

Ottawa Business Center

TRAFFIC ANALYSIS CITY OF VICTORVILLE

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PROFESSIONALE PR

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LIST OF ABBREVIATED TERMS

(1) Reference

ADT Average Daily Traffic

APN Assessor's Parcel Number

CA MUTCD California Manual on Uniform Traffic Control Devices

Caltrans California Department of Transportation
CEQA California Environmental Quality Act
CMP Congestion Management Program

DIF Development Impact Fee
OYC Opening Year Cumulative

GHG Greenhouse Gas

HCM Highway Capacity Manual

ITE Institute of Transportation Engineers

LOS Level of Service
NP Without Project

OPR Office of Planning and Research

PCE Passenger Car Equivalents

PHF Peak Hour Factor

Project Ottawa Business Center

RTP Regional Transportation Plan

RCTA Riverside County Transportation Authority

SCS Sustainable Communities Strategy

sf Square Feet
TA Traffic Analysis
v/c Volume to Capacity
VMT Vehicle Miles Traveled

vphgpl Vehicles per Hour Green per Lane
VVTA Victor Valley Transit Authority

WP With Project



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1 SUMMARY OF FINDINGS

This report presents the results of the traffic analysis (TA) for the proposed Ottawa Business Center ("Project"), which is located at the northeast corner of Hesperia Road and Ottawa Street in the City of Victorville. The Project's location in relation to the surrounding area is shown on Exhibit 1-1.

The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and where necessary recommend improvements to achieve acceptable operations consistent with General Plan level of service goals and policies. This TA has been prepared in accordance with the City of Victorville's <u>General Guidelines For Conducting Traffic Studies and Determination of Intersection Level of Service and Improvement Needs</u> (January 20, 2005) and the County of San Bernardino's <u>Transportation Impact Study</u> (July 9, 2019). (1) (2) The City approved Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TA.

1.1 SUMMARY OF FINDINGS

The Project is to construct the following improvements as design features in conjunction with development of the site:

- Project to install a stop control on the southbound approach (Project Driveway). Driveway to allow for full access for passenger cars and trucks.
- Project to install a stop control on the westbound approach (Project Driveway). Driveway to provide access for passenger cars and trucks.
- Project to install a traffic signal at the intersection of Hesperia Road and Ottawa Street. The
 Project shall also stripe a northbound left turn lane with a minimum of 100-feet of storage, a
 southbound left turn lane with a minimum of 200-feet of storage, and a westbound left turn lane
 with a minimum of 200-feet of storage. Project to construct a northbound right turn deceleration
 lane with a minimum of 100-feet of storage and a northbound acceleration lane north of Ottawa
 Street.
- Project to construct its ultimate half-section along Ottawa Street as an Arterial (84-foot right-ofway) from the western Project boundary to the eastern terminus of the roadway consistent with the City's standards.

Additional details and intersection lane geometrics are provided in Section 1.6 *Recommendations* of this report.

The development of the proposed Project is not anticipated to require the construction of any off-site improvements, however, there are improvement needs identified at off-site intersections for future traffic analysis scenarios where the Project would contribute traffic (as measured by 50 or more peak hour trips). As such, the Project Applicant's responsibility for the Project's contributions towards off-site intersection deficiencies is fulfilled through payment of fair share or participation in the pre-existing fee programs that would be assigned to construction of the identified recommended improvements.



Midway St Melino Dr VICTORVILLE Bonanza Rd Cholame Rd een Tree Blvd Euroka St MOUNTAIN Site Coalinga Rd Manzano Rd Sitting Bull St Little Boave, Silica Dr Lindero St Jasmine St Bear Valley Rd

EXHIBIT 1-1: LOCATION MAP



The Project Applicant would be required to pay requisite fair share contributions and fee payments consistent with the City's requirements (see Section 7 *Local and Regional Funding Mechanisms*).

1.2 PROJECT OVERVIEW

Exhibit 1-2 illustrates the preliminary Project site plan. The Project is proposed to consist of 200,000 square feet of high-cube cold storage warehouse use and 796,520 square feet of high-cube fulfillment center warehouse use. It is anticipated that the Project would be developed in a single phase with an anticipated Opening Year of 2024. Regional access to the Project site will be provided by the I-15 Freeway via Nisqualli Road.

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) <u>Trip Generation Manual</u> (10th Edition, 2017) and the <u>High-Cube Warehouse Trip Generation Study</u> (WSP, January 29, 2019) for the following land use codes: (3) (4)

- High-Cube Cold Storage Warehouse (ITE Land Use Code 157)
- High-Cube Fulfillment Center Warehouse (WSP)

The proposed Project is anticipated to generate 2,124 two-way daily trips with 119 AM peak hour trips and 154 PM peak hour trips (actual vehicles). The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.3 ANALYSIS SCENARIOS

For the purposes of this TA, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2021)
- Opening Year Cumulative (2024) Without Project Conditions
- Opening Year Cumulative (2024) With Project Conditions
- Future Year (2034) Without Project Conditions
- Future Year (2034) With Project Conditions

1.3.1 Existing (2021) Conditions

Information for Existing (2021) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. Due to the currently ongoing COVID-19 pandemic, schools and businesses within the study area were closed or operating at less than full capacity at the time this study was prepared. As such, a historic 2009 traffic count was utilized in conjunction with a 1.68% per year growth rate (compounded annually) to reflect 2021 conditions.



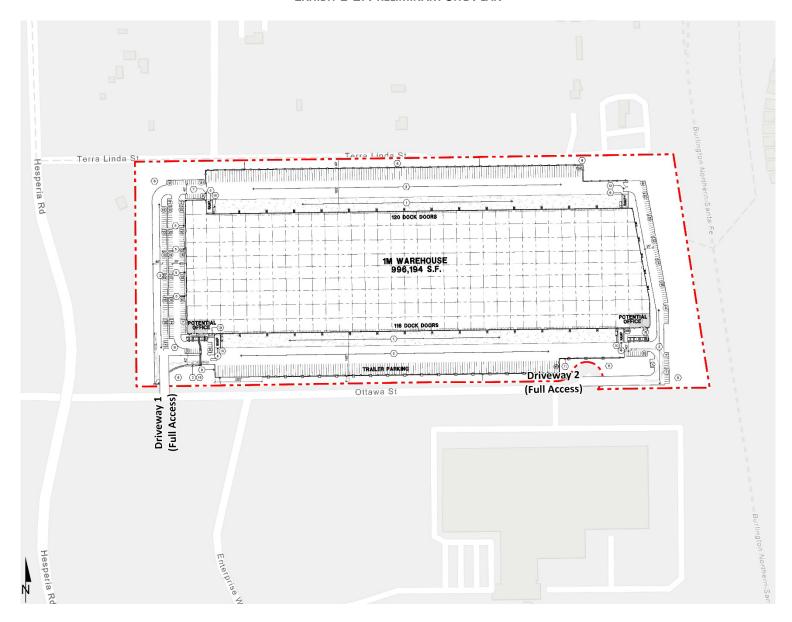


EXHIBIT 1-2: PRELIMINARY SITE PLAN



The growth rate is an average of the Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS, or SoCal Connect) population, household, and employment growth projections between 2016 and 2045. (5)

1.3.2 OPENING YEAR CUMULATIVE (2024) CONDITIONS

The Opening Year Cumulative (OYC) conditions analysis determines the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth from Existing (2021) conditions of 6.12% is included for Opening Year Cumulative (2024) traffic. This list of cumulative development projects was compiled from information provided by the City of Victorville and is consistent with other recent studies in the study area.

1.3.3 FUTURE YEAR (2034) CONDITIONS

The Future Year (2034) conditions analysis determines the potential longer-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth from Existing (2021) conditions of 29.36% is included for Future Year (2034) traffic. This list of cumulative development projects was compiled from information provided by the City of Victorville and is consistent with other recent studies in the study area.

1.4 STUDY AREA

To ensure that this TA satisfies the City of Victorville's requirements, Urban Crossroads, Inc. prepared a TA scoping package for review by City staff prior to the preparation of this report. The Agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology (see Appendix 1.1).

1.4.1 INTERSECTIONS

The following 9 study area intersections shown on Exhibit 1-2 and listed on Table 1-1 were selected for this TA based on consultation with City of Victorville staff. The "50 peak hour trip" criterion generally represents a minimum number of trips at which a typical intersection would have the potential to be affected by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area of influence (i.e., study area).



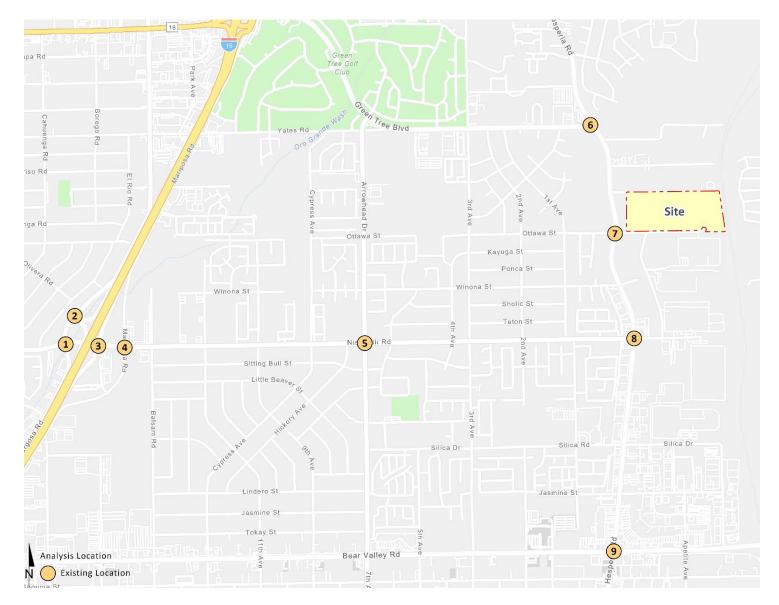


EXHIBIT 1-3: STUDY AREA



TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection	Jurisdiction	CMP?
1	Amargosa Rd. & La Mesa Rd.	Victorville	No
2	Amargosa Rd. & I-15 SB Ramps	Victorville, Caltrans	No
3	I-15 NB Ramps & Nisqualli Rd.	Victorville, Caltrans	No
4	Mariposa Rd. & Nisqualli Rd.	Victorville	No
5	Seventh Ave./Arrowhead Dr. & Nisqualli Rd.	Victorville	No
6	Hesperia Rd. & Green Tree Bl.	Victorville	No
7	Hesperia Rd. & Ottawa St.	Victorville	No
8	Hesperia Rd. & Nisqualli Rd.	Victorville	No
9	Hesperia Rd. & Bear Valley Rd.	Victorville, Hesperia	No

The intent of the Congestion Management Program (CMP) is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related deficiencies, and improve air quality. Counties within California have developed CMPs with varying methods and strategies to meet the intent of the CMP legislation. There are no study area intersections identified as a County of San Bernardino CMP location.

1.5 DEFICIENCIES

This section provides a summary of deficiencies by analysis scenario. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 3 *Area* Conditions, Section 5 *Opening Year Cumulative (2024) Traffic Conditions*, and Section 6 *Future Year (2034) Traffic Conditions* includes the detailed analysis. A summary of LOS results for all analysis scenarios is presented on Table 1-3.

TABLE 1-3: SUMMARY OF INTERSECTION LEVEL OF SERVICE BY ANALYSIS SCENARIO

		Existing	(2021)	OYC (2)	024) NP	OYC (20	024) WP	203	4 NP	2034	WP
#	Intersection	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Amargosa Rd. & La Mesa Rd.									0	0
2	Amargosa Rd. & I-15 SB Ramps										
3	I-15 NB Ramps & Nisqualli Rd.										
4	Mariposa Rd. & Nisqualli Rd.										
5	Seventh Ave./Arrowhead Dr. & Nisqualli Rd.										
6	Hesperia Rd. & Green Tree Bl.										
7	Hesperia Rd. & Ottawa St.										
8	Hesperia Rd. & Nisqualli Rd.										
9	Hesperia Rd. & Bear Valley Rd.				Ó		Ó				



1.5.1 Existing (2021) Conditions

Intersections

The following study area intersection currently operates at an unacceptable LOS during one or more peak hours under Existing (2021) traffic conditions:

Hesperia Road & Bear Valley Road (#9) – LOS E PM peak hour only

Queues

The study area movements currently operate without queuing issues during the weekday AM and weekday PM peak 95th percentile traffic flows for Existing (2021) traffic conditions.

1.5.2 OPENING YEAR CUMULATIVE (2024) CONDITIONS

Intersections

The following study area intersections are anticipated to operate at an unacceptable LOS during one or more peak hours under Opening Year Cumulative (2024) Without Project traffic conditions:

- Seventh Avenue/Arrowhead Drive & Nisqualli Road (#5) LOS E PM peak hour only
- Hesperia Road & Nisqualli Road (#8) LOS E PM peak hour only
- Hesperia Road & Bear Valley Road (#9) LOS E PM peak hour only

There are no additional study area intersections anticipated to operate at an unacceptable LOS with the addition of Project traffic under Opening Year Cumulative (2024) With Project traffic conditions. The Project is proposed to install a traffic signal at the intersection of Hesperia Road and Ottawa Street. This location is anticipated to operate at an acceptable LOS under With Project traffic conditions with the installation of a traffic signal.

Queues

The study area movements are anticipated to operate without queuing issues during the weekday AM and weekday PM peak 95th percentile traffic flows for Opening Year Cumulative (2024) traffic conditions. Similarly, there are no queuing issues anticipated with the addition of Project traffic.



1.5.3 FUTURE YEAR (2034) CONDITIONS

Intersections

The following study area intersections are anticipated to operate at an unacceptable LOS during one or more peak hours under Future Year (2034) Without Project traffic conditions:

- Amargosa Road & La Mesa Road (#1) LOS E PM peak hour only
- Mariposa Road & Nisqualli Road (#4) LOS E PM peak hour only
- Seventh Avenue/Arrowhead Drive & Nisqualli Road (#5) LOS F PM peak hour only
- Hesperia Road & Ottawa Street (#7) LOS F PM peak hour only
- Hesperia Road & Nisqualli Road (#8) LOS F PM peak hour only
- Hesperia Road & Bear Valley Road (#9) LOS E AM peak hour; LOS F PM peak hour

There are no additional study area intersections anticipated to operate at an unacceptable LOS with the addition of Project traffic under Future Year (2034) With Project traffic conditions. The Project is proposed to install a traffic signal at the intersection of Hesperia Road and Ottawa Street, as such, this location is anticipated to operate at an acceptable LOS under With Project traffic conditions with the installation of a traffic signal.

Queues

The study area movements are anticipated to operate without queuing issues during the weekday AM and weekday PM peak 95th percentile traffic flows for Future Year (2034) traffic conditions.

1.6 RECOMMENDATIONS

1.6.1 SITE ADJACENT AND SITE ACCESS RECOMMENDATIONS

The following recommendations are based on the improvements needed to accommodate site access. The site adjacent recommendations are shown on Exhibit 1-4. The site adjacent queuing analysis results for the site adjacent study area intersections are provided in Appendix 1.2.

Recommendation 1 – Project Driveway 1 & Ottawa Street – The following improvements are necessary to accommodate site access:

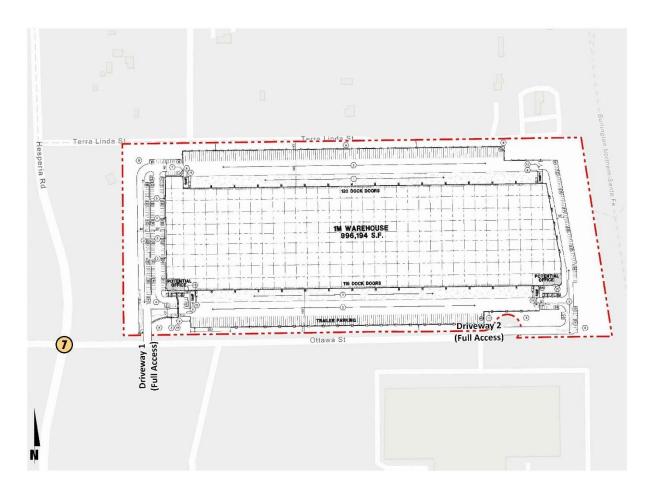
• Project to install driveway stop control on the southbound approach (Project Driveway) and aprons per City standard for industrial driveways.

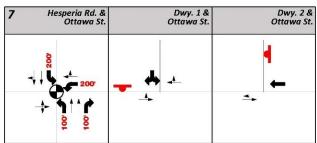
Recommendation 2 – Hesperia Road & Ottawa Street (#7) – The following improvements are necessary to accommodate existing traffic with the addition of project traffic:

• Project to install a traffic signal with protected left turn phasing for the northbound and southbound left turns, stripe a northbound left turn lane with a minimum of 100-feet of storage, stripe a southbound left turn lane with a minimum of 200-feet of storage, and stripe a westbound left turn lane with a minimum of 200-feet storage.



EXHIBIT 1-4: SITE ADJACENT ROADWAY AND SITE ACCESS RECOMMENDATIONS









• Project to construct a northbound right turn deceleration lane with a minimum of 100-feet of storage and a northbound acceleration lane, north of Ottawa Street.

Recommendation 3 – Ottawa Street – Ottawa Street is an east-west street located along the Project's southern boundary. The Project is to construct the ultimate half-section of Ottawa Street as an Arterial (84-foot right-of-way) along the Project's frontage between the western Project boundary and the eastern terminus of the roadway consistent with City standards.

1.6.2 OFF-SITE RECOMMENDATIONS

The recommended improvements needed to address the cumulative deficiencies are summarized in Table 1-4. For those improvements listed in Table 1-4 and not constructed as part of the Project, the Project Applicant's responsibility for the Project's contributions towards deficient intersections is fulfilled through payment of fees or fair share that would be assigned to construction of the identified recommended improvements.

1.7 TRUCK ACCESS AND CIRCULATION

Due to the typical wide turning radius of large trucks, a truck turning template has been overlaid on the site plan at the Project driveway anticipated to be utilized by heavy trucks in order to determine appropriate curb radii and to verify that trucks will have sufficient space to execute turning maneuvers (see Exhibit 1-5). As shown on Exhibit 1-5, the following curb radius change is necessary in order to accommodate the ingress and egress of heavy trucks:

 Driveway 1 on Ottawa Street should be modified to provide a 35-foot radius on the northwest curb. In addition, the driveway should be widened by 10 feet to accommodate a 50-foot-wide driveway.

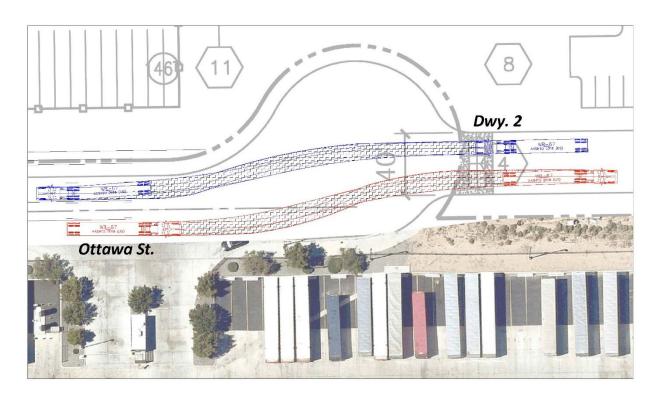
1.8 SIGHT DISTANCE

Per the request of the City, intersection sight distance has been evaluated for Hesperia Road & Ottawa Street. As defined by the California Department of Transportation (Caltrans) Highway Design Manual, sight distance is the continuous length of highway ahead visible to the driver.

At unsignalized intersections, corner sight distance must provide a substantially clear line of sight between the driver of the vehicle waiting on the minor road and the driver of an approaching vehicle. For the purposes of this analysis, a 7½ second criterion has been applied to the outside travel lanes in either direction to provide the most conservative sight distance. The 7½ second criterion allows waiting vehicles to either cross all lanes of through traffic by turning left or cross the near lanes by turning right without requiring through traffic to radically alter their speed. It should be noted, the Project is proposing to install a traffic signal at this location as part of the Project design features.



EXHIBIT 1-5: TRUCK ACCESS



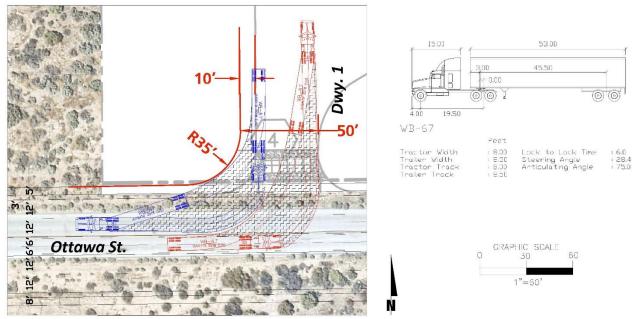




TABLE 1-4: SUMMARY OF IMPROVEMENTS AND ROUGH ORDER OF MAGNITUDE COSTS

#	Intersection Location	Jurisdiction	Opening Year Cumulative	Scenarios Future Year (2034) With Project	Improvements included in Fee Program? ¹	Project Responsibility ²	Total Cost ³	Fair Share % ⁴	Estimated Fair Share Cost
8	Hesperia Rd. & Nisqualli Rd.	Victorville	Restripe to allow for a left turn lane, two through lanes, and a right turn lane on the southbound approach.	Same	No	Fair Share	\$42,750	28.4%	\$12,153
							\$42,750		\$12,153
Total Costs for Improvement						for Improvements	\$42,750		\$12,153
				Total Project Fa	air Share Contribu	tion to Victorville ⁵			\$12,153

¹ Improvements included in the City of Victorville DIF program or SBCTA DIF program.



² Identifies the Project's responsibility to construct an improvement or contribute fair share or fee payment towards the implementation of the improvements shown.

³ Costs have been estimated using the data provided in Appendix G of the San Bernardino County CMP (2016 Update) for preliminary construction costs. Appendix G costs escalated by a factor of 1.71 to reflect 2021 conditions, except for Traffic Signals.

⁴ Program improvements constructed may be eligible for fee credit, at discretion of City. See Table 7-1 for Fair Share Calculations.

⁵ Total project fair share contribution consists of the improvements which are not already included in the City of Victorville's DIF for those intersections wholly or partially within the City of Victorville.

Adequate visibility for vehicular and pedestrian traffic can be provided at the intersection by limiting sight obstructions within the limited use area. Any landscaping/hardscape within the limited use area should not exceed 30-inches (2.5-feet) in height. The limited use area should be kept clear of any landscaping or any other obstructions that may impede the visibility of the driver, including on-street parking. Minimum corner sight distance for the Project driveways is illustrated on Exhibit 1-6.

