- Site

Site-specific circulation and access recommendations are depicted on Figure 15.

Sufficient on-site parking should be provided to meet the Town of Yucca Valley parking code requirements.

Sight distance at the project accesses should be reviewed with respect to California Department of Transportation/Town of Yucca Valley standards in conjunction with the preparation of final grading, landscaping, and street improvement plans.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.

2. Off-Site

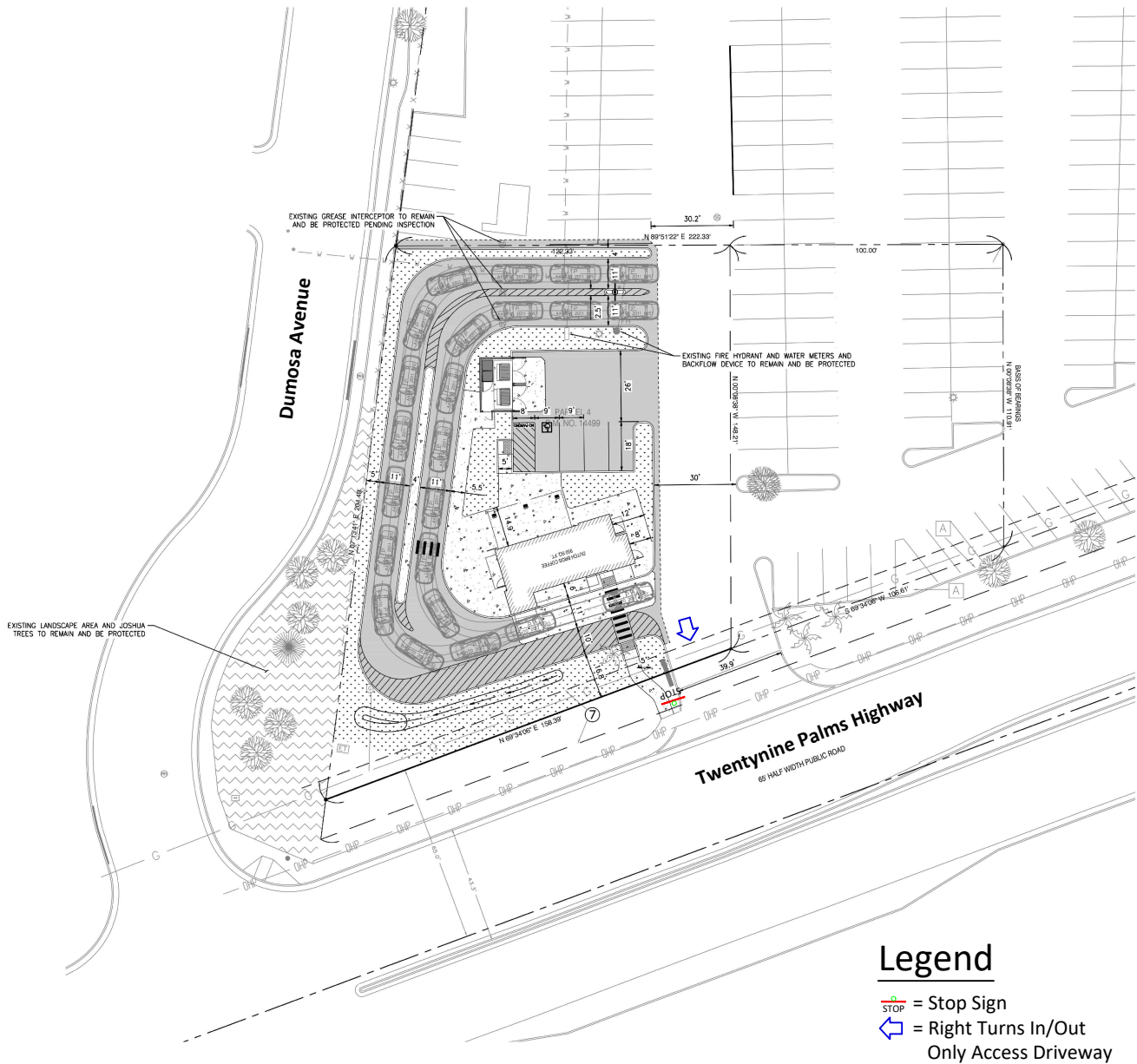
Participate in the phased construction of off-site traffic signals through payment of traffic signal mitigation fees. The traffic signals within the study area at buildout should specifically include an interconnect of the traffic signals to function in a coordinated system.

As is the case for any roadway design, the Town of Yucca Valley should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

3. Phasing

For the purposes of this traffic impact analysis, it is assumed that the project will be implemented in one phase and no additional phased improvements will be necessary.

Figure 15
Circulation Recommendations



Sufficient on-site parking should be provided to meet the Town of Yucca Valley parking code requirements.

Sight distance at the project accesses should be reviewed with respect to California Department of Transportation/Town of Yucca Valley standards in conjunction with the preparation of final grading, landscaping, and street improvement plans.

On-site traffic signing and striping should be implemented in conjunction with detailed construction plans for the project.

Participate in the phased construction of off-site traffic signals through payment of traffic signal mitigation fees. The traffic signals within the study area at buildout should specifically include an interconnect of the traffic signals to function in a coordinated system.

As is the case for any roadway design, the Town of Yucca Valley should periodically review traffic operations in the vicinity of the project once the project is constructed to assure that the traffic operations are satisfactory.

Appendices

Appendix A – Glossary of Transportation Terms

Appendix B – Traffic Count Worksheets

Appendix C – Pass-By Trips

Appendix D – Explanation and Calculation of Intersection Delay

APPENDIX A

Glossary of Transportation Terms

GLOSSARY OF TRANSPORTATION TERMS

COMMON ABBREVIATIONS

AC:	Acres
ADT:	Average Daily Traffic
Caltrans:	California Department of Transportation
DU:	Dwelling Unit
ICU:	Intersection Capacity Utilization
LOS:	Level of Service
TSF:	Thousand Square Feet
V/C:	Volume/Capacity
VMT:	Vehicle Miles Traveled

TERMS

AVERAGE DAILY TRAFFIC: The total volume during a year divided by the number of days in a year. Usually only weekdays are included.

BANDWIDTH: The number of seconds of green time available for through traffic in a signal progression.

BOTTLENECK: A constriction along a travelway that limits the amount of traffic that can proceed downstream from its location.

CAPACITY: The maximum number of vehicles that can be reasonably expected to pass over a given section of a lane or a roadway in a given time period.

CHANNELIZATION: The separation or regulation of conflicting traffic movements into definite paths of travel by the use of pavement markings, raised islands, or other suitable means to facilitate the safe and orderly movements of both vehicles and pedestrians.

CLEARANCE INTERVAL: Nearly same as yellow time. If there is an all red interval after the end of a yellow, then that is also added into the clearance interval.

CORDON: An imaginary line around an area across which vehicles, persons, or other items are counted (in and out).

CYCLE LENGTH: The time period in seconds required for one complete signal cycle.

CUL-DE-SAC STREET: A local street open at one end only, and with special provisions for turning around.

DAILY CAPACITY: The daily volume of traffic that will result in a volume during the peak hour equal to the capacity of the roadway.

DELAY: The time consumed while traffic is impeded in its movement by some element over which it has no control, usually expressed in seconds per vehicle.

DEMAND RESPONSIVE SIGNAL: Same as traffic-actuated signal.

DENSITY: The number of vehicles occupying in a unit length of the through traffic lanes of a roadway at any given instant. Usually expressed in vehicles per mile.

DETECTOR: A device that responds to a physical stimulus and transmits a resulting impulse to the signal controller.

DESIGN SPEED: A speed selected for purposes of design. Features of a highway, such as curvature, superelevation, and sight distance (upon which the safe operation of vehicles is dependent) are correlated to design speed.

DIRECTIONAL SPLIT: The percent of traffic in the peak direction at any point in time.

DIVERSION: The rerouting of peak hour traffic to avoid congestion.

FORCED FLOW: Opposite of free flow.

FREE FLOW: Volumes are well below capacity. Vehicles can maneuver freely and travel is unimpeded by other traffic.

GAP: Time or distance between successive vehicles in a traffic stream, rear bumper to front bumper.

HEADWAY: Time or distance spacing between successive vehicles in a traffic stream, front bumper to front bumper.

INTERCONNECTED SIGNAL SYSTEM: A number of intersections that are connected to achieve signal progression.

LEVEL OF SERVICE: A qualitative measure of a number of factors, which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs.

LOOP DETECTOR: A vehicle detector consisting of a loop of wire embedded in the roadway, energized by alternating current and producing an output circuit closure when passed over by a vehicle.

MINIMUM ACCEPTABLE GAP: Smallest time headway between successive vehicles in a traffic stream into which another vehicle is willing and able to cross or merge.

MULTI-MODAL: More than one mode; such as automobile, bus transit, rail rapid transit, and bicycle transportation modes.

OFFSET: The time interval in seconds between the beginning of green at one intersection and the beginning of green at an adjacent intersection.

PLATOON: A closely grouped component of traffic that is composed of several vehicles moving, or standing ready to move, with clear spaces ahead and behind.

ORIGIN-DESTINATION SURVEY: A survey to determine the point of origin and the point of destination for a given vehicle trip.

PASSENGER CAR EQUIVALENTS (PCE): One car is one Passenger Car Equivalent. A truck is equal to 2 or 3 Passenger Car Equivalents in that a truck requires longer to start, goes slower, and accelerates slower. Loaded trucks have a higher Passenger Car Equivalent than empty trucks.

PEAK HOUR: The 60 consecutive minutes with the highest number of vehicles.

PRETIMED SIGNAL: A type of traffic signal that directs traffic to stop and go on a predetermined time schedule without regard to traffic conditions. Also, fixed time signal.

PROGRESSION: A term used to describe the progressive movement of traffic through several signalized intersections.

SCREEN-LINE: An imaginary line or physical feature across which all trips are counted, normally to verify the validity of mathematical traffic models.

SIGNAL CYCLE: The time period in seconds required for one complete sequence of signal indications.

SIGNAL PHASE: The part of the signal cycle allocated to one or more traffic movements.

STARTING DELAY: The delay experienced in initiating the movement of queued traffic from a stop to an average running speed through a signalized intersection.

TRAFFIC-ACTUATED SIGNAL: A type of traffic signal that directs traffic to stop and go in accordance with the demands of traffic, as registered by the actuation of detectors.

TRIP: The movement of a person or vehicle from one location (origin) to another (destination). For example, from home to store to home is two trips, not one.

TRIP-END: One end of a trip at either the origin or destination; i.e. each trip has two trip-ends. A trip-end occurs when a person, object, or message is transferred to or from a vehicle.

TRIP GENERATION RATE: The quantity of trips produced and/or attracted by a specific land use stated in terms of units such as per dwelling, per acre, and per 1,000 square feet of floor space.

TRUCK: A vehicle having dual tires on one or more axles, or having more than two axles.

UNBALANCED FLOW: Heavier traffic flow in one direction than the other. On a daily basis, most facilities have balanced flow. During the peak hours, flow is seldom balanced in an urban area.

VEHICLE MILES OF TRAVEL: A measure of the amount of usage of a section of highway, obtained by multiplying the average daily traffic by length of facility in miles.

APPENDIX B

Traffic Count Worksheets

City of Yucca Valley
 N/S: Dumosa Avenue
 E/W: Antelope Trail
 Weather: Clear

File Name : 01_YCV_Dumosa_Antelope AM
 Site Code : 07522099
 Start Date : 2/8/2022
 Page No : 1

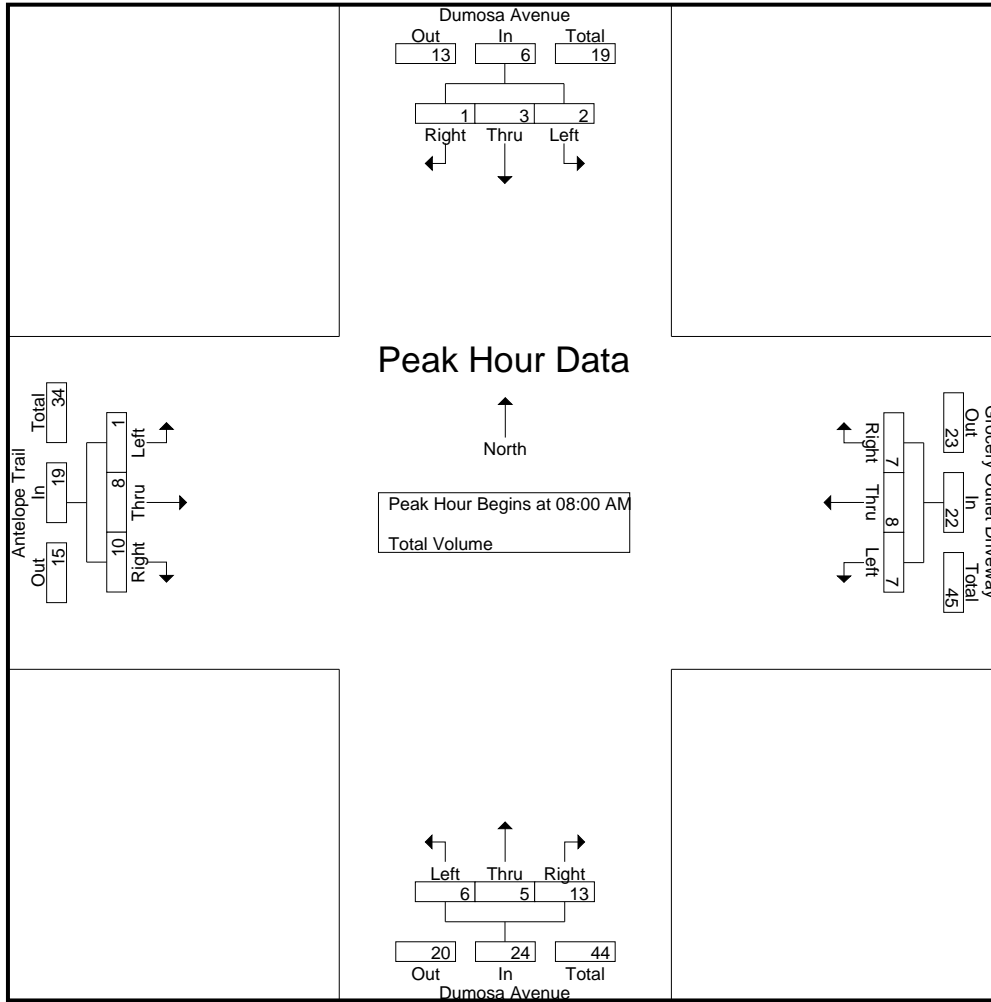
Groups Printed- Total Volume

Start Time	Dumosa Avenue Southbound				Grocery Outlet Driveway Westbound				Dumosa Avenue Northbound				Antelope Trail Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	0	0	0	0	1	1	0	2	0	1	2	3	0	0	2	2	7
07:15 AM	0	0	0	0	0	2	1	3	2	1	3	6	0	2	1	3	12
07:30 AM	0	1	0	1	0	0	1	1	2	3	4	9	0	1	0	1	12
07:45 AM	1	1	0	2	0	6	1	7	1	1	1	3	1	5	1	7	19
Total	1	2	0	3	1	9	3	13	5	6	10	21	1	8	4	13	50
08:00 AM	0	2	0	2	2	2	0	4	1	0	5	6	0	2	5	7	19
08:15 AM	0	0	0	0	3	1	1	5	1	2	1	4	1	2	1	4	13
08:30 AM	2	1	0	3	0	3	3	6	2	2	1	5	0	1	2	3	17
08:45 AM	0	0	1	1	2	2	3	7	2	1	6	9	0	3	2	5	22
Total	2	3	1	6	7	8	7	22	6	5	13	24	1	8	10	19	71
Grand Total	3	5	1	9	8	17	10	35	11	11	23	45	2	16	14	32	121
Apprch %	33.3	55.6	11.1		22.9	48.6	28.6		24.4	24.4	51.1		6.2	50	43.8		
Total %	2.5	4.1	0.8	7.4	6.6	14	8.3	28.9	9.1	9.1	19	37.2	1.7	13.2	11.6	26.4	

Start Time	Dumosa Avenue Southbound				Grocery Outlet Driveway Westbound				Dumosa Avenue Northbound				Antelope Trail Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	2	0	2	2	2	0	4	1	0	5	6	0	2	5	7	19
08:15 AM	0	0	0	0	3	1	1	5	1	2	1	4	1	2	1	4	13
08:30 AM	2	1	0	3	0	3	3	6	2	2	1	5	0	1	2	3	17
08:45 AM	0	0	1	1	2	2	3	7	2	1	6	9	0	3	2	5	22
Total Volume	2	3	1	6	7	8	7	22	6	5	13	24	1	8	10	19	71
% App. Total	33.3	50	16.7		31.8	36.4	31.8		25	20.8	54.2		5.3	42.1	52.6		
PHF	.250	.375	.250	.500	.583	.667	.583	.786	.750	.625	.542	.667	.250	.667	.500	.679	.807

