

DOLLAR GENERAL - PINON HILLS

FOCUSED TRAFFIC ANALYSIS

August 10, 2015

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Mr. David Friedberg, Project Manager SIMONCRE VIA SOLERI II 5111 North Scottsdale Road, Suite 200 Scottsdale, AZ 85250

Dear Mr. Friedberg:

INTRODUCTION

The firm of Kunzman Associates, Inc. is pleased to provide this focused traffic analysis for the Dollar General - Pinon Hills project. The Dollar General - Pinon Hills project consists of a 9,100 square foot variety store and is located south of SR-188 Highway between Mountain Road and Oasis Road in the Pinon Hills area of the County of San Bernardino (see Figure 1). Figure 2 illustrates the project site plan.

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.

TRAFFIC IMPACT ANALYSIS CRITERIA

The County of San Bernardino Transportation Department staff has requested that California Department of Transportation guidelines be utilized for this project. As stated in the <u>Guide for the Preparation of Traffic Impact Studies</u>, California Department of Transportation, December 2002, a traffic impact study may be needed when a project:

- 1. Generates over 100 peak hour trips assigned to a State highway facility.
- Generates 50 to 100 peak hour trips assigned to a State highway facility and, affected State highway facilities are experiencing noticeable delay; approaching unstable traffic flow conditions (Level of Service "C" or "D").
- 3. <u>Generates 1 to 49 peak hour trips assigned to a State highway facility</u> the following are examples that may require a full traffic impact study or some lesser analysis:
 - a. Affected State highway facilities experiencing significant delay; unstable or forced traffic flow conditions (Level of Service "E" or "F").
 - b. The potential risk for a traffic accident is significantly increased (i.e., congestion related collisions, non-standard sight distance considerations, increase in traffic conflict points, etc.).

c. Change in local circulation networks that impact a State highway facility (i.e., direct access to State highway facility, a non-standard highway geometric design, etc.).

EXISTING TRAFFIC CONDITIONS

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

Existing intersection traffic conditions were established through morning and evening peak hour traffic counts obtained by Kunzman Associates, Inc. from May 2015 (see Appendix B). Explicit peak hour factors have been calculated using the data collected for this effort as well. The morning and evening peak hour traffic volumes were identified by counting the two-hour periods from 7:00 AM - 9:00 AM and 4:00 PM - 6:00 PM. In addition, truck classification counts were conducted at the study area intersections. The existing volumes and types (number of axles) of trucks was used in the conversion of trucks to Passenger Car Equivalents.

The morning peak hour and evening peak hour traffic counts have been converted to Passenger Car Equivalents. The following passenger car equivalents have been utilized throughout this report based on the San Bernardino Association of Governments, <u>Congestion Management Program, Appendix C:</u> Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2005:

- 2 axle = 1.5
- 3 axle = 2.0
- 4+ axle = 3.0

The technique used to assess the capacity needs of an intersection is known as the Intersection Delay Method (see Appendix C) based on the <u>2010 Highway Capacity Manual</u> – Transportation Research Board. To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection.

For existing/existing plus project/and existing plus ambient growth plus project traffic conditions, saturation flow rates of 1,800 vehicles per hour of green for through and right turn lanes and 1,700 vehicles per lane for single left turn lanes, 1,600 vehicles per lane for dual left turn lanes and 1,500 vehicles per lane for triple left turn lanes have been assumed for the capacity analysis.

The definition of an intersection deficiency has been obtained from the County of San Bernardino General Plan. The General Plan states that peak hour intersection operations of Level of Service D or better for all County maintained roads. Therefore, any intersection operating at Level of Service E to F will be considered deficient.

The existing delay and Level of Service for the study area intersections are shown in Table 1. The study area intersections currently operate within acceptable Levels of Service during the peak hours for Existing traffic conditions. The Existing delay worksheets are provided in Appendix C.

PROJECT TRIP GENERATION

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 use. By multiplying the trip generation rates by the land use quantity, the project generated 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 derived from the Institute of Transportation Engineers, <u>Trip Generation</u>, 9th Edition, 2012. In the absence of data from the Institute of Transportation Engineers, the morning and evening peak hour inbound/outbound ratio splits for specialty retail/strip commercial were obtained from the San Diego Association of Governments, Traffic Generators, May 2003.

The proposed development is projected to generate approximately 583 daily vehicle trips, 35 of which occur during the morning peak hour and 62 of which occur during the evening peak hour.

PROJECT TRIP DISTRIBUTION

Figure 4 contains the directional distribution of the project trips for the proposed land use. To determine the trip distribution for the proposed project, peak hour traffic counts of the existing directional distribution of traffic for existing areas in the vicinity of the site and other additional information on future development and traffic impacts in the area were reviewed.

STUDY AREA TRAFFIC CONDITIONS

The study area intersections were analyzed for Existing Plus Project¹ and Existing Plus Ambient Growth Plus Project traffic conditions (see Appendix C).

The technique used to assess the capacity needs of an intersection is known as the Intersection Delay Method (see Appendix C) based on the <u>2010 Highway Capacity Manual</u> — Transportation Research Board. To calculate delay, the volume of traffic using the intersection is compared with the capacity of the intersection. The signalized intersections are considered deficient (Level of Service F) if the overall intersection critical volume to capacity ratio equals or exceeds 1.0, even if the Level of Service defined by the delay value is below the defined Level of Service standard. The volume to capacity ratio is defined as the critical volumes divided by the intersection capacity. A volume to capacity ratio greater than 1.0 implies an infinite gueue.

To assess Existing Plus Ambient Growth Plus Project traffic conditions, project traffic is combined with existing traffic and areawide growth. The Opening Year for analysis purposes in this report is 2017.

¹ The existing plus project conditions has been analyzed to comply with the Sunnyvale West Neighborhood Association v. City of Sunnyvale CEQA court case. This scenario assumes the full development of the proposed project and full absorption of the proposed project trips on the circulation system at the present time. This scenario is provided for informational purposes only, and will not be used for impact determinations or mitigation.

For future traffic conditions, an annual growth rate of 1.64% was used. This growth rate was based on average daily traffic volumes obtained from the 2014 Traffic Volumes on California State Highways by the California Department of Transportation along SR-138 Highway adjacent to the project site over a three year period.

According to the County of San Bernardino Transportation Department staff, there are not currently any approved projects within the vicinity of the project site that would generate significant trips to the study area intersections. Therefore, the Existing Plus Ambient Growth Plus Project traffic conditions are representative of Existing Plus Ambient Growth Plus Project Plus Cumulative traffic conditions.

For Existing Plus Project traffic conditions, the study area intersections are projected to operate at acceptable Levels of Service during the peak hours (see Table 3).

For Existing Plus Ambient Growth Plus Project traffic conditions, the study area intersections are projected to operate at acceptable Levels of Service during the peak hours (see Table 4).

EMERGENCY ACCESS

Figure 5 shows distances from SR-138 Highway to the entrance of the building and property boundary for an emergency vehicle parked along SR-138 Highway. Since these distances are less than 1,000 feet, adequate emergency access is provided because emergency personnel can park along SR-138 and provide emergency services in the event that the project access is blocked and inaccessible.

CONCLUSIONS

The proposed development is projected to generate approximately 583 daily vehicle trips, 35 of which occur during the morning peak hour and 62 of which occur during the evening peak hour.

For Existing Plus Project traffic conditions, the study area intersections are projected to operate at acceptable Levels of Service during the peak hours.

For Existing Plus Ambient Growth Plus Project traffic conditions, the study area intersections are projected to operate at acceptable Levels of Service during the peak hours.

For Existing Plus Ambient Growth Plus Project Plus Cumulative traffic conditions, the study area intersections are projected to operate at acceptable Levels of Service during the peak hours.

RECOMMENDATIONS

The following improvements are recommended in conjunction with the proposed development to ensure adequate circulation within the project itself (see Figure 6).

Construct SR-138 Highway from the west project boundary to the east project boundary at its ultimate half-section width including landscaping and parkway improvements in conjunction with development adhering to sight distance requirements, as necessary.

Sight distance at the project access should be reviewed with respect to California Department of Transportation/County of San Bernardino standards in conjunction with the preparation of final grading, landscaping, and street improvement plans. The final grading, landscaping, and street improvement plans shall demonstrate that sight distance standards are met. Such plans must be reviewed by the County and approved as consistent with this measure prior to issue of grading permits.

The site should provide sufficient parking spaces to meet County of San Bernardino parking code requirements in order to service on-site parking demand.

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

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

It has been a pleasure to service your needs on this project. Should you have any questions or if we can be of further assistance, please do not hesitate to call at (714) 973-8383.

Sincerely,

KUNZMAN ASSOCIATES, INC.

Bryan Crawford Senior Associate

#6172

KUNZMAN ASSOCIATES, INC.

William Kunzman

William Kunzman, P.E.

Principal

Table 1

Existing Intersection Delay and Level of Service

			Intersection Approach Lanes ¹											Peak Hour		
		Traffic	No	rthbou	und	So	uthbou	ınd	Ea	stbou	nd	W	estbou	ınd	Delay	-LOS ²
Intersection	Jurisdiction	Control ³	L	Т	R	L	Т	R	L	Т	R	L	Т	R	Morning	Evening
Mountain Road (NS) at:																
SR-138 Highway (EW) - #1	Caltrans	CSS	0	1	0	0	1	0	1	0.5	0.5	1	0.5	0.5	12.1-B	22.3-C
Oasis Road (NS) at:																
SR-138 Highway (EW) - #3	Caltrans	TS	1	0.5	0.5	1	0.5	0.5	1	1	1	1	1	1	18.3-B	25.6-C

L = Left; T = Through; R = Right

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.

² Delay and level of service has been calculated using the following analysis software: Traffix, Version 7.9.0215 (2008). Per the 2010 Highway Capacity Manual, overall average for intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ CSS = Cross Street Stop; TS = Traffic Signal

Table 2

Project Trip Generation¹

					Peak	Hour			
				Morning			Evening		
Land Use	Quantity	Units ²	Inbound	Outbound	Total	Inbound	Outbound	Total	Daily
Trip Generation Rates									
Variety Store	9.100	TSF	2.29	1.52	3.81	3.41	3.41	6.82	64.03
Trips Generated									
Variety Store	9.100	TSF	21	14	35	31	31	62	583

¹ Source: Institute of Transportation Engineers, <u>Trip Generation</u>, 9th Edition, 2012, Land Use Category 814. Since morning and evening peak hour inbound/outbound ratios are not available, the morning and evening peak hour inbound/outbound ratio splits for specialty retail/strip commercial has been obtained from the San Diego Association of Governments, <u>Traffic Generators</u>, May 2003.

² TSF = Thousand Square Feet

Table 3

Existing Plus Project Intersection Delay and Level of Service

			Intersection Approach Lanes ¹											Peak Hour		
		Traffic	No	rthbou	und	Southbound			Ea	astbou	nd	W	estbou	ınd	Delay	-LOS ²
Intersection	Jurisdiction	Control ³			L	Т	R	L	Т	R	L	Т	R	Morning	Evening	
Mountain Road (NS) at:																
SR-138 Highway (EW) - #1	Caltrans	CSS	0	1	0	0	1	0	1	0.5	0.5	1	0.5	0.5	12.1-B	22.5-C
Project Access (NS) at:																
SR-138 Highway (EW) - #2	Caltrans	<u>css</u>	0.5	0	0.5	0	0	0	0	0.5	0.5	1	1	0	11.3-B	16.3-C
Oasis Road (NS) at:																
SR-138 Highway (EW) - #3	Caltrans	TS	1	0.5	0.5	1	0.5	0.5	1	1	1	1	1	1	18.9-B	26.6-C

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; $\underline{\mathbf{1}}$ = Improvement

² Delay and level of service has been calculated using the following analysis software: Traffix, Version 7.9.0215 (2008). Per the 2010 Highway Capacity Manual, overall average for intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ CSS = Cross Street Stop; TS = Traffic Signal

Table 4

Existing Plus Ambient Growth Plus Project Intersection Delay and Level of Service

			Intersection Approach Lanes ¹											Peak Hour		
		Traffic	No	rthbou	ınd	Soi	uthbou	ınd	Ea	stbou	nd	W	estbou	nd	Delay	/-LOS ²
Intersection	Jurisdiction	Control ³	L T R		L	Т	R	L	Т	R	L	Т	R	Morning	Evening	
Mountain Road (NS) at:																
SR-138 Highway (EW) - #1	Caltrans	CSS	0	1	0	0	1	0	1	0.5	0.5	1	0.5	0.5	12.2-B	24.4-C
Project Access (NS) at:																
SR-138 Highway (EW) - #2	Caltrans	CSS	<u>0.5</u>	0	<u>0.5</u>	0	0	0	0	0.5	0.5	1	1	0	11.4-B	16.4-C
Oasis Road (NS) at:																
SR-138 Highway (EW) - #3	Caltrans	TS	1	0.5	0.5	1	0.5	0.5	1	1	1	1	1	1	19.2-B	27.4-C

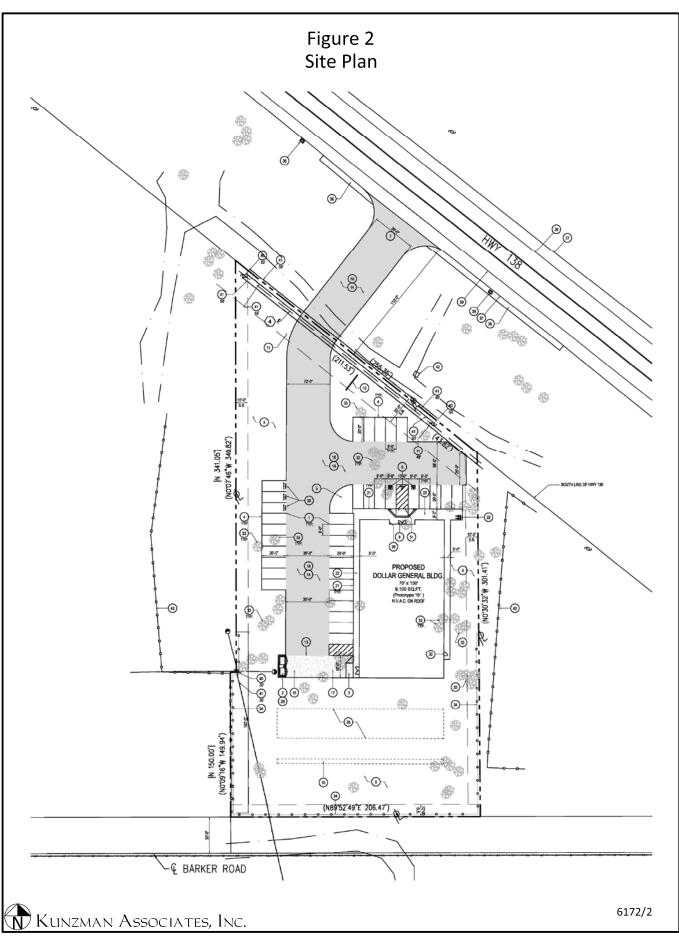
L = Left; T = Through; R = Right; $\underline{\mathbf{1}}$ = Improvement

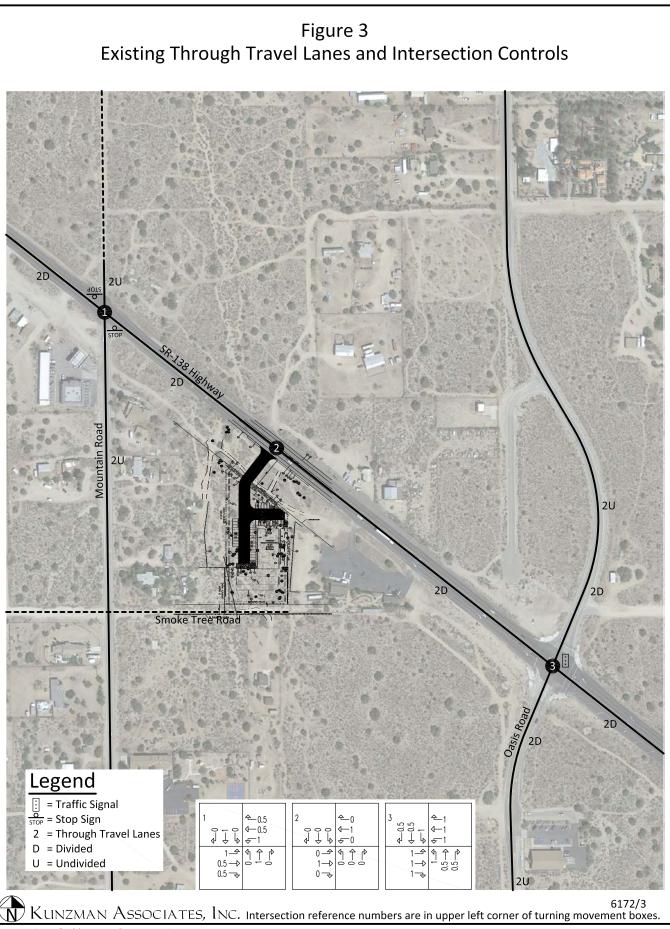
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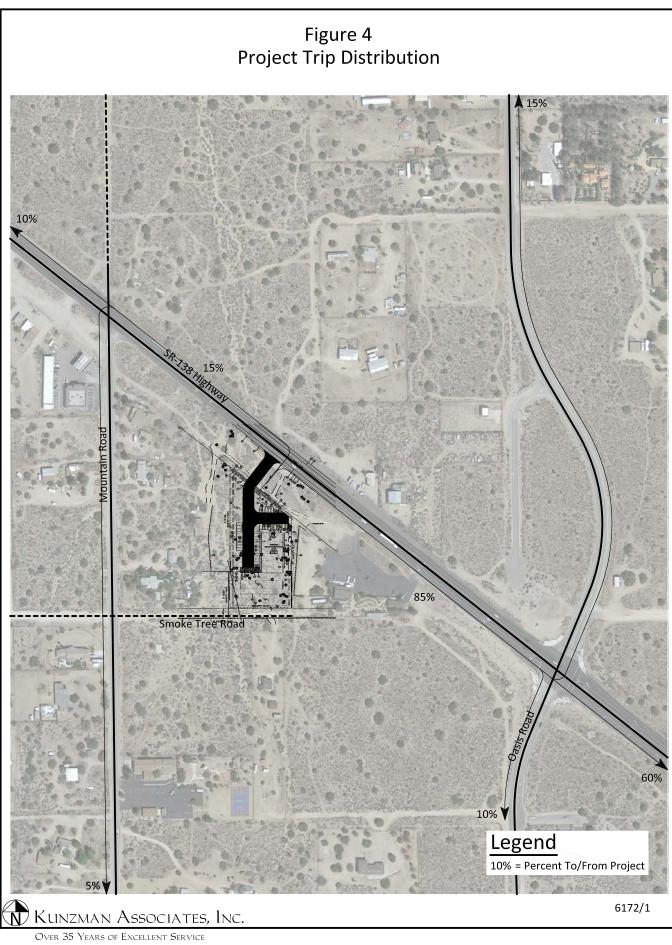
² Delay and level of service has been calculated using the following analysis software: Traffix, Version 7.9.0215 (2008). Per the 2010 Highway Capacity Manual, overall average for intersection delay and level of service are shown for intersections with traffic signal or all way stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