1.9 CONCEPT STRIPING PLANS

At the request of the City, a concept striping plan has been created for the intersection of Hesperia Road & Ottawa Street to illustrate the proposed acceleration and deceleration lanes along Hesperia Road. The concept striping plan is shown in Exhibit 1-7. As shown on Exhibit 1-7, a 435-foot deceleration lane and a 300-foot acceleration lane are recommended along northbound Hesperia Road.

A concept striping plan has also been prepared for the intersection of Hesperia Road & Nisqualli Road to demonstrate the recommended intersection improvements. As shown on Exhibit 1-8, the median nose on the west leg and the stop bar for the inside eastbound left turn lane should be modified to provide sufficient space to accommodate the wide turning radius of heavy trucks. It should be noted, there is a proposed 9-foot offset for the southbound through lanes to the receiving lanes. This is consistent with the existing 9-foot offset for the westbound through lanes. Given the improvements to this intersection require restriping of the southbound approach, an offset for the southbound through lanes, and modification of the existing median and stop bar on the west leg, alternative signal timing improvements have also been recommended at this location. For a detailed discussion on the recommended intersection improvements, see Section 6.5 *Project Deficiencies and Recommended Improvements*.



EXHIBIT 1-6: INTERSECTION SIGHT DISTANCE AT HESPERIA ROAD AND OTTAWA STREET





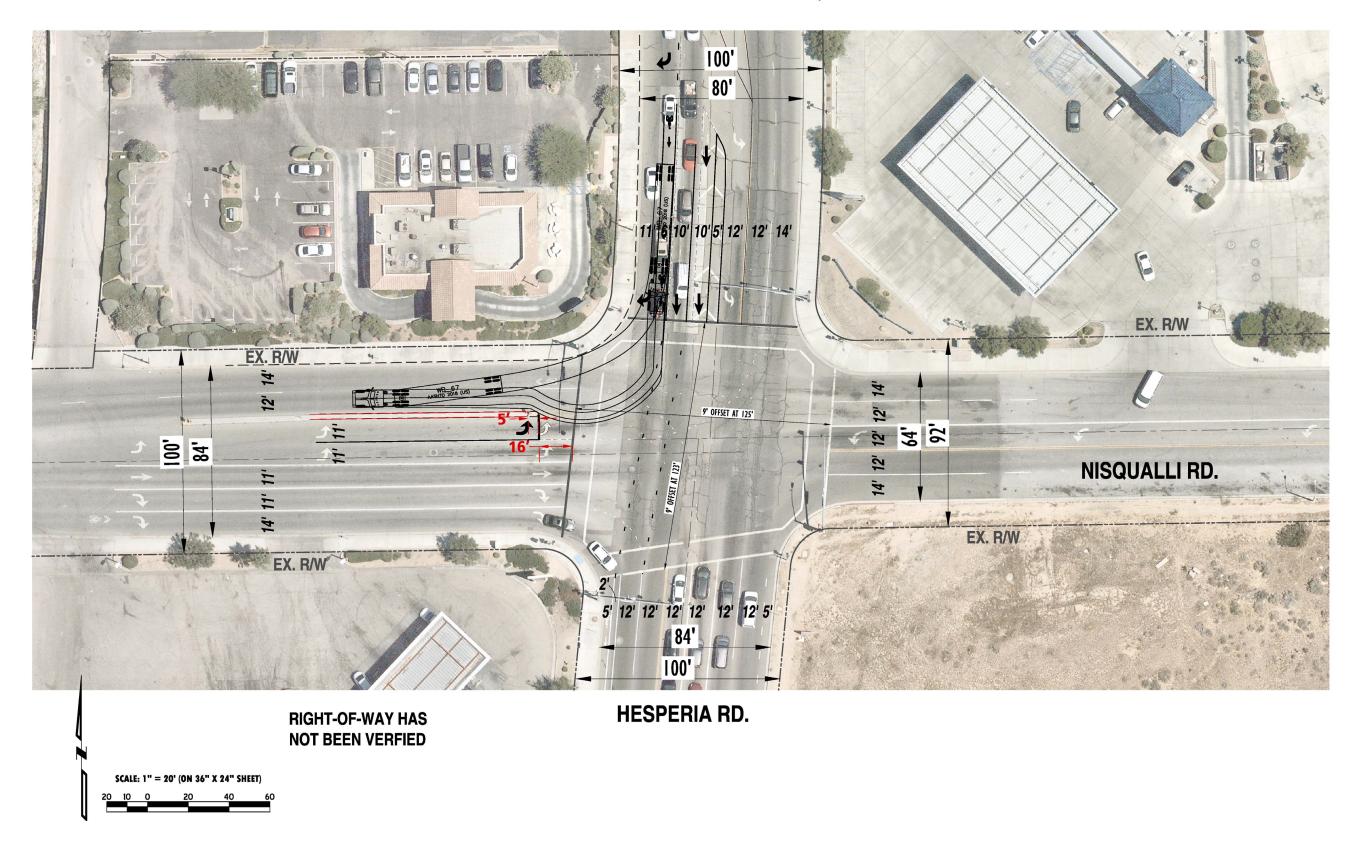
EXHIBIT 1-7: CONCEPT STRIPING AND ACCELERATION/DECELERATION LANES AT HESPERIA ROAD AND OTTAWA STREET







EXHIBIT 1-8: CONCEPT STRIPING AT HESPERIA ROAD AND NISQUALLI ROAD



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2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with City of Victorville's Traffic Study Guidelines.

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 Intersection Capacity Analysis

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The 6th Edition <u>Highway Capacity Manual</u> (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (6) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Victorville requires signalized intersection operations analysis based on the methodology described in the HCM. (6) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described on Table 2-1. Consistent with City of Murrieta traffic study guidelines, a saturation flow rate of 1900 in vehicles per hour green per lane (vphgpl) has been utilized in the traffic analysis for signalized intersections.



TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay (Seconds), V/C ≤ 1.0	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Operations with very low delay occurring with favorable progression and/or short cycle length.	0 to 10.00	А	F
Operations with low delay occurring with good progression and/or short cycle lengths.	10.01 to 20.00	В	F
Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.01 to 35.00	С	F
Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.01 to 55.00	D	F
Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	55.01 to 80.00	E	F
Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	80.01 and up	F	F

Source: HCM (6th Edition)

The traffic modeling and signal timing optimization software package Synchro (Version 11) has been utilized to analyze signalized intersections within the City of Victorville. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g., PHF = [Hourly Volume] / [4 x Peak 15-minute Flow Rate]). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (6)



California Department of Transportation (Caltrans)

The traffic modeling and signal timing optimization software package Synchro (Version 11) has also been utilized to analyze signalized intersections under Caltrans' jurisdiction, which include interchange to arterial ramps (i.e., I-15 Freeway ramps at Amargosa Road and Nisqualli Road). Signal timing for the freeway arterial-to-ramp intersections has been obtained from Caltrans. It should be noted that for the purposes of this analysis, no optimization of signal timing has been performed for the LOS analysis unless noted otherwise (for improvements).

2.2.2 Unsignalized Intersections

The City of Victorville require the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (6) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

Description	Average Control Delay Per Vehicle (Seconds)	Level of Service, V/C ≤ 1.0	Level of Service, V/C > 1.0
Little or no delays.	0 to 10.00	Α	F
Short traffic delays.	10.01 to 15.00	В	F
Average traffic delays.	15.01 to 25.00	С	F
Long traffic delays.	25.01 to 35.00	D	F
Very long traffic delays.	35.01 to 50.00	Е	F
Extreme traffic delays with intersection capacity exceeded.	> 50.00	F	F

Source: HCM (6th Edition)

At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. For all-way stop-controlled intersections, LOS is computed for the intersection as a whole. For two-way stop-controlled intersections, the delay is reported for the worst single movement/lane (typically occurs on the side street).

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans <u>California Manual on Uniform Traffic Control Devices (CA MUTCD)</u>. (7)

The signal warrant criteria for Existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The <u>CA MUTCD</u> indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (7) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis



for existing traffic conditions. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics (e.g., located in communities with populations of less than 10,000 persons or with adjacent major streets operating above 40 miles per hour). For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection.

Traffic signal warrant analyses were performed for the following study area intersection shown on Table 2-3:

TABLE 2-3: TRAFFIC SIGNAL WARRANT ANALYSIS LOCATIONS

ID	Intersection	Jurisdiction
7	Hesperia Rd. & Ottawa St.	Victorville

The Existing conditions traffic signal warrant analysis is presented in the subsequent section, Section 3 *Area Conditions* of this report. The traffic signal warrant analyses for future conditions are presented in Section 5 *OYC* (2024) *Traffic Conditions* and Section 6 2034 *Traffic Conditions* of this report. It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal might be warranted. Meeting this threshold condition does not require that a traffic control signal be installed at a particular location, but rather, that other traffic factors and conditions be evaluated in order to determine whether the signal is truly justified. It should also be noted that signal warrants do not necessarily correlate with LOS. An intersection may satisfy a signal warrant condition and operate at or above acceptable LOS or operate below acceptable LOS and not meet a signal warrant.

2.4 QUEUING ANALYSIS

A queuing analysis has been performed for the I-15 Freeway & Amargosa Road and Nisqualli Road interchange and the study area intersection of Hesperia Rd. & Ottawa St. The 95th percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing deficiencies at the intersection and the interchange identified above. Specifically, the queuing analysis is utilized to identify any potential queuing and "spill back" onto the I-15 Freeway mainline from the off-ramps or out of the turn pockets.

The traffic progression analysis tool and HCM intersection analysis program, Synchro, has been used to assess the potential deficiencies/needs of the intersections with traffic added from the proposed Project. Storage (turn-pocket) length recommendations at the ramps have been based upon the 95th percentile queue resulting from the Synchro progression analysis. There are two footnotes which appear on the Synchro outputs. One footnote indicates if the 95th percentile cycle exceeds capacity. Traffic is simulated for two complete cycles of the 95th percentile traffic in Synchro in order to account for the effects of spillover between cycles. In practice, the 95th percentile queue shown will rarely be exceeded and the queues shown with the footnote are acceptable for the design of storage bays. The other footnote indicates whether or not the volume for the 95th percentile queue is metered by an upstream signal. If the upstream intersection is at or near capacity, the 50th percentile queue represents the maximum queue experienced.



A vehicle is considered queued whenever it is traveling at less than 10 feet/second. A vehicle will only become queued when it is either at the stop bar or behind another queued vehicle. The 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes during the peak hour and is derived from the average (50th percentile) queue plus 1.65 standard deviations. The queue length reported is for the lane with the highest queue in the lane group. The 95th percentile queue is not necessarily ever observed it is simply based on statistical calculations.

2.5 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

Minimum Acceptable LOS and associated definitions of intersection deficiencies has been obtained from each of the applicable surrounding jurisdictions.

2.5.1 CITY OF VICTORVILLE

Per the City of Victorville General Plan, the City of Victorville's current LOS standard for intersections is LOS D for peak hour intersection operations.

2.5.2 CALTRANS

Senate Bill 743 (SB 743), approved in 2013, endeavors to change the way transportation impacts will be determined according to the California Environmental Quality Act (CEQA). The Office of Planning and Research (OPR) has recommended the use of vehicle miles traveled (VMT) as the replacement for automobile delay-based LOS. Caltrans acknowledges automobile delay will no longer be considered a CEQA impact for development projects and will use VMT as the metric for determining impacts on the State Highway System (SHS). However, LOS D has been utilized as the target LOS for Caltrans facilities, consistent with other recent studies in the City of Murrieta.

2.5.3 SAN BERNARDINO COUNTY CMP

The CMP definition of deficiency is based on maintaining a level of service standard of LOS E or better, where feasible, except where an existing LOS F condition is identified in the CMP document. However, for the purposes of this analysis, LOS D has been utilized for all study area intersections.

2.6 DEFICIENCY CRITERIA

This section outlines the methodology used in this analysis related to identifying circulation system deficiencies.

Signalized Intersections

Per the City of Victorville TA Guidelines, the following LOS will be utilized for signalized study area intersections located within the Desert, Valley and Mountain regions of the County:

Any signalized study intersection in the Valley or Mountain regions that is operating at an
acceptable LOS D or better without project traffic in which the addition of project traffic causes
the intersection to degrade to an LOS E or F shall identify improvements to improve operations to
LOS D or better.



- Any signalized study intersection in the Desert region that is operating at an LOS C or better
 without project traffic in which the addition of project traffic causes the intersection to degrade
 to an LOS D, E, or F shall identify improvements to improve operations to LOS C.
- Any signalized study intersection in the Valley or Mountain regions that is operating at LOS E or F
 without project traffic where the project increases delay by 5.0 or more seconds shall identify
 improvements to offset the increase in delay.
- Any signalized study intersection in the Desert region that is operating at LOS D, E, or F without
 project traffic where the project increases delay by 5.0 or more seconds shall identify
 improvements to offset the increase in delay.

Unsignalized Intersections

Per the City of Victorville TA Guidelines, the following LOS will be utilized for unsignalized study area intersections located within the Desert, Valley and Mountain regions of the County:

The addition of project related traffic causes the intersection to degrade from an LOS D or better
to a LOS E or worse in the Valley and Mountain regions or from an LOS C or better to an LOS D or
worse in the Desert region.

OR

• The project adds 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at an LOS E or F in the Valley and Mountain regions or at an LOS D, E, or F in the Desert region (per Section 10.5.2 b))

AND

- One or both of the following conditions are met:
 - The project adds ten (10) or more trips to any approach
 - The intersection meets the peak hour traffic signal warrant after the addition of project traffic (per Section 10.5.2 c)).

The proposed significance thresholds will be applied at study area intersections for the purposes of determining project-related deficiencies.

2.7 Project Fair Share Calculation Methodology

In cases where this TA identifies that the Project would contribute additional traffic volumes to traffic deficiencies, Project fair share costs of improvements necessary to address deficiencies have been identified. The Project's fair share cost of improvements is determined based on the following equation, which is the ratio of Project traffic to new traffic, and new traffic is total near-term future (OYC) traffic less existing baseline traffic:

Project Fair Share % = Project AM/PM Traffic / (OYC WP AM/PM Total Traffic – Existing AM/PM Traffic)

The project fair share percentage has been calculated for both the AM peak hour and PM peak hour and the highest of the two has been selected. The Project fair share contribution calculations are presented in Section 7 *Local and Regional Funding Mechanisms* of this TA.



3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Victorville General Plan Circulation Network, and a review of existing peak hour intersection operations, traffic signal warrant, and queuing analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with City of Victorville staff (Appendix 1.1), the study area includes a total of 9 existing intersections as shown previously on Exhibit 1-3. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF VICTORVILLE GENERAL PLAN CIRCULATION ELEMENT

Exhibit 3-2 shows the City of Victorville General Plan Circulation Element, and Exhibit 3-3 illustrates the City of Victorville General Plan roadway cross-sections.

3.3 CITY OF HESPERIA GENERAL PLAN CIRCULATION ELEMENT

Exhibit 3-4 shows the City of Hesperia General Plan Circulation Element, and Exhibit 3-5 illustrates the City of Hesperia General Plan roadway cross-sections.

3.4 TRUCK ROUTES

The City of Victorville's truck routes are shown on Exhibit 3-6. Hesperia Road, Bear Valley Road, and Nisqualli Road are identified as a City truck routes.

3.5 Transit Service

The study area is currently served by Victor Valley Transit Authority (VVTA) with bus service along Hesperia Road and Nisqualli Road. The existing transit routes within the study area are shown on Exhibit 3-7. VVTA Route 50 could potentially serve the Project if extended to the north on Hesperia Road. Route 50 currently runs along Hesperia Road south of Nisqualli Road and on Nisqualli Road to the west of Hesperia Road. VVA Route 51 runs along Hesperia Road north of Yates Road. Transit service is reviewed and updated by VVTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

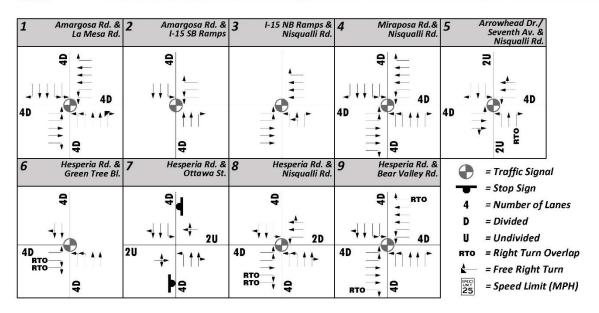
3.6 BICYCLE & PEDESTRIAN FACILITIES

As shown on Exhibit 3-8, there are no pedestrian facilities in close proximity to the Project along Hesperia Road with limited pedestrian facilities along Nisqualli Road. Field observations indicate nominal pedestrian and bicycle activity within the study area.



18 ipa Rd Site Kayuga St 500 Winona St SPEED Teton St SPEED LIM T 8 Nis 5 II Rd ##**4** 3PE 4 \$PEB 4 Analysis Location **Existing Location**

EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS





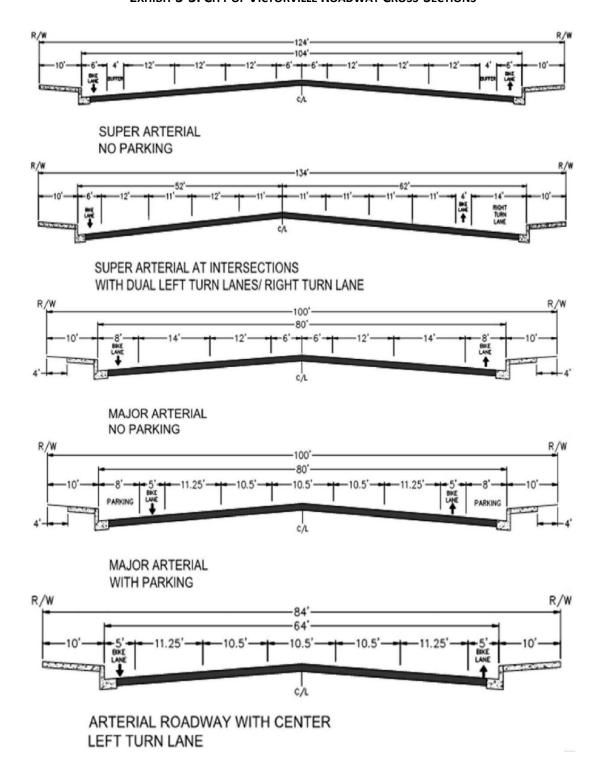
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EXHIBIT 3-2: CITY OF VICTORVILLE GENERAL PLAN CIRCULATION ELEMENT

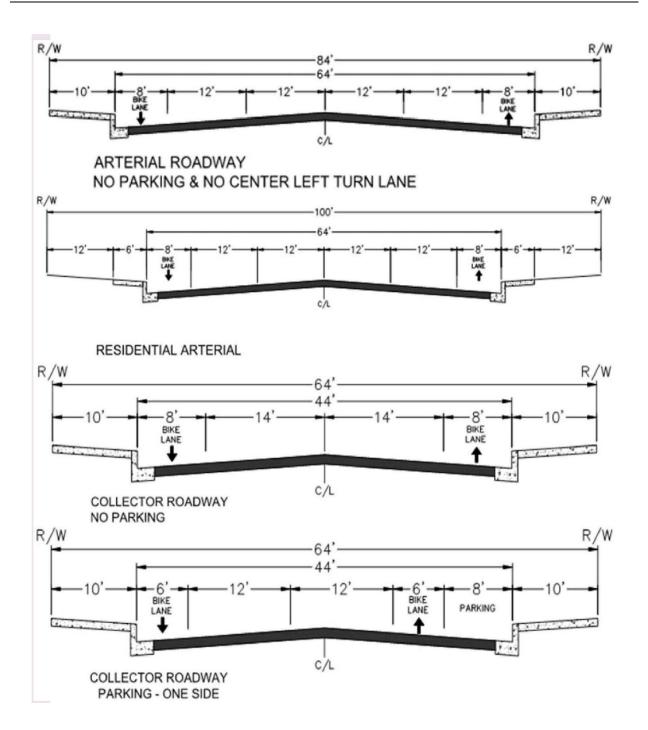




EXHIBIT 3-3: CITY OF VICTORVILLE ROADWAY CROSS-SECTIONS









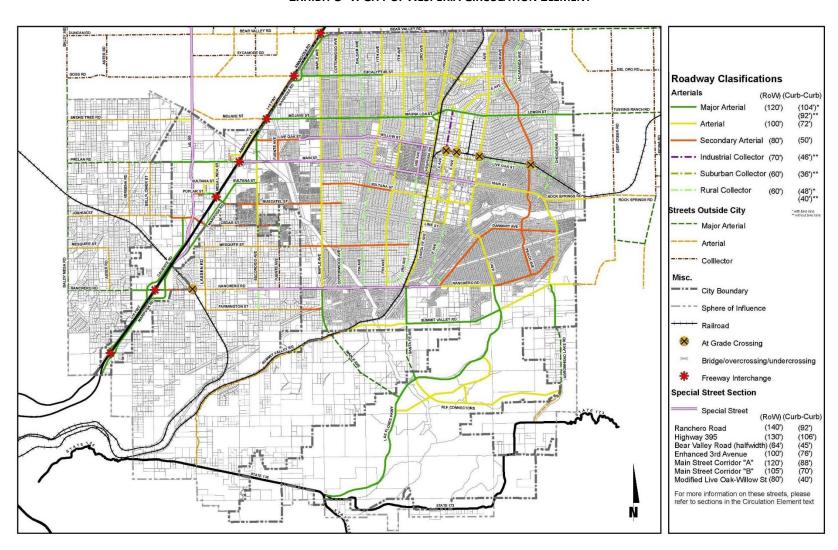
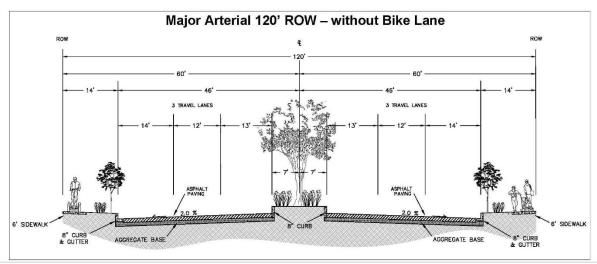
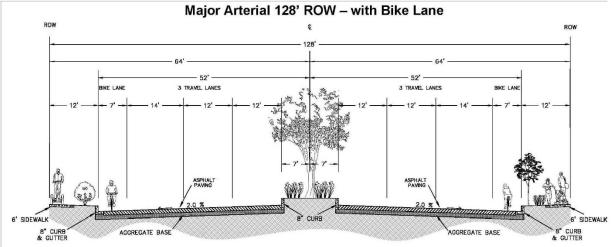