City of Yucca Valley
 N/S: Dumosa Avenue
 E/W: Antelope Trail
 Weather: Clear

File Name : 01_YCV_Dumosa_Antelope AM
 Site Code : 07522099
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:15 AM				07:45 AM			
+0 mins.	1	1	0	2	0	6	1	7	2	1	3	6	1	5	1	7
+15 mins.	0	2	0	2	2	2	0	4	2	3	4	9	0	2	5	7
+30 mins.	0	0	0	0	3	1	1	5	1	1	1	3	1	2	1	4
+45 mins.	2	1	0	3	0	3	3	6	1	0	5	6	0	1	2	3
Total Volume	3	4	0	7	5	12	5	22	6	5	13	24	2	10	9	21
% App. Total	42.9	57.1	0		22.7	54.5	22.7		25	20.8	54.2		9.5	47.6	42.9	
PHF	.375	.500	.000	.583	.417	.500	.417	.786	.750	.417	.650	.667	.500	.500	.450	.750

City of Yucca Valley
 N/S: Dumosa Avenue
 E/W: Antelope Trail
 Weather: Clear

File Name : 01_YCV_Dumosa_Antelope PM
 Site Code : 07522099
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Total Volume

Start Time	Dumosa Avenue Southbound				Grocery Outlet Driveway Westbound				Dumosa Avenue Northbound				Antelope Trail Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	2	3	0	5	8	8	2	18	2	2	10	14	0	3	1	4	41
04:15 PM	0	0	0	0	10	3	1	14	4	1	12	17	0	12	2	14	45
04:30 PM	2	2	0	4	7	5	1	13	0	2	9	11	0	9	7	16	44
04:45 PM	3	3	0	6	8	9	0	17	5	1	14	20	0	8	4	12	55
Total	7	8	0	15	33	25	4	62	11	6	45	62	0	32	14	46	185
05:00 PM	3	3	0	6	3	10	1	14	3	1	8	12	0	9	5	14	46
05:15 PM	2	2	0	4	8	3	0	11	3	3	8	14	0	7	8	15	44
05:30 PM	3	2	0	5	3	5	0	8	3	0	9	12	1	4	3	8	33
05:45 PM	3	0	1	4	5	3	1	9	2	0	5	7	0	4	1	5	25
Total	11	7	1	19	19	21	2	42	11	4	30	45	1	24	17	42	148
Grand Total	18	15	1	34	52	46	6	104	22	10	75	107	1	56	31	88	333
Apprch %	52.9	44.1	2.9		50	44.2	5.8		20.6	9.3	70.1		1.1	63.6	35.2		
Total %	5.4	4.5	0.3	10.2	15.6	13.8	1.8	31.2	6.6	3	22.5	32.1	0.3	16.8	9.3	26.4	

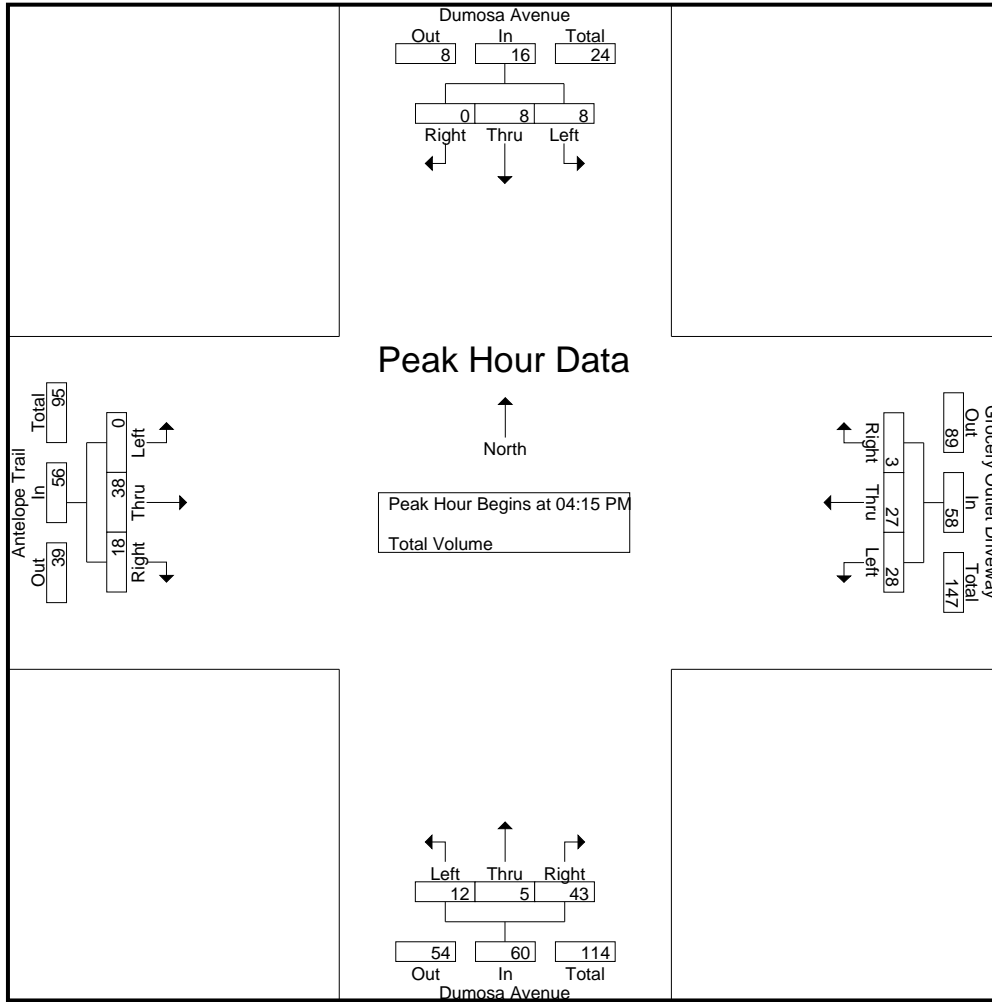
Start Time	Dumosa Avenue Southbound				Grocery Outlet Driveway Westbound				Dumosa Avenue Northbound				Antelope Trail Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:15 PM	0	0	0	0	10	3	1	14	4	1	12	17	0	12	2	14	45
04:30 PM	2	2	0	4	7	5	1	13	0	2	9	11	0	9	7	16	44
04:45 PM	3	3	0	6	8	9	0	17	5	1	14	20	0	8	4	12	55
05:00 PM	3	3	0	6	3	10	1	14	3	1	8	12	0	9	5	14	46
Total Volume	8	8	0	16	28	27	3	58	12	5	43	60	0	38	18	56	190
% App. Total	50	50	0		48.3	46.6	5.2		20	8.3	71.7		0	67.9	32.1		
PHF	.667	.667	.000	.667	.700	.675	.750	.853	.600	.625	.768	.750	.000	.792	.643	.875	.864

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:15 PM

City of Yucca Valley
 N/S: Dumosa Avenue
 E/W: Antelope Trail
 Weather: Clear

File Name : 01_YCV_Dumosa_Antelope PM
 Site Code : 07522099
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:45 PM				04:00 PM				04:00 PM				04:30 PM			
+0 mins.	3	3	0	6	8	8	2	18	2	2	10	14	0	9	7	16
+15 mins.	3	3	0	6	10	3	1	14	4	1	12	17	0	8	4	12
+30 mins.	2	2	0	4	7	5	1	13	0	2	9	11	0	9	5	14
+45 mins.	3	2	0	5	8	9	0	17	5	1	14	20	0	7	8	15
Total Volume	11	10	0	21	33	25	4	62	11	6	45	62	0	33	24	57
% App. Total	52.4	47.6	0		53.2	40.3	6.5		17.7	9.7	72.6		0	57.9	42.1	
PHF	.917	.833	.000	.875	.825	.694	.500	.861	.550	.750	.804	.775	.000	.917	.750	.891

City of Yucca Valley
 N/S: Dumosa Avenue
 E/W: SR-62
 Weather: Clear

File Name : 02_YCV_Dumosa_SR-62 AM
 Site Code : 07522099
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Total Volume

Start Time	Dumosa Avenue Southbound				SR-62 Westbound				Dumosa Avenue Northbound				SR-62 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:00 AM	2	1	0	3	3	169	2	174	3	2	2	7	0	123	0	123	307
07:15 AM	1	0	0	1	2	163	2	167	3	4	2	9	1	125	2	128	305
07:30 AM	1	1	0	2	1	143	1	145	3	4	3	10	3	163	3	169	326
07:45 AM	0	2	0	2	2	151	0	153	4	3	8	15	2	160	1	163	333
Total	4	4	0	8	8	626	5	639	13	13	15	41	6	571	6	583	1271
08:00 AM	3	6	1	10	4	156	2	162	5	0	4	9	6	173	3	182	363
08:15 AM	0	2	2	4	9	164	1	174	2	4	6	12	1	140	1	142	332
08:30 AM	3	1	1	5	5	143	2	150	6	3	1	10	2	160	1	163	328
08:45 AM	1	3	0	4	8	181	1	190	8	5	10	23	4	145	4	153	370
Total	7	12	4	23	26	644	6	676	21	12	21	54	13	618	9	640	1393
Grand Total	11	16	4	31	34	1270	11	1315	34	25	36	95	19	1189	15	1223	2664
Apprch %	35.5	51.6	12.9		2.6	96.6	0.8		35.8	26.3	37.9		1.6	97.2	1.2		
Total %	0.4	0.6	0.2	1.2	1.3	47.7	0.4	49.4	1.3	0.9	1.4	3.6	0.7	44.6	0.6	45.9	

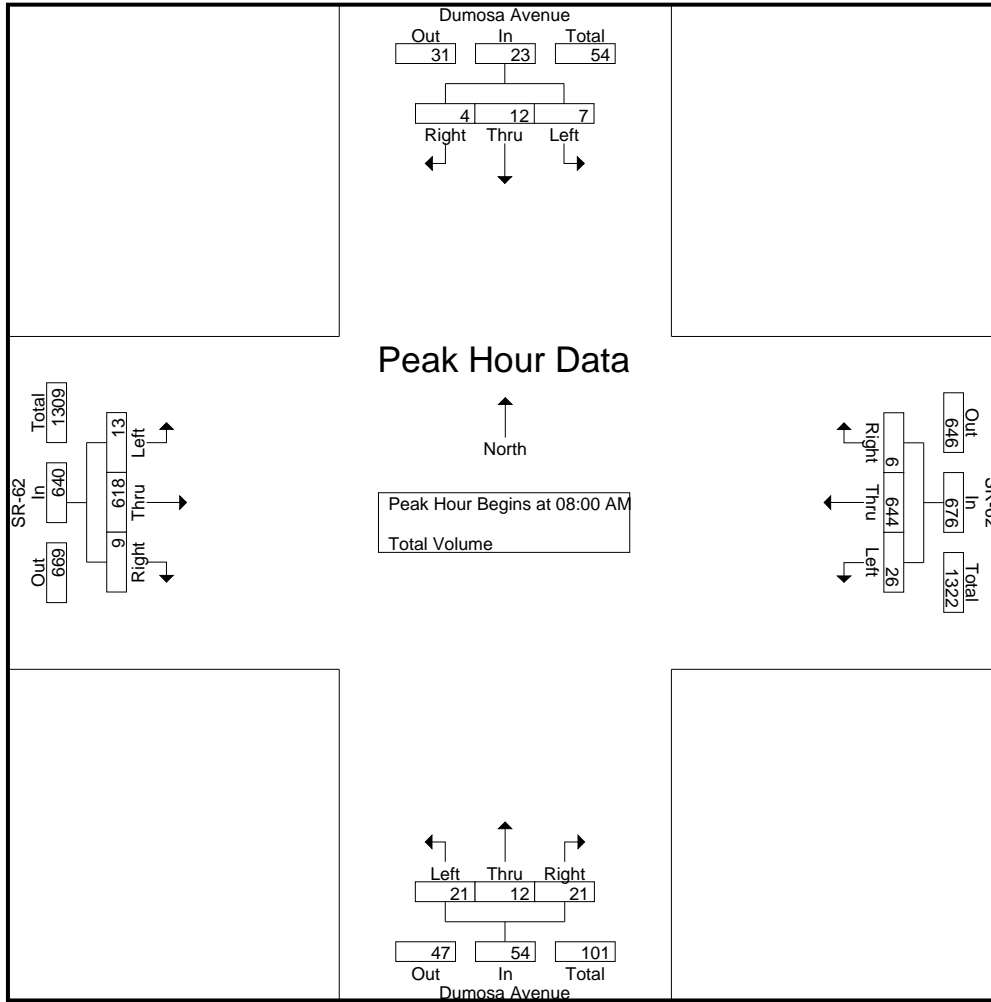
Start Time	Dumosa Avenue Southbound				SR-62 Westbound				Dumosa Avenue Northbound				SR-62 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:00 AM	3	6	1	10	4	156	2	162	5	0	4	9	6	173	3	182	363
08:15 AM	0	2	2	4	9	164	1	174	2	4	6	12	1	140	1	142	332
08:30 AM	3	1	1	5	5	143	2	150	6	3	1	10	2	160	1	163	328
08:45 AM	1	3	0	4	8	181	1	190	8	5	10	23	4	145	4	153	370
Total Volume	7	12	4	23	26	644	6	676	21	12	21	54	13	618	9	640	1393
% App. Total	30.4	52.2	17.4		3.8	95.3	0.9		38.9	22.2	38.9		2	96.6	1.4		
PHF	.583	.500	.500	.575	.722	.890	.750	.889	.656	.600	.525	.587	.542	.893	.563	.879	.941

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00 AM

City of Yucca Valley
 N/S: Dumosa Avenue
 E/W: SR-62
 Weather: Clear

File Name : 02_YCV_Dumosa_SR-62 AM
 Site Code : 07522099
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				07:30 AM			
+0 mins.	3	6	1	10	4	156	2	162	5	0	4	9	3	163	3	169
+15 mins.	0	2	2	4	9	164	1	174	2	4	6	12	2	160	1	163
+30 mins.	3	1	1	5	5	143	2	150	6	3	1	10	6	173	3	182
+45 mins.	1	3	0	4	8	181	1	190	8	5	10	23	1	140	1	142
Total Volume	7	12	4	23	26	644	6	676	21	12	21	54	12	636	8	656
% App. Total	30.4	52.2	17.4		3.8	95.3	0.9		38.9	22.2	38.9		1.8	97	1.2	
PHF	.583	.500	.500	.575	.722	.890	.750	.889	.656	.600	.525	.587	.500	.919	.667	.901

City of Yucca Valley
 N/S: Dumosa Avenue
 E/W: SR-62
 Weather: Clear

File Name : 02_YCV_Dumosa_SR-62 PM
 Site Code : 07522099
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Total Volume

Start Time	Dumosa Avenue Southbound				SR-62 Westbound				Dumosa Avenue Northbound				SR-62 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	5	5	5	15	15	202	3	220	10	5	12	27	6	210	4	220	482
04:15 PM	3	4	6	13	13	204	2	219	6	7	11	24	8	215	1	224	480
04:30 PM	11	7	1	19	16	218	0	234	6	6	10	22	6	176	3	185	460
04:45 PM	7	4	4	15	9	212	4	225	13	8	11	32	5	184	4	193	465
Total	26	20	16	62	53	836	9	898	35	26	44	105	25	785	12	822	1887
05:00 PM	8	6	3	17	13	177	2	192	11	7	12	30	3	174	2	179	418
05:15 PM	9	5	2	16	14	201	3	218	7	3	7	17	10	186	6	202	453
05:30 PM	7	5	1	13	25	186	1	212	10	5	8	23	8	185	1	194	442
05:45 PM	1	0	4	5	13	137	2	152	3	2	9	14	3	126	5	134	305
Total	25	16	10	51	65	701	8	774	31	17	36	84	24	671	14	709	1618
Grand Total	51	36	26	113	118	1537	17	1672	66	43	80	189	49	1456	26	1531	3505
Apprch %	45.1	31.9	23		7.1	91.9	1		34.9	22.8	42.3		3.2	95.1	1.7		
Total %	1.5	1	0.7	3.2	3.4	43.9	0.5	47.7	1.9	1.2	2.3	5.4	1.4	41.5	0.7	43.7	