³ CSS = Cross Street Stop; TS = Traffic Signal









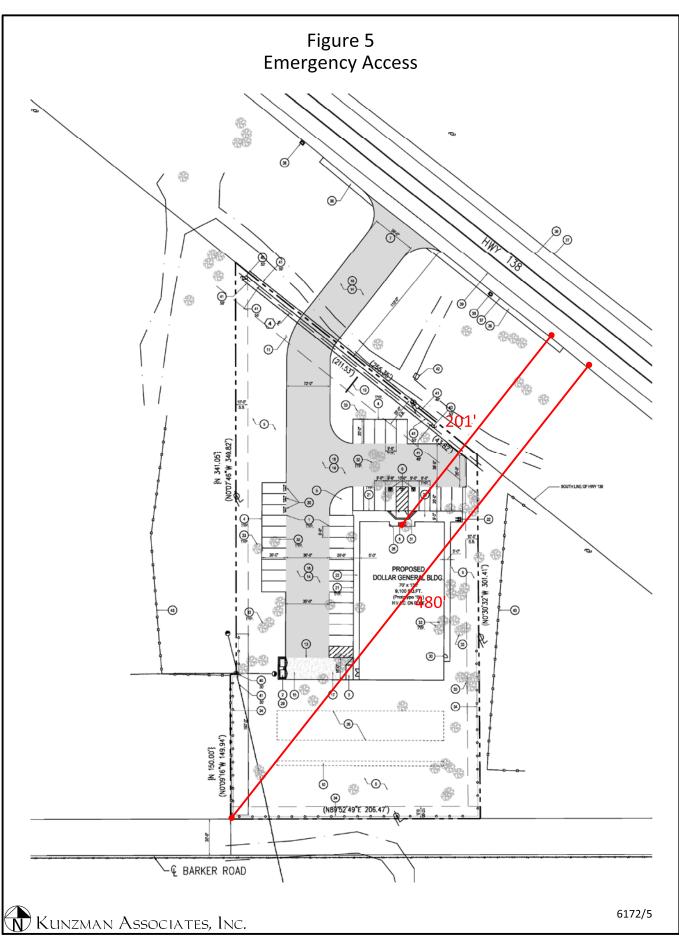
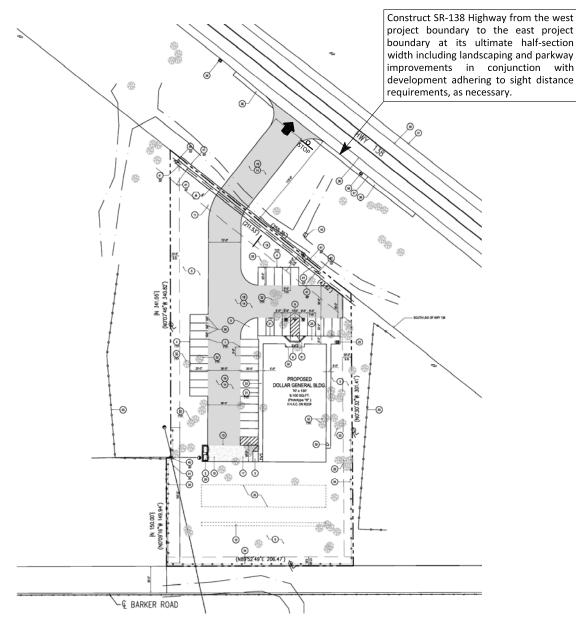


Figure 6 **Circulation Recommendations**



Sight distance at the project access should be reviewed with respect to California Department of Transportation/County of San Bernardino standards in conjunction with the preparation of final grading, landscaping, and street improvement plans. The final grading, landscaping, and street improvement plans shall demonstrate that sight distance standards are met. Such plans must be reviewed by the County and approved as consistent with this measure prior to issue of grading permits.

The site should provide sufficient parking spaces to meet County of San Bernardino parking code requirements in order to service on-site parking demand.

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

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

Legend

 $\frac{o}{STOP}$ = Stop Sign

= Full Access Driveway



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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: 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

_	0.475			PREPA	ARED BY: A		tel. 714 23.	3 7000 paci	nce annica.c			004507						
	<u>DATE:</u> Wed, Jul 29, 15	NORTH & EAST & W	SOUTH:		Pinon Hills Oasis CA-138					PROJECT : LOCATION CONTROL:	#:	SC1507 1 SIGNAL						
	NOTES:										AM PM MD OTHER	■ W	N S	E▶		Add U-Tu	rns to Left	ft Turns
ř		ı	NORTHBOUN	ND	S	OUTHBOU	ND		EASTBOUN	D		WESTBOUN	D			U-TUR	NS	
ŀ	LANES:	NL 1	NT 0.5	NR 1.5	SL 1	Oasis ST 0.5	SR 1.5	EL 1	CA-138 ET 1	ER 1	WL 1	CA-138 WT 1	WR 1	TOTAL	NB SB	EB X	WB X	TTI
Ť	7:00 AM	0	1 1	1	18	1	2	2	66	2	0	70	3	166	0 0	0	0	0
r	7:15 AM	0	1	1	13	0	7	1	68	1	0	69	1	162	0 0	0	0	0
	7:30 AM	1	0	2	15	1	1	4	69	0	1	80	3	177	0 0	0	0	(
L	7:45 AM	0	0	1	17	1	2	2	66	0	1	58	4	152	0 0	0	0	(
ŀ	8:00 AM 8:15 AM	1	0	2	16 12	0	1	2	58 56	1 2	1 4	77 69	5 7	164 156	0 0	0	0	(
ŀ	8:30 AM	1	0	4	13	3	7	1	70	1	1	68	6	175	0 0	0	0	0
H	8:45 AM	0	4	4	16	3	7	4	82	3	3	54	5	185	0 0	0	0	C
r	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0	0	C
r	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0	0	C
	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0	0	(
L	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0	0	(
	/OLUMES APPROACH %	3 11%	7 26%	17 63%	120 76%	9 6%	28 18%	18 3%	535 95%	10 2%	11 2%	545 92%	34 6%	1,337	0 0	0	0	0
Α	APP/DEPART	27	/	59	157	/	30	563	/	672	590	1	576	0				
	BEGIN PEAK HR OLUMES	2	8:00 AM 5	12	57	6	16	9	266	7	9	268	23	680				
	APPROACH %	11%	26%	63%	72%	8%	20%	3%	94%	2%	3%	89%	8%	000				
	PEAK HR FACTOR	1170	0.594	0070	7270	0.760	2070	0,0	0.792	270	0,0	0.904	0,0	0.919				
	APP/DEPART	19	/	37	79	/	22	282	/	335	300	/	286	0				
L	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0	0	C
L	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0	0	(
L	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0	0	(
H	3:45 PM 4:00 PM	0 8	0	6	6	0 4	0	0	0 106	7	0 10	0 88	0 18	0 263	0 0	0	0	(
H	4:00 PM	6	3	6	15	0	0	5	150	4	7	83	15	294	0 0	0	0	
H	4:30 PM	3	6	3	8	1	6	6	148	3	12	87	25	308	0 0	0	0	(
t	4:45 PM	3	2	6	13	0	2	5	129	4	5	93	19	281	0 0	0	0	(
L	5:00 PM	1	3	5	11	3	2	5	119	1	8	67	17	242	0 0	0	0	(
L	5:15 PM	0	6	4	15	0	11	7	99	3	8	70	22	245	0 0	0	0	(
L	5:30 PM	3	4	3	16	4	7	5	129	3	9	85	20	288	0 0	0	0	0
L	5:45 PM /OLUMES	4 28	5 30	36	8 92	13	32	5 44	118 998	25	5 64	634	17 153	228	0 0	0	0	0
	APPROACH %	30%	30 32%	38%	67%	9%	23%	44	94%	25 2%	8%	75%	18%	2,149	0 0	U	U	U
	APP/DEPART	94	/	227	137	/	102	1,067	/	1,126	851	/	694	0				
	BEGIN PEAK HR	1	4:00 PM															
	/OLUMES	20	12	21	42	5	11	22	533	18	34	351	77	1,146				
	APPROACH %	38%	23%	40%	72%	9%	19%	4%	93%	3%	7%	76%	17%					
	PEAK HR FACTOR		0.883			0.967		570	0.901	50/	4/0	0.931	000	0.930				
Α	APP/DEPART	53	/	111	58	/	57	573	/	596	462	/	382	0				

Vasi

NORTH SIDE

CA-138 WEST SIDE EAST SIDE CA-138

SOUTH SIDE

Oasis

	7:00 AM
	7:15 AM
	7:30 AM
	7:45 AM
	8:00 AM
ΑM	8:15 AM
Α	8:30 AM
	8:45 AM
	9:00 AM
	9:15 AM
	9:30 AM
	9:45 AM
	TOTAL
	3:00 PM
	3:15 PM
	3:30 PM
	3:45 PM
	4:00 PM
PM	4:15 PM
В	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL

N SIDE S SIDE E SIDE W SIDE TOTAL													
				TOTAL									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									
0	0	0	0	0									

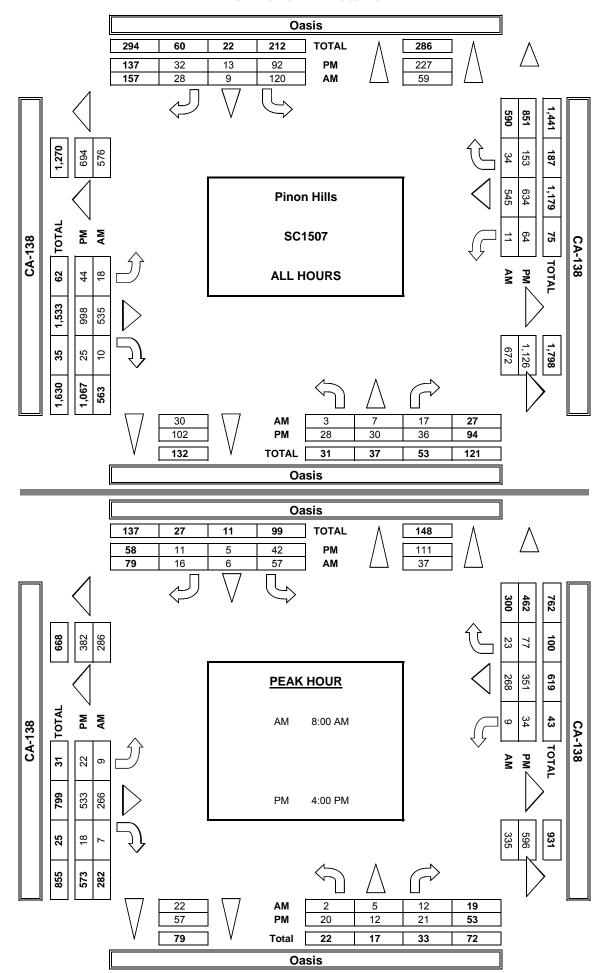
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

PEDESTRIAN CROSSINGS

E	BICYC	LE CR	OSSIN	IGS
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

	SC	HOOL AGE F	PED	
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

AimTD LLC
TURNING MOVEMENT COUNTS



	<u>DATE:</u> 7/29/15 WEDNESDAY	LOCATI NORTH EAST &	ON: & SOUTH		Pinon Hi Oasis CA-138		tel: 714	253 7888	8 pacific@	PROJECT LOCATIO CONTRO	Γ#: DN#:	SC1507 1 SIGNAL							
	CLASS 1: PASSENGER VEHICLES	NOTES	:								AM PM MD OTHER OTHER	⋖ W	N S V	E►					
		NO	ORTHBOU Oasis	IND	SC	OUTHBOL Oasis	IND	E	ASTBOUI	ND	W	'ESTBOUI CA-138	ND			U	-TUR	NS	
	LANES:	NL 1	NT 0.5	NR 1.5	SL 1	ST 0.5	SR 1.5	EL 1	ET 1	ER 1	WL 1	WT 1	WR 1	TOTAL	NB	SB	EB	WB	TTL
г	7:00 AM	0	1	0	18	1	1	1	58	2	0	46	3	131	0	0	0	0	0
	7:15 AM	0	1	1	13	0	7	1	49	1	0	54	1	128	0	0	0	0	0
	7:30 AM	1	0	1	13	1	1	3	58	0	1	54	3	136	0	0	0	0	0
	7:45 AM	0	0	1	13	1	1	2	53	0	1	42	4	118	0	0	0	0	0
	8:00 AM	1	0	1	13	0	1	0	42	1	1	43	4	107	0	0	0	0	0
	8:15 AM 8:30 AM	0	1	2	12 12	0	1	2	47 56	2	4	51	6	128 134	0	0	0	0	0
	8:30 AM 8:45 AM	0	0 4	4	14	3 2	6 7	4	63	2	3	46 40	3	134	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	03	0	0	0	0	0	0	0	0	0	0
Ļ		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ζ	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	3	7	14	108	8	25	14	426	9	11	376	28	1,029	0	0	0	0	0
	APPROACH %	13%	29%	58%	77%	6%	18%	3%	95%	2%	3%	91%	7%						
	APP/DEPART	24	/	49	141	/	28	449	/	548	415	/	404	0	4				
	BEGIN PEAK HR	_	8:00 AM		F-1	-	15		200	,	_	100	17	F1/					
	VOLUMES APPROACH %	2 11%	5 28%	11 61%	51 72%	5 7%	15 21%	7 3%	208 94%	6 3%	9 4%	180 87%	17 8%	516					
	PEAK HR FACTOR		0.563	0170	1270	0.772	2170	370	0.801	370	4 70	0.844	0 70	0.878					
	APP/DEPART	18	/	29	71	/	20	221	/	270	206	/	197	0.070	-				
H	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	7	1	5	6	4	3	5	79	6	10	78	16	220	0	0	0	0	0
	4:15 PM	6	3	6	13	0	0	5	127	4	6	70	15	255	0	0	0	0	0
	4:30 PM 4:45 PM	3	6	5	8 12	0	6	6 5	119 103	3	11 5	74 82	23 16	262 239	0	0	0	0	0
	5:00 PM	1	3	5	10	3	2	5	95	1	8	59	14	206	0	0	0	0	0
L	E 45 DM	0	6	3	13	0	10	7	84	2	7	58	22	212	0	0	0	0	0
Z	5:30 PM	3	4	3	15	4	6	4	106	2	9	74	20	250	0	0	0	0	0
	5:45 PM	3	5	3	7	1	1	5	84	0	5	56	16	186	0	0	0	0	0
	VOLUMES	26	30	32	84	13	30	42	797	22	61	551	142	1,830	0	0	0	0	0
	APPROACH %	30%	34%	36%	66%	10%	24%	5%	93%	3%	8%	73%	19%						
	APP/DEPART	88	/	214	127	/	96	861	/	913	754	/	607	0	4				
	BEGIN PEAK HR VOLUMES	10	4:00 PM		20	F	11	21	420	17	22	204	70	07/					
	APPROACH %	19 39%	12 24%	18 37%	39 71%	5 9%	11 20%	21 5%	428 92%	17 4%	32 8%	304 75%	70 17%	976					
	PEAK HR FACTOR		0.817	31 70	/ 1 /0	0.917	2070	370	0.857	4 70	0 70	0.940	1770	0.931					
	APP/DEPART	49	/	103	55	/	54	466	/	485	406	/	334	0	1				
						Oasis													
					N	ORTH SI	DE				-								
		CA-138	s WE	EST SIDE				EAST SI	DE	CA-138									
					S	OUTH SI	DE				-								

Oasis

INTERSECTION TURNING MOVEMENT COUNTS PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