EXHIBIT 3-4: CITY OF HESPERIA CIRCULATION ELEMENT

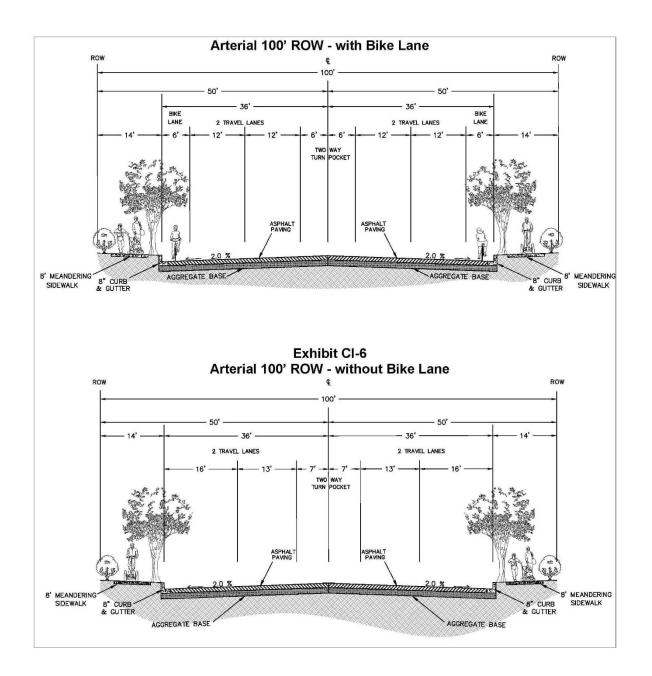


EXHIBIT 3-5: CITY OF HESPERIA ROADWAY CROSS-SECTIONS

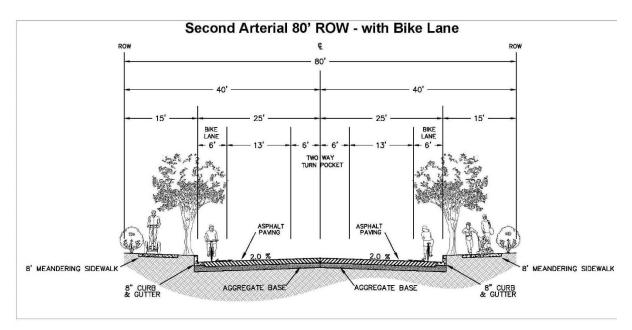


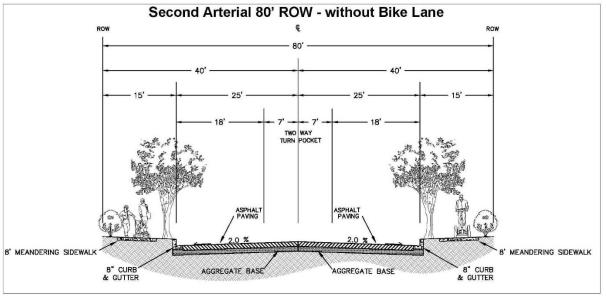




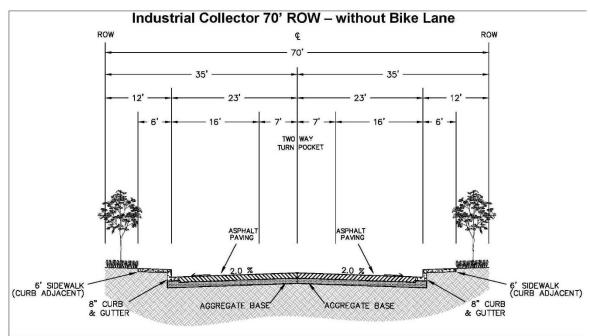


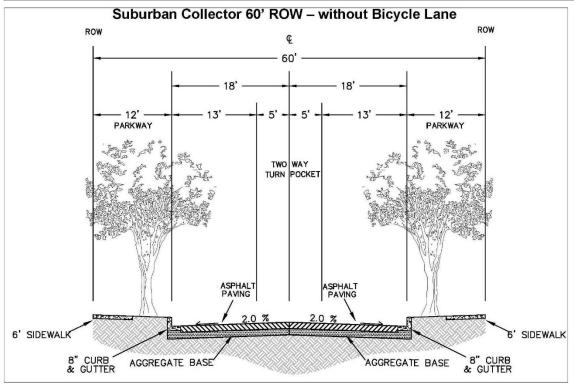




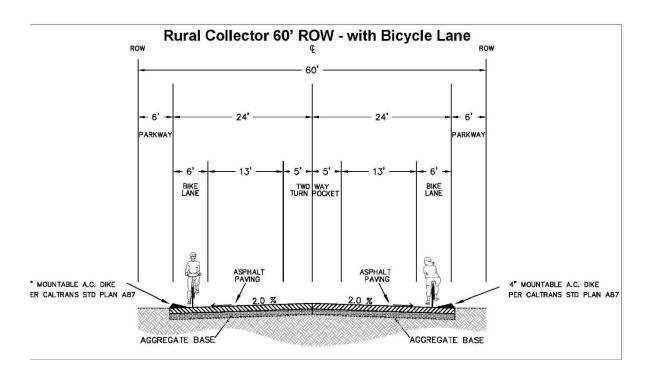


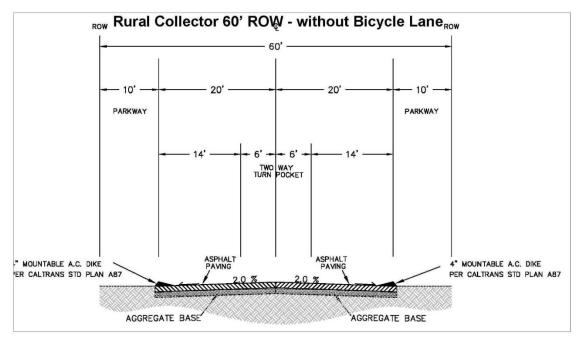














LUNA RD. BEAR VALLEY RD. EUCALYPTUS ST.

EXHIBIT 3-6: CITY OF VICTORVILLE TRUCK ROUTES





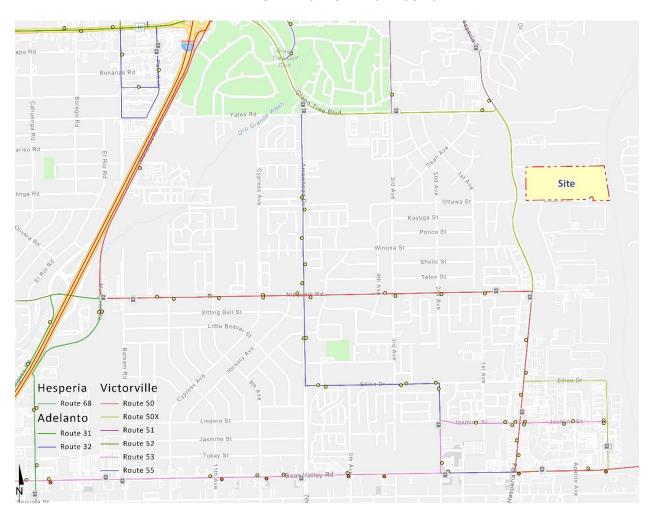


EXHIBIT 3-7: EXISTING TRANSIT ROUTES



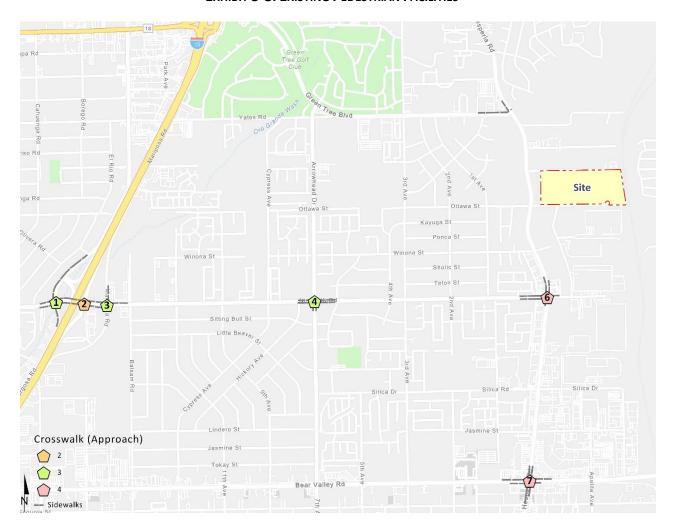


EXHIBIT 3-8: EXISTING PEDESTRIAN FACILITIES



3.7 Existing (2021) Traffic Counts

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in April, May, and November of 2021. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

Due to the currently ongoing COVID-19 pandemic, schools and businesses within the study area were closed or operating at less than full capacity at the time this study was prepared. As such, a historic 2009 traffic count was utilized at the intersection of Hesperia Road and Nisqualli Road in conjunction with a 1.68% per year growth rate (compounded annually) to reflect 2021 conditions. For all other locations where historic traffic counts was not available, a new traffic count was conducted. A new traffic count was also conducted at the intersection of Hesperia Road and Nisqualli Road, where historic data was available. Based on the growth in traffic observed at the intersection of Hesperia Road and Nisqualli Road with both new and historic traffic count data, a growth factor was developed and applied to all other intersections where no historic data was available in an effort to establish a non-COVID baseline condition. Based on the comparison of the historic and current 2021 count at Hesperia Road and Nisqualli Road, a factor of 14% was applied to the AM peak hour 2021 traffic counts and 41% was applied to the PM peak hour 2021 traffic counts. Note that these adjustment percentages are in excess of the 10% adjustment requested by City staff as part of the scoping process.

The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1. These raw turning volumes have been flow conserved between intersections with limited access, no access, and where there are currently no uses generating traffic. The traffic counts collected include the vehicle classifications as shown below:

- Passenger Cars
- 2-Axle Trucks
- 3-Axle Trucks
- 4 or More Axle Trucks

To represent the effect of large trucks, buses, and recreational vehicles have on traffic flow, all trucks were converted into PCEs. By their size alone, these vehicles occupy the same space as two or more passenger cars. In addition, the time it takes for them to accelerate and slow-down is also much longer than for passenger cars and varies depending on the type of vehicle and number of axles. For this analysis, a PCE factor of 1.5 has been applied to 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4+-axle trucks to estimate each turning movement. These factors are consistent with the values recommended for use in the SBCTA CMP. (8)



Existing weekday ADT volumes are shown on Exhibit 3-9. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

Weekday PM Peak Hour (Approach Volume + Exit Volume) x 13.72 = Leg Volume

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 7.29 percent. As such, the above equation utilizing a factor of 13.72 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 7.29 percent (i.e., 1/0.0729 = 13.72) and was assumed to sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes (in actual vehicles) are also shown on Exhibit 3-9.

3.8 Intersection Operations Analysis

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized on Table 3-1, which indicates that the existing study area intersections are currently operating at an acceptable LOS during the peak hours, with the exception of the following intersection:

• Hesperia Rd. & Bear Valley Rd. (#9) – LOS E PM peak hour only

The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2021) CONDITIONS

		Traffic	Dela (sec		Leve Serv	
#	Intersection	Control ²	AM	PM	AM	PM
1	Amargosa Rd. & La Mesa Rd.	TS	29.9	46.5	С	D
2	Amargosa Rd. & I-15 SB Ramps	TS	22.2	26.2	С	С
3	I-15 NB Ramps & Nisqualli Rd.	TS	15.8	25.0	В	С
4	Mariposa Rd. & Nisqualli Rd.	TS	19.5	32.1	В	C
5	Seventh Ave./Arrowhead Dr. & Nisqualli Rd.	TS	20.2	47.7	С	D
6	Hesperia Rd. & Green Tree Bl.	TS	13.6	21.3	В	C
7	Hesperia Rd. & Ottawa St.	CSS	20.2	29.9	С	D
8	Hesperia Rd. & Nisqualli Rd.	TS	29.8	48.3	С	D
9	Hesperia Rd. & Bear Valley Rd.	TS	34.8	57.7	С	E

^{*} BOLD = Unacceptable LOS

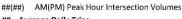


Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

² CSS = Cross-street Stop; TS = Traffic Signal

6 Site (2) Nis 5 lli Rd 3 Analysis Location Bear Valley Rd Existing Location Amargosa Rd. & La Mesa 2 Amargosa Rd. & I-15 SB 3 I-15 NB Ramps & Nisqualli 4 Mariposa Rd. & Nisqualli 5 Seventh Ave./Arrowhead Rd. Ramps Rd. Rd. Dr. & Nisqualli Rd. 60,950 53,700 39,150 19,350 61,000 28,600 105(398) 194(627) 131(162) 333(769) 158(291) 85(292) 56(177) **1** 520(609) **~** 254(373) **~** 81(134) **1** ≤ 36(45) **←** 43(73) ← 912(1908) 444(1426) ← 917(1738) ← 436(1062) 102(347) \downarrow 731(904) 82(127) 18(32) 172(139) 191(285) -48(143) 26(96) _ \uparrow \uparrow 20(131) - $615(761) \rightarrow$ 243(301) 92(214) -75(391) 72(170) 202(239) 105(311) 1(0) 680(831) → 776(906) *>* **1101(1776)** → 167(470) 194(385) 1013(1569) → 191(406) 69(136) → 232(446) → 92(180) → 008 °C3 33,750 39,500 43,000 6 60,900 60,450 Hesperia Rd. & Ottawa St. 8 Hesperia Rd. & Green Tree 7 Hesperia Rd. & Nisqualli 9 Hesperia Rd. & Bear Rd. Valley Rd. 32,100 42,250 200 4,000 56,150 1083(1528) 111(135) 994(1478) 44(106) 10(15) **~** 2(7) 17(26) 187(159) 1(4) 7(6) ← 37(46) ← 1257(1361) \downarrow \downarrow L, √ 0(1) L, 56(82) 294(303) 4 5(6) -ጎ \uparrow 117(138) -٩ \uparrow 171(129) -٦ \uparrow ľ 124(132) -1, 979(1528) (82)(29) 101(204) 507(455) 292(333) 3(0) 10(28) 39(45) → **1184(1543)** → 238(432) 1050(1304) 259(515) → 8(15) ¬ 374(391) → 114(103) → 27,600 17,500

EXHIBIT 3-9: EXISTING (2021) TRAFFIC VOLUMES





3.9 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. There are no unsignalized study area intersections that currently warrant a traffic signal for Existing traffic conditions. Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

3.10 QUEUING ANALYSIS

Queuing analysis findings are presented on Table 3-2. It is important to note that available staking lengths are consistent with the measured distance between the intersection and the freeway mainline or based on the intersection turn pocket storage lengths. As shown on Table 3-3, all movements currently experience no queuing issues during the weekday AM and PM peak 95th percentile traffic flows. Worksheets for Existing traffic conditions queuing analysis are provided in Appendix 3.4.

TABLE 3-2: PEAK HOUR QUEUING SUMMARY FOR EXISTING (2021) CONDITIONS

		Available Stacking	95th Percer (Fe		Accept	table? 1
Intersection	Movement	Distance (Feet)	AM Peak	PM Peak	AM	PM
Amargosa Rd. & I-15 SB Ramps (#2)	WBL	1,600	267	347	Yes	Yes
	WBR	570	21	23	Yes	Yes
I-15 NB Ramps & Nisqualli Rd. (#3)	NBL	645	88	210	Yes	Yes
	NBR	915	158	347 ²	Yes	Yes
Hesperia Rd. & Ottawa St. (#7)	WBL	200	0	5	Yes	Yes
	SBL	200	3	3	Yes	Yes

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable ² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.



4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. The Project is proposed to consist of the development of 200,000 square feet of high-cube cold storage warehouse use and 796,520 square feet of high-cube fulfillment center warehouse use. It is anticipated that the Project would be developed in a single phase with an anticipated Opening Year of 2024. Regional access to the Project site will be provided by the I-15 Freeway via Nisqualli Road. Access to the Project would be provided to Ottawa Street to Hesperia Road.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development and is based upon the specific land uses planned for a given project.

4.1.1 PROPOSED PROJECT

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the ITE <u>Trip Generation Manual</u> (10th Edition, 2017) and <u>High-Cube Warehouse Trip Generation Study</u> (WSP, January 29, 2019) for the following land use codes (see Table 4-1): (3) (4)

- ITE land use code 157 (High-Cube Cold Storage Warehouse) has been used to derive site specific trip generation estimates for up to 200,000 square feet. High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE's <u>Trip Generation Manual Supplement</u> (dated February 2020). This study provides the following vehicle mix: AM Peak Hour: 73.0% passenger cars and 27.0% trucks; PM Peak Hour: 77.0% passenger cars and 23.0% trucks; Weekday Daily: 65.0% passenger cars and 35.0% trucks. The truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.
- High-Cube Fulfillment Center Warehouse has been used to derive site specific trip generation estimates for up to 796,520 square feet. The ITE <u>Trip Generation Manual Supplement</u> (February 2020) has trip generation rates for high-cube fulfillment center use for both non-sort and sort facilities (ITE land use code 155). While there is sufficient data to support use of the trip generation rates for non-sort facilities, the sort facility rate appears to be unreliable because they are based on limited data (i.e., one to two surveyed sites). The proposed Project is speculative and whether a non-sort or sort facility end-user would occupy the buildings is not known at this time. Lastly, the ITE <u>Trip Generation Handbook</u> recommends the use of local data sources where available. As such, the best available source for high-cube fulfilment center use would be the tripgeneration statistics published in the <u>High-Cube Warehouse Trip Generation Study</u> (WSP, January 29, 2019) which was commissioned by the Western Riverside Council of Governments (WRCOG) in support of the Transportation Uniform Mitigation Fee (TUMF) update in the County of Riverside (see Attachment A). The WSP trip generation rates were published in January 2019 and are based



on data collected at 11 local high-cube fulfillment center sites located throughout Southern California (specifically within San Bernardino County and Riverside County). However, the WSP study does not include a split for inbound and outbound vehicles, as such, the inbound and outbound splits per the ITE <u>Trip Generation Manual</u> for Land Use Code 154 have been utilized.

TABLE 4-1: TRIP GENERATION RATES

		ITE LU	i carrioa			PIV	1 Peak Ho	ur	
Land Use ¹	Units ²	Code	In	Out	Total	In	Out	Total	Daily
Actual Vehicle Trip Generation Rates									
High-Cube Fulfillment Center Warehouse ⁴	TSF		0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+-Axle Trucks			0.008	0.003	0.011	0.003	0.007	0.010	0.217
High-Cube Cold Storage Warehouse ³	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks			0.008	0.002	0.010	0.003	0.007	0.010	0.257
3-Axle Trucks			0.003	0.001	0.003	0.001	0.002	0.003	0.082
4+-Axle Trucks			0.012	0.004	0.016	0.004	0.011	0.015	0.403
Passenger Car Equivalent (PCE) Trip Generation Rates ⁵									
High-Cube Fulfillment Center Warehouse ⁴	TSF		0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (PCE = 2.0)			0.012	0.004	0.016	0.006	0.016	0.022	0.324
5+-Axle Trucks (PCE = 3.0)			0.025	0.008	0.033	0.008	0.022	0.030	0.651
High-Cube Cold Storage Warehouse ³	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (PCE = 1.5)			0.012	0.004	0.015	0.004	0.010	0.014	0.386
3-Axle Trucks (PCE = 2.0)			0.005	0.002	0.007	0.002	0.004	0.006	0.163
4+-Axle Trucks (PCE = 3.0)			0.037	0.011	0.048	0.012	0.033	0.045	1.209

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), <u>Trip Generation Manual</u>, Tenth Edition (2017).

Truck Mix: South Coast Air Quality Management District's (SCAQMD) recommended truck mix, by axle type.

Normalized % - With Cold Storage: 34.7% 2-Axle trucks, 11.0% 3-Axle trucks, 54.3% 4-Axle trucks.

 $In bound \ and \ outbound \ split \ source: ITE \ \underline{Trip \ Generation \ Manual}, Tenth \ Edition \ (2017) \ for \ ITE \ Land \ Use \ Code \ 154.$

The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project are shown on Table 4-2. As shown in Table 4-2, the proposed Project is anticipated to generate 2,124 two-way trips per day with 119 AM peak hour trips and 154 PM peak hour trips (actual vehicles).



² TSF = thousand square feet

³ Vehicle Mix Source: ITE <u>Trip Generation Handbook Supplement</u> (2020), Appendix C.

⁴ Vehicle Mix Source: <u>High Cube Warehouse Trip Generation Study</u>, WSP, January 29, 2019.

⁵ PCE factors per SBCTA CMP: 2-axle = 1.5; 3-axle = 2.0; 4+-axle = 3.0.

TABLE 4-2: PROJECT TRIP GENERATION (ACTUAL VEHICLES)

		AM	Peak H	our	PM	Peak H	our	
Land Use	Quantity Units ¹	In	Out	Total	In	Out	Total	Daily
Actual Vehicles:								
High-Cube Cold Storage	200.000 TSF							
Passenger Cars:		12	4	16	5	13	18	276
2-axle Trucks:		2	0	2	1	1	2	52
3-axle Trucks:		1	0	1	0	0	0	16
4+-axle Trucks:		2	1	3	1	2	3	82
Total Truck Trips (Actual Vehicle	5	1	6	2	3	5	150	
High-Cube Cold Storage Total Trips (Actual Vehicles) ²	17	5	22	7	16	23	426
High-Cube Fulfillment	796.520 TSF							
Passenger Cars:		63	19	82	32	83	115	1,394
2-4axle Trucks:		5	1	6	2	6	8	130
5+-axle Trucks:		7	2	9	2	6	8	174
Total Truck Trips (Actual Vehicle	s):	12	3	15	4	12	16	304
High-Cube Fulfillment Total Trips (A	ctual Vehicles) ²	75	22	97	36	95	131	1,698
Total Passenger Car Trips		75	23	98	37	96	133	1,670
Total Truck Trips		17	4	21	6	15	21	454
Total Trips (Actual Vehicles) ²		92	27	119	43	111	154	2,124

¹ TSF = thousand square feet

Refinements to the raw trip generation estimates have been made to provide a more detailed breakdown of trips between passenger cars and trucks. Trip generation for heavy trucks was further broken down by truck type (or axle type). The total truck percentage is comprised of 3 different truck types: 2-axle, 3-axle, and 4+-axle trucks for High-Cube Cold Storage Warehouse use. PCE factors were applied to the trip generation rates for heavy trucks (large 2-axles, 3-axles, 4+-axles). PCEs allow the typical "real-world" mix of vehicle types to be represented as a single, standardized unit, such as the passenger car, to be used for the purposes of capacity and level of service analyses. The PCE factors are consistent with the recommended PCE factors in Appendix B of the San Bernardino County Congestion Management Program (CMP) (2016 Update). (8) Consistent with the City's guidelines, the peak hour operations analysis has been conducted using PCE volumes. The proposed Project is anticipated to generate a total of 2,802 PCE trip-ends per day, 150 PCE AM peak hour trips and 188 PCE PM peak hour trips, as shown in Table 4-2.