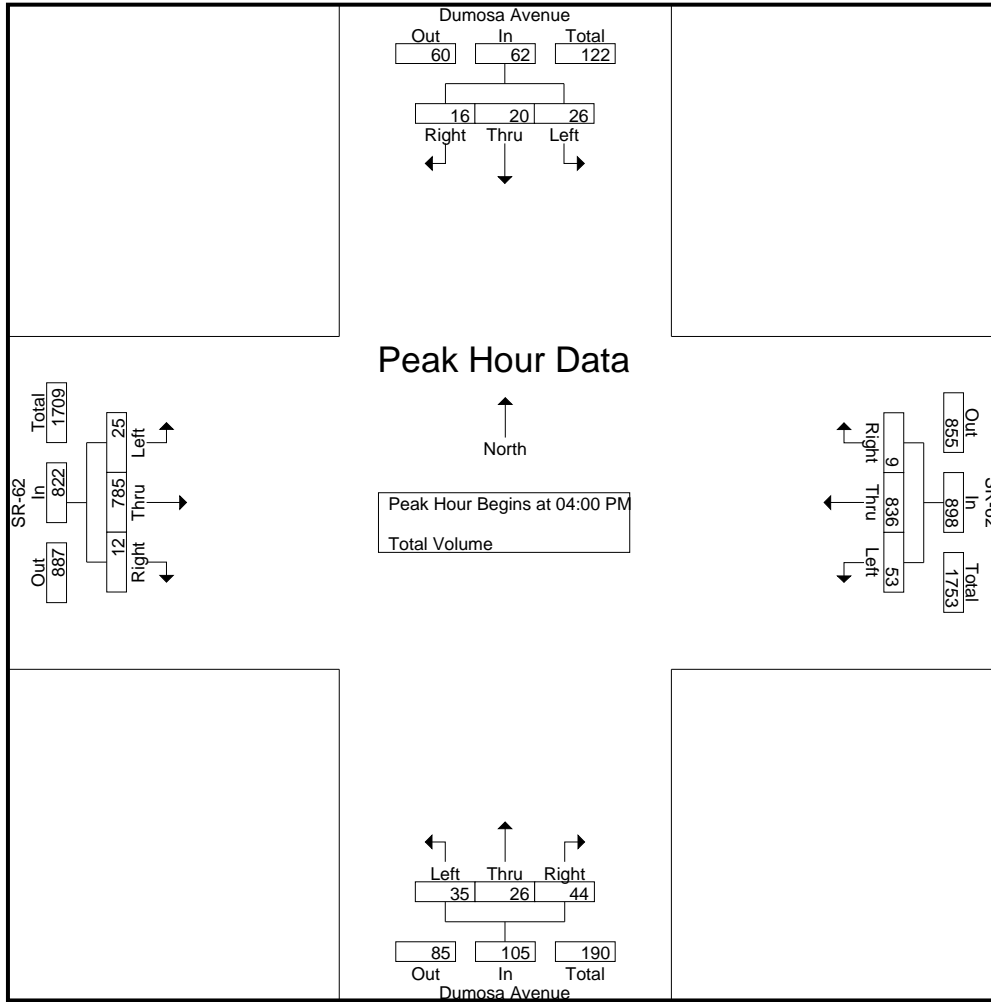
Start Time	Dumosa Avenue Southbound				SR-62 Westbound				Dumosa Avenue Northbound				SR-62 Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:00 PM	5	5	5	15	15	202	3	220	10	5	12	27	6	210	4	220	482
04:15 PM	3	4	6	13	13	204	2	219	6	7	11	24	8	215	1	224	480
04:30 PM	11	7	1	19	16	218	0	234	6	6	10	22	6	176	3	185	460
04:45 PM	7	4	4	15	9	212	4	225	13	8	11	32	5	184	4	193	465
Total Volume	26	20	16	62	53	836	9	898	35	26	44	105	25	785	12	822	1887
% App. Total	41.9	32.3	25.8		5.9	93.1	1		33.3	24.8	41.9		3	95.5	1.5		
PHF	.591	.714	.667	.816	.828	.959	.563	.959	.673	.813	.917	.820	.781	.913	.750	.917	.979

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:00 PM

City of Yucca Valley
 N/S: Dumosa Avenue
 E/W: SR-62
 Weather: Clear

File Name : 02_YCV_Dumosa_SR-62 PM
 Site Code : 07522099
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:30 PM				04:00 PM				04:15 PM				04:00 PM			
+0 mins.	11	7	1	19	15	202	3	220	6	7	11	24	6	210	4	220
+15 mins.	7	4	4	15	13	204	2	219	6	6	10	22	8	215	1	224
+30 mins.	8	6	3	17	16	218	0	234	13	8	11	32	6	176	3	185
+45 mins.	9	5	2	16	9	212	4	225	11	7	12	30	5	184	4	193
Total Volume	35	22	10	67	53	836	9	898	36	28	44	108	25	785	12	822
% App. Total	52.2	32.8	14.9		5.9	93.1	1		33.3	25.9	40.7		3	95.5	1.5	
PHF	.795	.786	.625	.882	.828	.959	.563	.959	.692	.875	.917	.844	.781	.913	.750	.917

City of Yucca Valley
 N/S: Driveway
 E/W: SR-62
 Weather: Clear

File Name : 03_YCV_Driveway_SR-62 AM
 Site Code : 07522099
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Total Volume

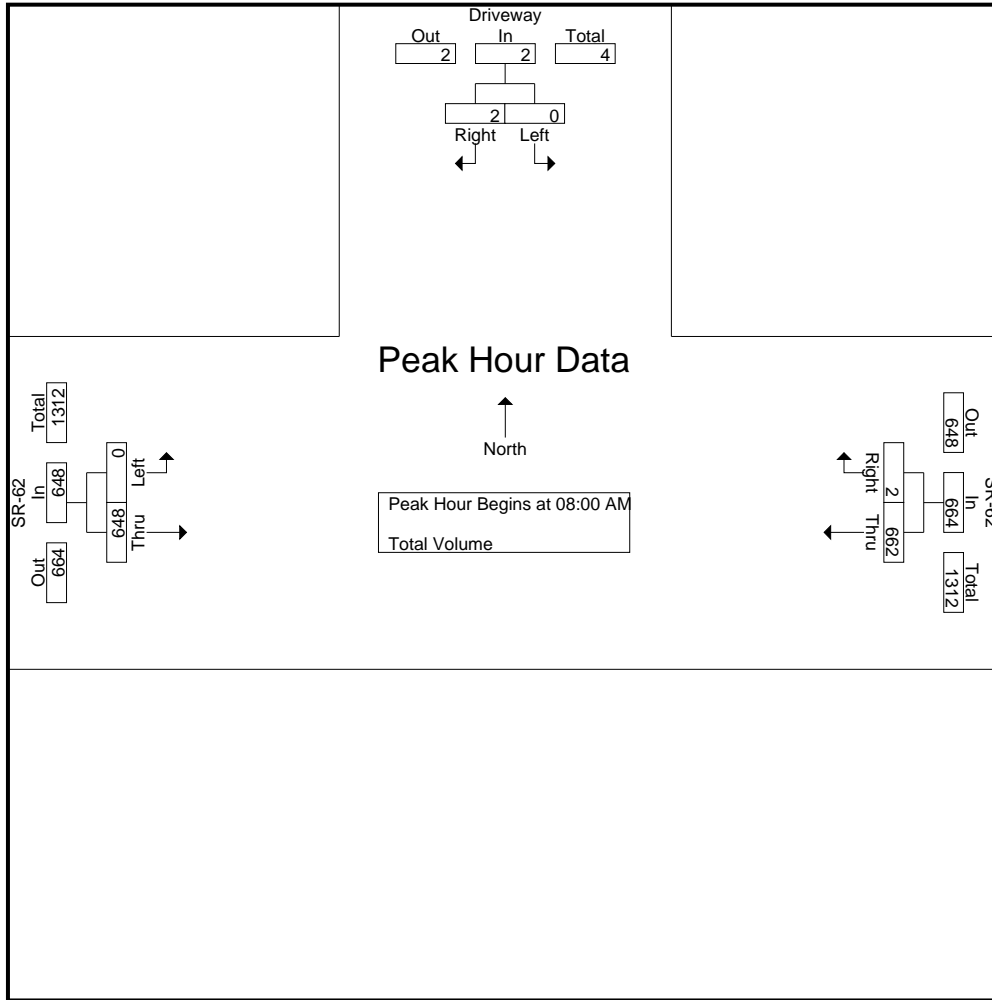
Start Time	Driveway Southbound			SR-62 Westbound			SR-62 Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	0	1	1	167	0	167	0	123	123	291
07:15 AM	0	1	1	169	0	169	0	130	130	300
07:30 AM	0	1	1	145	0	145	0	165	165	311
07:45 AM	0	0	0	161	0	161	0	167	167	328
Total	0	3	3	642	0	642	0	585	585	1230
08:00 AM	0	0	0	154	0	154	0	183	183	337
08:15 AM	0	0	0	175	0	175	0	144	144	319
08:30 AM	0	2	2	141	2	143	0	163	163	308
08:45 AM	0	0	0	192	0	192	0	158	158	350
Total	0	2	2	662	2	664	0	648	648	1314
Grand Total	0	5	5	1304	2	1306	0	1233	1233	2544
Apprch %	0	100		99.8	0.2		0	100		
Total %	0	0.2	0.2	51.3	0.1	51.3	0	48.5	48.5	

Start Time	Driveway Southbound			SR-62 Westbound			SR-62 Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
08:00 AM	0	0	0	154	0	154	0	183	183	337
08:15 AM	0	0	0	175	0	175	0	144	144	319
08:30 AM	0	2	2	141	2	143	0	163	163	308
08:45 AM	0	0	0	192	0	192	0	158	158	350
Total Volume	0	2	2	662	2	664	0	648	648	1314
% App. Total	0	100		99.7	0.3		0	100		
PHF	.000	.250	.250	.862	.250	.865	.000	.885	.885	.939

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM

City of Yucca Valley
 N/S: Driveway
 E/W: SR-62
 Weather: Clear

File Name : 03_YCV_Driveway_SR-62 AM
 Site Code : 07522099
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	07:00 AM			08:00 AM			07:30 AM		
+0 mins.	0	1	1	154	0	154	0	165	165
+15 mins.	0	1	1	175	0	175	0	167	167
+30 mins.	0	1	1	141	2	143	0	183	183
+45 mins.	0	0	0	192	0	192	0	144	144
Total Volume	0	3	3	662	2	664	0	659	659
% App. Total	0	100		99.7	0.3		0	100	
PHF	.000	.750	.750	.862	.250	.865	.000	.900	.900

City of Yucca Valley
 N/S: Driveway
 E/W: SR-62
 Weather: Clear

File Name : 03_YCV_Driveway_SR-62 PM
 Site Code : 07522099
 Start Date : 2/8/2022
 Page No : 1

Groups Printed- Total Volume

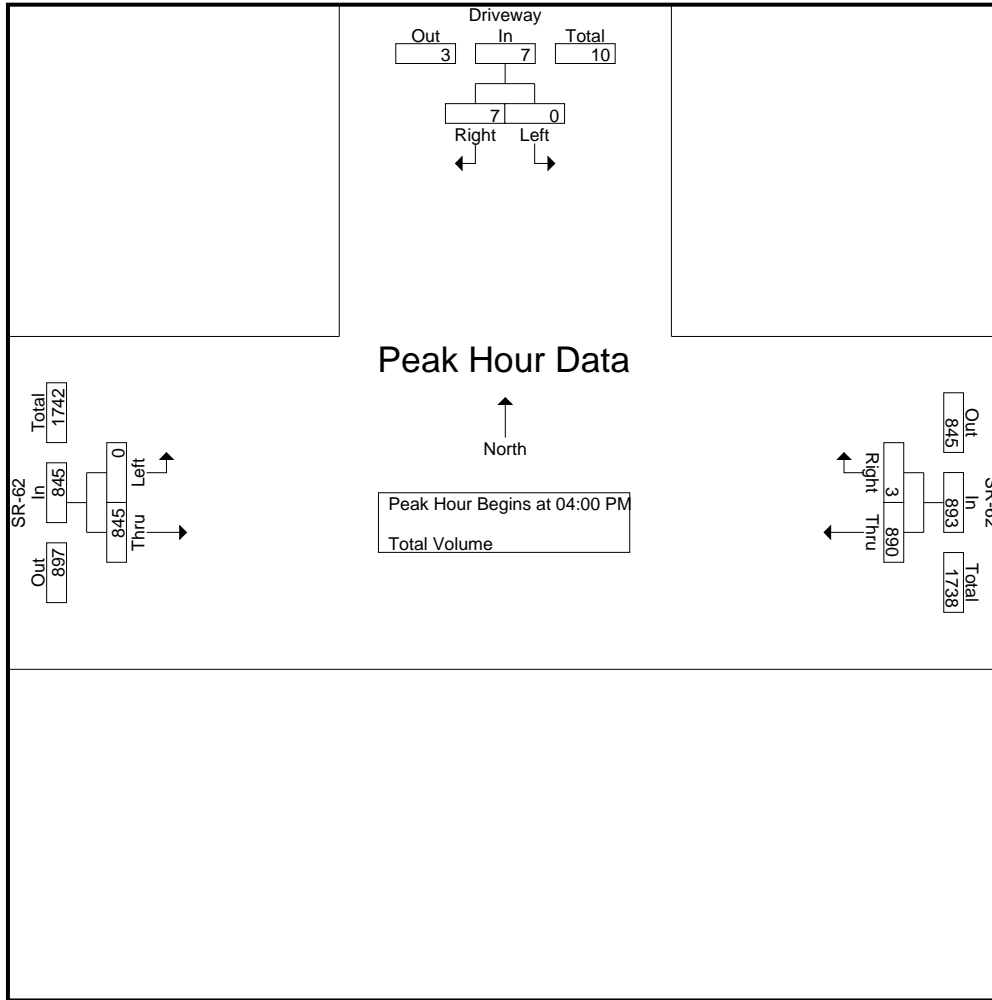
Start Time	Driveway Southbound			SR-62 Westbound			SR-62 Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	1	1	222	0	222	0	228	228	451
04:15 PM	0	2	2	211	2	213	0	225	225	440
04:30 PM	0	1	1	238	0	238	0	196	196	435
04:45 PM	0	3	3	219	1	220	0	196	196	419
Total	0	7	7	890	3	893	0	845	845	1745
05:00 PM	0	0	0	193	1	194	0	200	200	394
05:15 PM	0	2	2	213	4	217	0	196	196	415
05:30 PM	0	1	1	209	0	209	0	201	201	411
05:45 PM	0	0	0	150	2	152	0	129	129	281
Total	0	3	3	765	7	772	0	726	726	1501
Grand Total	0	10	10	1655	10	1665	0	1571	1571	3246
Apprch %	0	100		99.4	0.6		0	100		
Total %	0	0.3	0.3	51	0.3	51.3	0	48.4	48.4	

Start Time	Driveway Southbound			SR-62 Westbound			SR-62 Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
04:00 PM	0	1	1	222	0	222	0	228	228	451
04:15 PM	0	2	2	211	2	213	0	225	225	440
04:30 PM	0	1	1	238	0	238	0	196	196	435
04:45 PM	0	3	3	219	1	220	0	196	196	419
Total Volume	0	7	7	890	3	893	0	845	845	1745
% App. Total	0	100		99.7	0.3		0	100		
PHF	.000	.583	.583	.935	.375	.938	.000	.927	.927	.967

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:00 PM

City of Yucca Valley
 N/S: Driveway
 E/W: SR-62
 Weather: Clear

File Name : 03_YCV_Driveway_SR-62 PM
 Site Code : 07522099
 Start Date : 2/8/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	1	1	222	0	222	0	228	228
+15 mins.	0	2	2	211	2	213	0	225	225
+30 mins.	0	1	1	238	0	238	0	196	196
+45 mins.	0	3	3	219	1	220	0	196	196
Total Volume	0	7	7	890	3	893	0	845	845
% App. Total	0	100		99.7	0.3		0	100	
PHF	.000	.583	.583	.935	.375	.938	.000	.927	.927

APPENDIX C

Pass-By Trips

Pass-by, Primary, and Diverted Linked Trips

5.1 Background

The trip generation rates and equations contained in *Trip Generation* are derived from actual measurements of traffic generated by individual sites. These rates and equations represent vehicles entering and exiting a site at its driveways. Therefore, these volumes are appropriate for determining the total traffic to be accommodated by site driveways.

The pass-by trip-making phenomenon, if estimated to be significant, should be recognized when examining the traffic impact of a development on the adjacent street system.

There are instances, however, when the total number of trips generated by a site is different from the amount of new traffic **added** to the street system by the generator. For example, retail-oriented developments such as shopping centers, discount stores, restaurants, banks, service stations, and convenience markets often locate adjacent to busy streets in order to attract the motorists already on the street. These sites attract a portion of their trips from traffic passing the site on the way from an origin to an ultimate destination. These retail trips **may not add new traffic** to the adjacent street system.

Trip-making can be broken down into two major categories: **pass-by trips** and **non-pass-by trips**. In some traffic impact study applications, it is necessary to further subdivide non-pass-by trips into **primary trips** and **diverted linked trips**. These trip types are illustrated in figure 5.1 and are defined below.