<u>DATE:</u> 7/29/15 WEDNESDAY	NORTH &	& SOUTH	I:	Pinon Hi Oasis CA-138	lls				PROJECT LOCATIO CONTRO	ON #:	SC1507 1 SIGNAL							
CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES:									AM PM MD OTHER OTHER	◀ W	N S	E►					
	NC	ORTHBOU Oasis	IND	SO	OUTHBOU Oasis	ND	E	ASTBOUI CA-138	ND	W	ESTBOUN CA-138	ND			U	-TURI	VS	
LANES:	NL 1	NT 0.5	NR 1.5	SL 1	ST 0.5	SR 1.5	EL 1	ET 1	ER 1	WL 1	WT 1	WR 1	TOTAL	NB	SB	EB	WB	TTL
7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM VOLUMES APPROACH % APPROACH % APPROACH % APPROACH %	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 7 7	0 0 2 2 2 0 0 0 0 0 0 0 0 0 8 67%	0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0	1 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0	0 0 1 0 1 0 0 0 0 0 0 0 0 0 2 5% 43	4 7 3 5 8 6 6 2 5 0 0 0 0 0 40 93% /	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	12 10 10 9 15 10 7 4 0 0 0 0 0 7 94% /	0 0 0 0 1 0 3 1 0 0 0 0 0 5 6%	18 17 17 17 17 28 16 13 14 0 0 0 0 140	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0
PEAK HR FACTOR APP/DEPART	2	0.500	3	7	0.583	0	25	0.694	31	45	0.703	45	0.705 0					
03:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	0 0 0 0 1 0 0 0 0 0 0 0 0 1 2 50% 4	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 1 1 0 0 0 2 50% 9	0 0 0 0 0 0 2 0 0 0 0 2 1 0 5 83% 6	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 1 17% 4	0 0 0 0 0 0 0 0 0 0 0 0 1 1 1% 83	0 0 0 0 13 14 9 12 9 6 10 7 80 96% /	0 0 0 0 0 0 0 0 0 0 0 1 1 1 0 2 2% 87	0 0 0 0 0 0 1 0 0 0 0 1 0 0 2 4% 45	0 0 0 0 4 6 2 8 3 4 6 2 35 78% /	0 0 0 0 2 0 1 2 2 0 0 1 8 18% 38 5 19%	0 0 0 0 20 23 13 22 14 15 20 11 138 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	CA-138	WE	EST SIDE		OUTH SII		EAST SI	DE	CA-138									
				I	Oasis		1											

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

	<u>DATE:</u> 7/29/15 WEDNESDAY	NORTH EAST &	& SOUTH	:	Pinon Hi Oasis CA-138	lls				PROJECT LOCATION CONTRO	ON #:	SC1507 1 SIGNAL							
	CLASS 3:	NOTES	:								AM		A						
	3-AXLE TRUCKS										PM MD OTHER	⋖ W	N S ▼	E►					
	<u> </u>	NO	ORTHBOU	ND	SO	UTHBOU	IND	E	ASTBOUN	ID		ESTBOUN	ND		i	U	-TURI	NS	
			Oasis			Oasis			CA-138	_		CA-138							
	LANES:	NL 1	NT 0.5	NR 1.5	SL 1	ST 0.5	SR 1.5	EL 1	ET 1	ER 1	WL 1	WT 1	WR 1	TOTAL	NB	SB	EB	WB	TTL
	7:00 AM	0	0	0	0	0	0	1	0	0	0	5	0	6	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	3 2	0	0	0	0	3	0	0	0	0	0
	7:30 AM 7:45 AM	0	0	0	1	0	0	0	1	0	0	3	0	6 5	0	0	0	0	0
	8:00 AM	0	0	0	1	0	0	0	1	0	0	4	0	6	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	1	0	0	3	1	5	0	0	0	0	0
	8:30 AM	0	0	0	1	0	0	0	2	0	0	3	0	6	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	4	0	0	2	0	6	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ΑM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
۲	710071111	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM VOLUMES	0	0	0	3	0	0	1	14	0	0	0 24	0 1	0 43	0	0	0	0	0
	APPROACH %	0%	0%	0%	100%	0%	0%	7%	93%	0%	0%	24 96%	1 4%	43	U	U	U	U	0
	APP/DEPART	0	/	2	3	/	0	15	/	17	25	/	24	0					
	BEGIN PEAK HR	Ť	8:00 AM			•						•							
	VOLUMES	0	0	0	2	0	0	0	8	0	0	12	1	23					
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	92%	8%						
	PEAK HR FACTOR		0.000	1	0	0.500			0.500	10	40	0.813	10	0.958					
-	APP/DEPART 03:00 PM	0	0	1 0	0	0	0	8	/	10 0	13 0	0	12 0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	1	0	0	0	0	4	0	0	0	0	5	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	5	0	0	2	0	7	0	0	0	0	0
	4:45 PM 5:00 PM	0	0	0	0	0	0	0	3	0	0	0 2	0	4	0	0	0	0	0
l_	5:00 PM 5:15 PM	0	0	0	0	0	1	0	1	0	0	2	0	6 4	0	0	0	0	0
₽	5:30 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0
	5:45 PM	0	0	0	1	0	0	0	2	0	0	2	0	5	0	0	0	0	0
	VOLUMES	0	0	1	2	0	1	0	21	0	0	9	0	34	0	0	0	0	0
	APPROACH %	0%	0%	100%	67%	0%	33%	0%	100%	0%	0%	100%	0%		,				
	APP/DEPART	1	/ / 00 DM	0	3	/	0	21	/	24	9	/	10	0					
	BEGIN PEAK HR VOLUMES	0	4:30 PM 0	0	1	0	1	0	13	0	0	6	0	21					
	APPROACH %	0%	0%	0%	50%	0%	50%	0%	100%	0%	0%	100%	0%	21					
	PEAK HR FACTOR	0 70	0.000	070	3070	0.500	3070	070	0.650	070	070	0.750	070	0.750					
	APP/DEPART	0	/	0	2	/	0	13	/	14	6	/	7	0					
					N	Oasis ORTH SII	DE				_								
		CA-138	WE	ST SIDE				EAST SI	DE	CA-138	;								
					1						_								
					S	OUTH SII	DE				-								

INTERSECTION TURNING MOVEMENT COUNTS PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

	<u>DATE:</u> 7/29/15 WEDNESDAY	NORTH &	& SOUTH	l:	Pinon Hi Oasis CA-138	lls				PROJECT LOCATIO CONTRO	N#:	SC1507 1 SIGNAL							
	CLASS 4:	NOTES:			071 100					33	AM	1	_						
	4 OR MORE	NOTES.	•								PM		▲ N						
	AXLE										MD	⋖ W	IN	E►					
	TRUCKS											- '	S						
	moons												▼						
	-	NC	RTHBOU	ND	SO	UTHBOU	ND	I F	ASTBOUN	ID.	\٨	ESTBOUN	ID.		i —	- 11	-TURI	NS	
		140	Oasis	ND		Oasis	ND	-	CA-138		•	CA-138				·	-101	•••	
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	0.5	1.5	1	0.5	1.5	1	1	1	1	1	1						
	7:00 AM	0	0	0	0	0	0	0	4	0	0	5	0	9	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	9	0	0	5	0	14	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	6	0	0	12	0	18	0	0	0	0	0
	7:45 AM 8:00 AM	0	0	0	0	0	0	0	7	0	0	4 15	0	11 23	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	2	0	0	4	0	6	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	9	0	0	12	0	21	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	9	0	0	8	0	17	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ΑM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
٦	9:30 AM 9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	0	0	0	1	53	0	0	65	0	119	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	2%	98%	0%	0%	100%	0%	,		Ū		<u> </u>	Ū
	APP/DEPART	0	/	1	0	/	0	54	/	53	65	/	65	0					
	BEGIN PEAK HR		8:00 AM		_														
	VOLUMES APPROACH %	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	1 4%	27 96%	0 0%	0 0%	39 100%	0 0%	67					
	PEAK HR FACTOR	0%	0.000	076	076	0.000	0%	4 70	0.778	0%	076	0.650	0%	0.728					
	APP/DEPART	0	/	1	0	/	0	28	/	27	39	/	39	0.720					
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM 4:00 PM	0	0	0	0	0	0	0	10	0	0	6	0	0 18	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	7	0	0	7	0	14	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	15	0	1	9	1	26	0	0	0	0	0
	4:45 PM	0	0	1	1	0	0	0	10	0	0	3	0	15	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	12	0	0	3	1	16	0	0	0	0	0
PΜ	5:15 PM 5:30 PM	0	0	0	0	0	0	0	8	0	0	5	0	13 13	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	23	0	0	1	0	24	0	0	0	0	0
	VOLUMES	0	0	1	1	0	0	1	95	1	1	37	2	139	0	0	0	0	0
	APPROACH %	0%	0%	100%	100%	0%	0%	1%	98%	1%	3%	93%	5%		,				
	APP/DEPART	1	/ / OO DM	3	1	/	2	97	/	97	40	/	37	0					
	BEGIN PEAK HR VOLUMES	0	4:00 PM 0	1	1	0	0	1	42	1	1	25	1	73					
	APPROACH %	0%	0%	100%	100%	0%	0%	2%	95%	2%	4%	93%	4%	73					
	PEAK HR FACTOR		0.250			0.250			0.733			0.614		0.702					
	APP/DEPART	1	/	2	1	/	2	44	/	44	27	/	25	0					
					ı			1											
						Oasis													
					N	ORTH SI	DE												
							_												
		04 400	14.5	-CT C!D=				EACT C'	DE	04 100									
		CA-138	WE	ST SIDE				EAST SI	DΕ	CA-138									
					1		_												
					S	OUTH SIE	JE												
						Oasis													

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

	7/29/15 WEDNESDAY	NORTH	& SOUTH	l:	Oasis CA-138	1113				LOCATIO	N#:	1 SIGNAL							
	CLASS 5:	NOTES:									AM		A		1				
	RV										PM		N						
											MD	⋖ W	i _	E►					
													S ▼						
		NC	ORTHBOU	ND	S C	UTHBOU	ND		ASTBOUN	UD I		/ESTBOUN	•		 		-TUR	NIC	
		IVC	Oasis	ND	30	Oasis	IND		CA-138	ND	V	CA-138	ND.			U	-IUK	V3	
	LANES:	NL 1	NT 0.5	NR 1.5	SL 1	ST 0.5	SR 1.5	EL 1	ET 1	ER 1	WL 1	WT 1	WR 1	TOTAL	NB	SB	EB	WB	TTL
	7:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ΑM	9:15 AM 9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	0	1	0	0	0	1	0	0	2	0	4	0	0	0	0	0
	APPROACH % APP/DEPART	0% 0	0%	0%	100%	0%	0% 0	0%	100%	0% 2	0% 2	100%	0% 2	0					
	BEGIN PEAK HR	U	7:00 AM		1	/	U	1	/	2				U	1				
	VOLUMES	0	0	0	1	0	0	0	0	0	0	2	0	3					
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	100%	0%						
	PEAK HR FACTOR APP/DEPART	0	0.000	0	1	0.250	0	0	0.000	1	2	0.250	2	0.375					
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0
L	5:00 PM 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ΡM	5:30 PM	0	0	0	0	0	0	0	2	0	0	1	0	3	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0
	VOLUMES APPROACH %	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	4 100%	0 0%	0 0%	2 67%	1 33%	7	0	0	0	0	0
	APP/DEPART	0 78	/	1	0	/	0	4	/	4	3	/	2	0	1				
	BEGIN PEAK HR		5:00 PM												1				
	VOLUMES	0	0	0	0	0	0	0	4	0	0	2	0	6					
	APPROACH % PEAK HR FACTOR	0%	0% 0.000	0%	0%	0% 0.000	0%	0%	100% 0.500	0%	0%	100% 0.500	0%	0.500					
	APP/DEPART	0	/	0	0	/	0	4	/	4	2	/	2	0					
					1	Oasis									_				
						Gusis													
					N	ORTH SII	DE												
		CA-138	WE	EST SIDE				EAST SI	DE	CA-138									
					S	OUTH SIE	DE												
						Oasis													

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

7/29/15 WEDNESDAY	NORTH &	& SOUTH:	:	Oasis CA-138	112				LOCATIO CONTRO	ON #:	1 SIGNAL							
CLASS 6: BUSES	NOTES:									AM PM MD OTHER OTHER	⋖ W	N S	E►					
		ORTHBOU Oasis			OUTHBOU Oasis			ASTBOUN CA-138			ESTBOUN CA-138					J-TURI		
LANES:	NL 1	NT 0.5	NR 1.5	SL 1	ST 0.5	SR 1.5	EL 1	ET 1	ER 1	WL 1	WT 1	WR 1	TOTAL	NB	SB	EB	WB	TTL
7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 1 0 0 0 0 0 1 100% /	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 1 0 0 0 0 0 0 0 1 100% /	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 1 0 0 0 0 0 2	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0						
03:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 0 0 0 0 0 0 1 100% /	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0						
	CA-138	WE	EST SIDE	s	OUTH SIE Oasis	DE	EAST SI	DE	CA-138	-								

INTERSECTION TURNING MOVEMENT COUNTS CONVERTED TO PASSENGER CAR EQUIVALENTS

<u>DATE:</u> Wed, Jul 29, 15 LOCATION: NORTH & SOUTH: EAST & WEST: Pinon Hills Oasis CA-138 PROJECT #: LOCATION #: CONTROL: SC1507 1 SIGNAL

NOTES: **∢**W E►

Add U-Turns to Left Turns

L											UTHER		•		ı			000310100003100	
ſ		V	IORTHBOUN Oasis	ID	S	OUTHBOUN Oasis			EASTBOUN CA-138	ID	,	WESTBOUN CA-138	D				J-TURI	NS	
	LANES:	NL 1	NT 0.5	NR 1.5	SL 1	ST 0.5	SR 1.5	EL 1	ET 1	ER 1	WL 1	WT 1	WR 1	TOTAL	NB X	SB X	EB X	WB X	TTL
T	7:00 AM	0	1	2	18	1	3	3	76	2	0	95	3	204	0	0	0	0	0
-	7:15 AM	0	1	1	13	0	7	1	93	1	0	84	1	202	0	0	0	0	0
ı	7:30 AM	1	0	3	16	1	1	5	85	0	1	113	3	229	0	0	0	0	0
ı	7:45 AM	0	0	1	21	1	3	2	84	0	1	74	4	191	0	0	0	0	0
ı	8:00 AM	1	0	3	18	0	1	5	77	1	1	119	6	232	0	0	0	0	0
ľ	8:15 AM	0	1	2	12	0	1	2	64	2	4	87	8	183	0	0	0	0	0
ľ	8:30 AM	1	0	4	14	3	8	1	93	1	1	99	8	233	0	0	0	0	0
ı	8:45 AM	0	4	4	17	4	7	4	109	4	3	74	6	236	0	0	0	0	0
-	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ā	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
₹	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	VOLUMES	3	7	20	129	10	31	23	681	11	11	745	39	1,710	0	0	0	0	0
	APPROACH %	10%	23%	67%	76%	6%	18%	3%	95%	2%	1%	94%	5%						
7	APP/DEPART	30	/	69	170	/	32	715	/	830	795	/	779	0	1				
Ī	BEGIN PEAK HR		8:00 AM												1				
١	VOLUMES	2	5	13	61	7	17	12	343	8	9	379	28	884	1				
	APPROACH %	10%	25%	65%	72%	8%	20%	3%	94%	2%	2%	91%	7%		1				
	PEAK HR FACTOR		0.625			0.759			0.776			0.825		0.936	1				
	APP/DEPART	20	/	45	85	/	24	363	/	417	416	/	398	0	l				
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ı.	4:00 PM	9	1	7	6	4	3	8	137	9	10	102	19	315	0	0	0	0	0
	4:15 PM	6	3	6	16	0	0	5	174	4	8	100	15	337	0	0	0	0	0
	4:30 PM	3	6	4	8	1	6	6	188	3	14	108	28	375	0	0	0	0	0
	4:45 PM	3	2	8	15	0	2	5	159	4	5	103	22	328	0	0	0	0	0
ı.	5:00 PM	1	3	5	12	3	2	5	151	1	8	77	20	288	0	0	0	0	0
₹	5:15 PM	0	6	5	16	0	12	7	119	4	9	86	22	286	0	0	0	0	0
٩.	5:30 PM	3	4	3	17	4	8	6	159	4	9	97	20	334	0	0	0	0	0
L	5:45 PM	5	5	3	9	1	1	5	174	0	5	66	18	292	0	0	0	0	0
	VOLUMES	30	30	41	99	13	34	47	1,261	29	68	739	164	2,555	0	0	0	0	0
- 1	APPROACH %	30%	30%	41%	68%	9%	23%	4%	94%	2%	7%	76%	17%		ı				
-	APP/DEPART	101	/	241	146	/	110	1,337	/	1,401	971	/	803	0	4				
	BEGIN PEAK HR		4:00 PM												l				
	VOLUMES	21	12	25	45	5	11	24	658	20	37	413	84	1,355	1				
	APPROACH %	36%	21%	43%	74%	8%	18%	3%	94%	3%	7%	77%	16%		l				
	PEAK HR FACTOR		0.853			0.897			0.891			0.890		0.903	4				
	APP/DEPART	58	/	120	61	/	62	702	/	728	534	/	445	0	i				

Oasis

NORTH SIDE

EAST SIDE CA-138 WEST SIDE CA-138

> SOUTH SIDE Oasis

	7:00 AM
	7:15 AM
	7:30 AM
	7:45 AM
	8:00 AM
ΑM	8:15 AM
₹	8:30 AM
	8:45 AM
	9:00 AM
	9:15 AM
	9:30 AM
	9:45 AM
	TOTAL
	3:00 PM
	3:15 PM
	3:30 PM
	3:45 PM
	4:00 PM
Μ	4:15 PM
Δ.	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
ı	TOTAL