² Total Trips = Passenger Cars + Truck Trips.

TABLE 4-3: PROJECT TRIP GENERATION (PCE)

		AM	Peak H	our	PM	Peak H	our	
Land Use	Quantity Units ¹	In	Out	Total	In	Out	Total	Daily
Passenger Car Equivalent (PCE):								
High-Cube Cold Storage	200.000 TSF							
Passenger Cars:		12	4	16	5	13	18	276
2-axle Trucks:		2	1	3	1	2	3	78
3-axle Trucks:		1	0	1	0	1	1	34
4+-axle Trucks:		7	2	9	2	7	9	242
Total Truck Trips (PCE):		10	3	13	3	10	13	354
High-Cube Cold Storage Total Trips (PCE) ²		22	7	29	8	23	31	630
High-Cube Fulfillment	796.520 TSF							
Passenger Cars:		63	19	82	32	83	115	1,394
2-4axle Trucks:		10	3	13	5	13	18	258
5+-axle Trucks:		20	6	26	7	17	24	520
Total Truck Trips (PCE):		30	9	39	12	30	42	778
High-Cube Fulfillment Total Trips (PCE) ²		93	28	121	44	113	157	2,172
Total Passenger Car Trips		75	23	98	37	96	133	1,670
Total Truck Trips		40	12	52	15	40	55	1,132
Total Trips (PCE) ²		115	35	150	52	136	188	2,802

¹ TSF = thousand square feet

4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered to identify the route where the Project traffic would distribute. Distribution patterns are based on existing and planned land uses in the area along with the planned circulation system. Exhibit 4-1 illustrates the passenger car trip distribution patterns for the Project. Exhibit 4-2 illustrates the truck trip distribution patterns for the Project.

4.3 MODAL SPLIT

The potential for Project trips to be reduced by the use of public transit, walking or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes (employee or non-truck trips only).

4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-3.



² Total Trips = Passenger Cars + Truck Trips.

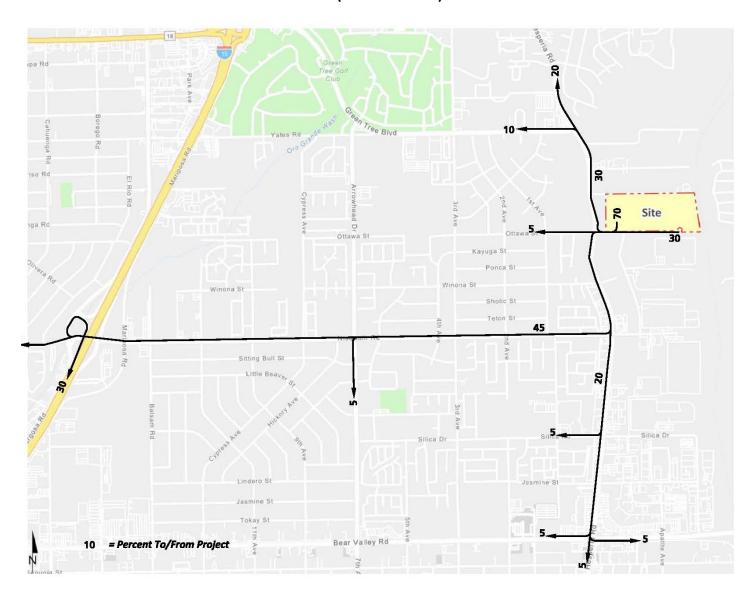


EXHIBIT 4-1: PROJECT (PASSENGER CARS) TRIP DISTRIBUTION





EXHIBIT 4-2: PROJECT (TRUCKS) TRIP DISTRIBUTION



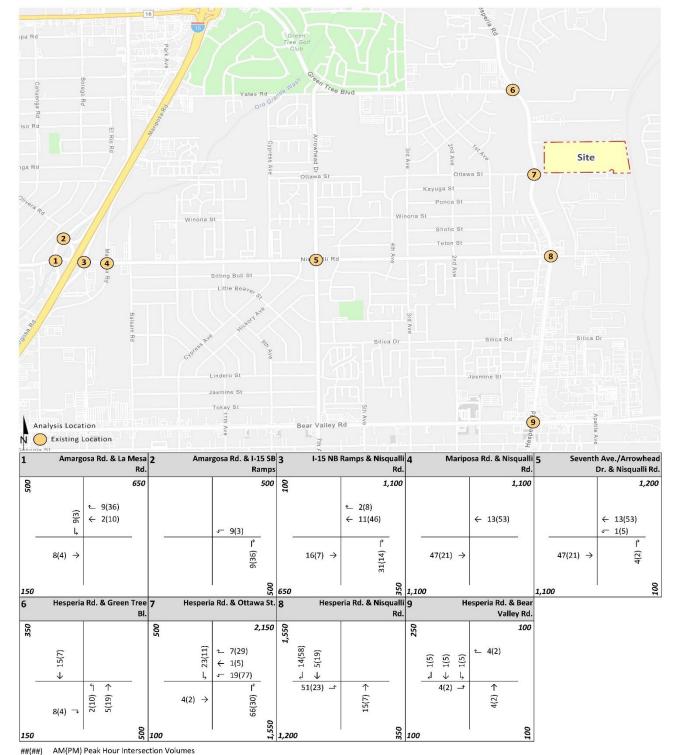


EXHIBIT 4-3: PROJECT ONLY TRAFFIC VOLUMES





4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 2.0% per year, compounded annually. The total ambient growth is 6.12% for 2024 traffic. The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies. The traffic generated by the proposed Project is manually added to the base volume to determine Opening Year Cumulative forecasts.

The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- Opening Year Cumulative (2024) Without Project
 - Adjusted Existing 2021 volumes
 - Ambient growth traffic (6.12%)
 - Cumulative Development traffic
- Opening Year Cumulative (2024) With Project
 - Adjusted Existing 2021 volumes
 - Ambient growth traffic (6.12%)
 - o Cumulative Development traffic
 - Project Traffic

4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Victorville. The cumulative projects listed are those that would generate traffic and would contribute traffic to study area intersections. Exhibit 4-3 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown on Table 4-6. If applicable, the traffic generated by individual cumulative projects was manually added to the Opening Year Cumulative (2024) forecasts to ensure that traffic generated by the listed cumulative development projects on Table 4-2 is reflected as part of the background traffic. In an effort to conduct a conservative analysis, the cumulative projects are added in conjunction with the ambient growth identified in Section 4.5 Background Traffic. Cumulative ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-4 for near-term traffic conditions.



Seneca Rd Seneca Rd Lorene Dr Victorville Hughes Rd Doris Davis a Rd Golf Club za Rd Hidden Valley-Rd W SIIE Ottawa St Winona St W Nisqualli Rd Sitting Bull St VI Little Beaver St. Mojave Vista Park Silica Dr Lindero St Jasmine St **V2** Tokay St Desert Valley Bear-Valley-Rd Sequoia St Sequoia St Manzanita St Sycamore St Eucalyptus St Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnances Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

EXHIBIT 4-3: CUMULATIVE DEVELOPMENT LOCATION MAP



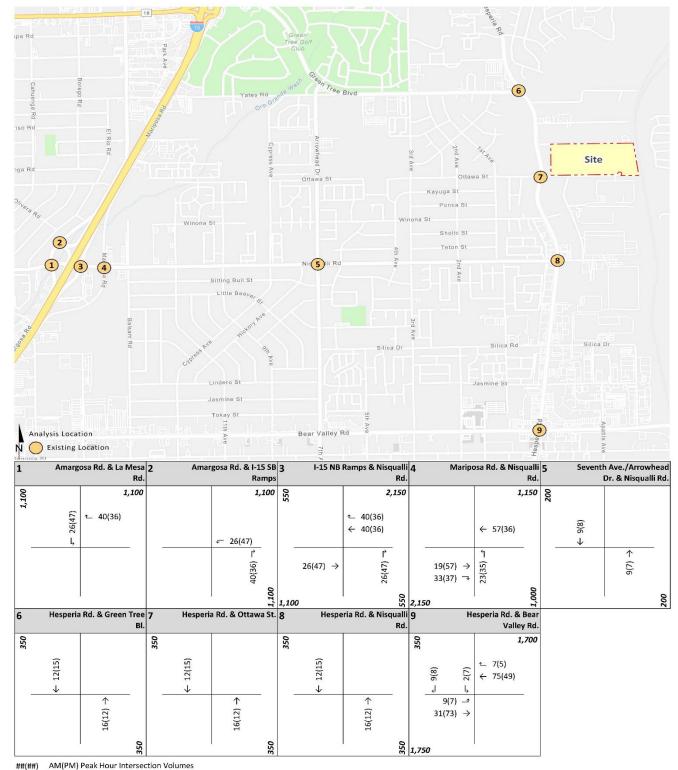


EXHIBIT 4-4: CUMULATIVE ONLY TRAFFIC VOLUMES





TABLE 4-2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

#	Project Name	Land Use ¹	Quantity Units ¹
V1	PLAN21-00005	Hotel	119.000 DU
V2	PLAN21-00003	Drive-Thru Restaurant	4.500 TSF
V3	PLAN21-00010	Residential (multi-family)	272 DU
V4	PLAN20-00009	Residential (multi-family)	212 DU

¹ DU = Dwelling Units; TSF = Thousand Square Feet

4.7 NEAR-TERM CONDITIONS

The "buildup" approach has been utilized which combines existing traffic counts with a background ambient growth factor to forecast the Opening Year Cumulative (2024) traffic conditions. An ambient growth factor of 6.12% accounts for background (area-wide) traffic increases that occur over time up to the year 2024 from the year 2021 (2 percent compounded over a 3-year period). Project traffic is added to assess Opening Year Cumulative (2024) With Project traffic conditions. Traffic volumes generated by cumulative development projects are included to assess the Opening Year Cumulative (2024) Without Project and With Project traffic conditions. The 2024 roadway networks are similar to the existing conditions roadway network with the exception of future intersections and driveways proposed to be developed by the Project.

4.8 Future Year (2034) Conditions

The "buildup" approach has been utilized which combines existing traffic counts with a background ambient growth factor to forecast the Future Year (2034) traffic conditions. An ambient growth factor of 29.36% accounts for background (area-wide) traffic increases that occur over time up to the year 2034 from the year 2021 (2 percent compounded over a 13-year period). Project traffic is added to assess Future Year (2034) With Project traffic conditions. Traffic volumes generated by cumulative development projects are included to assess the Future Year (2034) Without Project and With Project traffic conditions. The 2034 roadway networks are similar to the existing conditions roadway network with the exception of future intersections and driveways proposed to be developed by the Project.



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5 OPENING YEAR CUMULATIVE (2024) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Opening Year Cumulative traffic conditions and the resulting intersection operations, traffic signal warrant, and queuing analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for OYC (2024) With Project conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site
 access are also assumed to be in place for Opening Year Cumulative conditions only (e.g.,
 intersection and roadway improvements at the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages).

5.2 TRAFFIC VOLUME FORECASTS

5.2.1 OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT

This scenario includes Existing traffic volumes plus an ambient growth factor of 6.12% and the addition of cumulative development traffic. The weekday ADT, weekday AM, and PM peak hour volumes which can be expected for Opening Year Cumulative (2024) Without Project traffic conditions are shown on Exhibit 5-1 (in actual vehicles).

5.2.2 OPENING YEAR CUMULATIVE (2024) WITH PROJECT

This scenario includes Existing traffic volumes plus an ambient growth factor of 6.12%, the addition of cumulative development traffic, and the addition of Project traffic. The weekday ADT, weekday AM, and PM peak hour volumes which can be expected for Opening Year Cumulative (2024) With Project traffic conditions are shown on Exhibit 5-2 (in actual vehicles).



Site 2 (8) (3) Sitting Bull St Silica Dr Analysis Location Existing Location Amargosa Rd. & La Mesa 2 Amargosa Rd. & I-15 SB 3 Mariposa Rd. & Nisqualli 5 I-15 NB Ramps & Nisqualli 4 Seventh Ave./Arrowhead Rd. Ramps Rd. Rd. Dr. & Nisqualli Rd. 54,850 00,11 39,600 61,650 19,850 62,050 29,800 111(422) 206(666) 177(317) 785(970) 91(310) 139(172 60(109) 59(188) **1** 309(431) 42(49) **1** 592(682) **1** 39(48) ~ 86(142) **1** 46(78) ← 471(1513) ← 1030(1880) ← 1008(2061) ← 462(1127) ↓ ل \downarrow \downarrow L, √ 109(369) 802(1006) **√** 19(34) 203(303) - \uparrow ٦ 1 182(148) → ٦ \uparrow Ļ ľ \uparrow 51(152) → \uparrow r 28(101) - \uparrow 22(139) 80(415) 298(355) 1(0) - 232(456) 127(313) 224(261) 19(42) 111(330) 823(961) > 1194(1932) → 177(498) 1094(1722) → 226(466) 76(181) 722(882) → 653(807) 74(145) → 98(191) ¬ 279(510) 12,100 40,000 *43,200* 6 61.550 Hesperia Rd. & Bear Hesperia Rd. & Green Tree 7 Hesperia Rd. & Ottawa St. 8 Hesperia Rd. & Nisqualli 9 BI. Rd. Valley Rd. 32,450 56,200 2,300 \leftarrow 1161(1637) 1067(1583) 894(1101) 118(143) 100(156) 349(653) 47(113) 11(16) ← 2(7) 18(27) ~ 206(173) 7(6) ← 39(49) ← 1409(1494) 4 \downarrow 4 ٦ \downarrow 312(321) \downarrow 0(1) ٦ 132(140) -5(6) → 191(144) -٦ \uparrow 1055(1634) → 124(146) - \uparrow 325(522) 11(30) 253(458) 107(216) 538(483) 4(0) 41(48) → 1287(1711) → 1131(1396) 738(1125) 8(16) ¬ 397(415) → 120(109) 275(546) 27,700 77,100 52,000 2, 800 ##(##) AM(PM) Peak Hour Intersection Volumes

EXHIBIT 5-1: OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT TRAFFIC VOLUMES





Site 2 (8) 3 Analysis Location Existing Location Amargosa Rd. & La Mesa 2 Amargosa Rd. & I-15 SB 3 I-15 NB Ramps & Nisqualli 4 Mariposa Rd. & Nisqualli 5 Seventh Ave./Arrowhead Rd. Rd. Dr. & Nisqualli Rd. Rd Ramps 42,000 65,400 21,050 65,800 58,100 31,550 111(422) 206(666) 139(172) (026)582 \leftarrow 91(310) 177(317) 60(109) 59(188) 601(718) **←** 311(439) **1** ≤ 86(142) **1** 46(78) ← 473(1523) ← 475(1180) ← 1019(2107) ← 1043(1933) \downarrow Ļ 109(369) \downarrow Ļ 811(1009) Ļ 87(134) ٦ \downarrow 20(39) 182(148) - \uparrow \uparrow 203(303) -51(152) ľ 28(101) -٦ \uparrow 831(965) → 263(470) 22(139) 111(330) 1(0) 23(44) 80(415) 1210(1939) → 177(498) 1141(1743) > 127(313) 769(903) → 98(227) 224(261) 653(807) 307(391) 76(181) 74(145) → 279(510) 98(191) ¬ 42,400 45,800 65.300 65.250 36.950 Hesperia Rd. & Green Tree 7 Hesperia Rd. & Ottawa St. 8 Hesperia Rd. & Nisqualli Hesperia Rd. & Bea BI. Rd. Valley Rd. 4,250 34,400 46,200 59,650 2,350 1072(1602) \leftarrow 1161(1637) 118(143) 909(1108) 101(161) 350(658) 30(17) 11(16) **←** 9(36) **1** 210(175) **18(27)** ← 1(5) ← 39(49) ← 1409(1494) 19(78) \downarrow 60(87) \downarrow 312(321) \uparrow 132(140) -٦ 5(6) 1 175(169) - \uparrow 195(146) - \uparrow ľ 71(83) 11(30) 41(48) → 253(458) 107(216) 4(2) → 1055(1634) 70(30) 1287(1711) → 542(485) 310(354) 327(532) 1146(1403) 283(550) 8(16) 397(415) 120(109) 52, 150 45,350 18,700

EXHIBIT 5-2: OPENING YEAR CUMULATIVE (2024) WITH PROJECT TRAFFIC VOLUMES





5.3 Intersection Operations Analysis

LOS calculations were conducted for the study intersections to evaluate their operations under Opening Year Cumulative (2024) traffic conditions with roadway and intersection geometrics consistent with Section 5.1 *Roadway Improvements*. The intersection analysis results are summarized on Table 5-1 for Opening Year Cumulative (2024) Without Project traffic conditions, which indicates that the following study area intersections are anticipated to operate at an unacceptable LOS during one or more peak hours:

- Seventh Avenue/Arrowhead Drive & Nisqualli Road (#5) LOS E PM peak hour only
- Hesperia Road & Nisqualli Road (#8) LOS E PM peak hour only
- Hesperia Road & Bear Valley Road (#9) LOS E PM peak hour only

With the addition of Project traffic, there are no additional study area intersections anticipated to operate at an unacceptable LOS during the peak hours under Opening Year Cumulative (2024) With Project traffic conditions. The Project is proposed to install a traffic signal at the intersection of Hesperia Road and Ottawa Street. This location is anticipated to operate at an acceptable LOS under With Project traffic conditions with the installation of a traffic signal (see also Section 5.4 *Traffic Signal Warrants Analysis*). The intersection operations analysis worksheets for Opening Year Cumulative (2024) Without Project and With Project traffic conditions are included in Appendices 5.1 and 5.2, respectively.

TABLE 5-1: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2024) CONDITIONS

				Withou	•			24 With	t	D.175		
						Level of		ay T	Level of		Differe	
		Traffic	(sec	:s.)	Ser	vice	(sec	s.)	Service		Delay ³	
#	Intersection	Control ²	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Amargosa Rd. & La Mesa Rd.	TS	31.5	54.7	С	D	40.2	54.8	D	D		
2	Amargosa Rd. & I-15 SB Ramps	TS	23.7	29.1	C	С	24.2	29.6	C	С		
3	I-15 NB Ramps & Nisqualli Rd.	TS	17.5	31.0	В	С	19.3	33.1	В	С		
4	Mariposa Rd. & Nisqualli Rd.	TS	20.4	38.6	C	С	20.5	39.5	C	D		
5	Seventh Ave./Arrowhead Dr. & Nisqualli Rd.	TS	21.4	58.4	C	Ε	22.1	58.6	C	E		0.2
6	Hesperia Rd. & Green Tree Bl.	TS	14.9	23.5	В	С	15.7	28.9	В	С		
7	Hesperia Rd. & Ottawa St.	CSS/ <u>TS</u>	22.1	34.1	C	D	9.4	12.6	Α	В		
8	Hesperia Rd. & Nisqualli Rd.	TS	34.5	63.9	C	Е	37.2	69.5	D	E		5.6
9	Hesperia Rd. & Bear Valley Rd.	TS	45.0	76.8	D	E	45.2	77.4	D	Ε		0.6

BOLD = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).

5.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

There are no intersections anticipated to meet peak hour-volume based traffic signal warrants under Opening Year Cumulative (2024) Without Project traffic conditions (see Appendix 5.3). The following unsignalized study area intersection is anticipated to meet a peak hour volume-based traffic signal warrant for Opening Year Cumulative (2024) With Project traffic conditions (see Appendix 5.4):

Hesperia Rd. & Ottawa St. (#6)



¹ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

² CSS = Cross-street Stop; TS = Traffic Signal; <u>TS</u> = Traffic Signal Installed from Project for WP scenario

Per the City of Victorville traffic study guidelines, increase in delay is only calculated for intersections operating at a deficient LOS.

5.5 QUEUING ANALYSIS

Queuing analysis findings for Opening Year Cumulative (2024) Without Project are presented on Table 5-2. As shown on Table 5-2, no queuing issues are anticipated for any movements during the weekday AM and PM peak 95th percentile traffic flows. Worksheets for Opening Year Cumulative (2024) Without Project and With Project traffic conditions queuing analysis are provided in Appendices 5.5 and 5.6, respectively.

TABLE 5-2: PEAK HOUR QUEUING SUMMARY FOR OPENING YEAR CUMULATIVE (2024) CONDITIONS

		Available	202	24 Without Proje	ect	2024 With Project						
		Stacking Distance	95th Percentil	e Queue (Feet)	Accept	able?¹	95th Percentil	e Queue (Feet)	Accept	table?1		
Intersection	Movement	(Feet)	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM		
Amargosa Rd. & I-15 SB Ramps (#2)	WBL	1,600	300	439 ²	Yes	Yes	308	445 ²	Yes	Yes		
	WBR	570	21	24	Yes	Yes	21	24	Yes	Yes		
I-15 NB Ramps & Nisqualli Rd. (#3)	NBL	645	89	224	Yes	Yes	89	224	Yes	Yes		
	NBR	915	188	450 ²	Yes	Yes	228	476 ²	Yes	Yes		
Hesperia Rd. & Ottawa St. (#7)	WBL	200	0	5	Yes	Yes	38	139	Yes	Yes		
	SBL	200	3	3	Yes	Yes	45	41	Yes	Yes		

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

5.6 Project Deficiencies and Recommended Improvements

The effectiveness of the recommended improvement strategies to address Opening Year Cumulative (2024) traffic deficiencies are presented on Table 5-3. Worksheets for Opening Year Cumulative (2024) With Project conditions, with improvements, HCM calculation worksheets are provided in Appendix 5.7.

TABLE 5-3: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2024) CONDITIONS WITH IMPROVEMENTS

					lr	nters	ecti	on A	ppro	ach	Lane	s ¹			Del	ay ²	Level of	
		Traffic	Northbound S			Southbound			Eastbound		Westbound		und	(secs.)		Service		
#	Intersection	Control ³	L	Т	R	٦	Т	R	L	Т	R	L	Т	R	AM	PM	AM	PM
8	Hesperia Rd. & Nisqualli Rd.																	
	- Without Improvements	TS	2	2	0	1	2	0	2	1	2>	1	2	1	37.2	69.5	D	E
	- With Improvements	TS	2	2	0	1	2	1	2	1	2>	1	2	1	32.6	51.8	С	D

When a right turn 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 95}th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

 $L = Left; T = Through; R = Right; >= Right-Turn Overlap Phasing; \underline{\textbf{1}} = Improvement$

² Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all w stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a sint lane) are shown.