Types of Trips Generated by a Site

- Pass-By Trips
- Non-Pass-By Trips
 - Primary Trips
 - Diverted Linked Trips

Pass-by trips are made as intermediate stops *on the way* from an origin to a primary trip destination without a route diversion. Pass-by trips are attracted from traffic passing the site *on an adjacent street* or roadway that offers direct access to the generator. **Pass-by trips are not diverted from another roadway.**

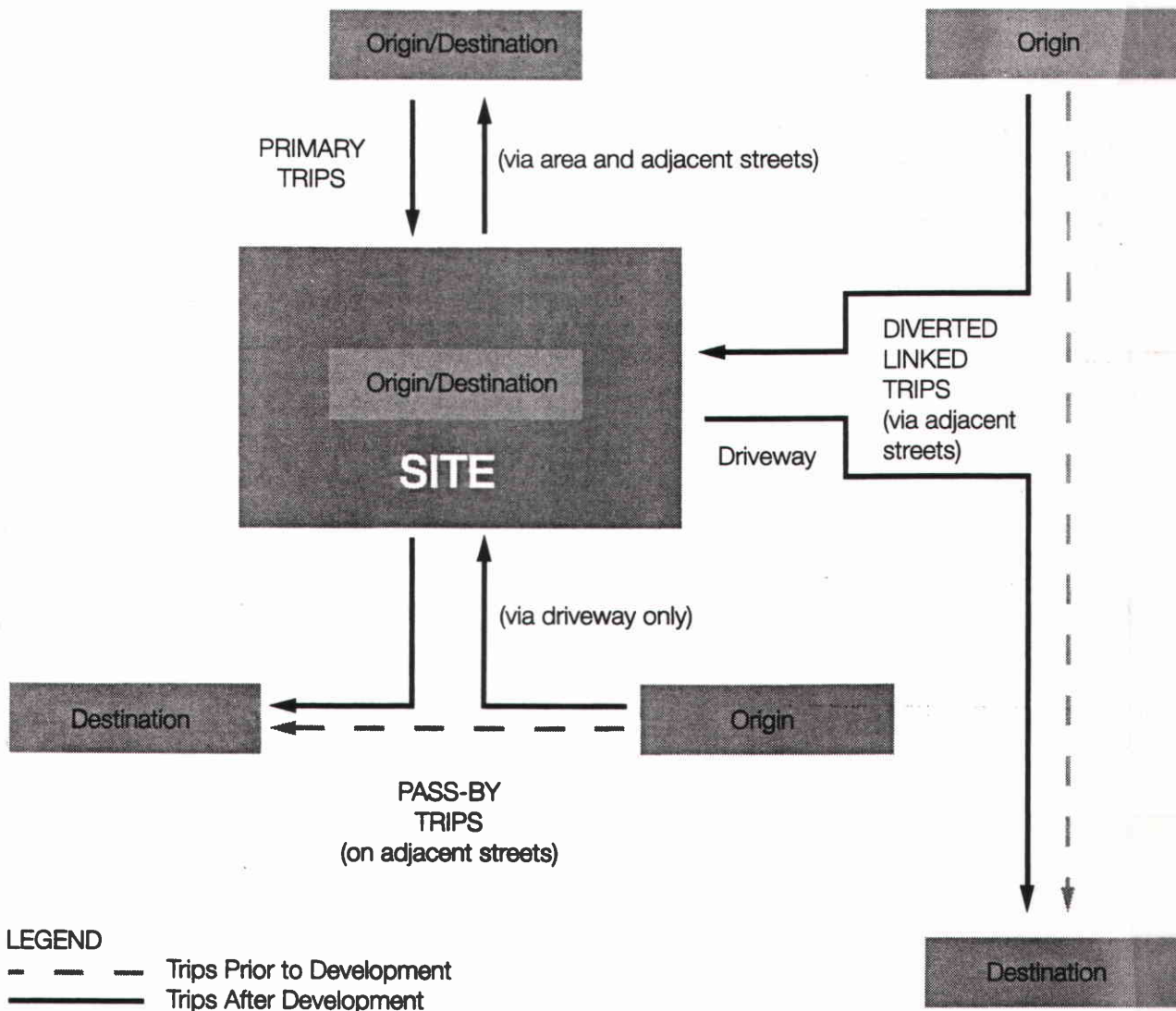
Pass-by trips do not involve a route diversion to enter the site driveway.

Non-pass-by trips are simply all trips generated by a site that are not pass-by trips. This term is sometimes used when diverted linked trips are not tabulated separately from primary trips.

Primary trips are trips made for the specific purpose of visiting the generator. The stop at the generator is the primary reason for the trip. The trip typically goes from origin to generator and then returns to the origin. For example, a home-to-shopping-to-home combination of trips is a primary trip set.

Diverted linked trips are trips that are attracted from the traffic volume on roadways within the vicinity of the generator but that require a diversion from that roadway to another roadway to gain access to the site. These trips could travel on highways or freeways adjacent to a generator, but without access to the generator. **Diverted linked trips add traffic to streets adjacent to a site, but may not add traffic to the area's major travel routes** (see figure 5.1). Both pass-by and diverted linked trips may be part of a multiple-stop chain of trips.

Figure 5.1 Types of Trips



5.2 Sample Application of Pass-By Trip Assignment Process

In this example, the objectives are to (1) estimate the number of new trips added to the adjacent street traffic volume with the development of a shopping center with 580,000 square feet of gross leasable area, and (2) determine the turn movements at the shopping center driveway. The forecasted two-way evening peak hour traffic on a street adjacent to the proposed shopping center is 1,200 vehicles, as shown in figure 5.2(A)—1,000 traveling west and 200 traveling east.

Objective of Assignment Process:

Determine (1) turn movements at a shopping center driveway and (2) trips added to the adjacent street traffic volume.

The shopping center is estimated to generate 2,000 evening peak hour trips (based on the fitted curve equation given for Land Use Code 820 on page 1,339 of *Trip Generation*, Sixth Edition). An assessment of the shopping center parking configuration and access points indicates that an estimated 20 percent of the site-generated traffic will use the driveway being analyzed in this example. Thus, the driveway volume is estimated to be 400 evening peak hour trips (i.e., 20 percent of 2,000 trips). For this

example, 50 percent enter and 50 percent exit the shopping center (as shown in figure 5.2(B)).

From data collected at other shopping centers, it is estimated (in this example) that about 15 percent of the driveway volume is pass-by (figure 5.2(B)). Therefore, 30 of the inbound vehicles (i.e., 15 percent of 200 vehicles) and 30 of the outbound vehicles are considered pass-by trips.

The assumed trip distribution for the non-pass-by trips is shown in figure 5.2(C). These values are based on local knowledge of expected trip patterns for primary and diverted linked trips to and from the shopping center (based on existing travel patterns, surrounding land uses, etc.). For example, 80 percent of the non-pass-by trips are expected to arrive from the east and to return to the east after the trip to the shopping center.

The distribution of the pass-by trips is based on the volume of traffic passing the driveway, as shown in figure 5.2(D). Because 83 percent of the traffic passing by the site comes from the east (i.e., 1,000 of the 1,200 shown previously in figure 5.2(A)), it is assumed that 83 percent of the pass-by trips will likewise arrive from the east and will depart toward the west.

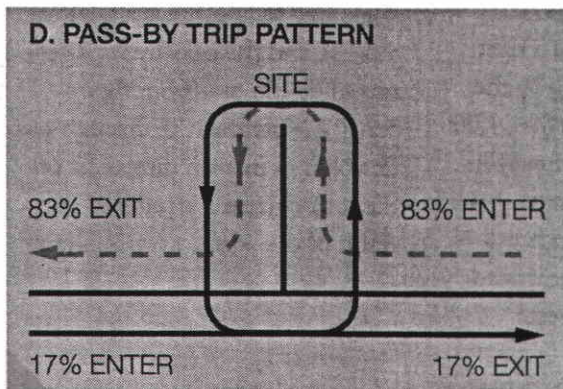
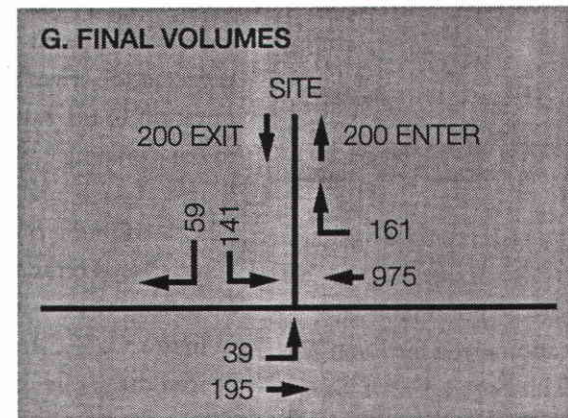
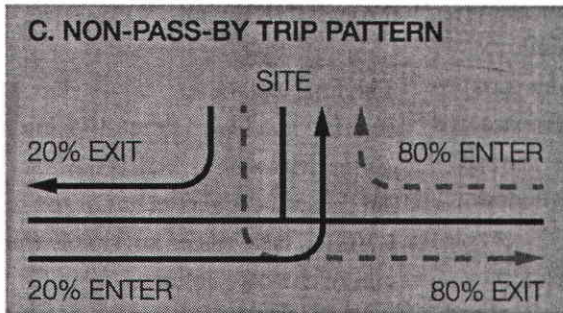
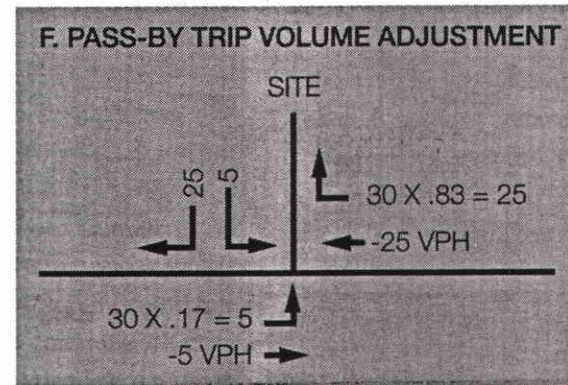
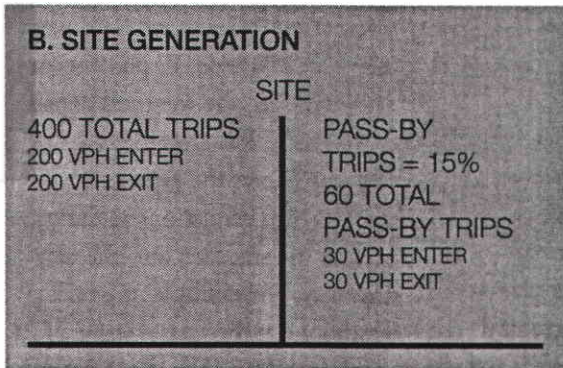
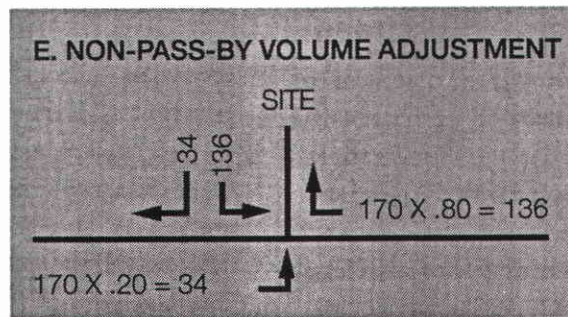
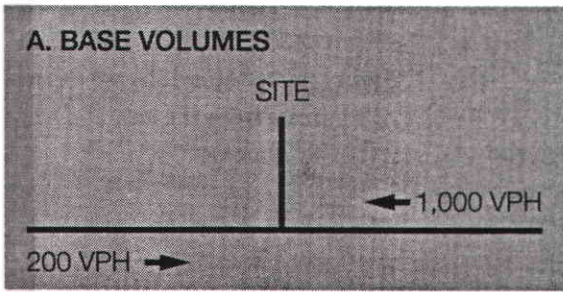
The assignment of the non-pass-by trips generated by the site is shown in figure 5.2(E). The total number

of non-pass-by trips destined to the site is 170 (the 200 total trips minus the 30 inbound pass-by trips shown earlier in figure 5.2(B)). Eighty percent (or 136) are expected to arrive from the east and to return to the east.

The assignment of the pass-by trips is shown in figure 5.2(F). Of the 30 pass-by trips, 83 percent (or 25) arrive from the east and depart to the west. Likewise, 17 percent (or 5) arrive from the west and depart to the east. Note that the calculation also shows the expected through-trip reductions as the trips passing the site turn into the new driveway. For example, the new westbound right-turn volume of 25 causes a reduction in the westbound through movement.

The final assignment of all trips entering and leaving the shopping center driveway, as well as passing the driveway, is shown in figure 5.2(G). These values are simply the sum of the base volumes (from figure 5.2(A)), the non-pass-by trips generated by the site (from figure 5.2(E)), and the pass-by trips generated by the site (from figure 5.2(F)). Note that the through-traffic volumes in both directions on the major street are reduced as a result of the pass-by trip analysis.

Figure 5.2 Application of Pass-By Trips



LEGEND
VPH = Vehicles per hour

5.3 Cautions

Statistical analysis and correlation of the pass-by data collected by the profession continue to evolve. However, due to the limited amount of pass-by data available and the inherent variability in surveyed site characteristics, it has still proven difficult to obtain high correlation indices.

Pass-by trips are closely linked to the size of the development and to the volume of traffic on the adjacent street that can deliver the pass-by trip. However, predictive mathematical relationships have been elusive.

Traditional pass-by trip analyses have attempted to correlate pass-by trip percentages (i.e., percent of the total number of trips generated by a site) with units of occupied site development (such as gross leasable area, gross floor area, seats in a restaurant, or fueling positions at a gas/service station). Limited results for some land uses show that this correlation can be enhanced further

by including the magnitude of the traffic passing the site on the adjacent roadways.

The analyst should exercise caution in the use of pass-by and diverted linked data presented in this chapter to ensure that the following aspects of pass-by trip characteristics are handled appropriately in the analysis process.

Diverted linked trips are clearly different from pass-by trips.

Diverted linked trips add trips to the adjacent roads at a proposed or expanded site, but may not add trips to nearby major highways or freeways.

Diverted linked trips are often difficult to identify. Therefore, **diverted linked trips should be treated similarly to primary trips, unless:** (1) all three (primary, pass-by, and diverted linked) categories are being analyzed and processed separately, and (2) the travel routes for diverted linked trips can be clearly established.

Pass-by trips are drawn from the passing traffic stream, **but are always included in the site driveway movements.** In traffic analyses, summation of driveway

volumes must equal the total external site generation (i.e., the sum of primary, pass-by, and diverted linked trips). Pass-by trips are not included in (and thus, subtracted from) the through-volumes passing a given site access point on an adjacent road. Standard methodologies for assessing the traffic impacts of site development typically require that diverted linked trips be included as additional trips within the confines of local impact assessment studies.

In a multi-use development, it is likely that there will be trips internal to the site (refer to chapter 7 for guidance). Before applying the pass-by reduction, the internal trips should be removed from the total number of trips generated by the multi-use site. **Pass-by trips are only applicable to trips that enter or exit the site, not internal trips.**

Overall, diverted linked trips represent a change in local area travel patterns but constitute no new increase on a *macroscopic* scale. Within the immediate study area, diverted linked trips do represent additional traffic on individual streets and should be analyzed that way.

5.4 Data Base on Pass-By, Primary, and Diverted Linked Trips

Listed in table 5.1 are 19 land uses for which ITE has received and compiled pass-by and diverted linked trip data. The table denotes whether the data are presented in this handbook in a table or a figure (in a data plot similar to those presented in *Trip Generation* for trip end data). Table 5.1 also identifies the time periods for which the data have been reported.

Tables 5.2 through 5.26 present the values for percentage of site generation that is accounted for by pass-by, non-pass-by, primary, and diverted linked trips.

Figures 5.3 through 5.15 plot the average *pass-by* trip percentages associated with the various land uses. No plots are provided for *diverted linked* trips. These figures are provided to enable the user to visualize the data scatter provided in tables 5.2 through 5.26.

Data plots are provided for each land use where nine or more data points are available for a specific independent variable.

For all land uses except shopping centers, data are plotted for only one independent variable. For shopping centers, data are plotted for GLA and peak hour traffic on adjacent streets for the weekday evening peak period; GLA is also used as the independent variable for shopping centers during the midday Saturday time period.

A regression equation is shown on the data plot if there are more than 10 points and the R^2 is greater than 0.25 (which only occurs on two of the Land Use Code 820 data plots). Note that this threshold is less than the 0.5 threshold for R^2 used for data plots in *Trip Generation*.

Recommended guidelines for using the data presented in these figures and tables are provided in section 5.5 of this chapter. In particular, the guidelines recommend when to use the data and how to select a pass-by percentage.