ALL PED AND BIKE										
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						
0	0	0	0	0						

PEDESTRIAN CROSSINGS											
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							

Е	BICYC	LE CR	OSSIN	IGS
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

PREPARED BY: AimTD LLC tel: 714 253 7888 pacific@aimtd.com

	<u>DATE:</u> Wed, Jul 29, 15	LOCATION NORTH & EAST & W	SOUTH:	TREF	Pinon Hills Mountain CA-138	anno Leo.	101. 714 23.	5 7000 paci	ific@aimtd.o	PROJECT : LOCATION CONTROL:	#:	SC1507 2 SIGNAL							
	NOTES:										AM PM MD OTHER	■ W	N S ¥	E▶			Add U-T	urns to Lef	ft Turns
		V	NORTHBOUN Mountain	ND	S	OUTHBOUN Mountain	ND.		EASTBOUN CA-138	D		WESTBOUN CA-138	D			- 1	J-TUR	NS	
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL	NB X	SB X	EB X	WB X	TTL
	7:00 AM	0	0	16	0	0	0	0	54	1	5	72	0	148	0	0	0	0	0
	7:15 AM 7:30 AM	3 5	0	7	0	0	0	0	64 58	3	4 5	67	0	148 149	0	0	0	0	0
	7:45 AM	2	0	9	0	0	0	0	61	1	5	62	0	149	0	0	0	0	0
	8:00 AM	2	0	8	0	0	0	0	51	2	5	75	0	143	0	0	0	0	0
	8:15 AM	2	0	11	0	0	0	0	54	2	7	59	0	135	0	0	0	0	0
	8:30 AM	2	0	15	0	0	0	0	55	3	8	68	0	151	0	0	0	0	0
	8:45 AM	2	0	19	0	0	0	0	69	2	14	47	0	153	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ΑM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	9:30 AM 9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	18	0	96	0	0	0	0	466	15	53	519	0	1.167	0	0	0	0	0
	APPROACH %	16%	0%	84%	0%	0%	0%	0%	97%	3%	9%	91%	0%	1,107		U	U	U	U
	APP/DEPART	114	/	0	0	/	68	481	/	562	572	/	537	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	10	0	43	0	0	0	0	237	6	19	270	0	585					
	APPROACH %	19%	0%	81%	0%	0%	0%	0%	98%	2%	7%	93%	0%						
	PEAK HR FACTOR		0.828			0.000			0.907			0.938		0.982					
	APP/DEPART	53	/	0	0	/	25	243	/	280	289	/	280	0			_		
	03:00 PM 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	1	0	11	0	0	0	1	102	9	17	75	0	216	0	0	0	0	0
	4:15 PM	5	0	21	0	0	0	0	147	5	22	77	0	277	0	0	0	0	0
	4:30 PM	4	0	19	0	0	0	0	129	6	21	67	0	246	0	0	0	0	0
	4:45 PM	6	0	17	0	0	0	0	124	5	17	85	0	254	0	0	0	0	0
	5:00 PM	3	0	11	0	0	0	0	116	7	12	49	0	198	0	0	0	0	0
PM	5:15 PM 5:30 PM	3	0	14 23	0	0	0	1	99 114	3 10	27 10	66 85	0	213 244	0	0	0	0	0
-	5:45 PM	1	0	18	0	0	0	0	107	10	12	67	0	206	0	0	0	0	0
	VOLUMES	25	0	134	0	0	0	2	938	46	138	571	0	1.854	0	0	0	0	0
	APPROACH %	16%	0%	84%	0%	0%	0%	0%	95%	5%	19%	81%	0%	1,001			Ü		
	APP/DEPART	159	/	2	0	/	184	986	/	1,072	709	/	596	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	16	0	68	0	0	0	1	502	25	77	304	0	993					
	APPROACH %	19%	0%	81%	0%	0%	0%	0%	95%	5%	20%	80%	0%	0.007					
	PEAK HR FACTOR APP/DEPART	84	0.808	1	0	0.000	102	528	0.868	570	381	0.934	320	0.896					
	AFF/DEFART	04			v	/	102	JZ0	/	570	J01		32U	U					

Mountain

NORTH SIDE

CA-138 WEST SIDE EAST SIDE CA-138

SOUTH SIDE

Mountain

П	7:00 AM
	7:15 AM
	7:30 AM
	7:45 AM
	8:00 AM
AM	8:15 AM
A	8:30 AM
	8:45 AM
	9:00 AM
	9:15 AM
	9:30 AM
	9:45 AM
	TOTAL
	3:00 PM
	3:15 PM
	3:30 PM
	3:45 PM
	4:00 PM
PM	4:15 PM
Ь	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL

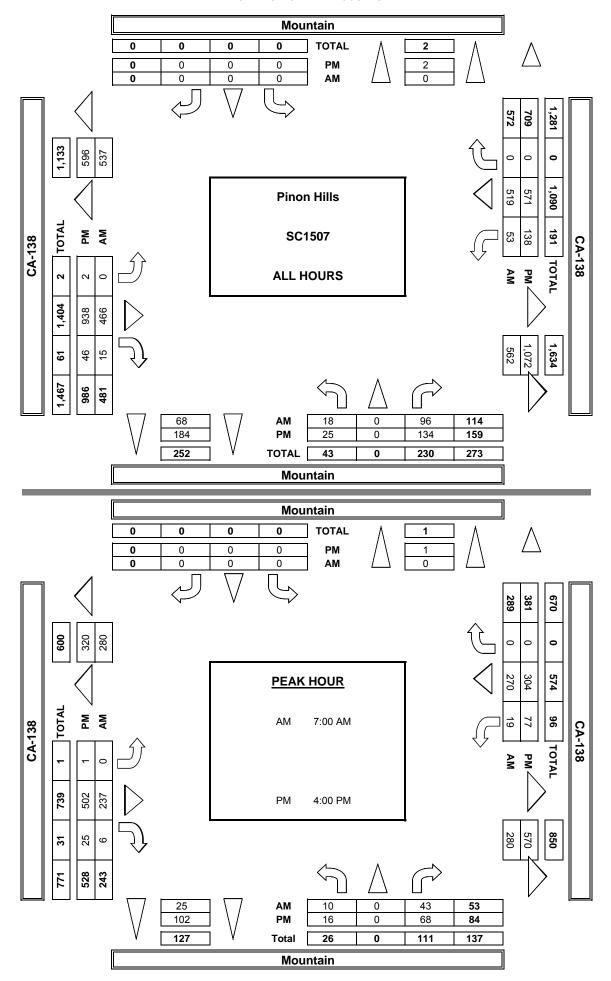
	ALL	PED AND I			
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
1	0	0	0	1	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
1	0	0	0	1	
0	0	0	0	0	
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0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	
0	0	0	0	0	

_	PEDESTRIAN CROSSINGS														
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL											
0	0	0	0	0											
0	0	0	0	0											
0	0	0	0	0											
0	0	0	0	0											
1	0	0	0	1											
0	0	0	0	0											
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0	0	0	0	0											
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			OSSIN	
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

	SC	HOOL AGE I	SCHOOL AGE PED													
NS	SS	ES	WS	TOTAL												
0	0	0	0	0												
0	0	0	0	0												
0	0	0	0	0												
0	0	0	0	0												
0	0	0	0	0												
0	0	0	0	0												
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0	0	0	0	0												
0	0	0	0	0												
0	0	0	0	0												
0	0	0	0	0												
0	0	0	0	0												

AimTD LLC
TURNING MOVEMENT COUNTS



	<u>DATE:</u> 7/29/15 WEDNESDAY	LOCATION NORTH EAST &	ON: & SOUTH		Pinon H Mountai CA-138	ills	tel: 714	253 7888	3 pacific@	PROJECT PROJECT LOCATION CONTRO	Γ#: DN#:	SC1507 2 SIGNAL						
	CLASS 1:	NOTES	:								AM		A					
	PASSENGER										PM		N		1			
	VEHICLES										MD	⋖ W	.	E►				
											OTHER		S					
											OTHER		▼		<u> </u>			
		NO	ORTHBOU	JND	SC	DUTHBOL	IND	E	ASTBOUN	ND	W	/ESTBOUI	ND			U-TL	IRNS	
			Mountain			Mountain			CA-138			CA-138			I			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL	NB S	SB E	3 WE	TTL
	7:00 AM	0	0	14	0	0	0	0	47	0	4	50	0	115	0	0 0	0	0
	7:15 AM	3	0	6	0	0	0	0	45	3	4	50	0	111		0 0		0
	7:30 AM	5	0	9	0	0	0	0	47	1	5	43	0	110	0	0 0	0	0
	7:45 AM	2	0	9	0	0	0	0	48	1	4	46	0	110	0	0 0	0	0
	8:00 AM	1	0	7	0	0	0	0	38	2	3	42	0	93	0	0 0	0	0
	8:15 AM	2	0	11	0	0	0	0	42	2	6	42	0	105		0 0		0
	8:30 AM	1	0	14	0	0	0	0	42	3	6	43	0	109		0 0		0
	8:45 AM	1	0	15	0	0	0	0	52	2	11	33	0	114		0 0		0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		0 0		0
ΑM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		0 0		0
1	9:30 AM 9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0		0 0		0
	VOLUMES	15	0	85	0	0	0	0	361	14	43	349	0	867		0 0		0
	APPROACH %	15%	0%	85%	0%	0%	0%	0%	96%	4%	11%	89%	0%	007		0 0	U	U
	APP/DEPART	100	/	0	0	/	57	375	/	446	392	/	364	0				
	BEGIN PEAK HR		7:00 AM			•		1	•			•						
	VOLUMES	10	0	38	0	0	0	0	187	5	17	189	0	446				
	APPROACH %	21%	0%	79%	0%	0%	0%	0%	97%	3%	8%	92%	0%					
	PEAK HR FACTOR		0.857			0.000			0.980			0.954		0.970				
L	APP/DEPART	48	/	0	0	/	22	192	/	225	206	/	199	0	l			
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		0 0		0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		0 0		0
	3:30 PM 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0		0 0		0
	4:00 PM	1	0	10	0	0	0	1	79	9	16	64	0	180		0 0		0
	4:15 PM	4	0	20	0	0	0	0	126	4	22	64	0	240		0 0		0
	4:30 PM	4	0	19	0	0	0	0	99	6	20	54	0	202		0 0		0
	4:45 PM	5	0	15	0	0	0	0	101	5	15	78	0	219		0 0		0
	5:00 PM	3	0	10	0	0	0	0	91	5	11	43	0	163	0	0 0	0	0
ΔM	5:15 PM	2	0	13	0	0	0	1	85	3	26	53	0	183	0	0 0	0	0
Ь	0.00	2	0	20	0	0	0	0	91	6	9	73	0	201		0 0		0
	5:45 PM	1	0	16	0	0	0	0	72	1	12	61	0	163		0 0		0
	VOLUMES	22	0	123	0	0	0	2	744	39	131	490	0	1,551	0	0 (0	0
	APPROACH % APP/DEPART	15%	0%	85%	0%	0%	0% 170	0%	95%	5%	21%	79%	0% 512	0	4			
	BEGIN PEAK HR	145	4:00 PM	2	U	/	170	785	/	867	621	/	512	U	1			
	VOLUMES	14	4.00 FIVI	64	0	0	0	1	405	24	73	260	0	841				
	APPROACH %	18%	0%	82%	0%	0%	0%	0%	94%	6%	22%	78%	0%	041				
	PEAK HR FACTOR	1070	0.813	0270	0,0	0.000	0,0	0,0	0.827	0.0	2270	0.895	0,0	0.876				
	APP/DEPART	78	/	1	0	/	97	430	/	469	333	/	274	0				
					•			1										
						Mountai	n											
					N	IORTH SI	DE											
					•						<u>-</u>							
		CA-138	. WE	EST SIDE				EAST SI	DE	CA-138								
					S	OUTH SI	DE				-							
						Mountai	n											

	<u>DATE:</u> 7/29/15 WEDNESDAY	LOCATIONORTH	ON: & SOUTH		Pinon H Mountai CA-138	ills	tei: 714	253 /888	з расіпс«	PROJECT LOCATIC CONTRO	*#: ON #:	SC1507 2 SIGNAL							
	CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	2-AXLE WORK VEHICLES/											N S	E►					
			DRTHBOU Mountain			OUTHBOU Mountain			ASTBOUN CA-138			CA-138					-TURI		
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL	NB	SB	EB	WB	TTL
AM	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM 9:00 AM 9:15 AM 9:30 AM 9:45 AM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR VOLUMES APPROACH %	0 0 0 0 1 0 1 0 0 0 0 0 0 2 20% 10	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 1 2 0 0 0 1 3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 7 3 5 5 8 2 2 0 0 0 0 0 35 100%	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 1 0 1 1 3 0 0 0 0 0 7 8% 87	11 13 8 9 16 10 9 4 0 0 0 0 0 80 92% /	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	16 21 13 15 22 19 14 12 0 0 0 0 132	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0
	PEAK HR FACTOR APP/DEPART 03:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM	4 0 0 0 0 0	0.500 / 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0.000 / 0 0 0 0 0	1 0 0 0 0	20 0 0 0 0 0	0.714 / 0 0 0 0 0 8	23 0 0 0 0 0	47 0 0 0 0 0	0.734 / 0 0 0 0 0 3	47 0 0 0 0 0	0.807 0 0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
PM	4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM	1 0 0 0 1 0 0	0 0 0 0 0 0	1 0 2 1 1 1 1 8	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	10 12 8 10 6 9 10 73	0 0 0 2 0 1 0 3	0 1 1 1 0 1 0 5	6 2 5 2 5 7 2	0 0 0 0 0 0	18 15 16 16 13 19 13	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0
	APPROACH % APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	2 20% 10 1 20%	0% / 4:15 PM 0 0% 0.625	80%	0 0% 0 0 0%	0% / 0 0% 0.000	0 0% 8 0 0%	0 0% 76 0 0%	96% / 40 95% 0.875	3 4% 81 2 5%	3 14% 37 3 17%	32 86% / 15 83% 0.750	0 0% 34 0 0%	0 65 0.903		0	0	<u> </u>	0
	JOLET PULL PART	CA-138	-	EST SIDE	N	/ Mountai i	n	EAST SI	, DE	CA-138	10	,	10	v	I				
						OUTH SII Mountai i													

INTERSECTION TURNING MOVEMENT COUNTS PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

	<u>DATE:</u> 7/29/15 WEDNESDAY	NORTH &	& SOUTH	l :	Pinon H Mountai CA-138				PROJECT LOCATIO CONTRO	ON #:	SC1507 2 SIGNAL								
	CLASS 3: 3-AXLE TRUCKS	NOTES:									AM PM MD OTHER	⋖ W	N S	E▶					
		NC	ORTHBOU	JND	SC	OUTHBOU	IND	E	ASTBOUN	ND	OTHER W	l ESTBOUN	VD		i—	U	-TURI	NS	
	LANIEC.	NL	Mountain NT	NR	SL	Mountain	SR	EL	CA-138	ER	WL	CA-138	WR	TOTAL	NB	SB	EB	WB	TTL
	7:00 AM	0	0	1	0	0	0	0	0	0	0	5	0	6	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0	0	0
	7:30 AM 7:45 AM	0	0	0	0	0	0	0	2	0	0	5	0	7	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	1	0	1	1	0	3	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	0	0	0	0	0
	8:30 AM 8:45 AM	0	0	0	0	0	0	0	6	0	0	7	0	9 10	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
٨	9:30 AM 9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	0	0	2	0	0	0	0	15	0	1	25	0	43	0	0	0	0	0
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	4%	96%	0%		1				
	APP/DEPART BEGIN PEAK HR	2	8:00 AM	0	0	/	1	15	/	17	26	/	25	0	4				
	VOLUMES	0	0.00 AW	1	0	0	0	0	10	0	1	13	0	25	į				
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	7%	93%	0%		İ				
	PEAK HR FACTOR APP/DEPART	1	0.250	0	0	0.000	1	10	0.417	11	14	0.500	13	0.625	4				
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:30 PM 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	5	0	0	2	0	7	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0
	4:30 PM 4:45 PM	0	0	0	0	0	0	0	5	0	0	0	0	6 5	0	0	0	0	0
	5:00 PM	0	0	0	0	0	0	0	3	0	0	2	0	5	0	0	0	0	0
PM	5:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0
Ь	5:30 PM	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0
	5:45 PM VOLUMES	0	0	0	0	0	0	0	23	1	0	10	0	4 34	0	0	0	0	0
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	96%	4%	0%	100%	0%						
	APP/DEPART	0	/ 4.00 DM	0	0	/	1	24	/	23	10	/	10	0	4				
	BEGIN PEAK HR VOLUMES	0	4:00 PM 0	0	0	0	0	0	15	1	0	4	0	20	į				
	APPROACH %	0%	0%	0%	0%	0%	0%	0%	94%	6%	0%	100%	0%		İ				
	PEAK HR FACTOR		0.000		0	0.000	1	1/	0.800	15	4	0.500	4	0.714	4				
	APP/DEPART	0		0	0	/	1	16	/	15	4	/	4	0	1				
						Mountai	n												
					N	IORTH SII	DE												
		CA-138	WE	EST SIDE				EAST SI	DE	CA-138									
					S	OUTH SII	DE												
						Mountai	n												