³ TS = Traffic Signal

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6 FUTURE YEAR (2034) TRAFFIC CONDITIONS

This section discusses the traffic forecasts for Future Year traffic conditions and the resulting intersection operations, traffic signal warrant, and queuing analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for Future Year (2034) With Project conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Future Year (2034) conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Future Year (2034) conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages).

6.2 TRAFFIC VOLUME FORECASTS

6.2.1 FUTURE YEAR (2034) WITHOUT PROJECT

This scenario includes Existing traffic volumes plus an ambient growth factor of 29.36% and the addition of cumulative development traffic. The weekday ADT, weekday AM, and PM peak hour volumes which can be expected for Future Year (2034) Without Project traffic conditions are shown on Exhibit 6-1 (in actual vehicles).

6.2.2 Future Year (2034) With Project

This scenario includes Existing traffic volumes plus an ambient growth factor of 29.36%, the addition of cumulative development traffic, and the addition of Project traffic. The weekday ADT, weekday AM, and PM peak hour volumes which can be expected for Future Year (2034) With Project traffic conditions are shown on Exhibit 6-2 (in actual vehicles).



Site 2 (8) 3 Sitting Bull S Analysis Location Existing Location Amargosa Rd. & La Mesa 2 Amargosa Rd. & I-15 SB 3 I-15 NB Ramps & Nisqualli 4 Mariposa Rd. & Nisqualli 5 Seventh Ave./Arrowhead Rd. Rd Dr. & Nisqualli Rd. Ramps Rd 51,700 81,000 80,000 26,150 70,650 457(1042) 956(1182) 135(515) 252(811) 169(209) 110(378) 60(102) ← 214(385 **1** 112(824) **←** 47(58) 1 368(518) 104(173) **1** 56(95) ← 1243(2284) ← 564(1373) ← 574(1844) ← 1220(2504) Ļ 1 \downarrow 132(449) \downarrow 972(1217) 106(164) 4 24(42) 62(186) → 222(180) - \uparrow \uparrow r 247(369) -34(124) ٦ \uparrow 271(316) -355(425) 119(276) 1003(1171) → 26(169) 135(402) 92(206) 278(545) 880(1075) → 24(51) 796(984) 1450(2344) → 1(0) 1330(2087) → 216(608) 154(382) 90(176) → 333(614) 119(233) → 15,700 55,650 79.850 80.350 43.650 Hesperia Rd. & Green Tree 7 Hesperia Rd. & Ottawa St. 8 Hesperia Rd. & Nisqualli 9 Hesperia Rd. & Bea BI. Rd. Valley Rd. 5,150 74,300 41,900 55,000 250 54,800 1413(1992) 1298(1927) 1088(1339) 144(175) 426(796) 121(189) 57(137) 13(19) **△** 3(9) **←** 22(33) **249(210)** 9(7) ← 48(60) ← 1701(1810) \downarrow \downarrow Ļ 73(106) 381(392) ٦ \uparrow ٦ \uparrow 231(174) - \uparrow 160(171) -٦ 6(7) __ 152(179) r 87(101) 308(559) (685)559 378(431) 396(637) 396(1369) 13(36) 1283(1989) 4(0) 50(58) → 1375(1699) 1562(2069) → 131(264) 335(666) 10(20) → 484(506) 147(133) 000 '52' 950 67,200 35,750 22,600 ##(##) AM(PM) Peak Hour Intersection Volumes

EXHIBIT 6-1: FUTURE YEAR (2034) WITHOUT PROJECT TRAFFIC VOLUMES



6 Site 2 8 Analysis Location Existing Location Amargosa Rd. & La Mesa 2 Amargosa Rd. & I-15 SB 3 I-15 NB Ramps & Nisqualli 4 Mariposa Rd. & Nisqualli 5 Seventh Ave./Arrowhead Rd. Ramps Rd. Rd. Dr. & Nisqualli Rd. 52,200 80,650 26,600 82,100 71,750 38,200 956(1182) 252(811) 214(385) 169(209) 74(133) 60(102) 72(229) **←** 721(860) **1** 47(58) **104(173) 1** 56(95) ← 576(1854) ← 1231(2550) ← 1256(2337) ← 577(1426) 106(164) \downarrow 1 **₽** 25(47) 981(1220) 247(369) -222(180) - \uparrow 62(186) - \uparrow 34(124) -271(316) 364(461) 1011(1175) → 26(169) 135(402) 1466(2351) → 216(608) 1(0) 1377(2108) → 927(1096) → 270(561) 90(176) ¬ 333(614) 119(233) ¬ 52,650 050,91 55,800 80.500 44.800 Hesperia Rd. & Nisqualli 9 Hesperia Rd. & Green Tree 7 Hesperia Rd. & Ottawa St. 8 Hesperia Rd. & Bear Rd. Valley Rd. 42,200 56,350 2,400 5,150 74,400 \leftarrow 1413(1992) 1103(1346) 1303(1946) 144(175) 427(801) 34, 71(195) 32(18) 13(19) ← 10(38) **←** 22(33) **←** 253(212) ← 1(5) ← 48(60) ← 1701(1810) 381(392) 19(79) 73(106) 160(171) -6(7) 🗠 ٦ \uparrow 203(202) - \uparrow 235(176) - \uparrow 398(647) 308(559) 87(101) 131(264) 4(2) → 13(36) 70(30) 50(58) → 1562(2069) → (165)(591) 1390(1706) 901(1388) 1283(1989) 378(431) 343(670) 10(20) 484(506) 147(133) 06 55 1,050 056'95 21,750 63,600 35,800 22,800 ##(##) AM(PM) Peak Hour Intersection Volumes

EXHIBIT 6-2: FUTURE YEAR (2034) WITH PROJECT TRAFFIC VOLUMES



Average Daily Trips

6.3 Intersection Operations Analysis

LOS calculations were conducted for the study intersections to evaluate their operations under Future Year (2034) traffic conditions with roadway and intersection geometrics consistent with Section 6.1 *Roadway Improvements*. The intersection analysis results are summarized on Table 6-1 for Future Year (2034) Without Project traffic conditions, which indicates that the following study area intersections are anticipated to operate at an unacceptable LOS during one or more peak hours:

- Amargosa Road & La Mesa Road (#1) LOS E PM peak hour only
- Mariposa Road & Nisqualli Road (#4) LOS E PM peak hour only
- Seventh Avenue/Arrowhead Drive & Nisqualli Road (#5) LOS F PM peak hour only
- Hesperia Road & Ottawa Street (#7) LOS F PM peak hour only
- Hesperia Road & Nisqualli Road (#8) LOS F PM peak hour only
- Hesperia Road & Bear Valley Road (#9) LOS E AM peak hour; LOS F PM peak hour

With the addition of Project traffic, there are no additional study area intersections anticipated to operate at an unacceptable LOS during the peak hours under Future Year (2034) With Project traffic conditions. The addition of the Project traffic is anticipated to result in a deficiency at the intersection of Hesperia Road and Ottawa Street based on the existing intersection traffic control. As such, the Project is proposed to install a traffic signal at the intersection of Hesperia Road and Ottawa Street. This location is anticipated to operate at an acceptable LOS under With Project traffic conditions with the installation of a traffic signal (see also Section 5.4 *Traffic Signal Warrants Analysis*). The intersection operations analysis worksheets for Future Year (2034) Without Project and With Project traffic conditions are included in Appendices 6.1 and 6.2, respectively.

TABLE 6-1: INTERSECTION ANALYSIS FOR FUTURE YEAR (2034) CONDITIONS

			2034	2034 Without Project			20	34 With	t			
			Dela	ay¹	Leve	el of	Del	Delay ¹		of	Difference in	
		Traffic	(sec	:s.)	Serv	/ice	(sec	:s.)	Service		Delay ³	
#	Intersection	Control ²	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1	Amargosa Rd. & La Mesa Rd.	TS	35.4	74.5	D	Е	40.7	76.5	D	E		2.0
2	Amargosa Rd. & I-15 SB Ramps	TS	28.6	44.5	C	D	32.9	46.7	С	D		
3	I-15 NB Ramps & Nisqualli Rd.	TS	20.9	49.5	C	D	19.7	52.7	В	Е		
4	Mariposa Rd. & Nisqualli Rd.	TS	21.9	61.5	C	Е	22.1	63.1	C	Е		1.6
5	Seventh Ave./Arrowhead Dr. & Nisqualli Rd.	TS	25.7	92.7	C	F	27.9	92.9	C	F		0.2
6	Hesperia Rd. & Green Tree Bl.	TS	19.0	34.0	В	С	19.4	48.7	В	D		
7	Hesperia Rd. & Ottawa St.	CSS/ <u>TS</u>	31.1	63.9	D	F	9.4	15.6	Α	В		
8	Hesperia Rd. & Nisqualli Rd.	TS	46.3	123.8	D	F	51.5	142.2	D	F		18.4
9	Hesperia Rd. & Bear Valley Rd.	TS	71.5	122.2	Е	F	71.6	122.8	E	F	0.1	0.6

BOLD = Level of Service (LOS) does not meet the applicable jurisdictional requirements (i.e., unacceptable LOS).



Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

² CSS = Cross-street Stop; TS = Traffic Signal; <u>TS</u> = Traffic Signal Installed from Project for WP scenario

Per the City of Victorville traffic study guidelines, increase in delay is only calculated for intersections operating at a deficient LOS.

6.4 QUEUING ANALYSIS

Queuing analysis findings for Future Year (2034) Without Project are presented on Table 6-2. As shown on Table 6-2, it is anticipated for all movements to experience no queuing issues during the weekday AM and PM peak 95th percentile traffic flows. Worksheets for Future Year (2034) Without Project and With Project traffic conditions queuing analysis are provided in Appendices 6.3 and 6.4, respectively.

TABLE 6-2: PEAK HOUR QUEUING SUMMARY FOR FUTURE YEAR (2034) CONDITIONS

		Available	203	34 Without Proje	ect		2034 With Project					
		Stacking Distance	95th Percentile Queue (Feet) Ad		Acceptable? 1		95th Percentile	Acceptable?				
Intersection	Movement	(Feet)	AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM		
Amargosa Rd. & I-15 SB Ramps (#2)	WBL	1,600	421 ²	581 ²	Yes	Yes	435 ²	587 ²	Yes	Yes		
	WBR	570	24	26	Yes	Yes	24	26	Yes	Yes		
I-15 NB Ramps & Nisqualli Rd. (#3)	NBL	645	106	285 ²	Yes	Yes	104	285 ²	Yes	Yes		
	NBR	915	241	579 ²	Yes	Yes	304 ²	605 ²	Yes	Yes		
Hesperia Rd. & Ottawa St. (#7)	WBL	200	3	13	Yes	Yes	41	138	Yes	Yes		
	SBL	200	3	3	Yes	Yes	51	45	Yes	Yes		
				l	ı							

¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance shown on this table, where applicable.

6.5 Project Deficiencies and Recommended Improvements

The effectiveness of the recommended improvement strategies to address Future Year (2034) traffic deficiencies are presented on Table 6-3. Worksheets for Future Year (2034) With Project conditions, with improvements, HCM calculation worksheets are provided in Appendix 6.5.

TABLE 6-3: INTERSECTION ANALYSIS FOR FUTURE YEAR (2034) CONDITIONS WITH IMPROVEMENTS

			Intersection Approach Lanes ¹							Dela	ay ²	Leve	el of					
		Traffic	Northbound Southbour		und	Eastbound		Westbound		und	(secs.)		Service					
#	Intersection	Control ³	L	Т	R	L	Т	R	L	Т	R	L	Т	R	AM	PM	AM	PM
8	Hesperia Rd. & Nisqualli Rd.																	
	- Without Improvements	TS	2	2	0	1	2	0	2	1	2>	1	2	1	71.6	122.8	E	F
	- With Improvements	TS	2	2	0	1	2	<u>1</u>	2	1	2>	1	2	1	44.4	71.9	D	E
	- With Improvements (Alternative)	TS	2	2	0	1	2	0	2	1	2>	1	2	1	36.2	90.6	D	F

When a right turn 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 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

L = Left; T = Through; R = Right; \geq Right-Turn Overlap Phasing; $\underline{\mathbf{1}}$ = Improvement

² Per the Highway Capacity Manual 6th Edition, overall average intersection delay and level of service are shown for intersections with a traffic signal or all w stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a sint lane) are shown.

³ TS = Traffic Signal

As discussed previously in Section 1.9 Concept Striping Plans and shown previously in Exhibit 1-8, the median nose on the west leg and the stop bar for the inside eastbound left turn lane should be modified to provide sufficient space to accommodate the wide turning radius of heavy trucks. It should be noted, there is a proposed 9-foot offset for the southbound through lanes to the receiving lanes. This is consistent with the existing 9-foot offset for the westbound through lanes. Given the improvements to this intersection require restriping of the southbound approach, an offset for the southbound through lanes, and modification of the existing median and stop bar on the west leg, alternative signal timing improvements have also been recommended at this location. The alternative improvements consist of optimizing the traffic signal cycle splits during the AM and PM peak hours. Given the physical constraints of the intersection geometry, the northbound/southbound and eastbound/westbound left turns should operate with lead-lag operations to prevent conflicting left turns.



7 LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements within the City of Victorville are funded through a combination of direct project mitigation, development impact fee programs or fair share contributions, such as the City of Victorville Development Impact Fee (DIF) program. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

7.1 CITY OF VICTORVILLE DEVELOPMENT IMPACT FEE PROGRAM

The County of San Bernardino adopted the latest update to their DIF program in September 2014. Fees from new residential, commercial, and industrial development are collected to fund Measure "I" compliant regional facilities as well as local facilities. Under the County's DIF program, the County may grant to developers a credit against specific components of fees when those developers construct certain facilities and landscaped medians identified in the list of improvements funded by the DIF program.

After the County's DIF fees are collected, they are placed in a separate restricted use account pursuant to the requirements of Government Code sections 66000 *et seq*. The timing to use the DIF fees is established through periodic capital improvement programs which are overseen by the County's Public Works Department. Periodic traffic counts, review of traffic accidents, and a review of traffic trends throughout the County are also periodically performed by County staff and consultants. The County uses this data to determine the timing of the improvements listed in its facilities list. The County also uses this data to ensure that the improvements listed on the facilities list are constructed before the LOS falls below the LOS performance standards adopted by the County. In this way, the improvements are constructed before the LOS falls below the County's LOS performance thresholds. The County's DIF program establishes a timeline to fund, design, and build the improvements.

7.2 MEASURE "I" FUNDS

In 2004, the voters of San Bernardino County approved the 30-year extension of Measure "I", a one-half of one percent sales tax on retail transactions, through the year 2040, for transportation projects including, but not limited to, infrastructure improvements, commuter rail, public transit, and other identified improvements. The Measure "I" extension requires that a regional traffic impact fee be created to ensure development is paying its fair share. A regional Nexus study was prepared by SBCTA and concluded that each jurisdiction should include a regional fee component in their local programs to meet the Measure "I" requirement. The regional component assigns specific facilities and cost sharing formulas to each jurisdiction and was most recently updated in September 2017. Revenues collected through these programs are used in tandem with Measure "I" funds to deliver projects identified in the Nexus Study.

While Measure "I" is a self-executing sales tax administered by SBCTA, it bears discussion here because the funds raised through Measure "I" have funded in the past, and will continue to fund, new transportation facilities in San Bernardino County, including within the City of Victorville.



7.3 FAIR SHARE CONTRIBUTION

Project improvements may include a combination of fee payments to established programs, construction of specific improvements, payment of a fair share contribution toward future improvements or a combination of these approaches. Improvements constructed by development may be eligible for a fee credit or reimbursement through the program where appropriate (to be determined at the City's discretion).

When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. Detailed fair share calculations, for each peak hour, has been provided on Table 7-1 for the applicable deficient study area intersections.

TABLE 7-1: PROJECT FAIR SHARE CALCULATIONS

#	Intersection	Existing	Project	OYC (2024) WP	Total New Traffic	Project % of New Traffic ¹
8	Hesperia Rd. & Nisqualli Rd.					
	AM:	3,044	85	3,343	299	28.4%
	PM:	4,141	107	4,528	387	27.6%

BOLD = Highest fair share percentage is highlighted.



8 REFERENCES

- 1. **City of Victorville.** General Guidelines For Conducting Traffic Studies and Determination of Intersection Level of Service and Improvement Needs. Victorville: s.n., January 20, 2005.
- 2. **San Bernardino County.** *Transportation Impact Study Guidelines.* San Bernardino County: s.n., July 9, 2019.
- 3. Institute of Transportation Engineers (ITE). Trip Generation Manual. 10th Edition. 2017.
- 4. WSP. TUMF High-Cube Warehouse Trip Generation Study. County of Riverside: s.n., January 29, 2019.
- 5. **Southern California Association of Governments.** *Demographics and Gorwth Forecast Technical Report.* SCAG: s.n., Adopted on September 3, 2020.
- 6. **Transportation Research Board.** *Highway Capacity Manual (HCM).* 6th Edition. s.l.: National Academy of Sciences, 2016.
- California Department of Transportation. California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. California Manual on Uniform Traffic Control Devices (CA MUTCD). 2014.
- 8. **San Bernardino County Transportation Authority.** *Congestion Management Program for County of San Bernardino*. County of San Bernardino: s.n., Updated 2016.



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APPENDIX 1.1:

APPROVED TRAFFIC STUDY SCOPING AGREEMENT



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From: Anwar Wagdy
To: Charlene So

Cc: Alex Jauregui; Michael Szarzynski; Fredy Bonilla; Connor Paquin

Subject: RE: 14035 Ottawa Business Center - Scoping Agreement

Date: Monday, June 14, 2021 12:55:53 PM

Attachments: image001.pnq

image003.png

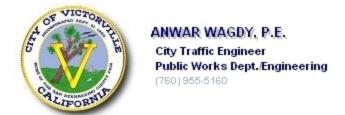
Hi Charlene.

Thanks for your detailed scoping agreement. Please add the following items to the study:

- Future 2034 year with and without project. Assume an annual growth rate of 2%.
- Conduct traffic signal warrants at the intersection of Hesperia/Ottawa.
- Conduct sight-distance analysis at the intersection of Hesperia/Ottawa.
- Conduct queueing analysis at the above intersection (southbound and westbound).
- Analyze the need to for left and right lanes for westbound Ottawa.
- Due to COVID and closed schools, please use a 10% adjustment factor on top of the new traffic counts.

When your TIA is complete, please mail to us in a hard-copy format.

Please let me know if you have any questions. Thanks.



From: Charlene So <cso@urbanxroads.com> Sent: Monday, June 14, 2021 10:16 AM

To: Anwar Wagdy <awagdy@victorvilleca.gov>

Cc: Alex Jauregui <AJauregui@victorvilleca.gov>; Michael Szarzynski

<MSzarzynski@victorvilleca.gov>; Fredy Bonilla <fbonilla@victorvilleca.gov>; Connor Paquin
<cpaquin@urbanxroads.com>

Subject: JN:14035 Ottawa Business Center - Scoping Agreement

[EXTERNAL EMAIL]: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Anwar,

I am following up on the status of the City's review of the attached scoping agreement. Please let me know if you have any questions or comments. Thank you!

Regards,



CHARLENE SO, PE Associate Principal (949) 861-0177 Mobile urbanxroads.com

From: Charlene So

Sent: Tuesday, June 1, 2021 10:57 AM

To: awagdy@victorvilleca.gov

Cc: ajauregui@victorvilleca.gov; MSzarzynski@victorvilleca.gov; fbonilla@victorvilleca.gov; Connor

Paguin < cpaguin@urbanxroads.com>

Subject: JN:14035 Ottawa Business Center - Scoping Agreement

Hi Anwar,

Attached for your review is the scoping agreement for the proposed Ottawa Business Center project. Please let me know if there are any questions or comments. Thank you!

Regards,

CHARLENE SO, P.E.

Associate Principal (949) 861-0177 Mobile

urbanxroads.com





June 1, 2021

Mr. Anwar Wagdy City of Victorville 8650 California Avenue South Gate, CA 90280

SUBJECT: OTTAWA BUSINESS CENTER TRANSPORTATION ANALYSIS SCOPING AGREEMENT

Dear Mr. Anwar Wagdy:

The firm of Urban Crossroads, Inc. is pleased to submit this scoping letter regarding the operational analysis for Ottawa Business Center development (Project), which is located on the northeast corner of Hesperia Road and Ottawa Street in the City of Victorville (see Exhibit 1). This letter describes the proposed Project trip generation, trip distribution, and analysis methodology, which have been used to establish the draft proposed Project study area and analysis locations. The following scope of work is based on the guidelines identified in the City's General Guidelines for Conducting Traffic Studies and Determination of Intersection Level of Service and Improvement Needs (City TIA Guidelines), dated January 20, 2005 and the County's Transportation Impact Study Guidelines (County TIS Guidelines), dated July 9, 2019.

A vehicle miles traveled (VMT) analysis will be prepared per SB743 requirements for the purposes of identifying impacts and mitigation measures associated with the Project as required in the City's <u>VMT Analysis Guidelines</u> (adopted June 23, 2020). In addition, a site access analysis will be conducted to ensure compliance with the TIA/TIS Guidelines but will not be used to determine any CEQA-related traffic impact and mitigation.

PROJECT DESCRIPTION

A preliminary site use plan for the proposed Project is shown on Exhibit 2. The Project is anticipated to have an Opening Year of 2024. Access to the Project site will be provided to Ottawa Street. The proposed Project consists of 200,000 square feet of high-cube cold storage warehouse use and 796,520 square feet of high-cube fulfillment center warehouse use. Exhibit 3 identifies the proposed study area intersections.