Users of the data are cautioned that the number and geographic distribution of sites are limited. Little or no data on adjacent street traffic volumes have been collected for uses other than shopping centers. The actual pass-by and diverted

The pass-by data listed in table 5.1 were collected during peak periods. These pass-by relationships may differ from those during the peak hour.

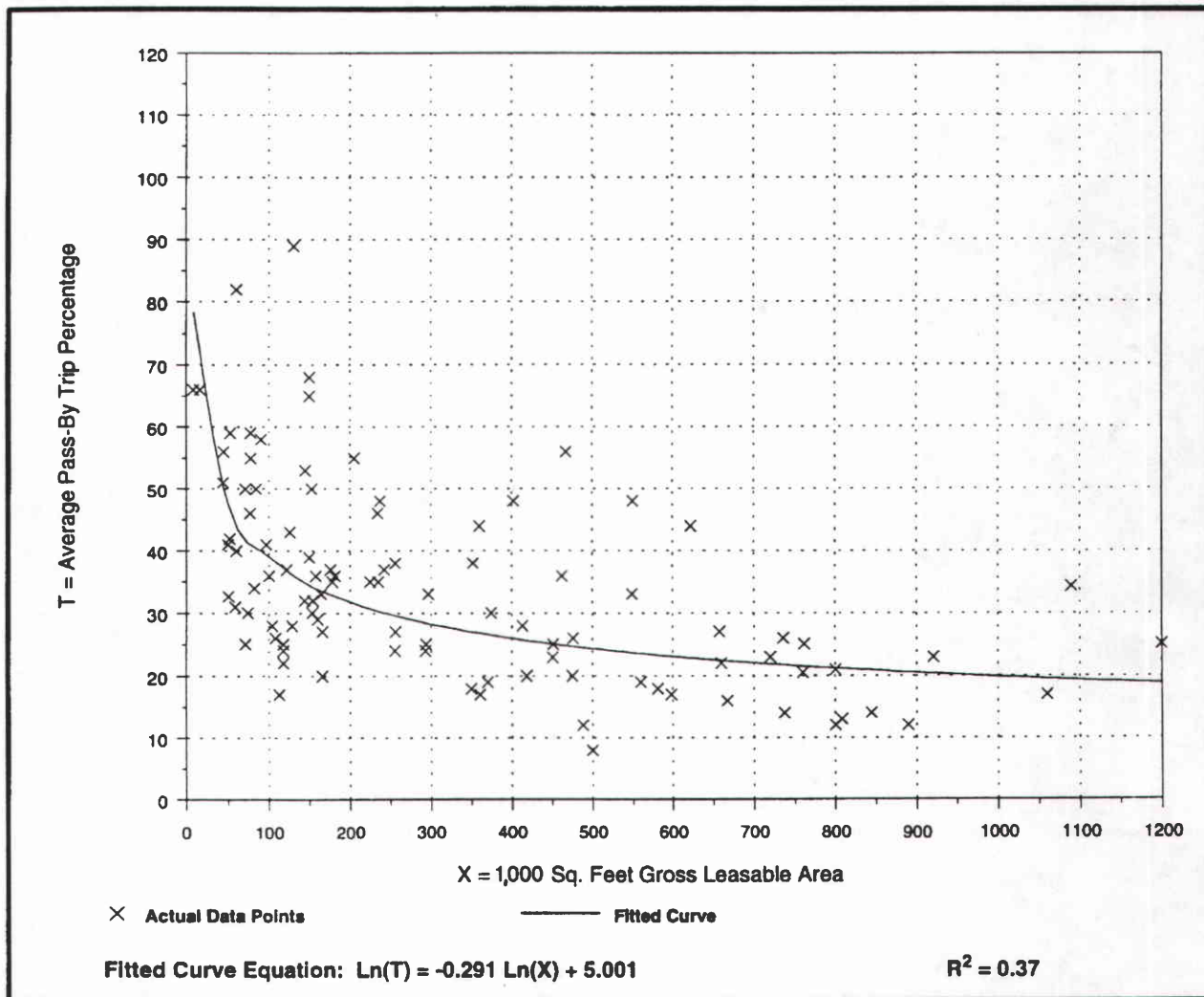
linked trip percentages may vary by site due to the specific influences of the characteristics of passing traffic, area roadway network patterns, specific businesses in the site being analyzed, other nearby development, and so forth. Surveys of similar developments near the analysis site are encouraged.

Because data are limited for many of the land uses, the analyst is encouraged to collect pass-by trip data and transmit the data to ITE. Section 5.6 of this chapter describes how to collect the appropriate data and provides sample forms to use.

Figure 5.5 Shopping Center (820)

Average Pass-By Trip Percentage vs: 1,000 Sq. Feet Gross Leasable Area
On a: Weekday, P.M. Peak Period
Number of Studies: 100
Average 1,000 Sq. Feet GLA: 329

Data Plot



APPENDIX D

Explanation and Calculation of Intersection Delay

EXPLANATION AND CALCULATION OF INTERSECTION LEVEL OF SERVICE USING DELAY METHODOLOGY

The levels of service at the unsignalized and signalized intersections are calculated using the delay methodology in the Highway Capacity Manual. This methodology views an intersection as consisting of several lane groups. A lane group is a set of lanes serving a movement. If there are two northbound left turn lanes, then the lane group serving the northbound left turn movement has two lanes. Similarly, there may be three lanes in the lane group serving the northbound through movement, one lane in the lane group serving the northbound right turn movement, and so forth. It is also possible for one lane to serve two lane groups. A shared lane might result in there being 1.5 lanes in the northbound left turn lane group and 2.5 lanes in the northbound through lane group.

For each lane group, there is a capacity. That capacity is calculated by multiplying the number of lanes in the lane group times a theoretical maximum lane capacity per lane times 12 adjustment factors.

Each of the 12 adjustment factors has a value of approximately 1.00. A value less than 1.00 is generally assigned when a less than desirable condition occurs.

The 12 adjustment factors are as follows:

1. Peak hour factor (to account for peaking within the peak hour)
2. Lane utilization factor (to account for not all lanes loading equally)
3. Lane width
4. Percent of heavy trucks
5. Approach grade
6. Parking
7. Bus stops at intersections

8. Area type (CBD or other)
9. Right turns
10. Left turns
11. Pedestrian activity
12. Signal progression

The maximum theoretical lane capacity and the 12 adjustment factors for it are all unknowns for which approximate estimates have been recommended in the Highway Capacity Manual. For the most part, the recommended values are not based on statistical analysis but rather on educated estimates. However, it is possible to use the delay method and get reasonable results as will be discussed below.

Once the lane group volume is known and the lane group capacity is known, a volume to capacity ratio can be calculated for the lane group.

With a volume to capacity ratio calculated, average delay per vehicle in a lane group can be estimated. The average delay per vehicle in a lane group is calculated using a complex formula provided by the Highway Capacity Manual, which can be simplified and described as follows:

Delay per vehicle in a lane group is a function of the following:

1. Cycle length
2. Amount of red time faced by a lane group
3. Amount of yellow time for that lane group
4. The volume to capacity ratio of the lane group

The average delay per vehicle for each lane group is calculated, and eventually an overall average delay for all vehicles entering the intersection is calculated. This average delay per vehicle is then used to judge Level of Service. The Level of Services are defined in the table that follows this discussion.

Experience has shown that when a maximum lane capacity of 1,900 vehicles per hour is used (as recommended in the Highway Capacity Manual), little or no yellow time penalty is used, and none of the 12 penalty factors are applied, calculated delay is realistic. The delay calculation for instance assumes that yellow time is totally unused. Yet experience shows that most of the yellow time is used.

An idiosyncrasy of the delay methodology is that it is possible to add traffic to an intersection and reduce the average total delay per vehicle. If the average total delay is 30 seconds per vehicle for all vehicles traveling through an intersection, and traffic is added to a movement that has an average total delay of 15 seconds per vehicle, then the overall average total delay is reduced.

The delay calculation for a lane group is based on a concept that the delay is a function of the amount of unused capacity available. As the volume approaches capacity and there is no more unused capacity available, then the delay rapidly increases. Delay is not proportional to volume, but rather increases rapidly as the unused capacity approaches zero.

Because delay is not linearly related to volumes, the delay does not reflect how close an intersection is to overloading. If an intersection is operating at Level of Service C and has an average total delay of 18 seconds per vehicle, you know very little as to what percent the traffic can increase before Level of Service is reached.

LEVEL OF SERVICE DESCRIPTION¹

Level Of Service	Description	Average Total Delay Per Vehicle (Seconds)	
		Signalized	Unsignalized
A	Level of Service A occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.	0 to 10.00	0 to 10.00
B	Level of Service B generally occurs with good progression and/or short cycle lengths. More vehicles stop than for Level of Service A, causing higher levels of average total delay.	10.01 to 20.00	10.01 to 15.00
C	Level of Service C generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.	20.01 to 35.00	15.01 to 25.00
D	Level of Service D generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	35.01 to 55.00	25.01 to 35.00
E	Level of Service E is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume to capacity ratios. Individual cycle failures are frequent occurrences.	55.01 to 80.00	35.01 to 50.00
F	Level of Service F is considered to be unacceptable to most drivers. This condition often occurs with oversaturation, i.e., when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume to capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.	80.01 and up	50.01 and up

¹ Source: Highway Capacity Manual Special Report 209, Transportation Research Board, National Research Council, Washington, D.C., 2000.

Existing

Dutch Bros - CA3705 - Yucca Valley

Vistro File: C:\...\IAM.vistro

Scenario 1 Existing

Report File: C:\...\IAM_E.pdf

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Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	All-way stop	HCM 2010	SB Thru	0.030	6.9	A
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Signalized	HCM 2010	NB Left	0.264	17.8	B
3	South Access (NS) at Twentynine Palms Highway (EW)	Two-way stop	HCM 2010	SB Right	0.003	10.6	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Dumosa Avenue (NS) at Antelope Trail/North Access (EW)

Control Type:	All-way stop	Delay (sec / veh):	6.9
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	6	5	13	2	3	1	1	8	10	7	8	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	5	13	2	3	1	1	8	10	7	8	7
Peak Hour Factor	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	4	1	1	0	0	2	3	2	2	2
Total Analysis Volume [veh/h]	7	6	16	2	4	1	1	10	12	9	10	9
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	957	892	966	923
Degree of Utilization, x	0.03	0.01	0.02	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.09	0.02	0.07	0.09
95th-Percentile Queue Length [ft]	2.34	0.59	1.83	2.34
Approach Delay [s/veh]	6.88	7.07	6.82	7.02
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.92			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2: Dumosa Avenue (NS) at Twentynine Palms Highway (EW)

Control Type:	Signalized	Delay (sec / veh):	17.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.264

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	←→			↑			←→			←→		
Lane Configuration	←→			↑			←→			←→		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	26.00	100.00	100.00	100.00	180.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	21	12	21	7	12	4	13	618	9	26	644	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	12	21	7	12	4	13	618	9	26	644	6
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	3	6	2	3	1	3	164	2	7	171	2
Total Analysis Volume [veh/h]	22	13	22	7	13	4	14	657	10	28	684	6
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	19	0	0	19	0	0	32	0	0	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	15	28	28	28	28	28	28
g / C, Green / Cycle	0.21	0.21	0.21	0.40	0.40	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.02	0.01	0.01	0.02	0.18	0.18	0.04	0.19	0.19
s, saturation flow rate [veh/h]	1806	1583	1784	750	1863	1853	766	1863	1857
c, Capacity [veh/h]	387	339	382	279	745	741	287	745	743
d1, Uniform Delay [s]	22.03	21.91	21.90	20.89	15.36	15.36	20.98	15.47	15.47
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.46	0.37	0.32	0.34	1.95	1.96	0.68	2.07	2.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

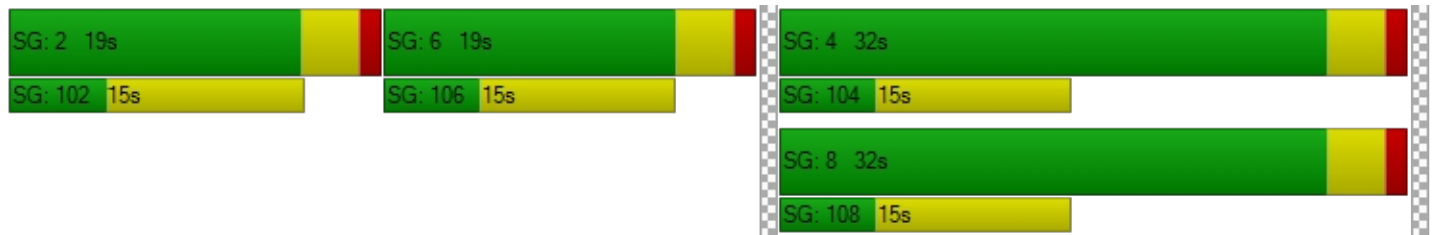
X, volume / capacity	0.09	0.06	0.06	0.05	0.45	0.45	0.10	0.46	0.46
d, Delay for Lane Group [s/veh]	22.50	22.28	22.22	21.23	17.31	17.32	21.65	17.54	17.55
Lane Group LOS	C	C	C	C	B	B	C	B	B
Critical Lane Group	Yes	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.49	0.31	0.33	0.19	3.80	3.78	0.39	3.96	3.95
50th-Percentile Queue Length [ft/ln]	12.30	7.78	8.37	4.78	94.93	94.54	9.66	99.04	98.79
95th-Percentile Queue Length [veh/ln]	0.89	0.56	0.60	0.34	6.83	6.81	0.70	7.13	7.11
95th-Percentile Queue Length [ft/ln]	22.14	14.00	15.07	8.60	170.87	170.17	17.39	178.27	177.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.50	22.50	22.28	22.22	22.22	22.22	21.23	17.31	17.32	21.65	17.54	17.55
Movement LOS	C	C	C	C	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	22.41			22.22			17.39			17.70		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	17.82											
Intersection LOS	B											
Intersection V/C	0.264											

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: South Access (NS) at Twentynine Palms Highway (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration	↻				↻	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	15.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	2	0	648	662	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	0	648	662	2
Peak Hour Factor	1.0000	0.9390	1.0000	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	173	176	1
Total Analysis Volume [veh/h]	0	2	0	690	705	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	10.62	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.23	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.62		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	B					

Dutch Bros - CA3705 - Yucca Valley

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Scenario 1 Existing

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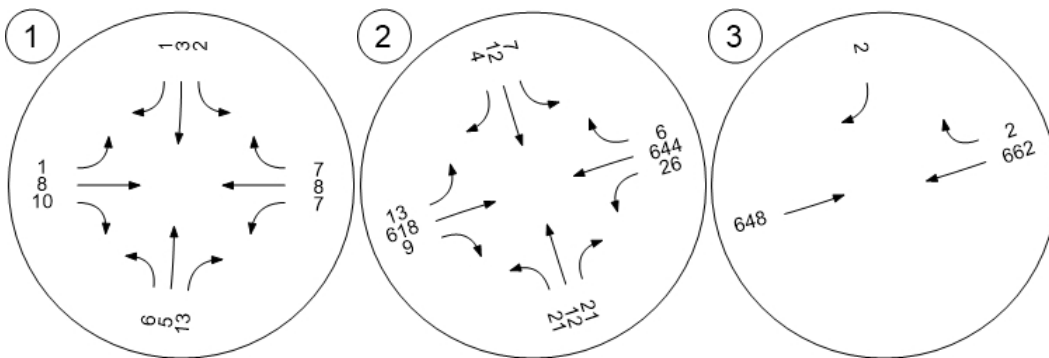
Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	Final Base	6	5	13	2	3	1	1	8	10	7	8	7	71
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	6	5	13	2	3	1	1	8	10	7	8	7	71

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Final Base	21	12	21	7	12	4	13	618	9	26	644	6	1393
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	21	12	21	7	12	4	13	618	9	26	644	6	1393

ID	Intersection Name	Volume Type	Southbound	Eastbound	Westbound		Total Volume
			Right	Thru	Thru	Right	
3	South Access (NS) at Twentynine Palms Highway (EW)	Final Base	2	648	662	2	1314
		Growth Factor	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0
		Net New Trips	0	0	0	0	0
		Other	0	0	0	0	0
		Future Total	2	648	662	2	1314

Traffic Volume - Future Total Volume



Dutch Bros - CA3705 - Yucca Valley

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Scenario 1 Existing

Report File: C:\...\PM_E.pdf

2/18/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	All-way stop	HCM 2010	WB Left	0.078	7.4	A
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Signalized	HCM 2010	WB Left	0.366	20.0	B
3	South Access (NS) at Twentynine Palms Highway (EW)	Two-way stop	HCM 2010	SB Right	0.013	11.7	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Dumosa Avenue (NS) at Antelope Trail/North Access (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.078