INTERSECTION TURNING MOVEMENT COUNTS PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

	<u>DATE:</u> 7/29/15 WEDNESDAY	NORTH &	& SOUTH	l:	Pinon H Mountai CA-138					PROJECT LOCATIO CONTRO	ON #:	SC1507 2 SIGNAL							
	CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:									AM PM MD OTHER OTHER	■ W	N N S	E▶					
	-	NC	RTHBOU Mountain	IND	SC	OUTHBOU Mountain	ND	E	ASTBOUN CA-138	ND	W	/ESTBOUN CA-138	ND			U	-TURI	NS	
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL	NB	SB	EB	WB	TTL
	7:00 AM	0	0	0	0	0	0	0	4	1	0	4	0	9	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	10	0	0	4	0	14	0	0	0	0	0
	7:30 AM 7:45 AM	0	0	0	0	0	0	0	6 7	0	0	13 5	0	19 12	0	0	0	0	0
	8:00 AM	0	0	1	0	0	0	0	7	0	1	16	0	25	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	3	0	0	4	0	7	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	9	0	1	9	0	19	0	0	0	0	0
	8:45 AM	1	0	0	0	0	0	0	7	0	0	7	0	15	0	0	0	0	0
L	9:00 AM 9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	1	0	1	0	0	0	0	53	1	2	62	0	120	0	0	0	0	0
	APPROACH %	50%	0%	50%	0%	0%	0%	0%	98%	2%	3%	97%	0%						
	APP/DEPART BEGIN PEAK HR	2	7:15 AM	0	0	/	3	54	/	54	64	/	63	0					
	VOLUMES	0	7.13 AW	1	0	0	0	0	30	0	1	38	0	70					
	APPROACH %	0%	0%	100%	0%	0%	0%	0%	100%	0%	3%	97%	0%	, ,					
	PEAK HR FACTOR		0.250			0.000			0.750			0.574		0.700					
	APP/DEPART	1	/	0	0	/	1	30	/	31	39	/	38	0	 				
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:15 PM 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:00 PM	0	0	0	0	0	0	0	10	0	0	6	0	16	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	9	0	0	7	0	16	0	0	0	0	0
	4:30 PM	0	0	0	0	0	0	0	14	0	0	9	0	23	0	0	0	0	0
	4:45 PM 5:00 PM	0	0	0	0	0	0	0	10 12	0	0	2	0	14 14	0	0	0	0	0
_	5:15 PM	0	0	0	0	0	0	0	8	0	1	5	0	14	0	0	0	0	0
ΡM	5:30 PM	0	0	0	0	0	0	0	10	0	0	4	0	14	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	23	0	0	2	0	25	0	0	0	0	0
	VOLUMES	1	0	0	0	0	0	0	96	0	2	37	0	136	0	0	0	0	0
	APPROACH % APP/DEPART	100%	0%	0% 0	0% 0	0%	<u>0%</u> 2	0% 96	100%	0% 96	5% 39	95%	0% 38	0	ŀ				
	BEGIN PEAK HR	'	4:00 PM		U			90		90	39	/	30	U	1				
	VOLUMES	1	0	0	0	0	0	0	43	0	1	24	0	69					
	APPROACH %	100%	0%	0%	0%	0%	0%	0%	100%	0%	4%	96%	0%						
	PEAK HR FACTOR		0.250			0.000			0.768			0.694		0.750					
	APP/DEPART	1	/	0	0	/	1	43	/	43	25	/	25	0	ı				
					I	Mountai	n	1											
					·	ouca													
					N	IORTH SII	DE												
		CA-138	WE	EST SIDE				EAST SI	DE	CA-138									
					S	OUTH SII	DE												
						Mountai	n												

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

						OUTH SII Mountai i													
		CA-138	WE	EST SIDE	1	OUT!! C''	0 F	EAST SI	DE	CA-138									
						Mountai l													
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	0 0%	5:00 PM 0 0% 0.375	3 100%	0 0% 0	0 0% 0.000 /	0 0%	0 0%	1 25% 0.250 /	3 75% 4	0 0% 2	2 100% 0.500 /	0 0% 2	9 0.321 0					
	VOLUMES APPROACH % APP/DEPART	0 0% 3	0 0% /	3 100% 0	0 0% 0	0 0% /	0 0% 3	0 0% 4	1 25% /	3 75% 4	0 0% 2	2 100% /	0 0% 2	9	0	0	0	0	0
PM	5:15 PM 5:30 PM 5:45 PM	0 0 0	0 0 0	0 2 1	0 0 0	0 0 0	0 0	0 0 0	0 1 0	0 3 0	0 0 0	1 1 0	0 0 0	1 7 1	0 0	0 0	0 0	0 0 0	0 0
	4:30 PM 4:45 PM 5:00 PM	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0 0	0 0	0 0 0	0 0
	3:45 PM 4:00 PM 4:15 PM	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0	0 0	0 0	0 0	0 0
	03:00 PM 3:15 PM 3:30 PM	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
	VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	0 0% 0	0 0% 0.000	0 0% 0	0 0% 0	0 0% 0.000 /	0 0% 0	0 0%	0 0% 0.000 /	0 0% 0	0 0% 2	2 100% 0.250 /	0 0% 2	2 0.250 0					
	APPROACH % APP/DEPART BEGIN PEAK HR	0%	0% / 7:00 AM	0%	0%	0% /	0%	0% 1	100%	0% 1	2	100%	0% 2	0					
	9:45 AM VOLUMES	0	0	0	0	0	0	0	0	0	0	0	0	0 3	0	0	0	0 0	0
AM	9:00 AM	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
	8:15 AM 8:30 AM 8:45 AM	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0 1	0 0 0	0 0 0	0 0 0	0 0 0	0 0 1	0 0	0 0	0 0	0 0	0 0
	7:30 AM 7:45 AM 8:00 AM	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0 0	0 0
	7:00 AM 7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0
	LANES:	NL 0	Mountain NT 1	NR 0	SL 0	Mountain ST 1	SR 0	EL 1	CA-138 ET 1	ER 0	WL 1	CA-138 WT 1	WR 0	TOTAL	NB	SB	EB	WB	TTL
		NC	RTHBOU	IND	SC	OUTHBOU	ND	E	ASTBOUN	ND	OTHER	/ESTBOUN	▼		! !	U	-TURI	NS	
	RV										PM MD OTHER	⋖ W	N S	E►					
	WEDNESDAY CLASS 5:	EAST & '			CA-138					CONTRO	AM	SIGNAL	A		1				
	7/29/15		& SOUTH	l:	Mountai					LOCATIO	N#:	2							

INTERSECTION TURNING MOVEMENT COUNTS PREPARED BY: AimTD LLC. tel: 714 253 7888 pacific@aimtd.com

	<u>DATE:</u> 7/29/15 WEDNESDAY	LOCATION NORTH EAST &	& SOUTH	:	Pinon Hi Mountaii CA-138					PROJECT LOCATION CONTRO	ON #:	SC1507 2 SIGNAL							
	CLASS 6: BUSES	NOTES	:								AM PM MD OTHER	■ W	N S	E►					
		NO	ORTHBOU Mountain	ND	SC	OUTHBOU Mountain	IND	E	ASTBOUN	ND .	OTHER	VESTBOUN CA-138	▼		<u> </u>	U	I-TURI	VS	
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL	NB	SB	EB	WB	TTI
	7:00 AM 7:15 AM 7:30 AM	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0	0 0 0	0 0 0	0 0	0 0 0	0 0 0	0 0	0 0	0 0	0 0	0 0 0	0 0
	7:45 AM 8:00 AM 8:15 AM 8:30 AM	0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 1 0	0 0 0	0 0 1 0	0 0 0	0 0 0	0 0 0 0	0 0 0	0 0 0
AM	8:45 AM 9:00 AM 9:15 AM 9:30 AM	0 0 0	0 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0 0	1 0 0	0 0 0	0 0 0	0 0 0 0	0 0 0	1 0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
	9:45 AM VOLUMES APPROACH % APP/DEPART	0 0 0% 0%	0 0 0%	0 0 0% 0	0 0 0% 0%	0 0 0%	0 0 0% 0	0 0 0%	0 1 100%	0 0 0%	0 0 0%	0 1 100%	0 0 0%	0 2	0	0	0	0	0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	0 0%	8:00 AM 0 0% 0.000		0 0%	0 0% 0.000	0 0%	0 0%	1 100% 0.250	0 0%	0 0%	1 100% 0.250	0 0%	2 0.500					
PM	03:00 PM 3:15 PM 3:30 PM 3:45 PM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 0 0 0 0 0 0 1 100% /	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 0 0 0 0 0 1	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		CA-138	s WE	EST SIDE	-			EAST SI	DE	CA-138	_								
						OUTH SII Mountai													

INTERSECTION TURNING MOVEMENT COUNTS CONVERTED TO PASSENGER CAR EQUIVALENTS

<u>DATE:</u> Wed, Jul 29, 15 LOCATION: NORTH & SOUTH: EAST & WEST: Pinon Hills Mountain CA-138 PROJECT #: LOCATION #: CONTROL: SC1507 2 SIGNAL

NOTES: E► **∢**W

Add U-Turns to Left Turns

											UTHER		•					-	
		N	IORTHBOUN Mountain			OUTHBOUN Mountain			EASTBOUN CA-138			WESTBOUN CA-138					J-TURNS		
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	TOTAL	NB X	SB X		VB X	TTL
	7:00 AM	0	0	18	0	0	0	0	64	3	6	95	0	186	0	0	0	0	0
	7:15 AM	3	0	8	0	0	0	0	90	3	4	82	0	190	0	0		0	0
	7:30 AM	5	0	12	0	0	0	0	74	1	5	104	0	201	0	0		0	0
	7:45 AM	2	0	9	0	0	0	0	79	1	6	79	0	176	0	0		0	0
	8:00 AM	3	0	10	0	0	0	0	69	2	8	116	0	208	0	0		0	0
	8:15 AM	2	0	11	0	0	0	0	65	2	8	76	0	164	0	0		0	0
	8:30 AM	3	0	16	0	0	0	0	76	3	11	98	0	207	0	0		0	0
	8:45 AM	4	0	22	0	0	0	0	94	2	16	66	0	204	0	0	0	0	0
	9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	VOLUMES	22	0	106	0	0	0	0	611	17	64	716	0	1,536	0	0	0	0	0
	APPROACH %	17%	0%	83%	0%	0%	0%	0%	97%	3%	8%	92%	0%						
	APP/DEPART	128	/	0	0	/	81	628	/	717	780	/	738	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	12	0	59	0	0	0	0	304	9	43	356	0	783					
	APPROACH %	17%	0%	83%	0%	0%	0%	0%	97%	3%	11%	89%	0%						
	PEAK HR FACTOR		0.683			0.000			0.815			0.804		0.941					
	APP/DEPART	71	/	0	0	/	52	313	/	363	399	/	368	0					
	03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
	3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
	3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
	3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0
	4:00 PM	1	0	12	0	0	0	1	131	9	18	91	0	263	0	0		0	0
	4:15 PM	6	0	22	0	0	0	0	173	6	22	94	0	323	0	0		0	0
	4:30 PM	4	0	19	0	0	0	0	167	6	22	88	0	306	0	0		0	0
	4:45 PM	8	0	18	0	0	0	0	153	5	20	92	0	296	0	0		0	0
	5:00 PM	3	0	12	0	0	0	0	148	8	13	56	0	240	0	0		0	0
PΜ	5:15 PM	4	0	15	0	0	0	1	118	3	29	83	0	253	0	0		0	0
ш.	J.30 F W	2	0	28	0	0	0	0	144	17	11	99	0	301	0	0		0	0
	5:45 PM	1	0	21	0	0	0	0	160	1	12	74	0	269	0	0		0	0
	VOLUMES	29	0	147	0	0	0	2	1,194	55	147	677	0	2,251	0	0	0	0	0
	APPROACH %	16%	0%	84%	0%	0%	0%	0%	95%	4%	18%	82%	0%	_					
	APP/DEPART	176	/	2	0	/	202	1,251	/	1,341	824	/	706	0					
	BEGIN PEAK HR		4:00 PM									0.45							
	VOLUMES	19	0	71	0	0	0	1	624	26	82	365	0	1,188					
	APPROACH %	21%	0%	79%	0%	0%	0%	0%	96%	4%	18%	82%	0%						
	PEAK HR FACTOR	00	0.804			0.000	100	(51	0.909	(05	447	0.963	204	0.920					
_	APP/DEPART	90		1	0	/	108	651	/	695	447	/	384	0					

Mountain

NORTH SIDE

EAST SIDE CA-138 WEST SIDE CA-138

> SOUTH SIDE Mountain

	7:00 AM
	7:15 AM
	7:30 AM
	7:45 AM
	8:00 AM
AM	8:15 AM
A	8:30 AM
	8:45 AM
	9:00 AM
	9:15 AM
	9:30 AM
	9:45 AM
	TOTAL
	3:00 PM
	3:15 PM
	3:30 PM
	3:45 PM
	4:00 PM
ΡM	4:15 PM
Б	4:30 PM
	4:45 PM
	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL

		1		
	ALL	PED AND	BIKE	
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

PEDESTRIAN CROSSINGS														
N SIDE S SIDE E SIDE W SIDE TOTAL														
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
1	0	0	0	1										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
1	0	0	0	1										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										
0	0	0	0	0										

E	BICYC	LE CR	OSSIN	IGS
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

APPENDIX C

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 <u>Highway Capacity Manual</u>. 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 time's 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 upused capacity available. As the volume approaches capacity and

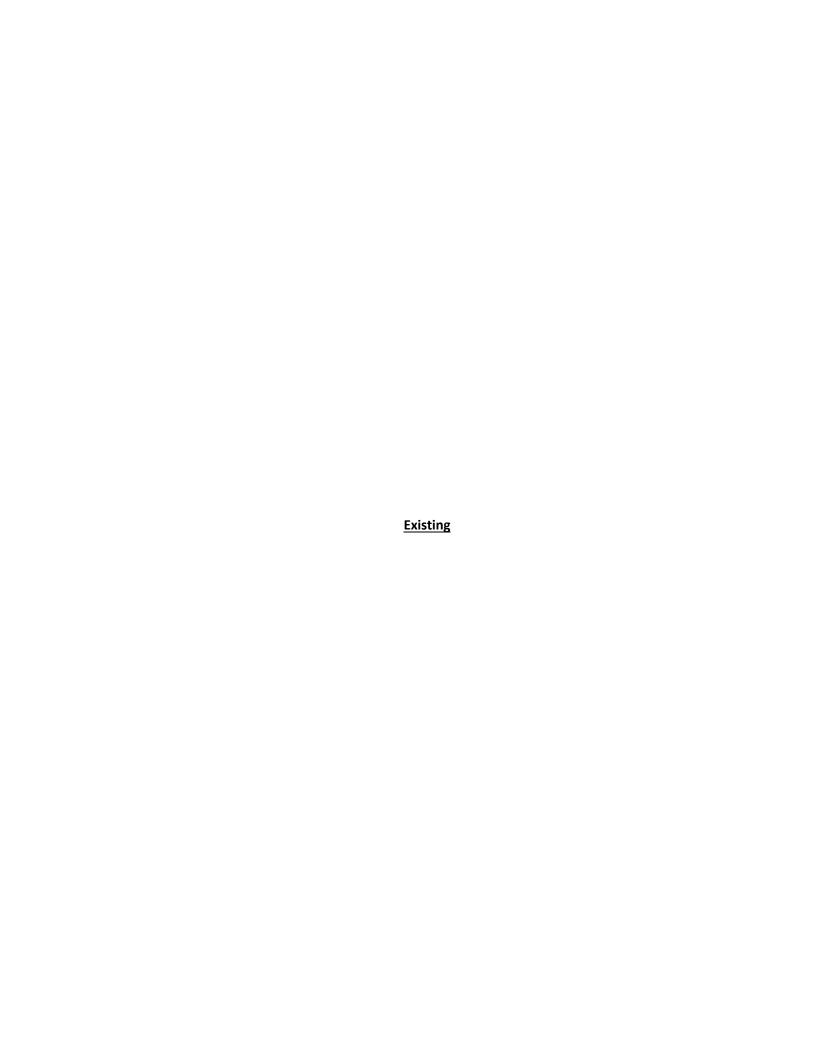
The delay calculation for a lane group is based on a concept that the delay is a function of the amount of unused capacity available. As the volume approaches capacity and there is no more unused capacity available, then the delay rapidly increases. Delay is not proportional to volume, but rather increases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

LEVEL OF SERVICE DESCRIPTION¹

Level Of		Average T Per Vehicle	otal Delay e (Seconds)
Service	Description	Signalized	Unsignalized
А	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
В	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
С	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: <u>Highway Capacity Manual</u> Special Report 209, Transportation Research Board, National Research Council, Washington, D.C., 2000.