TRIP GENERATION

Trip generation represents the amount of traffic that is attracted and produced by a development and is based upon the specific land uses planned for a given project. The trip generation rates used for this analysis are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in their <u>Trip Generation Manual</u> (10th Edition, 2017). For purposes of the trip generation

Mr. Anwar Wagdy City of Victorville June 1, 2021 Page 2 of 6

assessment, the following ITE land use codes and vehicle mix have been utilized for the proposed Project (see Table 1):

- ITE land use code 157 (High-Cube Cold Storage Warehouse) has been used to derive site specific trip generation estimates for up to 200,000 square feet. High-cube cold storage warehouses include warehouses characterized by the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. High-cube cold storage warehouses are facilities typified by temperature-controlled environments for frozen food or other perishable products. The High-Cube Cold Storage Warehouse vehicle mix (passenger cars versus trucks) has been obtained from the ITE's <u>Trip Generation Manual Supplement</u> (dated February 2020). This study provides the following vehicle mix: AM Peak Hour: 73.0% passenger cars and 27.0% trucks; PM Peak Hour: 77.0% passenger cars and 23.0% trucks; Weekday Daily: 65.0% passenger cars and 35.0% trucks. The truck percentages were further broken down by axle type per the following South Coast Air Quality Management District (SCAQMD) recommended truck mix: 2-Axle = 34.7%; 3-Axle = 11.0%; 4+-Axle = 54.3%.
- High-Cube Fulfillment Center Warehouse has been used to derive site specific trip generation estimates for up to 796,520 square feet. The ITE Trip Generation Manual Supplement (February 2020) has trip generation rates for high-cube fulfillment center use for both non-sort and sort facilities (ITE land use code 155). While there is sufficient data to support use of the trip generation rates for non-sort facilities, the sort facility rate appears to be unreliable because they are based on limited data (i.e., one to two surveyed sites). The proposed Project is speculative and whether a non-sort or sort facility end-user would occupy the buildings is not known at this time. Lastly, the ITE Trip Generation Handbook recommends the use of local data sources where available. As such, the best available source for high-cube fulfilment center use would be the trip-generation statistics published in the High-Cube Warehouse Trip Generation Study (WSP, January 29, 2019) which was commissioned by the Western Riverside Council of Governments (WRCOG) in support of the Transportation Uniform Mitigation Fee (TUMF) update in the County of Riverside (see Attachment A). The WSP trip generation rates were published in January 2019 and are based on data collected at 11 local high-cube fulfillment center sites located throughout Southern California (specifically within San Bernardino County and Riverside County). However, the WSP study does not include a split for inbound and outbound vehicles, as such, the inbound and outbound splits per the ITE Trip Generation Manual for Land Use Code 154 have been utilized.



TABLE 1: ITE TRIP GENERATION RATES

		ITE LU	AM Peak Hour		PN	1 Peak Ho	ur		
Land Use ¹	Units ²	Code	In	Out	Total	In	Out	Total	Daily
Actual Vehicle Trip Generation Rates			•	.	-	-			
High-Cube Fulfillment Center Warehouse ⁴	TSF		0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks			0.006	0.002	0.008	0.003	0.008	0.011	0.162
5+-Axle Trucks			0.008	0.003	0.011	0.003	0.007	0.010	0.217
High-Cube Cold Storage Warehouse ³	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks			0.008	0.002	0.010	0.003	0.007	0.010	0.257
3-Axle Trucks			0.003	0.001	0.003	0.001	0.002	0.003	0.082
4+-Axle Trucks			0.012	0.004	0.016	0.004	0.011	0.015	0.403
Passenger Car Equivalent (PCE) Trip Generation Rates ⁵									
High-Cube Fulfillment Center Warehouse ⁴	TSF		0.094	0.028	0.122	0.046	0.119	0.165	2.129
Passenger Cars			0.079	0.024	0.103	0.040	0.104	0.144	1.750
2-4 Axle Trucks (PCE = 2.0)			0.012	0.004	0.016	0.006	0.016	0.022	0.324
5+-Axle Trucks (PCE = 3.0)			0.025	0.008	0.033	0.008	0.022	0.030	0.651
High-Cube Cold Storage Warehouse ³	TSF	157	0.085	0.025	0.110	0.032	0.088	0.120	2.120
Passenger Cars			0.062	0.018	0.080	0.025	0.067	0.092	1.378
2-Axle Trucks (PCE = 1.5)			0.012	0.004	0.015	0.004	0.010	0.014	0.386
3-Axle Trucks (PCE = 2.0)			0.005	0.002	0.007	0.002	0.004	0.006	0.163
4+-Axle Trucks (PCE = 3.0)			0.037	0.011	0.048	0.012	0.033	0.045	1.209

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), <u>Trip Generation Manual</u>, Tenth Edition (2017).

 $Truck\, Mix: South\, Coast\, Air\, Quality\, Management\, District's\, (SCAQMD)\, recommended\, truck\, mix,\, by\, axle\, type.$

 $Normalized\,\%\,-\,With\,Cold\,Storage:\,34.7\%\,2-Axle\,trucks,\,11.0\%\,3-Axle\,trucks,\,54.3\%\,4-Axle\,trucks.$

The trip generation summary illustrating daily, and peak hour trip generation estimates for the proposed Project are shown on Table 2. As shown on Table 2, the existing use generates 2,124 two-way trips per day with 119 AM peak hour trips and 154 PM peak hour trips (actual vehicles).



 $^{^2\,}$ TSF = thousand square feet

³ Vehicle Mix Source: ITE <u>Trip Generation Handbook Supplement</u> (2020), Appendix C.

Vehicle Mix Source: <u>High Cube Warehouse Trip Generation Study</u>, WSP, January 29, 2019. Inbound and outbound split source: ITE <u>Trip Generation Manual</u>, Tenth Edition (2017) for ITE Land Use Code 154.

⁵ PCE factors per SBCTA CMP: 2-axle = 1.5; 3-axle = 2.0; 4+-axle = 3.0.

Table 2: Project Trip Generation Summary (Actual Vehicles)

		AM Peak Hour			PM			
Land Use	Quantity Units ¹	In	Out	Total	In	Out	Total	Daily
Actual Vehicles:			='	•	•	='	-	
High-Cube Cold Storage	200.000 TSF							
Passenger Cars:		12	4	16	5	13	18	276
2-axle Trucks:		2	0	2	1	1	2	52
3-axle Trucks:		1	0	1	0	0	0	16
4+-axle Trucks:		2	1	3	1	2	3	82
Total Truck Trips (Actual Vehicles):		5	1	6	2	3	5	150
Total Trips (Actual Vehicles) ²		17	5	22	7	16	23	426
High-Cube Fulfillment	796.520 TSF							
Passenger Cars:		63	19	82	32	83	115	1,394
2-4axle Trucks:		5	1	6	2	6	8	130
5+-axle Trucks:		7	2	9	2	6	8	174
Total Truck Trips (Actual Vehicles):		12	3	15	4	12	16	304
Total Trips (Actual Vehicles) ²		75	22	97	36	95	131	1,698
Total Passenger Car Trips		75	23	98	37	96	133	1,670
Total Truck Trips		17	4	21	6	15	21	454
Total Trips (Actual Vehicles) ²		92	27	119	43	111	154	2,124

¹ TSF = thousand square feet

As shown on Table 3, the proposed Project is anticipated to generate 2,802 two-way daily PCE trips with 150 AM PCE peak hour trips and 188 PM PCE peak hour trips.



² Total Trips = Passenger Cars + Truck Trips.

TABLE 3: PROJECT TRIP GENERATION SUMMARY (PCE)

		AM	Peak H	our	PM			
Land Use	Quantity Units ¹	In	Out	Total	In	Out	Total	Daily
Passenger Car Equivalent (PCE):								
High-Cube Cold Storage	200.000 TSF							
Passenger Cars:		12	4	16	5	13	18	276
2-axle Trucks:		2	1	3	1	2	3	78
3-axle Trucks:		1	0	1	0	1	1	34
4+-axle Trucks:		7	2	9	2	7	9	242
Total Truck Trips (PCE):		10	3	13	3	10	13	354
High-Cube Cold Storage Total Trips (PCE) ²		22	7	29	8	23	31	630
High-Cube Fulfillment	796.520 TSF							
Passenger Cars:		63	19	82	32	83	115	1,394
2-4axle Trucks:		10	3	13	5	13	18	258
5+-axle Trucks:		20	6	26	7	17	24	520
Total Truck Trips (PCE):		30	9	39	12	30	42	778
High-Cube Fulfillment Total Trips (PCE) ²		93	28	121	44	113	157	2,172
Total Passenger Car Trips		75	23	98	37	96	133	1,670
Total Truck Trips		40	12	52	15	40	55	1,132
Total Trips (PCE) ²		115	35	150	52	136	188	2,802

¹ TSF = thousand square feet

TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered, to identify the route where the Project traffic would distribute. Exhibit 4 illustrates the anticipated passenger car trip distribution patterns for the Project and Exhibit 5 illustrates the Project truck trip distribution patterns.

OPERATIONAL ANALYSIS SCENARIOS

Consistent with the TIA Guidelines, intersection analysis will be provided for the following analysis scenarios:

- Existing (2021) Conditions
- Opening Year Cumulative (2024) Without Project Conditions
- Opening Year Cumulative (2024) With Project Conditions

All study area intersections will be evaluated using the Highway Capacity Manual (HCM) 6th Edition analysis methodology.



² Total Trips = Passenger Cars + Truck Trips.

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TRAFFIC COUNTS

In light of current economic conditions and social-distancing practices in place, historical traffic counts will be utilized. A 1.68 percent per year growth factor (compounded annually) will be applied to historic traffic counts to reflect 2021 baseline conditions. The growth rate is an average of the SCAG RTC (SoCal Connect) population, household, and employment growth projections between 2016 and 2045. We will ensure historic traffic counts were collected when local schools were in session and operating on normal bell schedules. For locations where historic traffic counts are not available, a new traffic count will be conducted. A new traffic count will also be conducted at a location where historic data is available. Based on the growth in traffic observed at the location with both new and historic traffic count data, a similar growth will be applied to intersections where no historic data is available.

CUMULATIVE PROJECTS

It is requested that the City's Planning Department provide us a list of cumulative projects to be included as part of the operational analysis. Alternatively, at the City's direction we can use an ambient growth to reflect background growth over time.

SIGNAL TIMING

It is requested that the City's provide signal timing for any signalized City-controlled intersections. A request has already been made with Caltrans District 8 through their Public Records Request system to obtain signal timing for the I-15 Freeway ramps.

CONCLUSION

Urban Crossroads, Inc. is pleased to submit this letter documenting the Project trip generation, trip distribution, and the recommended intersection analysis locations for the Ottawa Business Center Traffic Analysis. We will continue to move forward towards completing the traffic study after receiving jurisdiction approval or comments finalizing the study area. If you have any questions, please contact me directly at (949) 861-0177.

Respectfully submitted,

URBAN CROSSROADS, INC.

Charlene So, PE Associate Principal



EXHIBIT 1: LOCATION MAP

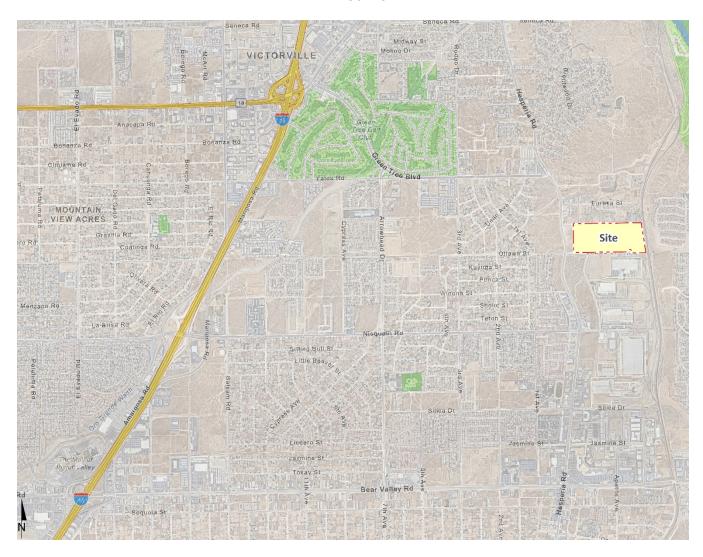




EXHIBIT 2: PRELIMINARY SITE PLAN

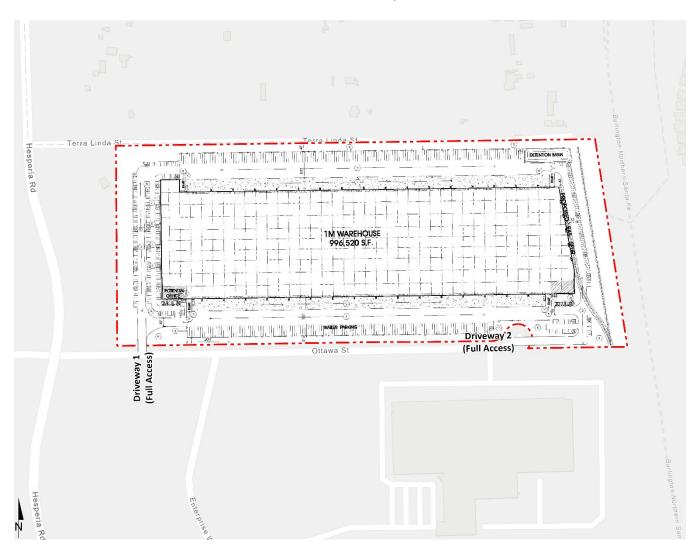


EXHIBIT 3: STUDY AREA





EXHIBIT 4: PROJECT (PASSENGER CAR) TRIP DISTRIBUTION

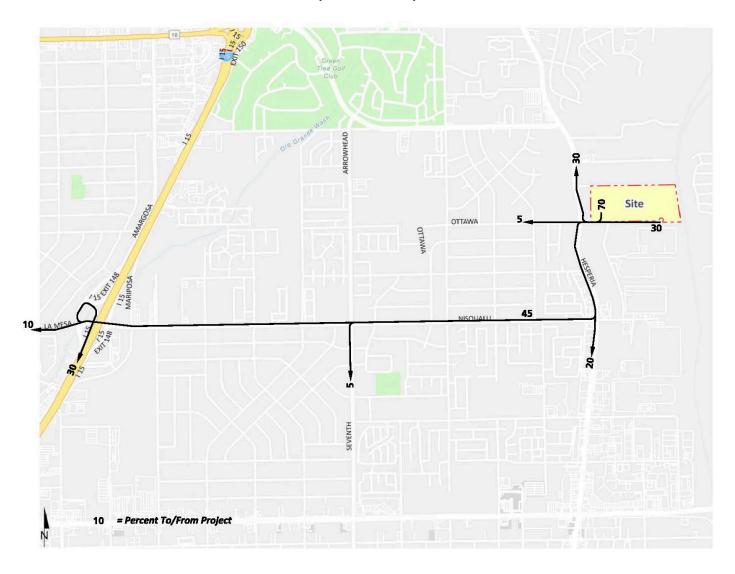
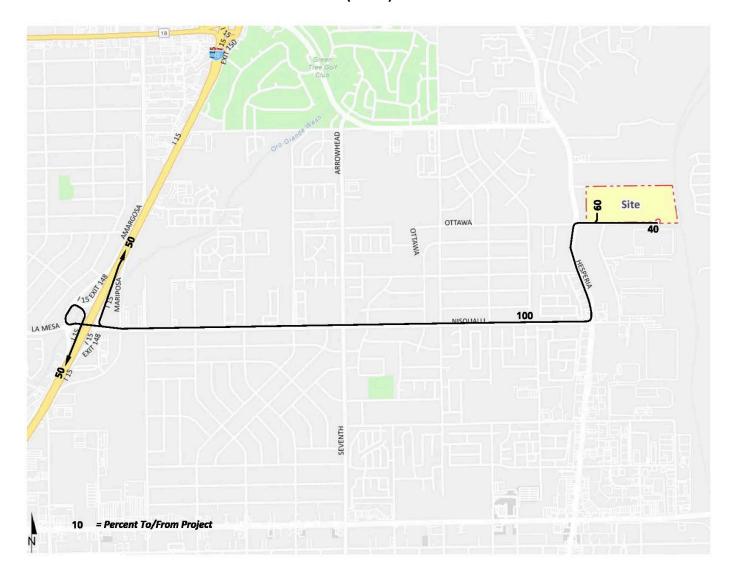


EXHIBIT 5: PROJECT (TRUCK) TRIP DISTRIBUTION



ATTACHMENT A: <u>HIGH-CUBE WAREHOUSE TRIP GENERATION STUDY</u> (WSP, JANUARY 2019)





Technical Memorandum

To: Daniel Ramirez-Cornejo, Program Manager, WRCOG

From: Billy Park, Supervising Transportation Planner, WSP

Subject: TUMF High-Cube Warehouse Trip Generation Study

Date: January 29, 2019

Background

High-cube warehousing is emerging as an important development type in the Inland Empire. Studies such as Logistics & Distribution: An Answer to Regional Upward Social Mobility¹ and Multi-County Goods Movement Action Plan² suggests that this trend is likely to increase over time due to the Inland Empire's relative abundance of suitable sites compared to coastal counties.

A recurring analytical problem for the analyses of traffic impacts associated with proposed high-cube warehouses is the lack of reliable data regarding the number and vehicle mix of trips generated by this land development type. Specifically:

- The 2003 Fontana Truck Trip Generation Study, which has been used for years by agencies in the Inland Empire, is based on the older type of high-cube warehouse. Newer warehouses generally are larger (often over 1 million square feet), much more automated, and generate far fewer trips per square foot.
- The use of overly-conservative estimates has produced results that were unreasonable when compared to actual field conditions. For example, the Environmental Impact Report (EIR) for the Skechers high-cube warehouse building in Moreno Valley included traffic forecasts that were substantially higher than the actual post-construction trip generation for both cars and trucks. Overstated forecasts are misleading to decision makers and could result in oversized infrastructure that could itself have environmental consequences, creates an undue burden on development, and could even have adverse legal consequences for the agencies involved.
- In 2011 the Commercial Real Estate Development Association, also known by its former acronym NAIOP, commissioned a trip generation study of high-cube warehouses focused on large highly-automated warehouses in the Inland Empire. NAIOP had hoped that their study, which found trip-gen rates considerably lower than previous studies, would be used in CEQA analyses going forward. However, concerns about potential bias by the sponsoring party have placed into question the validity of the study results. Similarly, a study commissioned by SCAQMD was viewed as possibly having an anti-development bias.
- Finally, in 2015 NAIOP and SCAQMD jointly sponsored a trip-gen study for high-cube warehouses through a respected neutral party, the Institute of Transportation Engineers (ITE). The report for this study, *High-Cube Warehouse Vehicle Trip Generation Analysis*, was completed in 2016.

The joint NAIOP/SCAQMD/ITE study resulted in a consensus on the trip generation rates to be used for the most common type of high-cube warehouse, a category they call "transload and short-term storage". The findings of the joint study generally indicated the trip generation rates for this use as being consistent with the trip generation rates for the broader category of high-cube warehouses as described by ITE in the 9th Edition of the *Trip*

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¹ Logistics & Distribution: An Answer to Regional Upward Social Mobility, Dr. John Husing for SCAG, June 2004

² Multi-County Goods Movement Action Plan, Wilbur Smith Associates, August 2008

Generation Manual. However, the report did not settle the issue of trip generation rates for two other specific types of high-cube warehouses:

"The single data points for fulfillment centers and parcel hubs indicate that they have significantly different vehicle trip generation characteristics compared to other HCWs. However, there are insufficient data from which to derive useable trip generation rates."

The purpose of this technical memorandum is to gather sufficient data to develop reliable trip generation rates for fulfillment centers and parcel hubs for use in traffic impact studies in the Inland Empire.

Methodology

<u>Number of Sites</u>: The study team reviewed ITE's *Trip Generation Handbook 2nd* Edition, Chapter 4 of which describes how to perform a trip generation study that meets ITE's standards (which improves the defensibility of the results if they are used for CEQA analyses). ITE recommends that at least three sites, and preferably five, be surveyed for a given land use category. Based on the review of candidate sites identified by Western Riverside Council of Governments (WRCOG) staff, it was recommended that data be collected at a total of 16 sites for the purposes of this study.

Independent Variables: ITE's Trip Generation Manual measures the size of proposed developments using more than a dozen different independent variables, such as students (for schools), acres (for parks), etc. All High-Cube related categories in both 9th and 10th Editions of the Trip Generation Manual are reported in Square Foot Gross Floor Area (GFA) measured in thousands of square feet (TSF), which is also the independent variable used for the TUMF program. Some other ITE employment categories use employment as the independent variable, as does SCAG in its Sustainable Communities Strategy. WRCOG provided GFA for all sites and employment data for eight fulfillment centers and one parcel hub site.

The ITE *Trip Generation Manual* typically reports trip generation rates two ways; namely as the average rate and using the "best fit" mathematical relationship between the number of trips generated and the independent variable. R-squared, also known as the coefficient of determination, is used to measure how well the best fit equations match the surveyed traffic counts. The *Trip Generation Manual* recommends that the best fit equation only be used when the R² is greater than or equal to 0.50 and certain other conditions being met; otherwise the average rate should be used.

Data Collection

WRCOG provided a list of recommended trip generation study sites after reviewing potential sites within the Inland Empire with its member agencies. The list included 11 fulfillment centers and 5 parcel hub sites as follows:

Fulfillment Centers

- 1. Walmart: 6750 Kimball Ave, Chino, CA 91708
- 2. Amazon: 24208 San Michele Rd, Moreno Valley, CA 92551
- 3. Lineage Logistics: 1001 Columbia Ave Riverside, CA 92507
- 4. P&G: 16110 Cosmos Street, Moreno Valley, CA 92551
- 5. Big 5: 6125 Sycamore Canyon Blvd, Riverside, CA 92507
- 6. Nestle USA: 3450 Dulles Drive, Jurupa Valley, CA
- 7. Home Depot: 11650 Venture Drive, Jurupa Valley, CA
- 8. ACT Fulfillment Center: 3155 Universe Drive, Jurupa Valley, CA
- 9. Petco: 4345 Parkhurst Street, Jurupa Valley, CA
- 10. Komer: 11850 Riverside Drive, Jurupa Valley, CA
- 11. Ross: 3404 Indian Ave Perris, CA 92571

Parcel Hubs

- 12. UPS: 15801 Meridian Pkwy, Riverside, CA 92518
- 13. FedEx: 330 Resource Dr, Bloomington, CA 92316
- 14. FedEx Freight: 12100 Riverside Drive, Jurupa Valley, CA
- 15. UPS Chain Logistics: 11811/11991 Landon Drive, Jurupa Valley, CA
- 16. DHL: 12249 Holly St N, Riverside, CA 92509

Traffic counts were collected at all of these sites. These were 72-hour driveway counts collected using video cameras for three-midweek days starting June 26, 2018. Video collection was determined to be preferable to collection data by means of machine counts, which can be problematic for driveways where vehicles are maneuvering at slow speeds. Video counts provide the ability for human viewers to review the captured footage to classify vehicles into 5 types (car, large 2-axle, 3-axle, 4-axle, and 5+ axle truck). The three-day average was calculated and used for the purposes of this study.