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	12	5	43	8	8	0	0	38	18	28	27	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	5	43	8	8	0	0	38	18	28	27	3
Peak Hour Factor	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	12	2	2	0	0	11	5	8	8	1
Total Analysis Volume [veh/h]	14	6	50	9	9	0	0	44	21	32	31	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	936	821	902	848
Degree of Utilization, x	0.07	0.02	0.07	0.08

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.24	0.07	0.23	0.25
95th-Percentile Queue Length [ft]	6.05	1.68	5.81	6.32
Approach Delay [s/veh]	7.16	7.48	7.30	7.61
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.36			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2: Dumosa Avenue (NS) at Twentynine Palms Highway (EW)

Control Type:	Signalized	Delay (sec / veh):	20.0
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.366

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↔			↑			↔			↔		
Lane Configuration	↔			↑			↔			↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	26.00	100.00	100.00	100.00	180.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	35	26	44	26	20	16	25	785	12	53	836	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	26	44	26	20	16	25	785	12	53	836	9
Peak Hour Factor	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	7	11	7	5	4	6	200	3	14	213	2
Total Analysis Volume [veh/h]	36	27	45	27	20	16	26	802	12	54	854	9
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	19	0	0	19	0	0	32	0	0	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	15	28	28	28	28	28	28
g / C, Green / Cycle	0.21	0.21	0.21	0.40	0.40	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.03	0.03	0.04	0.04	0.22	0.22	0.08	0.23	0.23
s, saturation flow rate [veh/h]	1811	1583	1747	638	1863	1853	668	1863	1856
c, Capacity [veh/h]	388	339	374	224	745	741	239	745	742
d1, Uniform Delay [s]	22.39	22.24	22.42	23.93	16.13	16.13	24.18	16.41	16.41
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.90	0.81	0.97	1.05	2.88	2.90	2.19	3.28	3.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

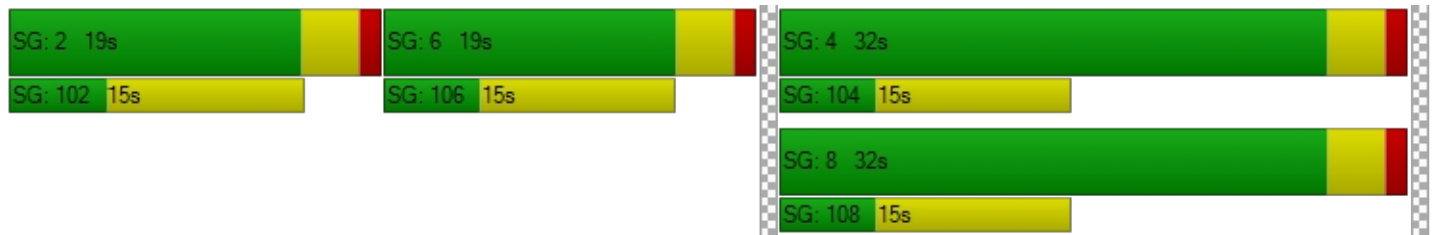
X, volume / capacity	0.16	0.13	0.17	0.12	0.55	0.55	0.23	0.58	0.58
d, Delay for Lane Group [s/veh]	23.28	23.05	23.39	24.98	19.02	19.03	26.37	19.69	19.70
Lane Group LOS	C	C	C	C	B	B	C	B	B
Critical Lane Group	Yes	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.91	0.65	0.91	0.40	4.95	4.93	0.86	5.37	5.35
50th-Percentile Queue Length [ft/ln]	22.64	16.26	22.77	10.04	123.72	123.17	21.49	134.20	133.77
95th-Percentile Queue Length [veh/ln]	1.63	1.17	1.64	0.72	8.60	8.57	1.55	9.17	9.14
95th-Percentile Queue Length [ft/ln]	40.75	29.26	40.99	18.08	214.92	214.17	38.68	229.19	228.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.28	23.28	23.05	23.39	23.39	23.39	24.98	19.03	19.03	26.37	19.70	19.70
Movement LOS	C	C	C	C	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	23.19			23.39			19.21			20.09		
Approach LOS	C			C			B			C		
d_I, Intersection Delay [s/veh]	19.99											
Intersection LOS	B											
Intersection V/C	0.366											

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: South Access (NS) at Twentynine Palms Highway (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration	↻				↻	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	15.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	7	0	845	890	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	7	0	845	890	3
Peak Hour Factor	1.0000	0.9670	1.0000	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	218	230	1
Total Analysis Volume [veh/h]	0	7	0	874	920	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	11.67	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.04	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.97	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.67		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.05					
Intersection LOS	B					

Dutch Bros - CA3705 - Yucca Valley

Vistro File: C:\...\IPM.vistro

Scenario 1 Existing

Report File: C:\...\IPM_E.pdf

2/18/2022

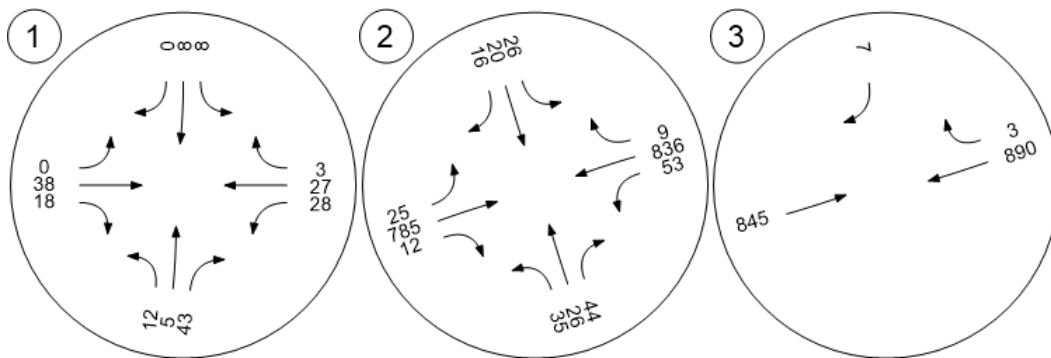
Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	Final Base	12	5	43	8	8	0	0	38	18	28	27	3	190
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	12	5	43	8	8	0	0	38	18	28	27	3	190

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Final Base	35	26	44	26	20	16	25	785	12	53	836	9	1887
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	35	26	44	26	20	16	25	785	12	53	836	9	1887

ID	Intersection Name	Volume Type	Southbound	Eastbound	Westbound		Total Volume
			Right	Thru	Thru	Right	
3	South Access (NS) at Twentynine Palms Highway (EW)	Final Base	7	845	890	3	1745
		Growth Factor	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0
		Net New Trips	0	0	0	0	0
		Other	0	0	0	0	0
		Future Total	7	845	890	3	1745

Traffic Volume - Future Total Volume



Existing Plus Project

Dutch Bros - CA3705 - Yucca Valley

Vistro File: C:\...\IAM.vistro
 Report File: C:\...\IAM_Ep.pdf

Scenario 2 Existing Plus Project
 2/18/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	All-way stop	HCM 2010	WB Left	0.059	7.1	A
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Signalized	HCM 2010	EB Left	0.285	18.1	B
3	South Access (NS) at Twentynine Palms Highway (EW)	Two-way stop	HCM 2010	SB Right	0.036	10.9	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Dumosa Avenue (NS) at Antelope Trail/North Access (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.059

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	6	5	13	2	3	1	1	8	10	7	8	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	23	0	0	0	0	2	0	18	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	5	36	2	3	1	1	10	10	25	10	7
Peak Hour Factor	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	11	1	1	0	0	3	3	8	3	2
Total Analysis Volume [veh/h]	7	6	45	2	4	1	1	12	12	31	12	9
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	983	874	939	878
Degree of Utilization, x	0.06	0.01	0.03	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.19	0.02	0.08	0.19
95th-Percentile Queue Length [ft]	4.70	0.61	2.05	4.71
Approach Delay [s/veh]	6.89	7.15	6.94	7.36
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.08			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2: Dumosa Avenue (NS) at Twentynine Palms Highway (EW)

Control Type:	Signalized	Delay (sec / veh):	18.1
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.285

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	↔↔			+			↔↔			↔↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	26.00	100.00	100.00	100.00	180.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	21	12	21	7	12	4	13	618	9	26	644	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	16	2	0	21	0	0	0	20	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	14	21	23	14	4	34	618	9	26	664	6
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	4	6	6	4	1	9	164	2	7	176	2
Total Analysis Volume [veh/h]	22	15	22	24	15	4	36	657	10	28	706	6
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	19	0	0	19	0	0	32	0	0	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	15	28	28	28	28	28	28
g / C, Green / Cycle	0.21	0.21	0.21	0.40	0.40	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.02	0.01	0.02	0.05	0.18	0.18	0.04	0.19	0.19
s, saturation flow rate [veh/h]	1809	1583	1784	735	1863	1853	766	1863	1857
c, Capacity [veh/h]	388	339	382	271	745	741	287	745	743
d1, Uniform Delay [s]	22.06	21.91	22.14	21.86	15.36	15.36	20.98	15.58	15.58
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.49	0.37	0.60	1.01	1.95	1.96	0.68	2.20	2.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

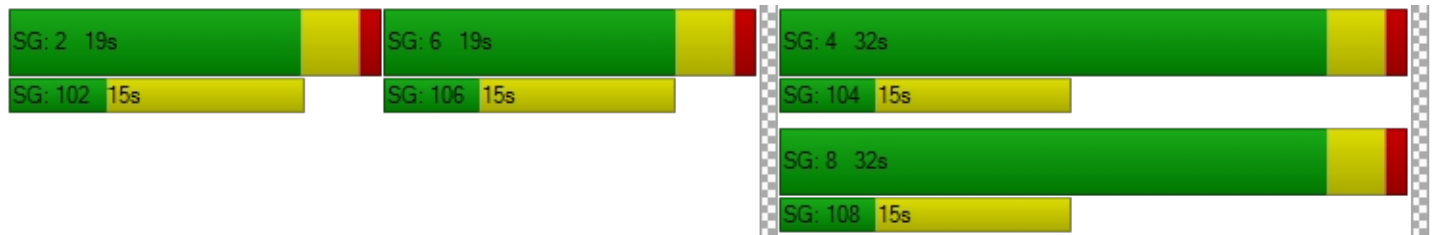
X, volume / capacity	0.10	0.06	0.11	0.13	0.45	0.45	0.10	0.48	0.48
d, Delay for Lane Group [s/veh]	22.55	22.28	22.74	22.87	17.31	17.32	21.65	17.78	17.79
Lane Group LOS	C	C	C	C	B	B	C	B	B
Critical Lane Group	Yes	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.52	0.31	0.61	0.52	3.80	3.78	0.39	4.13	4.12
50th-Percentile Queue Length [ft/ln]	13.02	7.78	15.23	12.93	94.93	94.53	9.66	103.16	102.91
95th-Percentile Queue Length [veh/ln]	0.94	0.56	1.10	0.93	6.84	6.81	0.70	7.43	7.41
95th-Percentile Queue Length [ft/ln]	23.44	14.00	27.42	23.27	170.88	170.16	17.39	185.69	185.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.55	22.55	22.28	22.74	22.74	22.74	22.87	17.31	17.32	21.65	17.78	17.79
Movement LOS	C	C	C	C	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	22.45			22.74			17.60			17.93		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	18.08											
Intersection LOS	B											
Intersection V/C	0.285											

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: South Access (NS) at Twentynine Palms Highway (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.036

Intersection Setup

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration	↻				↻	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	15.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	2	0	648	662	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	0	16	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	22	0	664	662	19
Peak Hour Factor	1.0000	0.9390	1.0000	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	0	177	176	5
Total Analysis Volume [veh/h]	0	23	0	707	705	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	10.89	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.11	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	2.82	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.89		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	B					

Dutch Bros - CA3705 - Yucca Valley

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Scenario 2 Existing Plus Project

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2/18/2022

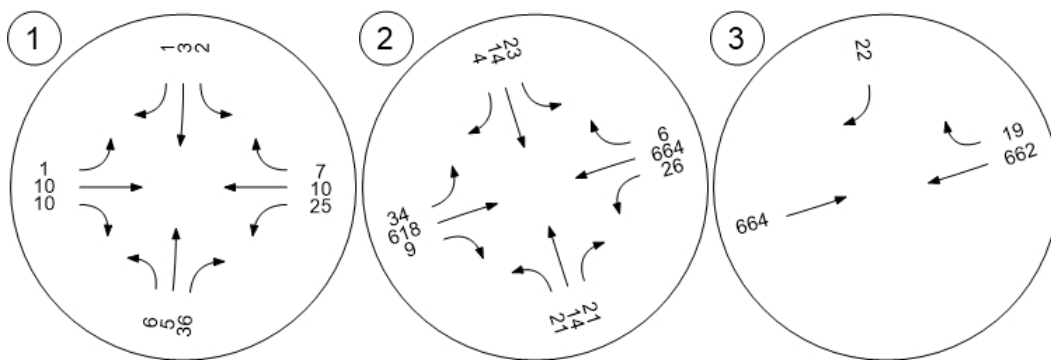
Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	Final Base	6	5	13	2	3	1	1	8	10	7	8	7	71
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	23	0	0	0	0	2	0	18	2	0	45
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	6	5	36	2	3	1	1	10	10	25	10	7	116

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Final Base	21	12	21	7	12	4	13	618	9	26	644	6	1393
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	2	0	16	2	0	21	0	0	0	20	0	61
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	21	14	21	23	14	4	34	618	9	26	664	6	1454

ID	Intersection Name	Volume Type	Southbound	Eastbound	Westbound		Total Volume
			Right	Thru	Thru	Right	
3	South Access (NS) at Twentynine Palms Highway (EW)	Final Base	2	648	662	2	1314
		Growth Factor	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0
		Net New Trips	20	16	0	17	53
		Other	0	0	0	0	0
		Future Total	22	664	662	19	1367

Traffic Volume - Future Total Volume



Dutch Bros - CA3705 - Yucca Valley

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Report File: C:\...\PM_Ep.pdf

Scenario 2 Existing Plus Project
2/18/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	All-way stop	HCM 2010	WB Left	0.093	7.4	A
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Signalized	HCM 2010	WB Left	0.375	20.1	C
3	South Access (NS) at Twentynine Palms Highway (EW)	Two-way stop	HCM 2010	SB Right	0.031	11.8	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report

Intersection 1: Dumosa Avenue (NS) at Antelope Trail/North Access (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.093

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	12	5	43	8	8	0	0	38	18	28	27	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	11	0	0	0	0	1	0	9	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	5	54	8	8	0	0	39	18	37	28	3
Peak Hour Factor	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	16	2	2	0	0	11	5	11	8	1
Total Analysis Volume [veh/h]	14	6	63	9	9	0	0	45	21	43	32	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	936	813	893	838
Degree of Utilization, x	0.09	0.02	0.07	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.29	0.07	0.24	0.31
95th-Percentile Queue Length [ft]	7.28	1.70	5.97	7.67
Approach Delay [s/veh]	7.22	7.53	7.35	7.73
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.44			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2: Dumosa Avenue (NS) at Twentynine Palms Highway (EW)

Control Type:	Signalized	Delay (sec / veh):	20.1
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.375

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↔			↑			↔			↔		
Lane Configuration	↔			↑			↔			↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	26.00	100.00	100.00	100.00	180.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	35	26	44	26	20	16	25	785	12	53	836	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	0	8	1	0	10	0	0	0	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	27	44	34	21	16	35	785	12	53	845	9
Peak Hour Factor	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	7	11	9	5	4	9	200	3	14	216	2
Total Analysis Volume [veh/h]	36	28	45	35	21	16	36	802	12	54	863	9
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	19	0	0	19	0	0	32	0	0	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	15	28	28	28	28	28	28
g / C, Green / Cycle	0.21	0.21	0.21	0.40	0.40	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.04	0.03	0.04	0.06	0.22	0.22	0.08	0.23	0.23
s, saturation flow rate [veh/h]	1812	1583	1751	633	1863	1853	668	1863	1856
c, Capacity [veh/h]	388	339	375	222	745	741	239	745	742
d1, Uniform Delay [s]	22.40	22.24	22.53	24.49	16.13	16.13	24.18	16.46	16.46
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.91	0.81	1.13	1.57	2.88	2.90	2.19	3.36	3.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