	TW	O-WAY STOP	CONTR	OL SI	JMN	/IARY				
General Information	n		Site I	nform	natio	n				
Analyst	BC		Interse	ection			Mountair	Road/Si	R-138	
Agency/Co.	Kunzmar	Associates, Inc.	Jurisdi				CALTRA	NS		
Date Performed	8/10/201		Analys	sis Yea	r		Existing			
Analysis Time Period		Peak Hour								
Project Description Do	ollar General - F	Pinon Hills								
East/West Street: SR-1						t: Mounta	in Road			
ntersection Orientation:			Study I	Period	(hrs):	: 0.25				
Vehicle Volumes ar	nd Adjustme					\\\aatha				
Major Street	1	Eastbound	1 ^			4	Westbou	ind		
Movement	1 L	2 	3 R			4	5 T		6 R	
/olume (veh/h)	0	304	9	-		43	356	- 	0 0	
Peak-Hour Factor, PHF	1.00	0.94	0.94	!		0.94	0.94		1.00	
Hourly Flow Rate, HFR				$\neg \neg$						
veh/h)	0	323	9			45	378		0	
Percent Heavy Vehicles	0					0				
Median Type				Undi	/ided					
RT Channelized			0						0	
_anes	1	1	0			1	1		0	
Configuration	L		TR			L			TR	
Jpstream Signal		0					0			
Minor Street		Northbound					Southboo	und		
Movement	7	8	9			10	11		12	
	L	Т	R			L	Т		R	
/olume (veh/h)	12		59			0	0		0	
Peak-Hour Factor, PHF	0.94	1.00	0.94			1.00	1.00		1.00	
Hourly Flow Rate, HFR (veh/h)	12	0	62			0	0		0	
Percent Heavy Vehicles	0	0	0			0	0		0	
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0						0	
_anes	0	0	0			0	1		0	
Configuration		LR					LTR			
Delay, Queue Length, a	and Level of Se	ervice								
Approach	Eastbound	Westbound		Northbo	ound		S	Southbou	nd	
Movement	1	4	7	8		9	10	11	12	
ane Configuration	L	L		LR				LTR		
/ (veh/h)	0	45		74				0		
C (m) (veh/h)	1192	1239		584	1					
//c	0.00	0.04		0.13	3					
95% queue length	0.00	0.11		0.43	_					
Control Delay (s/veh)	8.0	8.0		12.	_					
OS	A	A		B	-		 	 	_	
Approach Delay (s/veh)	A			12.	1			<u> </u>		
Approach LOS				12. B	,		-			
Approach LOS copyright © 2010 University of Fl				HCS+TM					/2015 8:57	

	TW	O-WAY STOP	CONTRO	L SUMI	MARY			
General Information	<u> </u>		Site Inf	ormatic	on			
Analyst	BC		Intersec	tion		Mountain	Road/SI	R-138
Agency/Co.		Associates, Inc.	Jurisdict			CALTRA		
Date Performed	8/10/201	5	Analysis	Year		Existing		
Analysis Time Period	Evening I	Peak Hour						
	ollar General - F	Pinon Hills						
East/West Street: SR-1					t: Mounta	ain Road		
Intersection Orientation:	East-West		Study Pe	eriod (hrs)	: 0.25			
Vehicle Volumes ar	nd Adjustme							
Major Street		Eastbound				Westbou	nd	
Movement	1	2	3		4	5		6
\(\lambda = \lambda \)	L	T	R		L	T		R
Volume (veh/h) Peak-Hour Factor, PHF	1.00	624	26		82	365		1.00
Hourly Flow Rate, HFR		0.92	0.92	_	0.92	0.92		
(veh/h)	0	678	28		89	396		0
Percent Heavy Vehicles	0		0					
Median Type				Undivided	d			
RT Channelized			0					0
Lanes	1	1	0		1	1		0
Configuration	L		TR		L			TR
Upstream Signal		0				0		
Minor Street		Northbound				Southbou	ınd	
Movement	7	8	9		10	11		12
	L	T	R		L	Т		R
Volume (veh/h)	19		71		0	0		0
Peak-Hour Factor, PHF	0.92	1.00	0.92		1.00	1.00		1.00
Hourly Flow Rate, HFR (veh/h)	20	0	77		0	0		0
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0				0		
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0					0
Lanes	0	0	0		0	1		0
Configuration		LR				LTR		
Delay, Queue Length, a	nd Level of Se	ervice						
Approach	Eastbound	Westbound	No	orthbound		S	outhbour	nd
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LR			LTR	
v (veh/h)	0	89		97			0	
C (m) (veh/h)	1174	902		304				
v/c	0.00	0.10		0.32				
95% queue length	0.00	0.33		1.34				
Control Delay (s/veh)	8.1	9.4		22.3				
LOS	A	A		С				
Approach Delay (s/veh)	22.3				1	<u>I</u>		
Approach LOS	C 22.3							
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HCS 2010 Signalized Intersection Results Summary General Information Intersection Information Duration, h 0.25 Agency Kunzman Associates, Inc. Analyst BC Analysis Date Aug 10, 2015 Area Type Other PHF 0.94 Jurisdiction CALTRANS Time Period Morning Peak Hour 1> 7:00 Intersection Oasis Road/SR 138 Analysis Year | Existing **Analysis Period** File Name AME3.xus **Project Description** Oasis Road (NS) at SR 138 Highway (EW) EΒ WB NB SB **Demand Information** Approach Movement L R L R L R L R 5 Demand (v), veh/h 12 343 8 9 379 28 2 13 61 7 17 ᄱ Signal Information Cycle, s 130.0 Reference Phase 2 ₹ Offset, s 0 Reference Point End Green 2.9 0.8 80.8 0.7 5.3 24.5 Uncoordinated No Simult, Gap E/W On Yellow 3.0 0.0 3.0 3.0 3.0 3.0 Force Mode Fixed Simult. Gap N/S On Red 0.0 0.0 0.0 0.0 0.0 0.0 **Timer Results EBL EBT WBL WBT NBL NBT** SBL SBT **Assigned Phase** 5 2 6 3 8 1 7 4 Case Number 2.0 3.0 2.0 3.0 2.0 4.0 2.0 4.0 Phase Duration, s 6.7 84.6 5.9 83.8 3.7 27.5 12.0 35.8 3.0 Change Period, (Y+Rc), s 3.0 3.0 3.0 3.0 3.0 3.0 3.0 Max Allow Headway (MAH), s 3.1 0.0 3.1 0.0 3.1 3.3 3.1 3.3 Queue Clearance Time (gs), s 3.0 2.8 2.2 3.3 7.1 3.6 Green Extension Time (g_e) , s 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.1 Phase Call Probability 0.37 0.29 0.07 0.82 0.90 0.98 Max Out Probability 0.00 0.00 0.00 0.00 0.06 0.00 **Movement Group Results** EΒ WB NB SB Approach Movement L Т R L Т R L Т R L Т R 5 2 12 3 7 4 14 **Assigned Movement** 1 6 16 8 18 2 Adjusted Flow Rate (v), veh/h 13 365 9 10 403 30 19 65 26 Adjusted Saturation Flow Rate (s), veh/h/ln 1619 1800 1525 1619 1800 1525 1619 1593 1619 1596 Queue Service Time (gs), s 1.0 12.3 0.3 8.0 14.2 1.0 0.2 1.3 5.1 1.6 Cycle Queue Clearance Time (qc), s 1.0 12.3 0.3 8.0 14.2 1.0 0.2 1.3 5.1 1.6 Green Ratio (g/C) 0.03 0.63 0.63 0.02 0.62 0.62 0.01 0.19 0.07 0.25 46 957 948 300 402 Capacity (c), veh/h 1129 36 1119 9 113 Volume-to-Capacity Ratio (X) 0.277 0.323 0.009 0.263 0.360 0.031 0.231 0.064 0.576 0.063 Available Capacity (ca), veh/h 280 1129 957 280 1119 948 149 428 149 531 Back of Queue (Q), veh/ln (50th percentile) 0.4 5.0 0.1 0.3 5.8 0.3 0.1 0.5 2.1 0.6 Queue Storage Ratio (RQ) (50th percentile) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 43.4 Uniform Delay (d1), s/veh 61.8 11.3 9.1 62.5 12.0 9.5 64.3 58.6 37.0 Incremental Delay (d2), s/veh 1.2 8.0 0.0 1.4 0.9 0.1 4.6 0.0 1.7 0.0 Initial Queue Delay (d3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 63.9 12.9 43.4 60.4 Control Delay (d), s/veh 63.0 12.1 9.1 9.6 69.0 37.0 Level of Service (LOS) Ε В Α Ε В Α Е D E D Approach Delay, s/veh / LOS В 13.8 В 13.7 45.9 D 53.8 D Intersection Delay, s/veh / LOS 18.3 R **Multimodal Results** FB WB NB SB Pedestrian LOS Score / LOS 2.2 В 2.2 В 2.5 В 2.5 В Bicycle LOS Score / LOS 1.1 Α 1.2 Α 0.5 Α 0.6 Α

HCS 2010 Signalized Intersection Results Summary General Information Intersection Information Duration, h 0.25 Agency Kunzman Associates, Inc. Analyst BC Analysis Date Aug 10, 2015 Area Type Other PHF Jurisdiction CALTRANS Time Period **Evening Peak** 0.90 Hour 1> 7:00 Intersection Oasis Road/SR 138 Analysis Year | Existing **Analysis Period** File Name AME3.xus **Project Description** Oasis Road (NS) at SR 138 Highway (EW) EΒ WB NB SB **Demand Information** Approach Movement L R L R L R L R 84 Demand (v), veh/h 24 658 20 37 413 21 12 25 45 5 11 ᄱ J Signal Information Cycle, s 130.0 Reference Phase 2 Offset, s 0 Reference Point End Green 6.2 73.4 5.7 2.7 28.5 1.6 Uncoordinated No Simult, Gap E/W On Yellow 3.0 0.0 3.0 3.0 0.0 3.0 Force Mode Fixed Simult. Gap N/S On Red 0.0 0.0 0.0 0.0 0.0 0.0 **Timer Results EBL EBT WBL WBT NBL NBT** SBL SBT **Assigned Phase** 5 2 6 3 8 1 7 4 Case Number 2.0 3.0 2.0 3.0 2.0 4.0 2.0 4.0 Phase Duration, s 9.2 76.4 10.7 78.0 8.7 31.5 11.4 34.1 3.0 Change Period, (Y+Rc), s 3.0 3.0 3.0 3.0 3.0 3.0 3.0 Max Allow Headway (MAH), s 3.1 0.0 3.1 0.0 3.1 3.3 3.1 3.3 Queue Clearance Time (gs), s 4.1 5.2 3.8 4.7 5.9 3.1 Green Extension Time (g_e) , s 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.1 Phase Call Probability 0.62 0.77 0.57 0.95 0.84 0.98 Max Out Probability 0.00 0.00 0.00 0.00 0.01 0.00 **Movement Group Results** EΒ WB NB SB Approach Movement L Т R L Т R L Т R L Т R 5 2 12 3 4 14 **Assigned Movement** 1 6 16 8 18 7 Adjusted Flow Rate (v), veh/h 27 731 22 41 459 93 23 41 50 18 Adjusted Saturation Flow Rate (s), veh/h/ln 1619 1800 1525 1619 1800 1525 1619 1605 1619 1602 Queue Service Time (gs), s 2.1 38.7 8.0 3.2 18.8 3.6 1.8 2.7 3.9 1.1 Cycle Queue Clearance Time (qc), s 38.7 8.0 3.2 18.8 3.6 3.9 2.1 1.8 2.7 1.1 Green Ratio (g/C) 0.05 0.56 0.56 0.06 0.58 0.58 0.04 0.22 0.06 0.24 862 96 1038 880 104 383 Capacity (c), veh/h 77 1017 71 351 Volume-to-Capacity Ratio (X) 0.346 0.719 0.026 0.427 0.442 0.106 0.329 0.117 0.480 0.046 Available Capacity (ca), veh/h 239 1017 862 239 1038 880 149 440 149 472 Back of Queue (Q), veh/ln (50th percentile) 0.9 16.8 0.3 1.3 7.9 1.3 0.8 1.1 1.6 0.4 Queue Storage Ratio (RQ) (50th percentile) 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 40.7 Uniform Delay (d1), s/veh 60.0 20.7 12.5 59.0 15.6 12.4 60.3 58.7 38.0 Incremental Delay (d2), s/veh 1.0 4.4 0.1 1.1 1.4 0.2 1.0 0.1 1.3 0.0 Initial Queue Delay (d3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 60.0 Control Delay (d), s/veh 60.9 25.1 12.5 60.1 17.0 12.6 61.3 40.8 38.0 Level of Service (LOS) Ε С В Ε В В Е D Ε D Approach Delay, s/veh / LOS 26.0 С 19.3 В 48.2 54.2 D D Intersection Delay, s/veh / LOS 25.6 С **Multimodal Results** FB WB NB SB Pedestrian LOS Score / LOS 2.3 В 2.3 В 2.5 В 2.5 В Bicycle LOS Score / LOS 1.8 Α 1.5 Α 0.6 Α 0.6 Α



	TW	O-WAY STOP	CONTR	OL SU	MMARY			
General Information	n		Site I	nforma	ation			
Analyst	BC		Interse	ection		Mountair	n Road/SF	R-138
Agency/Co.	Kunzmar	Associates, Inc.	Jurisd	iction		CALTRA		
Date Performed	8/10/201		Analys	sis Year		Existing I	Plus Proje	ect
Analysis Time Period		Peak Hour						
Project Description Do		Pinon Hills						
East/West Street: SR-1					reet: Moun	tain Road		
Intersection Orientation:			Study	Period (h	nrs): 0.25			
Vehicle Volumes ar	<u>nd Adjustme</u>							
Major Street		Eastbound	1 0			Westbou	ınd	
Movement	1	2 T	3 R		4	5 T		6 R
Volume (veh/h)	0	306	9		L 	357		0
Peak-Hour Factor, PHF	1.00	0.94	0.94	. +	0.94	0.94		1.00
Hourly Flow Rate, HFR								
(veh/h)	0	325	9		46	379		0
Percent Heavy Vehicles	0				0			
Median Type			-	Undivi	ded			
RT Channelized			0					0
Lanes	1	1	0		1	1		0
Configuration	L		TR		L			TR
Upstream Signal		0				0		
Minor Street		Northbound				Southboo	und	
Movement	7	8	9		10	11		12
	L	Т	R		L	Т		R
Volume (veh/h)	12		60		0	0		0
Peak-Hour Factor, PHF	0.94	1.00	0.94	'	1.00	1.00		1.00
Hourly Flow Rate, HFR (veh/h)	12	0	63		0	0		0
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0				0		
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0					0
Lanes	0	0	0		0	1		0
Configuration		LR				LTR		
Delay, Queue Length, a	and Level of Se	ervice						
Approach	Eastbound	Westbound		Northbou	und	5	Southbour	nd
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LR			LTR	
v (veh/h)	0	46		75			0	
C (m) (veh/h)	1191	1237		584				
v/c	0.00	0.04		0.13				
95% queue length	0.00	0.12		0.44		1		1
Control Delay (s/veh)	8.0	8.0		12.1		1		1
LOS	A	A		B		+		+
Approach Delay (s/veh)				12.1		+		
Approach LOS				B		+		
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	TW	O-WAY STOP	CONTR	OL SI	JMN	IARY				
General Information	n		Site I	nform	atio	n				
Analyst	BC		Interse	ection			Mountair	Road/	SR-	138
Agency/Co.		Associates, Inc.	Jurisdi				CALTRA			
Date Performed	8/10/201		Analys	sis Year	r		Existing	Plus Pr	ojec	t
Analysis Time Period		Peak Hour								
Project Description Do		Pinon Hills	1							
East/West Street: SR-1						: Mounta	ain Road			
ntersection Orientation:		1	Study	Period	(nrs):	0.25				
/ehicle Volumes ar	<u>na Aajustme</u>			1			\\/aatha	ام ما		
Major Street Movement	1	Eastbound 2	3			4	Westbou 5	ina		6
novement	 	T	R			L	T			R
/olume (veh/h)	0	627	26			84	368	-		0
Peak-Hour Factor, PHF	1.00	0.92	0.92			0.92	0.92			1.00
Hourly Flow Rate, HFR	0	681	28			91	399			0
veh/h) Percent Heavy Vehicles	0					0				
Median Type	0			Undiv	vided	U				
RT Channelized			0	- Criaiv	1404					0
anes	1	1	0			1	1			0
Configuration	L		TR			L				TR
Jpstream Signal		0					0			
Minor Street		Northbound					Southboo	und		
Movement	7	8	9		10		11			12
	L	Т	R			L	Т			R
/olume (veh/h)	19		73			0	0			0
Peak-Hour Factor, PHF	0.92	1.00	0.92		1.00		1.00		1	1.00
Hourly Flow Rate, HFR veh/h)	20	0	79			0	0			0
Percent Heavy Vehicles	0	0	0		0		0			0
Percent Grade (%)		0					0			
-lared Approach		N					N			
Storage		0					0			
RT Channelized			0							0
_anes	0	0	0			0	1			0
Configuration		LR					LTR			
Delay, Queue Length, a										
Approach	Eastbound	Westbound	I	Northbo	ound		5	Southbo		
Movement	1	4	7	8		9	10	11		12
ane Configuration	L	L		LR	-			LTF	?	
(veh/h)	0	91		99				0		
C (m) (veh/h)	1171	899		303	<u> </u>					
//c	0.00	0.10		0.33	3					
95% queue length	0.00	0.34		1.38	3					
Control Delay (s/veh)	8.1	9.5		22.5	5					
OS A A			С							
Approach Delay (s/veh)	22.5									
Approach LOS				С						