Fulfillment Centers

By Building Size

Exhibit 1 displays a data plot of daily vehicle trips for the 11 fulfillment centers against building size as the independent variable. The average trip generation rate for fulfillments centers (see black line in Exhibit 1) was found to be 2.2 trips/TSF, compared to the 1.4 trips/TSF found for conventional high-cube warehouses in the ITE/SCAQMD/NAIOP study (i.e. about 50% higher).

Exhibit 1 denotes one outlier data point representing the Amazon site in the upper right of the chart. As shown, the average daily trips generated at this facility is over 50% higher than the trips generated at the two sites of similar size (Walmart and Ross), which appears indicative of a greater frequency of same day e-commerce deliveries from Amazon to individual consumers.

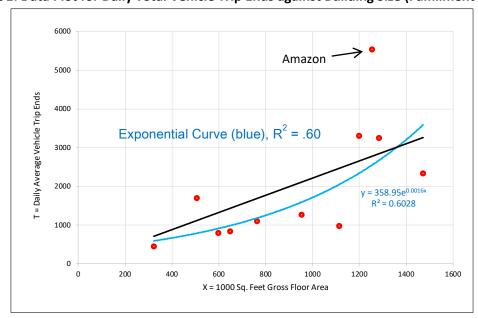


Exhibit 1: Data Plot for Daily Total Vehicle Trip Ends against Building Size (Fulfillment Center)

The best fit equation was an exponential relationship with R² of 0.60 (i.e. high enough to meet the criteria of acceptability). This is shown as a blue line in Exhibit 1. An exponential relationship, meaning that the larger the

building the higher the trip generation rate, is quite unusual. Exhibit 2 takes a deeper look at this by showing the daily vehicle trip generation rates for each of the 11 surveyed fulfillment centers sorted by the smallest to the largest building size from left to right. As shown, small sites tend to generate fewer trips per thousand square feet, but higher percentage of trucks. On the other hand, largest sites tend to generate a higher number of car trips, but fewer truck trips. So not only is the overall trip generation rate affected by building size, the vehicle mix is affected as well.

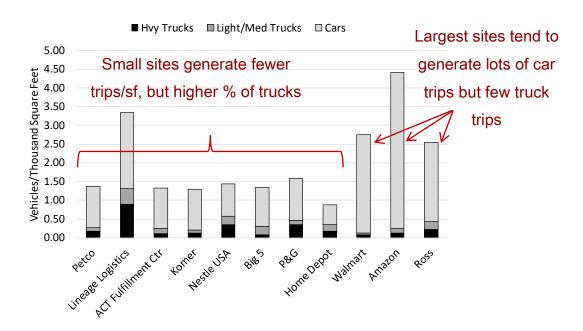


Exhibit 2: Daily Vehicle Trip Generation Rates by Building Size for Each Fulfillment Center

Exhibit 3 and Exhibit 4 show data plots for AM and PM peak hour vehicle trip ends against building size (respectively). The fitted curves had a low R², and so we recommend using the average rate.

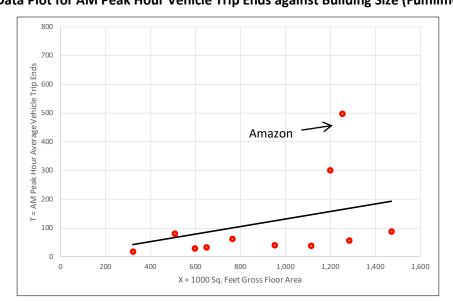


Exhibit 3: Data Plot for AM Peak Hour Vehicle Trip Ends against Building Size (Fulfillment Center)

4

800 700 Amazon -T = PM Peak Hour Average Vehicle Trip Ends 600 500 400 300 200 100 0 0 200 400 1.200 1.400 1.600 600 800 1.000 X = 1000 Sq. Feet Gross Floor Area

Exhibit 4: Data Plot for PM Peak Hour Vehicle Trip Ends against Building Size (Fulfillment Center)

Exhibit 5 compares the average trip generation rates of 11 fulfillment centers with the rates found for conventional transload and short-term storage warehouses in the 2016 high-cube warehouse trip generation study³ by SCAQMD/NAIOP/ITE. As shown, the fulfillment centers generate more daily vehicle trips than conventional warehouse facilities although trucks are roughly the same. This means that the additional trips by fulfillment centers are entirely due to additional car traffic, which is almost double the rate of car trips generated by conventional warehouses.

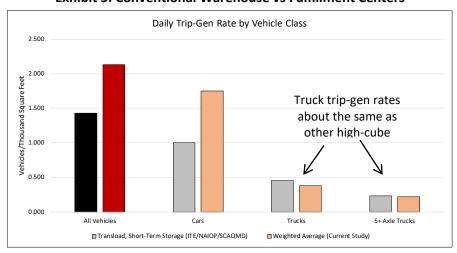


Exhibit 5: Conventional Warehouse vs Fulfillment Centers

Visual observation of the fulfillment center sites indicates the higher trip generation rates for cars appears to be mostly due to the use vans and passenger cars as delivery vehicles, particularly for the larger facilities operated by retailers such as Amazon and Walmart.

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³ High-Cube Warehouse Vehicle Trip Generation Analysis, Institute of Transportation Engineers, 2016

Exhibit 6 summarizes the AM and PM peak hour trip rates and the daily rates for fulfillment centers based on the findings of this study, and compares the results to rates for conventional transload and short-term storage warehouses.

Exhibit 6: Summary of Trip Generation Rates per Thousand Square Feet of Gross Floor Area for Fulfillment Centers

	AM Peal	k Hour	PM Peak	Hour	Daily			
Vehicle Class	Conventional Fulfillment		Conventional	Fulfillment	Conventional	Fulfillment		
	Warehouse*	Center	Warehouse	Center	Warehouse	Center		
Cars	0.057	0.103	0.086	0.144	1.000	1.750		
2-4 Axle Trucks	0.009	0.008	0.013	0.011	0.221	0.162		
5-Axle Trucks	0.015	0.011	0.010	0.010	0.233	0.217		
Total	0.082	0.122	0.108	0.165	1.432	2.129		
%Higherthan		49%		52%		49%		
Conventional		49%		52%		49%		

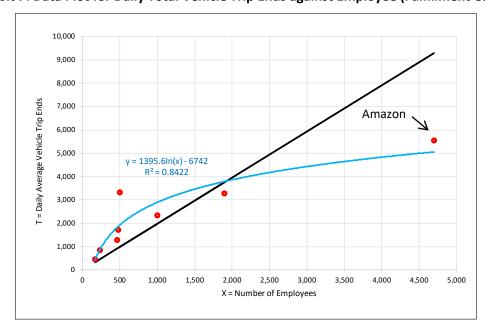
^{*} Transload, Short-Term Storage category in 2016 TIE/ NAIOP/ SCAQMD study

By Employee

The WRCOG contacted the surveyed fulfillment centers and obtained employment data for eight of the eleven sites. Exhibit 7 shows a data plot for those eight sites for daily total vehicle trip ends against the number of employees. The best fit equation was logarithmic function which had an R² of 0.84, indicating a very good fit. Notably, the Amazon site, which was an outlier for trip generation based on floor area (see Exhibit 1), correlates more closely to other sites when employment is used instead. The average trip generation rate for fulfillments centers (represented by the black line in Exhibit 7) was found to be 2.0 trips/TSF

No comparison was made to any previous rates per employees because none of the previous high-cube warehouse related trip generation studies included correlation of trips with employment data.

Exhibit 7: Data Plot for Daily Total Vehicle Trip Ends against Employee (Fulfillment Center)



The data plots for the AM and PM peak hour total vehicle trip ends against the number of fulfillment center employees are shown in Exhibit 8 and Exhibit 9. The best fit equations are linear regressions (shown with black lines) which show a good R² for both the AM and PM peak periods.

700 T = AM Peak Hour Average Vehicle Trip Ends Amazon y = 0.088x + 35.079 $R^2 = 0.6218$ 400 300 200 100 0 0 1,000 1,500 2,000 2,500 3,000 3,500 4,000 4,500 5,000 X = Number of Employees

Exhibit 8: Data Plot for AM Peak Hour Total Vehicle Trip Ends against Employee (Fulfillment Center)



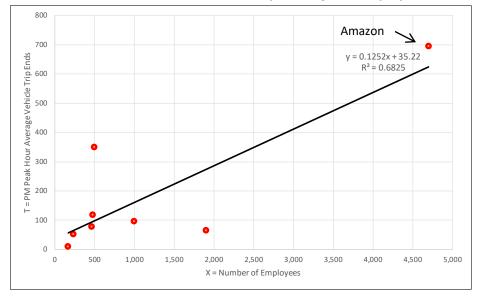


Exhibit 10 summarizes the AM and PM peak hour trip rates and the daily rates for trip generation per employee at fulfillment centers based on the findings of this study.

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Exhibit 10: Summary of Trip Generation Rates per Employee for Fulfillment Centers

Vehide Class	AM Peak Hour	PM Peak Hour	Daily
Cars	0.102	0.139	1.673
2-4 Axle Trucks	0.006	0.008	0.125
5-Axle Trucks	0.009	0.008	0.178
Total	0.118	0.155	1.977

Parcel Hubs

By Building Size

Exhibit 11 displays daily vehicle trip generation rates by building size for each of five parcel hub sites. They are sorted by the smallest to the largest building size from left to right. In this case the small sites generate significantly more trips of every kind than the larger sites, which is the opposite to the pattern observed for fulfillment centers.

16.00 14.00 Vehicles/Thousand Square Feet 12.00 10.00 8.00 6.00 4.00 2.00 0.00 FedEx FedEx DHL UPS UPS Chain Freight Logistics ■ Hvy Trucks
■ Light/Med Trucks
□ Cars

Exhibit 11: Daily Trip Generation Rates at Parcel Hubs

Exhibit 12 shows a data plot of daily vehicle trips of five parcel hubs against building size. As shown, a linear best fit was negative. During the collection of traffic data, construction activity was observed at the FedEx site potentially tainting the validity of these data to represent typical trip generation characteristics. To determine if the trip generation at this site was contributing to the poor data correlation, Exhibit 13 displays the same daily data plot without the FedEx site. The linear best fit shows a positive slope, but remains almost flat effectively indicating no correlation between the daily trips and building size based on the analysis of these sites.

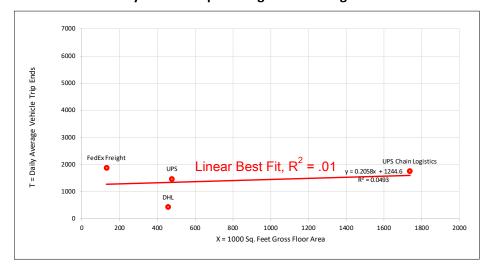
The basic premise of the ITE trip generation approach is that the number of trips generated by a project is proportional to its size. That premise does not hold true for the parcel hubs in this sample and so no meaningful trip generation rates could be determined based on the data collected in support of this study. It should be recognized that a sample size of four or five sites represents the minimum recommended by ITE for valid trip generation studies, and for this reason, it is recommended that additional sites would need to be investigated and included in the data set to develop a more definitive finding on trip generation rates. Furthermore, it may be appropriate to determine the specific function at each site, due to the disparity between the rates observed at the FedEx sites versus the other three sites. It is likely that the function served by the respective sites is significantly different, as reflected in the trip generation rates, thereby necessitating reclassification of these uses for comparative purposes.

1.1-25

FedEx 6000 T = Daily Average Vehicle Trip Ends 5000 3000 FedEx Freight UPS Chain Logistics 2000 UPS 1000 200 400 600 1000 1200 1400 1600 1800 2000 X = 1000 Sq. Feet Gross Floor Area

Exhibit 12: Data Plot for Daily Total Vehicle Trip Ends against Building Size (Parcel Hubs)

Exhibit 13: Data Plot for Daily Vehicle Trip Ends against Building Size without Construction Site



Conclusions

Our survey of 11 fulfillment centers produced trip generation rates based on the gross floor area of the sites that satisfies ITE's standards for use. The findings of the study indicate that the daily trip generation rates for fulfillment centers is approximately 2.1 trips per thousand square feet of gross floor area, which is roughly 50% higher than the comparable rate for conventional transload and short term storage warehouses previously defined in the ITE *Trip Generation Manual* Version 10. The results of the study further indicate that the higher rates were entirely due to more cars traffic at these sites; the trip generation rates for trucks was found to comparable to those at conventional warehouses.

Employment data were available for eight out of 11 fulfillment center sites. This provided the ability to determine trip generation rates per employee. The study results indicate that that trip generation for fulfillment centers is approximately 2.0 trips per employee. The study also found that the trip generation rate per employee correlated more closely that the trip generation rate per thousand square feet of gross floor area.

1.1-26

The data from the five parcel hubs did not show any statistically meaningful relationship between trips and building size. Therefore, no trip generation rate could be calculated. However, the data collected at these sites may provide a useful basis for further comparison with additional sites to provide more data points for analysis.

1.1-27

59

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APPENDIX 1.2:

SITE ADJACENT QUEUES



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Intersection: 7: Hesperia Rd. & Ottawa St.

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	
Directions Served	LTR	L	TR	L	T	Т	R	L	T	TR	
Maximum Queue (ft)	40	61	31	53	176	155	51	72	187	148	
Average Queue (ft)	15	19	9	8	78	54	6	28	80	60	
95th Queue (ft)	40	48	28	29	151	126	29	59	158	127	
Link Distance (ft)	1036	2189	2189		1342	1342			962	962	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)				100			100	100			
Storage Blk Time (%)					3	1		0	3		
Queuing Penalty (veh)					0	1		1	1		

Network Summary

Network wide Queuing Penalty: 3

Intersection: 7: Hesperia Rd. & Ottawa St.

Movement	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	
Directions Served	LTR	L	TR	L	Т	Т	R	L	T	TR	
Maximum Queue (ft)	72	147	83	90	300	265	150	124	431	448	
Average Queue (ft)	23	71	28	30	156	133	10	23	211	198	
95th Queue (ft)	56	124	64	66	266	244	67	76	357	344	
Link Distance (ft)	1036	2189	2189		1342	1342			962	962	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)				100			100	100			
Storage Blk Time (%)				0	11	8			17		
Queuing Penalty (veh)				0	4	3			3		

Network Summary

Network wide Queuing Penalty: 10

APPENDIX 3.1:

EXISTING TRAFFIC COUNTS



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INTERSECTION TURNING MOVEMENT COUNTS

DATE: Wed, Jun 16, 21

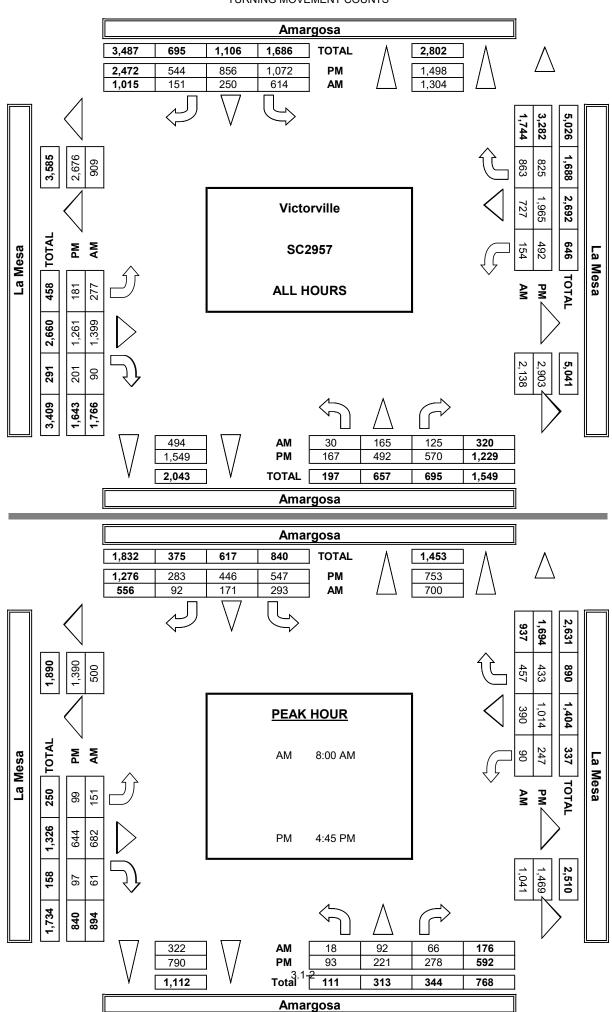
LOCATION: NORTH & SOUTH: EAST & WEST: PROJECT #: LOCATION #: CONTROL: Amargosa La Mesa 1 SIGNAL NOTES: **▲** N E► S NORTHBOUND SOUTHBOUND EASTBOUND WESTBOUND U-TURNS RTOR Amargos ST La Mes ET La Mes Amargo NT TOTAL TTL NL NR SL SR EL ER WL WR NB SB EB WB NRR SRR ERR WRR LANES: 7:15 AM 7:30 AM 7:45 AM 8:00 AM 165 213 216 170 20 18 23 18 11 17 18 23 21 26 22 151 13 10 28 29 12 26 23 154 86 99 90 111 94 88 97 727 42% 90 100 130 114 127 97 119 863 523 631 669 655 595 614 68 94 91 73 34 33 23 54 38 31 28 277 21 23 32 0 0 0 0 8:15 AM 8:30 AM 8:45 AM 39 43 57 70 77 151 169 699 4,845 VOLUMES APPROACH % APP/DEPART 0 0 49% 909 9% 52% 39% 1,304 60% 25% 15% 494 169 79% 0 BEGIN PEAK HR 8:00 AM 92 52% 0.688 171 31% 0.914 390 42% 0.922 151 17% 61 7% 49 28 244 VOLUMES 18 293 682 90 457 2,563 APPROACH %
PEAK HR FACTOR
APP/DEPART
4:00 PM 76% 0.916 0.917 1,030 57 74 76 68 76 64 13 21 22 23 28 30 1,062 1,066 1,107 1,119 1,108 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 135 142 125 152 134 107 115 113 127 103 249 225 253 248 269 244 241 1,965 103 103 99 110 120 15 18 21 19 21 32 20 53 55 65 50 56 32 24 20 26 25 55 66 69 58 68 52 72 492 0 0 0 0 0 0 185 148 151 66 77 67 73 68 136 121 1,072 43% 2,472 5:30 PM 5:45 PM VOLUMES 103 87 856 104 90 825 1,068 1,066 8,626 50 83 192 70 85 570 18 160 153 1,261 77% APPROACH %

APP/DEPART

BEGIN PEAK HR 46% 1,498 40% 35% 60% 25% 2,676 4:45 PM VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART 93 16% 446 35% 0.896 644 77% 0.921 1,014 60% 0.927 221 37% 278 47% 547 283 97 12% 247 433 4,402 126 47 203 12% 0.983 0.961 1,469 1,694 790 Amargosa NORTH SIDE WEST SIDE FAST SIDE La Mesa La Mesa SOUTH SIDE ALL PED AND BIKE PEDESTRIAN CROSSINGS BICYCLE CROSSINGS TOTAL TOTAL 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 0 0 1 0 AM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM Μ 5:30 PM 5:45 PM TOTAL

SC2957

AimTD LLC
TURNING MOVEMENT COUNTS



				PREPAR	RED BY: A	imTD LLC	. tel: 714	253 7888	3 cs@aim	itd.com														
Γ	DATE:	LOCATIO	DN:		Victorville	e				PROJECT	#:	SC2957												
1	6/16/21		& SOUTH:		Amargosa					LOCATION		1												
ı	WEDNESDAY	EAST & \	WEST:		La Mesa					CONTROL	∟ :	SIGNAL												
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			Amargosa			Amargosa		1	La Mesa			La Mesa	,,		11	-						•		- 1
Ī		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB S	R E	B W	B I TTL	1	NRR	SRR	$\overline{}$	ERR	WRR
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. 1	8:00 AM	4	16	15	66	31	22	53	162	11	28	104	105	617	0 0		0 0			0	15	+	6	67
. 1	8:15 AM	4	15	13	57	37	20	38	145	11	11	87	118	556	0 0		0 0	_		0	11	+	5	66
1	8:30 AM	2	21	16	69	43	26	31	163	14	25	84	84	578	0 0		0 0			0	11	+	3	42
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àŀ	8:45 AM VOLUMES	28	156	119	537	240	139	269	1,331	87	146	678	768	4,498	0 0		1 0		ŀ	0	71	+	42	385
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	APP/DEPART	303	1	1,192	916	1	473	1,687	1570	1,987	1,592	1370	846	0	1									
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		Amargosa		
		NORTH SIDE		
La Mesa	WEST SIDE		EAST SIDE	La Mesa
		SOUTH SIDE		
		Amargosa		

INTERSECTION TURNING MOVEMENT COUNTS

				PREPAR	ED BY: A	AimTD LLC	C. tel: 71	4 253 78	88 cs@ai	mtd.com													
	DATE:	LOCATIO			Victorvill					PROJEC		SC2957											
	6/16/21 WEDNESDAY	NORTH EAST &	& SOUTH	:	Amargos La Mesa	sa				LOCATIO CONTRO		1 SIGNAL											
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	VEHICLES/										OTHER		s										
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		NL	Amargosa NT	NR	SL	Amargosa ST	SR	EL	La Mesa ET	ER	WL	La Mesa WT	WR	TOTAL	NB SE	B EB	WB	TTL	NR	D	SRR	ERR	WRR
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l	7:30 AM	0	1	0	10	1	1	1	8	0	0	4	9	35	0 0	0	0	0	0		1	0	2
l	7:45 AM 8:00 AM	0	2	0	3	0	0	0	5 4	0	0	5	12 8	23 25	0 0	0	0	0	0		1	0	5
l	8:15 AM	0	0	0	7	2	1	0	2	0	1	4	3	20	0 0	0	0	0	0		1	0	1
l	8:30 AM	0	1	1	2	0	0	0	3	0	0	3	5	15	0 0	0	0	0	0		0	0	3
lΣ	8:45 AM	0	2	0	4	0	3	2	6	0	0	0	7	24	0 0	0	0	0	0		1	0	1
₹	8:45 AM VOLUMES	0	7	3	42	6	7	4	39	0	3	22	55	188	0 0	0	0	0	0		4	0	23
l	APPROACH %	0%	70%	30%	76%	11%	13%	9%	91%	0%	4%	28%	69%										
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ı	PEAK HR FACTOR	0,0	0.583	2570	, 1,0	0.600	2270	1270	0.531	0,0	3,0	0.692	0.70	0.840									
	APP/DEPART	7	1	30	24	/	3	17	/	34	36	/	17	0									
	4:00 PM	0	2	0	3	0	0	0	7	0	0	0	5	17	0 0	0	0	0	0		0	0	4
l	4:15 PM	1	0	0	8	0	2	2	8	1	0	1	3	26	0 0	0	0	0	0		1	1	2
I	4:30 PM 4:45 PM	1	2	2	4	0	0	0	9	0	0	5	4	21 22	0 0	0	0	0	0		0	0	1
I	5:00 PM	0	0	0	3	0	1	1	5	0	1	6	1	18	0 0	0	0	0	0		1	0	1
l	5:15 PM	0	0	0	1	1	1	0	2	0	2	2	7	16	0 0	0	0	0	0		1	0	2
l	5:30 PM	0	1	1	5	1	2	0	2	0	0	1	8	21	0 0	0	0	0	0		1	0	2
Σ	5:45 PM	0	0	0	1	0	0	0	4	0	0	0	6	11	0 0	0	0	0	0		0	0	4
l		3	5	4	29	3	6	3	41	1	3	16	38	152	0 0	0	0	0	0		4	1	18
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I	APP/DEPART BEGIN PEAK HR	12	4:45 PM	46	38	/	7	45		74	57	/	25	0									
I	VOLUMES	1	3	2	13	3	4	1	13	0	3	14	20	77					0		3	0	6
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ı	PEAK HR FACTOR		0.375	3		0.625			0.583			0.841	23	0.875									
\blacksquare	APP/DEPART	6		24	20	1	6	14	1	28	37	1	19	0									