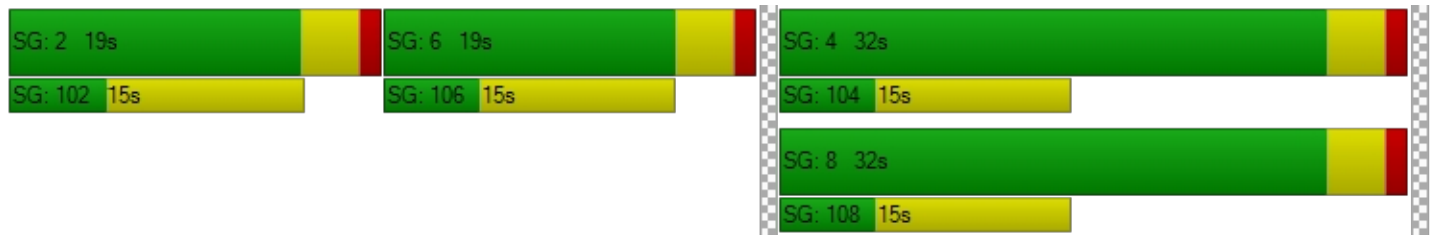
X, volume / capacity	0.16	0.13	0.19	0.16	0.55	0.55	0.23	0.59	0.59
d, Delay for Lane Group [s/veh]	23.31	23.05	23.67	26.06	19.02	19.03	26.37	19.82	19.83
Lane Group LOS	C	C	C	C	B	B	C	B	B
Critical Lane Group	Yes	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.92	0.65	1.05	0.57	4.95	4.93	0.86	5.45	5.43
50th-Percentile Queue Length [ft/ln]	23.02	16.26	26.22	14.30	123.72	123.17	21.49	136.21	135.77
95th-Percentile Queue Length [veh/ln]	1.66	1.17	1.89	1.03	8.60	8.57	1.55	9.28	9.25
95th-Percentile Queue Length [ft/ln]	41.43	29.26	47.20	25.75	214.92	214.17	38.68	231.91	231.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.31	23.31	23.05	23.67	23.67	23.67	26.06	19.03	19.03	26.37	19.83	19.83
Movement LOS	C	C	C	C	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	23.20			23.67			19.32			20.21		
Approach LOS	C			C			B			C		
d_I, Intersection Delay [s/veh]	20.12											
Intersection LOS	C											
Intersection V/C	0.375											

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: South Access (NS) at Twentynine Palms Highway (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration	↱				↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	15.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	7	0	845	890	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	0	8	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	16	0	853	890	11
Peak Hour Factor	1.0000	0.9670	1.0000	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	221	230	3
Total Analysis Volume [veh/h]	0	17	0	882	920	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.03	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	11.84	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.10	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	2.42	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.84		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	B					

Dutch Bros - CA3705 - Yucca Valley

Vistro File: C:\...\IPM.vistro

Scenario 2 Existing Plus Project

Report File: C:\...\IPM_Ep.pdf

2/18/2022

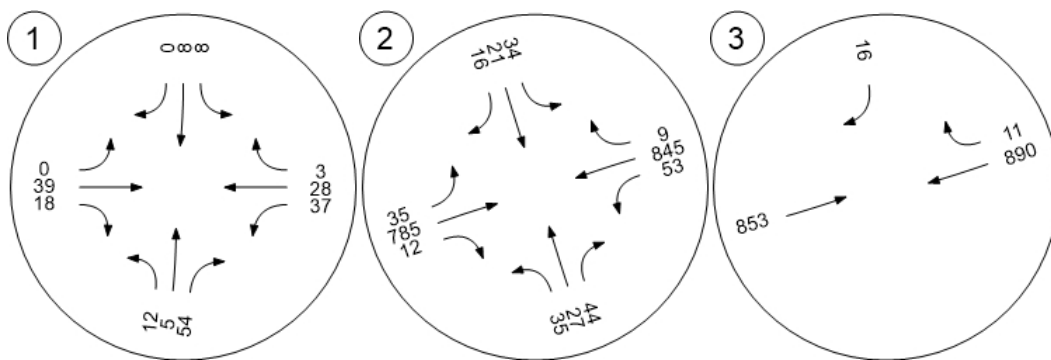
Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	Final Base	12	5	43	8	8	0	0	38	18	28	27	3	190
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	11	0	0	0	0	1	0	9	1	0	22
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	12	5	54	8	8	0	0	39	18	37	28	3	212

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Final Base	35	26	44	26	20	16	25	785	12	53	836	9	1887
		Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	1	0	8	1	0	10	0	0	0	9	0	29
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	35	27	44	34	21	16	35	785	12	53	845	9	1916

ID	Intersection Name	Volume Type	Southbound	Eastbound	Westbound		Total Volume
			Right	Thru	Thru	Right	
3	South Access (NS) at Twentynine Palms Highway (EW)	Final Base	7	845	890	3	1745
		Growth Factor	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0
		Net New Trips	9	8	0	8	25
		Other	0	0	0	0	0
		Future Total	16	853	890	11	1770

Traffic Volume - Future Total Volume



Opening Year (2023) Without Project

Dutch Bros - CA3705 - Yucca Valley

Vistro File: C:\...\IAM.vistro

Scenario 3 Opening Year (2023) Without Project

Report File: C:\...\IAM_OY.pdf

2/18/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	All-way stop	HCM 2010	SB Thru	0.035	7.0	A
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Signalized	HCM 2010	WB Left	0.290	18.5	B
3	South Access (NS) at Twentynine Palms Highway (EW)	Two-way stop	HCM 2010	SB Right	0.003	10.9	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Dumosa Avenue (NS) at Antelope Trail/North Access (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.035

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	6	5	13	2	3	1	1	8	10	7	8	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	6	14	2	3	1	1	9	11	8	9	8
Peak Hour Factor	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	4	1	1	0	0	3	3	2	3	2
Total Analysis Volume [veh/h]	9	7	17	2	4	1	1	11	14	10	11	10
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	947	889	965	921
Degree of Utilization, x	0.03	0.01	0.03	0.03

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.11	0.02	0.08	0.10
95th-Percentile Queue Length [ft]	2.71	0.60	2.07	2.61
Approach Delay [s/veh]	6.94	7.08	6.83	7.05
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	6.95			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2: Dumosa Avenue (NS) at Twentynine Palms Highway (EW)

Control Type:	Signalized	Delay (sec / veh):	18.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.290

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	←→			↑			←→			←→		
Lane Configuration	←→			↑			←→			←→		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	26.00	100.00	100.00	100.00	180.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	21	12	21	7	12	4	13	618	9	26	644	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	13	23	8	13	4	14	680	10	29	708	7
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	3	6	2	3	1	4	181	3	8	188	2
Total Analysis Volume [veh/h]	24	14	24	9	14	4	15	723	11	31	752	7
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	19	0	0	19	0	0	32	0	0	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	15	28	28	28	28	28	28
g / C, Green / Cycle	0.21	0.21	0.21	0.40	0.40	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.02	0.02	0.20	0.20	0.04	0.20	0.20
s, saturation flow rate [veh/h]	1806	1583	1786	703	1863	1853	720	1863	1857
c, Capacity [veh/h]	387	339	383	256	745	741	264	745	743
d1, Uniform Delay [s]	22.07	21.94	21.94	21.89	15.70	15.70	22.04	15.83	15.83
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.51	0.40	0.36	0.44	2.33	2.35	0.91	2.49	2.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

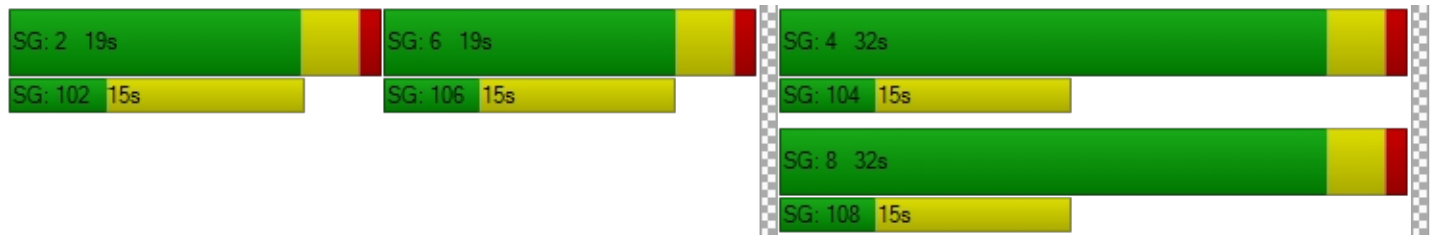
X, volume / capacity	0.10	0.07	0.07	0.06	0.49	0.49	0.12	0.51	0.51
d, Delay for Lane Group [s/veh]	22.58	22.34	22.30	22.33	18.03	18.05	22.95	18.32	18.33
Lane Group LOS	C	C	C	C	B	B	C	B	B
Critical Lane Group	Yes	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.54	0.34	0.38	0.21	4.30	4.28	0.45	4.49	4.48
50th-Percentile Queue Length [ft/ln]	13.39	8.50	9.44	5.33	107.53	107.07	11.18	112.31	112.00
95th-Percentile Queue Length [veh/ln]	0.96	0.61	0.68	0.38	7.70	7.68	0.81	7.97	7.95
95th-Percentile Queue Length [ft/ln]	24.10	15.30	17.00	9.59	192.57	191.92	20.13	199.21	198.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.58	22.58	22.34	22.30	22.30	22.30	22.33	18.04	18.05	22.95	18.32	18.33
Movement LOS	C	C	C	C	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	22.49			22.30			18.13			18.50		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	18.55											
Intersection LOS	B											
Intersection V/C	0.290											

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: South Access (NS) at Twentynine Palms Highway (EW)

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration	↻				↻	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	15.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	2	0	648	662	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.10	1.00	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	0	713	728	2
Peak Hour Factor	1.0000	0.9390	1.0000	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	0	190	194	1
Total Analysis Volume [veh/h]	0	2	0	759	775	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	10.92	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.01	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.25	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.92		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.01					
Intersection LOS	B					

Dutch Bros - CA3705 - Yucca Valley

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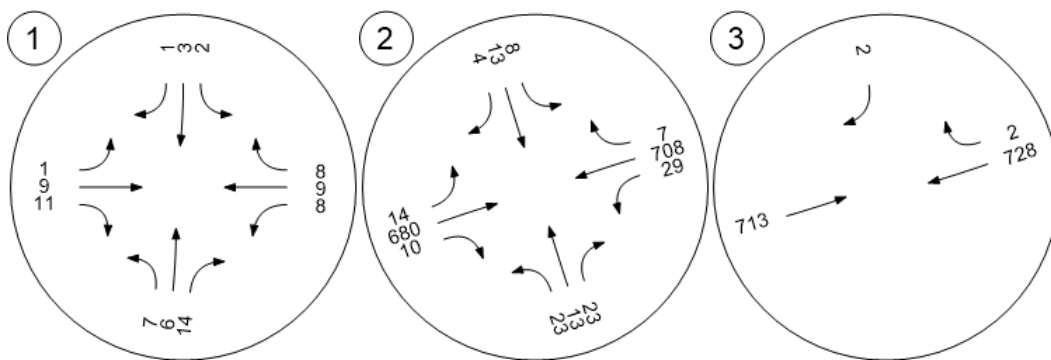
Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	Final Base	6	5	13	2	3	1	1	8	10	7	8	7	71
		Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	7	6	14	2	3	1	1	9	11	8	9	8	79

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Final Base	21	12	21	7	12	4	13	618	9	26	644	6	1393
		Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	23	13	23	8	13	4	14	680	10	29	708	7	1532

ID	Intersection Name	Volume Type	Southbound	Eastbound	Westbound		Total Volume
			Right	Thru	Thru	Right	
3	South Access (NS) at Twentynine Palms Highway (EW)	Final Base	2	648	662	2	1314
		Growth Factor	1.10	1.10	1.10	1.10	-
		In Process	0	0	0	0	0
		Net New Trips	0	0	0	0	0
		Other	0	0	0	0	0
		Future Total	2	713	728	2	1445

Traffic Volume - Future Total Volume



Dutch Bros - CA3705 - Yucca Valley

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Scenario 3 Opening Year (2023) Without Project

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2/18/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	All-way stop	HCM 2010	WB Left	0.088	7.4	A
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Signalized	HCM 2010	SB Left	0.393	19.9	B
3	South Access (NS) at Twentynine Palms Highway (EW)	Two-way stop	HCM 2010	SB Right	0.016	12.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Dumosa Avenue (NS) at Antelope Trail/North Access (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.088

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	⊕			⊕			⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	12	5	43	8	8	0	0	38	18	28	27	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	6	47	9	9	0	0	42	20	31	30	3
Peak Hour Factor	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	2	14	3	3	0	0	12	6	9	9	1
Total Analysis Volume [veh/h]	15	7	54	10	10	0	0	49	23	36	35	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings**Lanes**

Capacity per Entry Lane [veh/h]	927	814	896	842
Degree of Utilization, x	0.08	0.02	0.08	0.09

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.27	0.08	0.26	0.29
95th-Percentile Queue Length [ft]	6.68	1.89	6.54	7.21
Approach Delay [s/veh]	7.23	7.54	7.37	7.69
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.44			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2: Dumosa Avenue (NS) at Twentynine Palms Highway (EW)

Control Type:	Signalized	Delay (sec / veh):	19.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.393

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↔			↑			↔			↔		
Lane Configuration	↔			↑			↔			↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	26.00	100.00	100.00	100.00	180.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	35	26	44	26	20	16	25	785	12	53	836	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	29	48	29	22	18	28	864	13	58	920	10
Peak Hour Factor	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	7	12	7	6	5	7	221	3	15	235	3
Total Analysis Volume [veh/h]	40	30	49	30	22	18	29	883	13	59	940	10
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	16	16	36	36	36	36	36	36
g / C, Green / Cycle	0.20	0.20	0.20	0.45	0.45	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.04	0.03	0.04	0.05	0.24	0.24	0.10	0.26	0.26
s, saturation flow rate [veh/h]	1811	1583	1746	588	1863	1853	619	1863	1856
c, Capacity [veh/h]	362	317	349	229	838	834	245	838	835
d1, Uniform Delay [s]	26.63	26.42	26.67	24.54	15.94	15.94	24.86	16.25	16.25
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.19	1.04	1.29	1.14	2.45	2.46	2.32	2.78	2.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

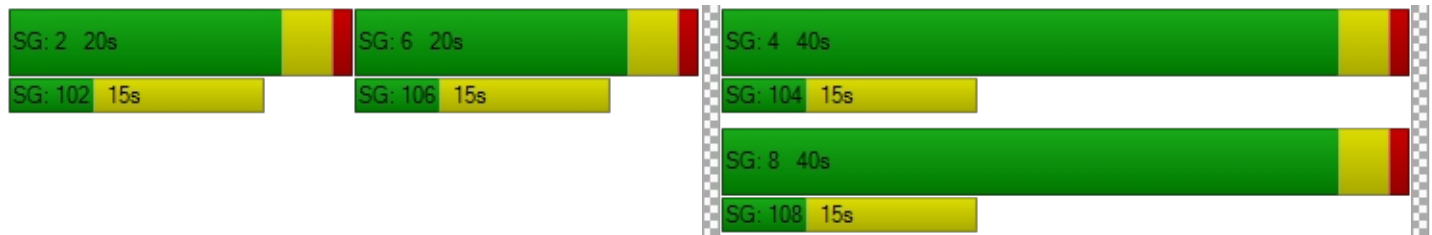
X, volume / capacity	0.19	0.15	0.20	0.13	0.54	0.54	0.24	0.57	0.57
d, Delay for Lane Group [s/veh]	27.82	27.46	27.96	25.68	18.39	18.41	27.17	19.03	19.04
Lane Group LOS	C	C	C	C	B	B	C	B	B
Critical Lane Group	Yes	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.20	0.84	1.21	0.49	5.83	5.80	1.03	6.33	6.31
50th-Percentile Queue Length [ft/ln]	30.10	21.11	30.27	12.21	145.72	145.05	25.67	158.15	157.63
95th-Percentile Queue Length [veh/ln]	2.17	1.52	2.18	0.88	9.79	9.75	1.85	10.45	10.42
95th-Percentile Queue Length [ft/ln]	54.17	38.00	54.49	21.97	244.71	243.81	46.20	261.28	260.58

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.82	27.82	27.46	27.96	27.96	27.96	25.68	18.40	18.41	27.17	19.04	19.04
Movement LOS	C	C	C	C	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	27.67			27.96			18.63			19.51		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	19.86											
Intersection LOS	B											
Intersection V/C	0.393											

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: South Access (NS) at Twentynine Palms Highway (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration	↻				↻	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	15.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	7	0	845	890	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.10	1.00	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	8	0	930	979	3
Peak Hour Factor	1.0000	0.9670	1.0000	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	0	240	253	1
Total Analysis Volume [veh/h]	0	8	0	962	1012	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	12.16	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	1.19	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.16		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.05					
Intersection LOS	B					