	TW	O-WAY STOP	CONTR	OL SU	MMARY			
General Information	 n		Site I	nforma	tion			
Analyst	BC		Interse	ection		Mountain	Road/SI	R-138
Agency/Co.	Kunzmar	Associates, Inc.	Jurisdi			CALTRA		
Date Performed	8/10/201		Analys	sis Year		Existing I	Plus Proje	ect
Analysis Time Period		Peak Hour						
Project Description Do		Pinon Hills						
East/West Street: SR-1					eet: <i>Projec</i>	t Access		
Intersection Orientation:			Study	Period (h	rs): 0.25			
Vehicle Volumes ar	<u>nd Adjustme</u>							
Major Street		Eastbound	1 0			Westbou	ınd	
Movement	1	2 	3 R		4	5 T		6 R
Volume (veh/h)	L L	363	3		L 18	399		0 0
Peak-Hour Factor, PHF	1.00	0.95	0.95	. 	0.95	0.95		1.00
Hourly Flow Rate, HFR								
(veh/h)	0	382	3		18	420		0
Percent Heavy Vehicles	0				0			
Median Type				Undivia	led			
RT Channelized			0					0
_anes	0 1				1	1		0
Configuration			TR		L			TR
Upstream Signal	I 0					0		
Minor Street		Northbound				Southboo	und	
Movement	7	8	9		10	11		12
	L	Т	R		L	Т		R
Volume (veh/h)	2	0	12		4.00	4.00		
Peak-Hour Factor, PHF	0.95	1.00	0.95	<u> </u>	1.00	1.00		1.00
Hourly Flow Rate, HFR (veh/h)	2	0	12		0	0		0
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0	•			0	•	
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0					0
Lanes	0	1	0		0	0		0
Configuration		LTR						
Delay, Queue Length, a	and Level of Se	ervice	•	-		•	•	
Approach	Eastbound	Westbound		Northbou	nd	S	Southbour	nd
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LTR				
v (veh/h)		18		14				
C (m) (veh/h)		1185		584				
//c	0.02			0.02		1		
95% queue length				0.07	\top	1	<u> </u>	
Control Delay (s/veh)				11.3		1		
OS		A		В		1		
Approach Delay (s/veh)	11.3							
Approach LOS	 	11.3 B						
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	TW	O-WAY STOP	CONTR	OL S	UMI	MARY				
General Information	n		Site I	nform	natio	on				
Analyst	BC		Interse	ection			Mountair	n Road/	SR-	138
Agency/Co.	Kunzmar	Associates, Inc.	Jurisdi				CALTRA	NS		
Date Performed	8/10/201		Analys	sis Yea	ır		Existing	Plus Pr	ojec	t
Analysis Time Period	Evening	Peak Hour								
	ollar General - F	Pinon Hills								
East/West Street: SR-1						t: <i>Projec</i>	t Access			
Intersection Orientation:	East-West		Study I	Period	(hrs)): 0.25				
Vehicle Volumes ar	nd Adjustme									
Major Street		Eastbound	_				Westbou	und		
Movement	1	2	3			4	5			6
	L	T	R			L	T			R
Volume (veh/h)	1.00	699	5			26	446			0
Peak-Hour Factor, PHF	1.00	0.95	0.95)		0.95	0.95			1.00
Hourly Flow Rate, HFR (veh/h)	0	735	5			27	469			0
Percent Heavy Vehicles	0					0				
Median Type				Undi	vided	d				
RT Channelized			0							0
Lanes	0	1	0			1	1			0
Configuration			TR			L			TR	
Upstream Signal		0					0			
Minor Street		Northbound					Southbo	und		
Movement	7	8	9			10	11			12
	L	Т	R			L	Т			R
Volume (veh/h)	5	0	26							
Peak-Hour Factor, PHF	0.95	1.00	0.95	5		1.00	1.00			1.00
Hourly Flow Rate, HFR (veh/h)	5	0	27		0		0			0
Percent Heavy Vehicles	0	0	0		0		0			0
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0	ĺ		
RT Channelized			0							0
Lanes	0	1	0			0	0			0
Configuration		LTR	†							
Delay, Queue Length, a	and Level of Se									
Approach	Eastbound	Westbound		Northb	ound	<u> </u>		Southbo	und	
Movement	1	4	7	8		9	10	11		12
Lane Configuration		L		LTF						
v (veh/h)		27		32						
C (m) (veh/h)	876			350						
v/c	0.03			0.0						
95% queue length				0.3						
	rol Delay (s/veh) 9.2									
				16.3				+		<u> </u>
LOS	C									
Approach Delay (s/veh)	16.3									
Approach LOS		С								

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General Inform	nation								Inte	ersect	ion Inf	ormatio	on		4 Y 4 1	ba l√
Agency		Kunzman Associate	es, Inc.						Dur	ration,	h	0.25			74	N.
Analyst		BC		Analys	is Date	e Aug 1	0, 2015		Are	а Тур	е	Other	•			<u>*</u> _ }_
Jurisdiction		CALTRANS		Time F	Period	Morni Hour	ng Peak	(PHF	F		0.94		♦	w∯E	← ↓
Intersection		Oasis Road/SR 138	3	Analys	sis Year	r Existii Projed	ng Plus		Ana	alysis	Period	1> 7:0	00		ጎቱ	
File Name		AMEP3.xus				1									4147	
Project Descrip	tion	Oasis Road (NS)	t SR 13	8 Highw	vay (EV	V)									_	
Demand Inform	nation				EB			V	/B			NB			SB	
Approach Move	ement			L	Т	R	L	Т-	Г	R	L	Т	R		Т	R
Demand (v), ve				13	351	10	9	39	92	28	4	5	13	61	7	20
Signal Informa	tion							<u> </u>	l.			_				
Cycle, s	130.0	Reference Phase	2	1	12 e	-12	_L_ ^	٦.	- 21	E42	124				\	4
Offset, s	0	Reference Point	End			- 3			<u> </u>				1	Y 2	3	4
Uncoordinated	No	Simult. Gap E/W	On	Green		1.0	79.6	1.4		4.6	25.4	_	_	~	l l	
		·		Yellow		0.0	3.0	3.0		3.0	3.0			•	7	Z
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	10.	J	0.0	0.0			6	7	8
Timer Results				EBL	_	EBT	WB	L	WE	вт	NBI	_	NBT	SBI		SBT
Assigned Phase	e			5			1		6		3		8	7		4
Case Number	<u> </u>			2.0		3.0	2.0		3.	.0	2.0		4.0	2.0		4.0
	Phase Duration, s			6.9		83.6	5.9	\rightarrow	82	_	4.4		28.4	12.0	_	36.0
Change Period	<u> </u>	S		3.0		3.0	3.0	_	3.	_	3.0		3.0	3.0		3.0
Max Allow Head				3.1	_	0.0	3.1	_	0.	_	3.1		3.3	3.1	_	3.3
Queue Clearan		, .		3.1		0.0	2.8		0.0		2.3		3.3	7.1		3.8
Green Extension				0.0		0.0	0.0	_	0.	.0	0.0		0.1	0.0		0.1
Phase Call Prol		(3-), -		0.39			0.29	_			0.14		0.85	0.90		0.98
Max Out Proba				0.00	_		0.00	_			0.00	_	0.00	0.06		0.00
Movement Gro	un Pos	ulte			EB			WI	<u> </u>			NB			SB	
Approach Move	<u> </u>	ouits		L	T	R	L	T	, 	R	L	T	R	L	T	R
Assigned Move						+	1		_	-			1	_	-	
		vob/b		5	2	12		6	\rightarrow	16	3	8	18	7	4	14
Adjusted Flow F				14	373	11	10	417	_	30	4	19		65	29	
		ow Rate (s), veh/h/ln		1619	1800	1525	1619	180	_	1525	1619	1593		1619	1588	
Queue Service		·		1.1	12.9	0.3	0.8	15.	_	1.0	0.3	1.3		5.1	1.8	
Cycle Queue C Green Ratio (g/		e Time (gc), S		0.03	12.9 0.62	0.3	0.8	15. 0.6	\rightarrow	1.0 0.61	0.3	1.3 0.20		5.1 0.07	1.8 0.25	
Capacity (c), ve				49	1116	946	36	110	-	934	18	312		113	404	
Volume-to-Capa		tio (X)		0.282	0.335	-	0.263	0.37	\rightarrow	0.032	0.240	0.061		0.576	0.071	
Available Capa				268	1116	946	268	110	\rightarrow	934	149	428		149	520	
		n/ln (50th percentile)	,	0.5	5.2	0.1	0.3	6.2	-	0.3	0.2	0.5		2.1	0.7	
		RQ) (50th percentile		0.00	0.00	0.00	0.00	0.0	\rightarrow	0.00	0.00	0.00		0.00	0.00	
Uniform Delay			,	61.7	11.8	9.5	62.5	12.	_	10.0	63.8	42.6		58.6	36.8	
Incremental De	• •			1.2	0.8	0.0	1.4	1.0	\rightarrow	0.1	2.5	0.0		1.7	0.0	
Initial Queue De	elay (d3)	, s/veh		0.0	0.0	0.0	0.0	0.0)	0.0	0.0	0.0		0.0	0.0	
	Control Delay (d), s/veh			62.8	12.7	9.5	63.9	13.	7 1	10.0	66.3	42.6		60.4	36.8	
	Level of Service (LOS)			Е	В	А	Е	В		В	Е	D		Е	D	
Approach Delay	Approach Delay, s/veh / LOS			14.3	3	В	14.5	5	В	3	46.9		D	53.1		D
Intersection De	ntersection Delay, s/veh / LOS					18	3.9							В		
Multimodal Re	lultimodal Results				EB			WE	3			NB			SB	
Pedestrian LOS		/LOS		2.2		В	2.2	- 1	<u>,</u> В	3	2.5		В	2.5	-	В
Bicycle LOS So				1.1		A	1.2	_	A		0.5		A	0.6		A
,																

		HCS 2	010 S	ignali	zed l	nters	ectior	ı Re	sul	ts S	umma	ary				
														Y		
General Inform	nation	v.									ion Info	V	on		1	<u> </u>
Agency		Kunzman Associate	es, Inc.						Dur	ration,	h	0.25		-		
Analyst		BC		Analys	is Date	e Aug 1	0, 2015			а Тур	e	Other	•	△		~ ⊱
Jurisdiction		CALTRANS		Time F	Period	Eveni Hour	ng Peak	(PHF	F		0.90		★ →	W∳E	↓ ↓ ↓
Intersection		Oasis Road/SR 138	3	Analys	sis Yea	r Existii Projed	ng Plus		Ana	alysis	Period	1> 7:0	00		ጎተ	
File Name		PMEP3.xus													4147	
Project Descrip	tion	Oasis Road (NS) a	t SR 13	8 Highw	vay (E\	N)									_	
Demand Inform	nation				EB			W	/B			NB			SB	
Approach Move	ement				Т	R	L	Т-	гΤ	R	L	Т	R	L	Т	R
Demand (v), ve				29	677	23	37	43	_	84	24	12	25	45	5	16
Cianal Informa	4ian				1											
Signal Informa		Defense Dhass		-	L.	<u>۽</u> ک	∄ . ₹	Ħ	7	쎄	- 24		_		< ,	4
Cycle, s	130.0	Reference Phase	2	-	"	.	ˈ ≓₃	'	5		1 1		1	> 2	3	4
Offset, s	0	Reference Point	End	Green		0.9	73.0	6.2	2	2.2	28.9					
Uncoordinated	No	Simult. Gap E/W	On	Yellow		0.0	3.0	3.0		0.0	3.0		~			Þ
Force Mode	Fixed	Simult. Gap N/S	On	Red	0.0	0.0	0.0	0.0)	0.0	0.0		5	6	7	8
Timer Results				EBL	_	EBT	WB	L	WE	вт	NBL		NBT	SBI	_	SBT
	Assigned Phase			5		2	1	_	6		3		8	7		4
	Case Number			2.0		3.0	2.0		3.		2.0		4.0	2.0		4.0
	Phase Duration, s			9.9		76.0	10.7	_	76	_	9.2		31.9	11.4		34.1
Change Period	<u> </u>	. S		3.0		3.0	3.0	_	3.	_	3.0		3.0	3.0		3.0
Max Allow Head				3.1		0.0	3.1	_	0.0	_	3.1		3.3	3.1		3.3
Queue Clearan		, .		4.5		0.0		5.2			4.1		4.7	5.9		3.5
Green Extension				0.0		0.0		\neg	0.0	.0	0.0	\neg	0.1	0.0		0.1
Phase Call Prol		(3.77		0.69	,		0.77	-			0.62		0.96	0.84		0.98
Max Out Proba				0.00			0.00	_			0.00		0.00	0.01		0.00
Movement Gro	un Pas	eulte			EB			WE	2			NB			SB	
Approach Move		ouits		L	T	R	L	T	, 	R	L	T	R	L	T	R
Assigned Move				5	2	12	1	6		16	3	8	18	7	4	14
Adjusted Flow F		voh/h		32	752	26	41	480	_	93	27	41	10	50	23	14
		ow Rate (s), veh/h/ln		1619	1800	1525	1619	180	_	1525	1619	1605		1619	1583	
Queue Service				2.5	40.9	1.0	3.2	20.4	_	3.7	2.1	2.7		3.9	1.5	
Cycle Queue C		·		2.5	40.9	1.0	3.2	20.4	_	3.7	2.1	2.7		3.9	1.5	
Green Ratio (g/		e Time (<i>gc)</i> , s		0.05	0.56	0.56	0.06	0.5	_	0.57	0.05	0.22		0.06	0.24	
Capacity (c), ve				86	1011	857	96	102	_	867	77	357		104	378	
Volume-to-Capa		tio (X)		0.376	0.744		0.427	0.46	_	.108	0.346	0.115		0.480	0.062	
Available Capa				234	1011	857	234	102	_	867	149	440		149	460	
		n/ln (50th percentile)		1.0	17.8	0.3	1.3	8.6	_	1.3	0.9	1.1		1.6	0.6	
		RQ) (50th percentile		0.00	0.00	0.00	0.00	0.00	_	0.00	0.00	0.00		0.00	0.00	
Uniform Delay			,	59.5	21.4	12.7	59.0	16.	_	12.9	60.0	40.4		58.7	38.2	
Incremental De	lay (<i>d</i> ₂),	s/veh		1.0	5.0	0.1	1.1	1.5	5 1	0.3	1.0	0.1		1.3	0.0	
Initial Queue De	elay (<i>d</i> ₃)), s/veh		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	
Control Delay (Control Delay (d), s/veh			60.5	26.4	12.8	60.1	18.	1 1	13.2	60.9	40.4		60.0	38.2	
Level of Service	Level of Service (LOS)			Е	С	В	Е	В		В	Е	D		E	D	
Approach Delay	Approach Delay, s/veh / LOS			27.3	3	С	20.1	1	С		48.5		D	53.1		D
Intersection De	lay, s/ve	h / LOS				26	5.6							С		
Multimodal Re	lultimodal Posults				EB			WE	3			NB			SB	
Pedestrian LOS		/LOS		2.3	-	В	2.3		В	3	2.5	1	В	2.5		В
Bicycle LOS Sc				1.8		A	1.5		A		0.6		A	0.6		A
,																