Dutch Bros - CA3705 - Yucca Valley

Vistro File: C:\...\IPM.vistro

Scenario 3 Opening Year (2023) Without Project

Report File: C:\...\IPM_OY.pdf

2/18/2022

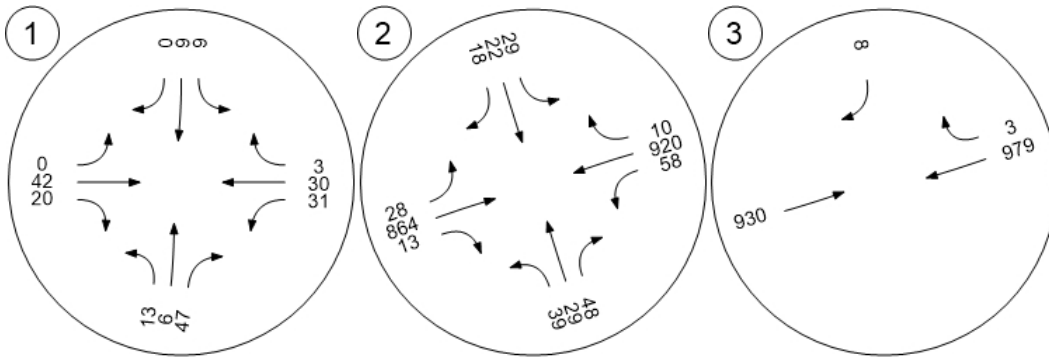
Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	Final Base	12	5	43	8	8	0	0	38	18	28	27	3	190
		Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	13	6	47	9	9	0	0	42	20	31	30	3	210

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Final Base	35	26	44	26	20	16	25	785	12	53	836	9	1887
		Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	39	29	48	29	22	18	28	864	13	58	920	10	2078

ID	Intersection Name	Volume Type	Southbound	Eastbound	Westbound		Total Volume
			Right	Thru	Thru	Right	
3	South Access (NS) at Twentynine Palms Highway (EW)	Final Base	7	845	890	3	1745
		Growth Factor	1.10	1.10	1.10	1.10	-
		In Process	0	0	0	0	0
		Net New Trips	0	0	0	0	0
		Other	0	0	0	0	0
		Future Total	8	930	979	3	1920

Traffic Volume - Future Total Volume



Opening Year (2023) Without Project

Dutch Bros - CA3705 - Yucca Valley

Vistro File: C:\...\IAM.vistro

Scenario 4 Opening Year (2023) With Project

Report File: C:\...\IAM_OYp.pdf

2/18/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	All-way stop	HCM 2010	WB Left	0.064	7.1	A
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Signalized	HCM 2010	EB Left	0.311	18.8	B
3	South Access (NS) at Twentynine Palms Highway (EW)	Two-way stop	HCM 2010	SB Right	0.038	11.2	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: Dumosa Avenue (NS) at Antelope Trail/North Access (EW)**

Control Type:	All-way stop	Delay (sec / veh):	7.1
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.064

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⊕			⊕			⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	6	5	13	2	3	1	1	8	10	7	8	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	23	0	0	0	0	2	0	18	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	7	6	37	2	3	1	1	11	11	26	11	8
Peak Hour Factor	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070	0.8070
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	2	11	1	1	0	0	3	3	8	3	2
Total Analysis Volume [veh/h]	9	7	46	2	4	1	1	14	14	32	14	10
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	972	870	937	877
Degree of Utilization, x	0.06	0.01	0.03	0.06

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.20	0.02	0.10	0.20
95th-Percentile Queue Length [ft]	5.10	0.61	2.39	5.11
Approach Delay [s/veh]	6.96	7.18	6.97	7.38
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.12			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2: Dumosa Avenue (NS) at Twentynine Palms Highway (EW)

Control Type:	Signalized	Delay (sec / veh):	18.8
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.311

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↔			↑			↔			↔		
Lane Configuration	↔			↑			↔			↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	26.00	100.00	100.00	100.00	180.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	21	12	21	7	12	4	13	618	9	26	644	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	16	2	0	21	0	0	0	20	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	23	15	23	24	15	4	35	680	10	29	728	7
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	4	6	6	4	1	9	181	3	8	193	2
Total Analysis Volume [veh/h]	24	16	24	26	16	4	37	723	11	31	774	7
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	19	0	0	19	0	0	32	0	0	32	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	15	28	28	28	28	28	28
g / C, Green / Cycle	0.21	0.21	0.21	0.40	0.40	0.40	0.40	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.02	0.02	0.03	0.05	0.20	0.20	0.04	0.21	0.21
s, saturation flow rate [veh/h]	1808	1583	1785	689	1863	1853	720	1863	1857
c, Capacity [veh/h]	388	339	382	249	745	741	264	745	743
d1, Uniform Delay [s]	22.10	21.94	22.18	22.97	15.70	15.70	22.04	15.95	15.95
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.53	0.40	0.64	1.26	2.33	2.35	0.91	2.64	2.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

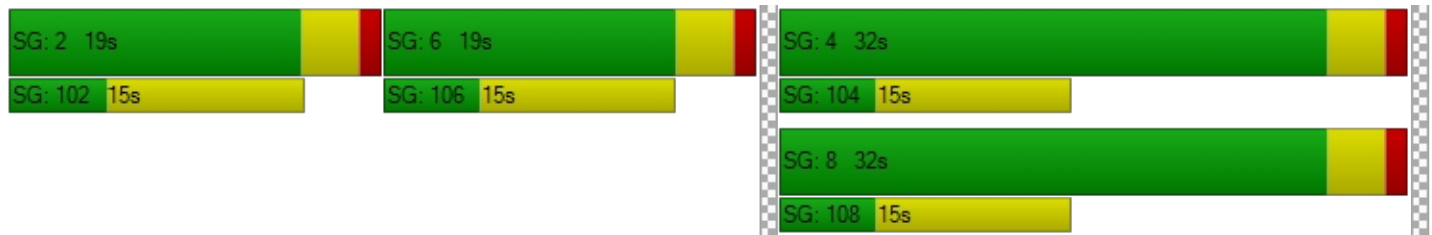
X, volume / capacity	0.10	0.07	0.12	0.15	0.49	0.49	0.12	0.52	0.52
d, Delay for Lane Group [s/veh]	22.63	22.34	22.82	24.23	18.03	18.05	22.95	18.59	18.59
Lane Group LOS	C	C	C	C	B	B	C	B	B
Critical Lane Group	Yes	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.56	0.34	0.65	0.56	4.30	4.28	0.45	4.67	4.66
50th-Percentile Queue Length [ft/ln]	14.11	8.50	16.34	13.89	107.54	107.07	11.18	116.72	116.41
95th-Percentile Queue Length [veh/ln]	1.02	0.61	1.18	1.00	7.70	7.68	0.81	8.21	8.20
95th-Percentile Queue Length [ft/ln]	25.40	15.30	29.40	25.00	192.57	191.91	20.13	205.31	204.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.63	22.63	22.34	22.82	22.82	22.82	24.23	18.04	18.05	22.95	18.59	18.59
Movement LOS	C	C	C	C	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	22.52			22.82			18.34			18.76		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	18.82											
Intersection LOS	B											
Intersection V/C	0.311											

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: South Access (NS) at Twentynine Palms Highway (EW)

Control Type:	Two-way stop	Delay (sec / veh):	11.2
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.038

Intersection Setup

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration	↱				↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	15.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	2	0	648	662	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.10	1.00	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	20	0	16	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	22	0	729	728	19
Peak Hour Factor	1.0000	0.9390	1.0000	0.9390	0.9390	0.9390
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	6	0	194	194	5
Total Analysis Volume [veh/h]	0	23	0	776	775	20
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	11.22	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.12	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	2.97	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.22		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	B					

Dutch Bros - CA3705 - Yucca Valley

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Scenario 4 Opening Year (2023) With Project

Report File: C:\...\IAM_OYp.pdf

2/18/2022

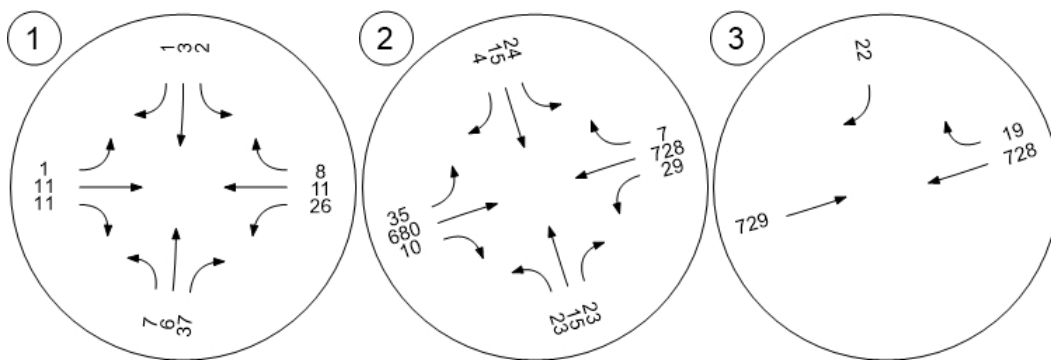
Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	Final Base	6	5	13	2	3	1	1	8	10	7	8	7	71
		Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	23	0	0	0	0	2	0	18	2	0	45
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	7	6	37	2	3	1	1	11	11	26	11	8	124

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Final Base	21	12	21	7	12	4	13	618	9	26	644	6	1393
		Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	2	0	16	2	0	21	0	0	0	20	0	61
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	23	15	23	24	15	4	35	680	10	29	728	7	1593

ID	Intersection Name	Volume Type	Southbound	Eastbound	Westbound		Total Volume
			Right	Thru	Thru	Right	
3	South Access (NS) at Twentynine Palms Highway (EW)	Final Base	2	648	662	2	1314
		Growth Factor	1.10	1.10	1.10	1.10	-
		In Process	0	0	0	0	0
		Net New Trips	20	16	0	17	53
		Other	0	0	0	0	0
		Future Total	22	729	728	19	1498

Traffic Volume - Future Total Volume



Dutch Bros - CA3705 - Yucca Valley

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Scenario 4 Opening Year (2023) With Project

Report File: C:\...\IPM_OYp.pdf

2/18/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	All-way stop	HCM 2010	WB Left	0.102	7.5	A
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Signalized	HCM 2010	SB Left	0.403	20.0	C
3	South Access (NS) at Twentynine Palms Highway (EW)	Two-way stop	HCM 2010	SB Right	0.035	12.4	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Dumosa Avenue (NS) at Antelope Trail/North Access (EW)

Control Type:	All-way stop	Delay (sec / veh):	7.5
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.102

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	⊕			⊕			⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			15.00			15.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	12	5	43	8	8	0	0	38	18	28	27	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	11	0	0	0	0	1	0	9	1	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	13	6	58	9	9	0	0	43	20	40	31	3
Peak Hour Factor	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	2	17	3	3	0	0	12	6	12	9	1
Total Analysis Volume [veh/h]	15	7	67	10	10	0	0	50	23	46	36	3
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	927	806	886	834
Degree of Utilization, x	0.10	0.02	0.08	0.10

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.32	0.08	0.27	0.34
95th-Percentile Queue Length [ft]	7.94	1.91	6.71	8.49
Approach Delay [s/veh]	7.30	7.58	7.42	7.81
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	7.52			
Intersection LOS	A			

Intersection Level Of Service Report
Intersection 2: Dumosa Avenue (NS) at Twentynine Palms Highway (EW)

Control Type:	Signalized	Delay (sec / veh):	20.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.403

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	1	0	0	0	1	0	0	1	0	0
Pocket Length [ft]	100.00	100.00	26.00	100.00	100.00	100.00	180.00	100.00	100.00	200.00	100.00	100.00
Speed [mph]	30.00			30.00			40.00			40.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	35	26	44	26	20	16	25	785	12	53	836	9
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	0	8	1	0	10	0	0	0	9	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	39	30	48	37	23	18	38	864	13	58	929	10
Peak Hour Factor	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	8	12	9	6	5	10	221	3	15	237	3
Total Analysis Volume [veh/h]	40	31	49	38	23	18	39	883	13	59	949	10
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Split	Split	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	0	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	0	5	0	0	5	0	0	5	0	0	5	0
Maximum Green [s]	0	30	0	0	30	0	0	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	20	0	0	20	0	0	40	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No			No			No			No	
Maximum Recall		No			No			No			No	
Pedestrian Recall		No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	16	16	36	36	36	36	36	36
g / C, Green / Cycle	0.20	0.20	0.20	0.45	0.45	0.45	0.45	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.04	0.03	0.05	0.07	0.24	0.24	0.10	0.26	0.26
s, saturation flow rate [veh/h]	1812	1583	1750	583	1863	1853	619	1863	1856
c, Capacity [veh/h]	362	317	350	226	838	834	245	838	835
d1, Uniform Delay [s]	26.64	26.42	26.81	25.16	15.94	15.94	24.86	16.30	16.30
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.21	1.04	1.49	1.65	2.45	2.46	2.32	2.84	2.85
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

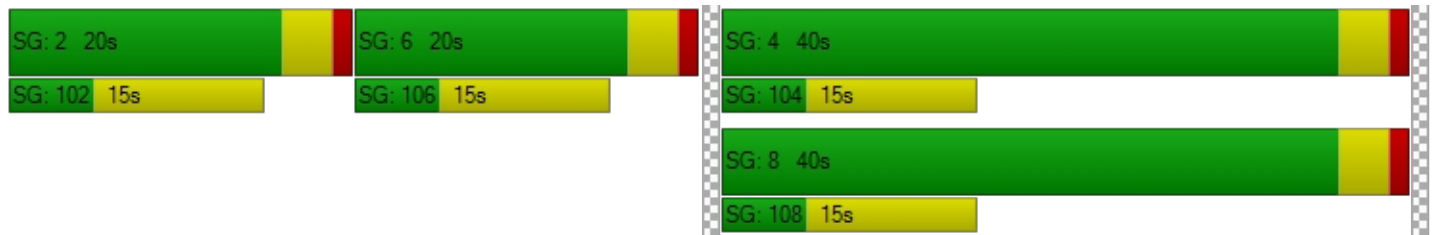
X, volume / capacity	0.20	0.15	0.23	0.17	0.54	0.54	0.24	0.57	0.57
d, Delay for Lane Group [s/veh]	27.85	27.46	28.30	26.81	18.39	18.41	27.17	19.15	19.16
Lane Group LOS	C	C	C	C	B	B	C	B	B
Critical Lane Group	Yes	No	Yes	No	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.22	0.84	1.38	0.68	5.83	5.80	1.03	6.41	6.39
50th-Percentile Queue Length [ft/ln]	30.55	21.11	34.43	16.89	145.72	145.05	25.67	160.31	159.79
95th-Percentile Queue Length [veh/ln]	2.20	1.52	2.48	1.22	9.79	9.75	1.85	10.57	10.54
95th-Percentile Queue Length [ft/ln]	54.99	38.00	61.98	30.41	244.71	243.81	46.20	264.14	263.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.85	27.85	27.46	28.30	28.30	28.30	26.81	18.40	18.41	27.17	19.15	19.16
Movement LOS	C	C	C	C	C	C	C	B	B	C	B	B
d_A, Approach Delay [s/veh]	27.69			28.30			18.75			19.62		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	20.01											
Intersection LOS	C											
Intersection V/C	0.403											

Sequence

Ring 1	2	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 3: South Access (NS) at Twentynine Palms Highway (EW)

Control Type:	Two-way stop	Delay (sec / veh):	12.4
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.035

Intersection Setup

Name	Southbound		Eastbound		Westbound	
Approach						
Lane Configuration	↻				↻	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	15.00		40.00		40.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Southbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	7	0	845	890	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.10	1.00	1.10	1.10	1.10
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	9	0	8	0	8
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	17	0	938	979	11
Peak Hour Factor	1.0000	0.9670	1.0000	0.9670	0.9670	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	4	0	243	253	3
Total Analysis Volume [veh/h]	0	18	0	970	1012	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.04	0.00	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	12.36	0.00	0.00	0.00	0.00
Movement LOS		B		A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.11	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	2.75	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.36		0.00		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.11					
Intersection LOS	B					

Dutch Bros - CA3705 - Yucca Valley

Vistro File: C:\...\IPM.vistro

Scenario 4 Opening Year (2023) With Project

Report File: C:\...\IPM_OYp.pdf

2/18/2022

Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	Dumosa Avenue (NS) at Antelope Trail/North Access (EW)	Final Base	12	5	43	8	8	0	0	38	18	28	27	3	190
		Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	11	0	0	0	0	1	0	9	1	0	22
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	13	6	58	9	9	0	0	43	20	40	31	3	232

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
2	Dumosa Avenue (NS) at Twentynine Palms Highway (EW)	Final Base	35	26	44	26	20	16	25	785	12	53	836	9	1887
		Growth Factor	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	1	0	8	1	0	10	0	0	0	9	0	29
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		Future Total	39	30	48	37	23	18	38	864	13	58	929	10	2107

ID	Intersection Name	Volume Type	Southbound	Eastbound	Westbound		Total Volume
			Right	Thru	Thru	Right	
3	South Access (NS) at Twentynine Palms Highway (EW)	Final Base	7	845	890	3	1745
		Growth Factor	1.10	1.10	1.10	1.10	-
		In Process	0	0	0	0	0
		Net New Trips	9	8	0	8	25
		Other	0	0	0	0	0
		Future Total	17	938	979	11	1945

Traffic Volume - Future Total Volume