	TW	O-WAY STOP	CONTR	OL SU	MMARY			
General Information	n		Site I	nforma	ation			
Analyst	BC		Interse	ection		Mountair	n Road/SF	R-138
Agency/Co.	Kunzmar	Associates, Inc.	Jurisd			CALTRA		
Date Performed	8/10/201	5	Analys	sis Year		Existing	+ AG + PI	roject
Analysis Time Period	Morning	Peak Hour						
Project Description Do		Pinon Hills						
East/West Street: SR-1					reet: Mour	ntain Road		
Intersection Orientation:			Study	Period (I	nrs): 0.25			
Vehicle Volumes ar	<u>nd Adjustme</u>							
Major Street		Eastbound				Westbou	ınd	
Movement	1	2	3		4	5 T		6
\(\al\cdot\)	L	T	R	-+	L			R 0
Volume (veh/h) Peak-Hour Factor, PHF	1.00	316 0.94	9 0.94	,	45 0.94	369 0.94		1.00
Hourly Flow Rate, HFR				+				
(veh/h)	0	336	9		47	392		0
Percent Heavy Vehicles	0				0			
Median Type				Undivi	ded			
RT Channelized			0					0
Lanes	1 1				1	1		0
Configuration					L			TR
Upstream Signal		0				0		
Minor Street		Northbound				Southbo	und	
Movement	7	8	9		10	11		12
	L	Т	R		L	Т		R
Volume (veh/h)	12		62		0	0		0
Peak-Hour Factor, PHF	0.94	1.00	0.94	!	1.00	1.00		1.00
Hourly Flow Rate, HFR (veh/h)	12	0	65		0	0		0
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0				0	•	
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0					0
Lanes	0	0	0		0	1		0
Configuration		LR				LTR		
Delay, Queue Length, a	and Level of Se	ervice						
Approach	Eastbound	Westbound		Northbo	und		Southbour	nd
Movement	1	4	7	8	9	10	11	12
Lane Configuration	L	L		LR			LTR	
v (veh/h)	0	47		77			0	
C (m) (veh/h)	1178	1225		574				
v/c	0.00	0.04		0.13				
95% queue length	0.00	0.12		0.46				
Control Delay (s/veh)	8.1	8.1		12.2				
LOS	A	A		В				
Approach Delay (s/veh)			 	12.2		+	1	
Approach LOS		 	12.2 B					
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	TW	O-WAY STOP	CONTR	OL SI	JMI	MARY				
General Information	n		Site I	nform	atio	on .				
Analyst	BC		Interse	ection			Mountair	n Road	d/SR-	138
Agency/Co.	Kunzmar	Associates, Inc.	Jurisd				CALTRA			
Date Performed	8/10/201	5	Analys	sis Yea	r		Existing -	+ <i>AG</i> -	+ Pro	ject
Analysis Time Period	Evening	Peak Hour								
Project Description Do		Pinon Hills								
East/West Street: SR-1						t: Mounta	in Road			
Intersection Orientation:	East-West		Study	Period ((hrs)	: 0.25				
Vehicle Volumes ar	<u>nd Adjustme</u>									
Major Street		Eastbound					Westbou	ınd		
Movement	1 1	2	3			4	5			6
	L L	T	R			L	T			R
Volume (veh/h)	0	648	27			87	380			0
Peak-Hour Factor, PHF Hourly Flow Rate, HFR	1.00	0.92	0.92			0.92	0.92			1.00
(veh/h)	0	704	29			94	413			0
Percent Heavy Vehicles	0					0				
Median Type				Undiv	ridec	1				
RT Channelized			0							0
Lanes	1 1					1	1		0	
Configuration			TR		L					TR
Upstream Signal							0			
Minor Street		Northbound				10	Southboo	und		
Movement	7	8	9				11			12
	L	Т	R			L	Т			R
Volume (veh/h)	20		75			0	0			0
Peak-Hour Factor, PHF	0.92	1.00	0.92	<u> </u>		1.00	1.00			1.00
Hourly Flow Rate, HFR (veh/h)	21	0	81			0	0			0
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0							0
Lanes	0	0	0			0	1			0
Configuration		LR					LTR			
Delay, Queue Length, a	and Level of Se									
Approach	Eastbound	Westbound	1	Northbo	ound	<u> </u>	5	Southb	ound	
Movement	1	4	7	8		9	10	1	1	12
Lane Configuration	L	L		LR				L7	R	
v (veh/h)	0	94		102				C)	
C (m) (veh/h)	1157	881		286	;					
v/c	0.00	0.11		0.36	5					
95% queue length	0.00	0.36		1.56	3					
Control Delay (s/veh)	8.1	9.6		24.4						
LOS	A	A		C						
Approach Delay (s/veh)				24.4	1	<u> </u>				1
Approach LOS	C 24.4									
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	TW	O-WAY STOP	CONTR	OL SU	MMARY			
General Information	n		Site I	nforma	tion			
Analyst	BC		Interse	ection		Mountain	n Road/SF	R-138
Agency/Co.	Kunzmar	Associates, Inc.	Jurisdi			CALTRA		
Date Performed	8/10/201		Analys	sis Year		Existing -	+ AG + PI	oject
Analysis Time Period		Peak Hour						
Project Description Do		Pinon Hills						
East/West Street: SR-1					eet: Projec	t Access		
ntersection Orientation:			Study	Period (h	rs): 0.25			
Vehicle Volumes ar	<u>nd Adjustme</u>							
Major Street		Eastbound	1 0			Westbou	ınd	
Movement	1	2 	3 R		4	5 T		6 R
Volume (veh/h)	L L	375	3		L 18	412		0 0
Peak-Hour Factor, PHF	1.00	0.95	0.95	. 	0.95	0.95		1.00
Hourly Flow Rate, HFR						1		
(veh/h)	0	394	3		18	433		0
Percent Heavy Vehicles	0				0			
Median Type				Undivia	led			
RT Channelized			0					0
_anes	0 1		0		1	1		0
Configuration			TR		L			TR
Jpstream Signal						0		
Minor Street		Northbound				Southboo	und	
Movement	7	8	9		10	11		12
	L	Т	R		L	Т		R
Volume (veh/h)	2	0	12		4.00	4.00		
Peak-Hour Factor, PHF	0.95	1.00	0.95	<u> </u>	1.00	1.00		1.00
Hourly Flow Rate, HFR (veh/h)	2	0	12		0	0		0
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0	•			0	·	
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0					0
Lanes	0	1	0		0	0		0
Configuration		LTR						
Delay, Queue Length, a	and Level of Se	ervice	•	-		•	•	
Approach	Eastbound	Westbound		Northbou	nd	5	Southbour	nd
Movement	1	4	7	8	9	10	11	12
ane Configuration		L		LTR				
/ (veh/h)		18		14				
C (m) (veh/h)		1173		573				
//c		0.02		0.02				
% queue length 0.05				0.08	+	1		
Control Delay (s/veh)				11.4		1		
OS		A		В				
Approach Delay (s/veh)				11.4		1		
Approach LOS			B		1			
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	TW	O-WAY STOP	CONTR	OL SUN	/MARY			
General Information	n		Site I	nformat	tion			
Analyst	BC		Interse	ection		Mountain	Road/SI	R-138
Agency/Co.	Kunzmar	Associates, Inc.	Jurisdi			CALTRA		
Date Performed	8/10/201		Analys	sis Year		Existing -	+ AG + Pi	oject
Analysis Time Period		Peak Hour						
Project Description Do		Pinon Hills						
East/West Street: SR-1					eet: <i>Projec</i>	t Access		
Intersection Orientation:			Study	Period (hi	rs): 0.25			
Vehicle Volumes ar	<u>nd Adjustme</u>							
Major Street		Eastbound	1 0		4	Westbou	ınd	
Movement	1 1		3 R		4	5 T		6 R
Volume (veh/h)	<u> </u>	699	5		L 26	461		0 0
Peak-Hour Factor, PHF	1.00	0.95	0.95		0.95	0.95		1.00
Hourly Flow Rate, HFR				+				
(veh/h)	0	735	5		27	485		0
Percent Heavy Vehicles	0				0			
Median Type				Undivid	ed	_		
RT Channelized			0					0
_anes	0 1		0		1	1		0
Configuration			TR		L			TR
Jpstream Signal	0					0		
Minor Street		Northbound				Southboo	und	
Movement	7	8	9		10	11		12
	L	Т	R		L	Т		R
Volume (veh/h)	5	0	26			4.00		
Peak-Hour Factor, PHF	0.95	1.00	0.95	,	1.00	1.00		1.00
Hourly Flow Rate, HFR (veh/h)	5	0	27		0	0		0
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0				0		
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0					0
Lanes	0	1	0		0	0		0
Configuration		LTR						
Delay, Queue Length, a	and Level of Se	ervice	•	•		•	•	
Approach	Eastbound	Westbound		Northbou	nd	5	Southbour	nd
Movement	1	4	7	8	9	10	11	12
ane Configuration		L		LTR				
/ (veh/h)		27		32				
C (m) (veh/h)		876		348				
//c		0.03		0.09				
95% queue length		0.10		0.30				
Control Delay (s/veh)		9.2		16.4				
OS		A		C				
Approach Delay (s/veh)				16.4				
Approach LOS		76.4 C						
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	HCS 2	010 S	ignali	zed I	nterse	ectior	ı Re	sul	lts S	umm	ary				
General Information								Inte	ersect	ion Inf	ormatio	on		1	[s.] [s.
Agency	Kunzman Associate	es, Inc.						Dui	ration,	h	0.25			44	K
Analyst	ВС		Analys	is Date	e Aug 1	0, 2015		Are	еа Тур	е	Other	•	△		<u>.</u>
Jurisdiction	CALTRANS		Time F	Period	Morni Hour	ng Peak	(РН	lF		0.94		**	w ∯ E	- + + + + + + + + + + + + + + + + + + +
Intersection	Oasis Road/SR 138	3	Analys	is Yea		ng + AG	+	Ana	alysis	Period	1> 7:0	00		ጎቱ	F
File Name	AMEAP3.xus				riojec	λl								4 1 4 4	7 4
Project Description	Oasis Road (NS)	at SR 13	8 Highw	ay (EV	V)									_	
Demand Information	1			EB			V	/B			NB			SB	
Approach Movement				Т	R	L	Т-	ΤТ	R		Т	R		Т	R
Demand (v), veh/h			14	362	9	9	40	05	29	4	5	13	63	7	21
Signal Information					_		<u> </u>	l.			_				
Cycle, s 130.0	Reference Phase	2	1	12 /	-12	L 4	7	21	S42	EΨ				\ \ \	4
Offset, s 0	Reference Point	End			-3			<u> </u>				1	Y 2	3	4
Uncoordinated No	Simult. Gap E/W	On	Green		1.2	79.1	1.4		4.7	25.6	<u> </u>	_	—		
Force Mode Fixed		On	Yellow Red	0.0	0.0	0.0	3.0		3.0	3.0 0.0		^	6	\	P.
Force Mode Fixed	Simuit. Gap N/S	On	Reu	0.0	10.0	10.0	10.	U	10.0	10.0		5	6	/	٥
Timer Results	imer Results		EBL	EBL E		WB	L	WBT		NBI		NBT	SBI		SBT
Assigned Phase			5		2	1		6	6	3		8	7		4
Case Number			2.0		3.0	2.0		3.	3.0	2.0		4.0	2.0		4.0
Phase Duration, s				\neg	83.4	5.9		82	2.1	4.4		28.6	12.1		36.3
Change Period, (Y+R	(c), S		3.0		3.0	3.0	_		3.0	3.0		3.0	3.0		3.0
Max Allow Headway (•		3.1	\neg	0.0	3.1		0.	0.0	3.1		3.3	3.1		3.3
Queue Clearance Tim	•		3.2			2.8				2.3		3.3	7.2		3.9
Green Extension Time	e (<i>g</i> e), s		0.0		0.0	0.0		0.	0.0	0.0		0.1	0.0		0.1
Phase Call Probability	/		0.42			0.29	9			0.14		0.85	0.91		0.98
Max Out Probability			0.00			0.00)			0.00		0.00	0.08	3	0.00
Movement Group Re	esults			EB			WE	3			NB			SB	
Approach Movement			L	Т	R	L	Т	Т	R	L	Т	R	L	Т	R
Assigned Movement			5	2	12	1	6		16	3	8	18	7	4	14
Adjusted Flow Rate (v) veh/h		15	385	10	10	43	1	31	4	19		67	30	
Adjusted Saturation F	·	1	1619	1800	1525	1619	180	\rightarrow	1525	1619	1593		1619	1586	
Queue Service Time			1.2	13.5	0.3	0.8	16.	_	1.1	0.3	1.3		5.2	1.9	
Cycle Queue Clearan			1.2	13.5	0.3	0.8	16.	_	1.1	0.3	1.3		5.2	1.9	
Green Ratio (g/C)	(3 7)		0.03	0.62	0.62	0.02	0.6	_	0.61	0.01	0.20		0.07	0.26	
Capacity (c), veh/h			52	1113	943	36	109	6	928	18	314		113	406	
Volume-to-Capacity R	Ratio (X)		0.287	0.346	0.010	0.263	0.39	3 0	0.033	0.240	0.061		0.591	0.073	
Available Capacity (ca	a), veh/h		265	1113	943	265	109	6	928	149	428		149	519	
Back of Queue (Q), v	eh/In (50th percentile))	0.5	5.5	0.1	0.3	6.6	3	0.4	0.2	0.5		2.2	0.7	
Queue Storage Ratio	(RQ) (50th percentile	:)	0.00	0.00	0.00	0.00	0.0	0 (0.00	0.00	0.00		0.00	0.00	
Uniform Delay (d1), s/	veh		61.5	12.1	9.5	62.5	13.	1	10.2	63.8	42.4		58.6	36.7	
Incremental Delay (da	e), s/veh		1.1	0.9	0.0	1.4	1.1		0.1	2.5	0.0		1.8	0.0	
Initial Queue Delay (d	nitial Queue Delay (d3), s/veh		0.0	0.0	0.0	0.0	0.0)	0.0	0.0	0.0		0.0	0.0	
	Control Delay (<i>d</i>), s/veh			12.9	9.6	63.9	14.	1	10.2	66.3	42.5		60.5	36.7	
	Level of Service (LOS)		E	В	A	E	В		В	E	D		E	D	
Approach Delay, s/ve			14.6	5	В	14.9	9	E	В	46.8	3	D	53.1		D
Intersection Delay, s/v	veh / LOS				19	9.2							В		
Multimodal Results	ultimodal Results			EB			WE	3			NB			SB	
Pedestrian LOS Scor	e / LOS		2.2		В	2.2	- 1		В	2.5		В	2.5		В
Bicycle LOS Score / L			1.2		Α	1.3	_		A	0.5		Α	0.6		Α

		HCS 2	010 S	ignali	zed	Inters	ectior	n Re	sult	s S	umma	ary				
General Inform	nation								Inter	rsect	ion Inf	ormatic	n		1 / 4 / 4 / 4 / 4 / 4 / 4 / 4 / 4 / 4 /	Į× l <u>v</u>
Agency		Kunzman Associate	es, Inc.						Dura	ation,	h	0.25			4.7	
Analyst		BC		Analys	sis Dat	e Aug 1	0, 2015		Area	а Туре	е	Other				<u>*</u> _ }_
Jurisdiction		CALTRANS		Time F	Period	Eveni Hour	ng Peak	•	PHF	•		0.90			W∳E	↓ ↓ ↓
Intersection		Oasis Road/SR 138	3	Analys	sis Yea	r Existi		+	Anal	lysis l	Period	1> 7:0	00		ጎ ት	
File Name		PMEAP3.xus				· · · • j • ·									4 1 4 4	
Project Descrip	tion	Oasis Road (NS)	t SR 13	88 Highv	vay (E\	W)									_	
Demand Inform	mation				EB			W	'B			NB			SB	
Approach Move	ement			L	Т	R	L	1	-	R	L	Т	R	L	Т	R
Demand (v), ve				30	699	24	38	44	16	87	25	12	26	46	5	16
Signal Informa	ation							<u> </u>	l. I	211						
Cycle, s	130.0	Reference Phase	2	1		A 8	∄L. ⁴	Π.	27	Ε Ψ2			<u> </u>			4
Offset, s	0	Reference Point	End	1				,					1	Y 2	3	4
Uncoordinated		Simult. Gap E/W	On	Green		0.8	72.8	6.3		2.1	29.0	_		~	l	_
Force Mode	Fixed	Simult. Gap L/W	On	Yellow Red	0.0	0.0	3.0 0.0	3.0	-	0.0	3.0 0.0		5	6	\	
Force Mode	rixeu	Simult. Gap 14/5	OII	IXeu	10.0	10.0	0.0	0.0		0.0	10.0		3	0	,	0
Timer Results	Timer Results			EBI		EBT	WB	L	WB	3T	NBI		NBT	SBI		SBT
Assigned Phase	Assigned Phase			5		2	1				3		8	7		4
	Case Number			2.0		3.0	2.0		3.0)	2.0		4.0	2.0		4.0
	Phase Duration, s			10.0	_	75.8	10.8	-	76.6	_	9.3		32.0	11.4		34.1
Change Period		S		3.0		3.0	3.0	_	3.0	_	3.0		3.0	3.0	_	3.0
Max Allow Head				3.1	_	0.0	3.1	_	0.0	_	3.1		3.3	3.1	_	3.3
Queue Clearan				4.6		0.0	5.3		0.0		4.2		4.7	6.0		3.5
Green Extension				0.0		0.0	0.0	_	0.0)	0.0		0.1	0.0	_	0.1
Phase Call Prol		(3-)1 -		0.70	_		0.78	-			0.63		0.97	0.84		0.99
Max Out Proba				0.00	_		0.00	_			0.00		0.00	0.01	_	0.00
					ED			\ A / F				NID			0.0	
Movement Gro		SuitS		.	EB	Τ.		WE				NB			SB	
Approach Move				L	T	R	L	T	_	R	L	T	R	L	T	R
Assigned Move		1.0		5	2	12	1	6	_	16	3	8	18	7	4	14
Adjusted Flow F				33	777	27	42	496	_	97	28	42		51	23	
		w Rate (s), veh/h/ln		1619	1800	_	1619	180	_	525	1619	1603		1619	1583	
Queue Service		<u> </u>		2.6	43.4		3.3	21.4	_	3.8	2.2	2.7		4.0	1.5	
Cycle Queue C Green Ratio (g/		e Time (gc), s		2.6 0.05	43.4 0.56	0.56	0.06	0.57	_	3.8 .57	2.2 0.05	2.7 0.22		4.0 0.06	1.5 0.24	
Capacity (c), ve				87	1008	_	97	101	_	364	79	357		105	378	
Volume-to-Capa		tio (M		0.382	0.771		0.433	0.48	_	112	0.352	0.118		0.487	0.062	
Available Capa				232	1008	_	232	101	_	364	149	439		149	459	
		n/ln (50th percentile)		1.1	19.1	0.4	1.4	9.0	_	1.4	0.9	1.1		1.7	0.6	
		RQ) (50th percentile)		0.00	0.00	0.00	0.00	0.00	_	.00	0.00	0.00		0.00	0.00	
Uniform Delay			,	59.4	22.1	12.8	58.9	16.9	_	3.1	59.8	40.3		58.7	38.2	
Incremental De				1.0	5.7	0.1	1.1	1.7	_	0.3	1.0	0.1		1.3	0.0	
Initial Queue De				0.0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0		0.0	0.0	
	Control Delay (d), s/veh			60.4	27.8	12.9	60.1	18.5	_	3.3	60.8	40.4		60.0	38.2	
	Level of Service (LOS)			E	С	В	E	В	\rightarrow	В	E	D		E	D	
Approach Delay	Approach Delay, s/veh / LOS			28.7	7	С	20.5	5	С		48.5	5	D	53.2	2	D
Intersection De	ntersection Delay, s/veh / LOS					2	7.4							С		
Multimodal Re	Iultimodal Results				EB			WE	3			NB			SB	
Pedestrian LOS		/LOS		2.3	-	В	2.3	-	В		2.5		В	2.5		В
Bicycle LOS Sc				1.9		A	1.5	_	A	_	0.6		A	0.6		A
,																



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