		Amargosa		
		NORTH SIDE		
La Mesa	WEST SIDE		EAST SIDE	La Mesa
		SOUTH SIDE		
		Amargosa		

	DATE: 6/16/21 WEDNESDAY	EAST &	& SOUTH WEST:		Victorville Amargos La Mesa		c. tel: /14	253 /88	s cs@aim	PROJECT LOCATION CONTRO	ON #:	SC2957 1 SIGNAL							
	CLASS 3: 3-AXLE TRUCKS	NOTES:	l								AM PM MD OTHER	■ W	N S	E►					
		NC	ORTHBOU Amargosa	IND	9	OUTHBOU	ND	E	ASTBOUN	ND .	W	/ESTBOUN	ND		U-TURNS		RT	OR	
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1	8:00 AM	0	0	0	0	1	0	0	1	0	1	1	0	4	0 0 0 0 0	0	0	0	0
1	8:15 AM	0	0	0	0	0	0	0	1	0	0	2	1	4	0 0 0 0 0	0	0	0	1
1	8:30 AM	0	0	0	1	0	0	0	2	0	0	1	1	5	0 0 0 0 0	0	0	0	1
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1	VOLUMES	0	8:00 AM 0	0	3	1	0	0	4	0	1	5	5	19		0	0	0	2
1	APPROACH %	0%	0%	0%	75%	25%	0%	0%	100%	0%	9%	45%	45%	19			U	U	
1	PEAK HR FACTOR	070	0.000	070	/370	0.500	070	070	0.500	070	970	0.688	4370	0.792					
1	APP/DEPART	0	1	5	4	/	2	4	/	7	11	/	5	0.732					
\vdash	4:00 PM	ŏ	0	0	1	1	0	Ö	0	0	0	0	0	2	0 0 0 0 0	0	0	0	0
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1	4:30 PM	1	0	0	0	0	0	0	0	0	0	1	2	4	0 0 0 0 0	0	0	0	1
1	4:45 PM	0	0	0	0	0	1	0	0	0	1	2	0	4	0 0 0 0 0	0	1	0	0
1	5:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	0 0 0 0 0	0	0	0	0
1	5:15 PM	0	0	1	0	0	0	0	0	0	1	1	0	3	0 0 0 0 0	0	0	0	0
1	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0 0 0 0	0	0	0	0
Σ	5:45 PM	0	0	0	0	0	1	0	1	0	0	0	2	4	0 0 0 0	0	0	0	0
I۳	VOLOTILS	1	0	3	3	1	2	0	3	0	2	6	5	26	0 0 0 0 0	0	1	0	1
1	APPROACH % APP/DEPART	25% 4	0%	75% 5	50% 6	17%	33% 3	3	100%	<u>0%</u> 9	15% 13	46%	38% 9	0					
1	BEGIN PEAK HR	+	4:45 PM					-			15			_ <u> </u>	1				
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1	APPROACH %	0%	0%	100%	0%	0%	100%	0%	100%	0%	33%	50%	17%						
1	PEAK HR FACTOR		0.250			0.250			0.250			0.500		0.625					
	APP/DEPART	1		1	1	- /	2	2	- /	3	6	- /	4	0					
						_													
						Amargos	a												
						NORTH SIE)E												
					I	INOK I FI SIL	/ L												
		La Mesa	\A/E	ST SIDE				EAST SI	DE.	La Mes									
		La Mesa	VVE	בתוכ וכ-				LASI SI	DĒ	La Mesa	a								
						SOUTH SID	ÞΕ				-								
						Amargos	a												

	DATE: 6/16/21 WEDNESDAY CLASS 4:	LOCATIO NORTH 8 EAST & V	N: k SOUTH:		Victorvill Amargos La Mesa	e	S. (G. 71	7 233 700		PROJECT LOCATIO CONTRO	ON #:	SC2957 1 SIGNAL	A											
	4 OR MORE AXLE TRUCKS										PM MD OTHER OTHER	■ W	N N S ▼	E▶										
		NO	RTHBOU! Amargosa	ND	SO	UTHBOU Amargosa	ND	E/	ASTBOUN La Mesa	D	W	/ESTBOUN	ND			U-	TURI	NS				RT	OR	
	LANES:	NL 2	NT 2	NR 1	SL 2	ST 2	SR 1	EL 2	ET 2	ER 1	WL 2	WT 3	WR 1	TOTAL	NB	SB	EB	WB	ΠL	NRR X	1	SRR 0	ERR 0	WRR 0
АМ	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM V8:45 AM APPROACH % APPROBERAT	0 0 0 0 0 0 0 0 1 1 50%	0 0 0 0 0 0 0 0 1 1 50%	0 0 0 0 0 0 0 0 0 0 0 0 0 0 3 2	2 0 3 0 0 3 3 3 0 11 69%	0 0 0 1 0 0 0 0 2 3 19%	1 0 0 1 0 0 0 0 0 2 13% 3	0 0 0 0 1 0 0 1 2 14%	2 2 3 1 2 1 1 0 12 86%	0 0 0 0 0 0 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	2 2 1 1 1 1 0 0 8 22%	2 2 2 5 1 4 7 6 29 78% 11	9 6 9 9 5 9 11 11 69	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 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 1 0 0 0 0	0 0 0 0 0 0 0	0 0 2 2 0 1 3 2
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	1 50%	8:00 AM 1 50% 0.250	0 0%	6 75%	2 25% 0.667	0 0%	2 33%	4 67% 0.500	0 0%	0 0%	2 10% 0.714	18 90%	36 0.818 0						0		0	0	6
Μd	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 %	0 0 0 0 0 0 0 0 0 0	0 0 1 0 0 1 0 0 2 67%	1 0 0 0 0 0 0 0 0 0	3 2 4 1 2 2 2 1 17 85%	0 1 0 0 0 0 0 1 0 2 10%	0 0 1 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	1 2 1 0 0 0 0 1 5 100%	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	6 1 3 0 3 2 5 0 20 100%	11 6 10 1 5 5 5 8 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 1 0 0 0 0 0	0 0 0 0 0 0 0 0	4 0 1 0 3 0 4 0
	APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	3 0 0%	/ 4:45 PM 1 100% 0.250	0 0% 11	7 88% 8	1 13% 0.667	2 0 0%	5 0 0%	0 0% 0.000 /	23 0 0% 7	20 0 0%	0 0% 0.500 /	1 10 100%	0 19 0.594 0						0		0	0	7
						margos ORTH SII																		
		La Mesa	WE	ST SIDE				EAST SII	DE	La Mesa	•													
					S	OUTH SIE	ÞΕ																	
					A	margos	a																	

	DATE: 6/16/21 WEDNESDAY CLASS 5: RV	LOCATION: NORTH & SOUTH: EAST & WEST: NOTES:	Victorville Amargosa La Mesa	PROJECT #: S LOCATION #: 1 CONTROL: S	SIGNAL A N		
		NORTHBOUND	SOUTHBOUND EASTBO		S ▼	U-TURNS	RTOR
	LANES:	Amargosa NL NT NR 2 2 1	Amargosa	ER WL 1 2	WT WR TOTAL	NB SB EB WB TTL	NRR SRR ERR WRR X 0 0 0
АМ	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 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% 0.000	0 0 0 0 0 0% 0% 0% 0% 0% 0% 0.000 0.000	0 0	0 0 0 0% 0% 0.000 0.000 / 0 0	<u> </u>	0 0 0 0
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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 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 1 0 2 1 0 1 0 0 67% 33% 0% 100% 0% 3 / 1 1 / /	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 2 0 0 1 0 0 0 0 0 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 0 0 0 0 0 0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	4:45 PM 0 0 0 0% 0% 0% 0.000 0 / 0	0 0 0 0 0 0 0% 0% 0% 0% 0% 0% 0.000 0.000	0 0 0% 0%	0 0 0 0% 0% 0.000 0.000 / 0 0		0 0 0
			Amargosa NORTH SIDE				
		La Mesa WEST SIDE	E EAST SIDE	La Mesa			
			SOUTH SIDE Amargosa				

				PREPAR			C. tel: 71	4 253 78	88 cs@ai															
	<u>DATE:</u>	LOCAT			Victorvill					PROJECT		SC2957												
	6/16/21 WEDNESDAY		I & SOUTH (WEST:	li.	Amargos La Mesa					LOCATIO		1 SIGNAL												
					Lu i icsu					CONTINC		JIGHNE												
	CLASS 6:	NOTES) ;								AM		≜											
	DUCEC										PM	4 14/	N											
	BUSES										MD	■ W	1 6	E ▶										
											OTHER		S											
		1 1	ORTHBOL	IND	S.C	UTHBOU	ND		ASTBOUN	ID		/ESTBOU	UD.		: —		-TURN	-		г		D-	OR	
		"	Amargosa	טאט	30	Amargosa	ND	-	La Mesa	ND	v	La Mesa	ND			·	- I UKN	3				K	UK	
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL		NRR	SRR	ERR	WRR
	LANES:	2	2	1	2	2	1	2	2	1	2	3	1							L	X	0	0	0
г	7:00 AM	0	0	0	4	0	1	0	0	0	0	4	0	9	0	0	0	0	0	Г	0	1	0	0
ı	7:15 AM	0	0	0	1	0	0	0	2	1	1	3	0	8	0	0	0	0	0		0	0	0	0
ı	7:30 AM	1	0	0	0	0	0	0	1	0	1	3	1	7	0	0		0	0		0	0	0	0
ı	7:45 AM	0	0	1	2	0	2	0	2	1	1	0	0	9	0	0		0	0		0	1	0	0
ı	8:00 AM	0	0	0	3	0	0	0	1	0	0	0	0	4	0	0	-	0	0		0	0	0	0
ı	8:15 AM 8:30 AM	0	0	0	2	0	0	0	0	0	0	0	0	6 5	0	0		0	0		0	0	0	0
I٠		0	0	1	0	0	0	0	1	0	0	0	0	2	0	0	-	0	0	H	0	0	0	0
₹	8:45 AM VOLUMES	1	0	3	15	0	3	0	9	3	4	10	2	50	0	0		ŏ	0	·	0	2	0	0
ı	APPROACH %	25%	0%	75%	83%	0%	17%	0%	75%	25%	25%	63%	13%							-				
ı	APP/DEPART	4	1	2	18	/	7	12	/	27	16	/	14	0										
ı	BEGIN PEAK HR		8:00 AM		_																			
ı	VOLUMES	0	0	2	8	0	0	0	4	1	1	0	1	17						L	0	0	0	0
ı	APPROACH % PEAK HR FACTOR	0%	0% 0.500	100%	100%	0% 0.667	0%	0%	80% 0.625	20%	50%	0% 0.500	50%	0.708										
ı	APP/DEPART	2	0.500	1	8	0.007	2	5	0.025	14	2	/ /	0	0.708										
⊢	4:00 PM	1 0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	Г	0	0	1	0
ı	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0		0	0		0	0	0	0
ı	4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0		0	0	0	0
ı	4:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0		0	0		0	0	0	0
ı	5:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	-	0	0		0	0	0	0
ı	5:15 PM 5:30 PM	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0		0	0	-	0	0	0	0
I_		0	1	1	0	1	0	0	0	0	0	0	0	3	0	0	-	0	0	 	0	0	0	0
=	5:45 PM VOLUMES	1 0	1	2	0	1	0	0	0	3	3	0	1	11	0	0		ŏ	0	·	0	0	2	0
ı	APPROACH %	0%	33%	67%	0%	100%	0%	0%	0%	100%	75%	0%	25%							-				
ı	APP/DEPART	3	/	2	1	/	7	3	/	2	4	- /	0	0										
ı	BEGIN PEAK HR	١.	4:45 PM			_	_	_			_	_	_	_						-				
ı	VOLUMES APPROACH %	0 0%	0 0%	1 100%	0 0%	0 0%	0 0%	0 0%	0 0%	1 100%	3 100%	0 0%	0 0%	5						L	0	0	1	0
ı	PEAK HR FACTOR	070	0.250	100%	070	0.000	070	070	0.250	100%	100%	0.375	070	0.625										
ı	APP/DEPART	1	1	0	0	/	4	1	/	1	3	/	0	0.023										
_	•													•	•									
					,	Amargos	a																	
					l N	ORTH SII	ne ne																	
					I IN	OKIH SII	JL.				-													
		La Mes	a WE	EST SIDE				EAST SI	DE	La Mes	а													
					S	OUTH SII	DE				-													
					l .		_																	
					,	Amargos	a	I																

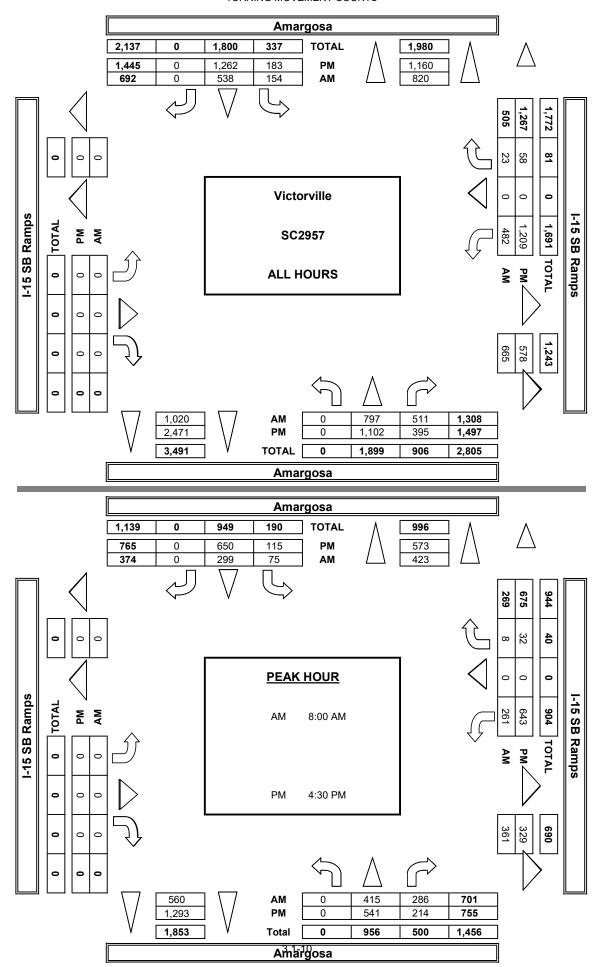
INTERSECTION TURNING MOVEMENT COUNTS

DATE: Wed, Jun 16, 21

LOCATION: NORTH & SOUTH: EAST & WEST: PROJECT #: LOCATION #: CONTROL: Amargosa I-15 SB Ramps 2 SIGNAL NOTES: ▲ N E► S • NORTHBOUND SOUTHBOUND EASTBOUND WESTBOUND U-TURNS Amargo NT Amargos ST I-15 SB Ramps I-15 SB Ramps TOTAL EB TTL NL NR SL SR EL ER WL WR NB SB WB NRR SRR ERR WRR LANES: 63 54 53 55 83 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM 92 94 122 98 105 95 117 797 61% 48 63 66 51 52 77 81 288 300 318 326 338 316 364 2,505 0 0 0 0 0 0 28 15 11 16 17 19 61 70 62 77 81 58 64 511 82 63 77 VOLUMES APPROACH % APP/DEPART 482 95% 505 0 0 0 22% 692 0% 0% 5% 78% 0% 0 8:00 AM 415 59% 0.942 BEGIN PEAK HR 299 80% 0.935 0 0% 0.000 0 0% 0 0% 117 VOLUMES 286 261 1,344 APPROACH %
PEAK HR FACTOR
APP/DEPART 0.923 0.810 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 39 44 44 17 17 25 21 43 26 134 127 138 142 134 167 172 145 152 174 128 141 1,209 95% 1,267 158 159 155 197 139 174 123 1,262 87% 528 535 515 601 544 504 473 4,209 0 0 0 0 0 0 48 55 67 5:15 PM 5:30 PM 5:45 PM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR 121 149 1,102 49 49 395 29 183 74% 0% 0% 26% 1,160 / 4:30 PM VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART 0 0% 214 28% 650 85% 0.797 0 0% 0.000 0 0% 0.938 112 541 72% 115 15% 0 0% 0 0% 0 0% 643 95% 2,195 16 0.913 0.939 NORTH SIDE I-15 SB Ramps WEST SIDE FAST SIDE I-15 SB Ramps SOUTH SIDE ALL PED AND BIKE PEDESTRIAN CROSSINGS BICYCLE CROSSINGS
ES WS SS NS TO TOTAL TOTAL 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 0 0 0 0 0 0 AM 8:15 AM 8:30 AM 8:45 AM TOTAL 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM MΑ 5:30 PM 5:45 PM TOTAL

SC2957

AimTD LLC
TURNING MOVEMENT COUNTS



		DATE: 6/16/21 WEDNESDAY	LOCATION NORTH & EAST & V	& SOUTH:		Victorville Amargos I-15 SB F	e ia	z. tel. 714	233 7 00	o es e u	PROJECT LOCATIO CONTROI	N #:	SC2957 2 SIGNAL												
		CLASS 1: PASSENGER VEHICLES	NOTES:									AM PM MD OTHER OTHER	■ W	N N S ▼	E►										
	F		NL NL	ORTHBOUN Amargosa NT	ND NR	SL	OUTHBOU Amargosa ST	IND SR	EL	I-15 SB Ram		1	/ESTBOUN I-15 SB Ramp: WT		TOTAL	NB		-TUR		TTL		NRR	RT SRR	OR ERR	WRR
	L	LANES:	X	2	NR 1	1 1	2	X	X	X	X	2	X	WK 1	TOTAL	IND	SB	ED	WB	IIL	L	0	X	X	0 0
Γ	Ŧ	7:00 AM 7:15 AM	0	66 86	59 50	24 26	35 53	0	0	0	0	37 42	0	3 5	224 262	0	0	0	0	0		15 19	0	0	3
1		7:30 AM	0	85	44	14	61	0	0	0	0	60	0	4	268	0	0	0	0	0		23	0	0	3
ı	\perp	7:45 AM 8:00 AM	0	114 93	48 76	10 14	57 72	0	0	0	0	60 46	0	2	291 302	0	0	0	0	0	-	23 33	0	0	0
ı	\perp	8:15 AM	0	101	74	17	76	0	0	0	0	45	0	1	314		0	0	0	0	\vdash	33	0	0	0
1	ı	8:30 AM	0	88	50	17	59	0	0	0	0	70	0	4	288	0	0	0	0	0		17	0	0	3
-1:	Σ	8:45 AM	0	108	54	22	73	0	0	0	0	75	0	2	334	0	0	0	0	0		22	0	0	1
ı.	۷∣۲	8:45 AM /OLUMES	0	741	455	144	486	0	0	0	0	435	0	22	2,283	0	0	0	0	0	⊢	185	0	0	11
-		APP/DEPART	0%	62%	38%	23% 630	77%	0% 921	0%	0%	0% 599	95% 457	0%	5%	_										
П		BEGIN PEAK HR	1,196	8:00 AM	763	630	/	921	0		599	457		0	0										
П		OLUMES	0	390	254	70	280	0	0	0	0	236	0	8	1,238							105	0	0	4
-		APPROACH %	0%	61%	39%	20%	80%	0%	0%	0%	0%	97%	0%	3%	1,250						_	100			·
П		PEAK HR FACTOR		0.920			0.921			0.000			0.792		0.927										
L	Α	APP/DEPART	644		398	350	/	516	0	/	324	244	/	0	0						_				
П	L	4:00 PM	0	150	34	17	153	0	0	0	0	122	0	8	484	0	0	0	0	0		14	0	0	3
П	\perp	4:15 PM	0	128	41	16	151	0	0	0	0	158	0	7	501	0	0	0	0	0		7	0	0	4
1	\perp	4:30 PM 4:45 PM	0	121 132	38 47	24	155 152	0	0	0	0	168 142	0	8	514 502	0	0	0	0	0	\vdash	20	0	0	6
1	\perp	5:00 PM	0	138	53	43	195	0	0	0	0	147	0	11	587		0	0	0	0	\vdash	30	0	0	5
1		5:15 PM	0	131	62	25	137	0	0	0	0	169	0	4	528	0	0	0	0	0		34	0	0	1
1		5:30 PM	0	114	45	28	169	0	0	0	0	126	0	3	485	0	0	0	0	0		22	0	0	2
- [Σ	5:45 PM /OLUMES	0	144	43	5	122	0	0	0	0	137	0	6	457	0	0	0	0	0	<u> </u>	21	0	0	2
ľ	֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	OLUMES APPROACH %	0 0%	1,058 74%	363 26%	179 13%	1,234 87%	0 0%	0 0%	0 0%	0 0%	1,169 96%	0 0%	55 4%	4,058	0	0	0	0	0	<u> </u>	170	0	0	27
П		APP/DEPART	1,421	/470 /	1,113	1,413	/ /	2,403	0%	/	542	1,224	/	0	0										
1		BEGIN PEAK HR	1,721	4:30 PM	1,113	1,713		در٦٥٥	 		J72	1,447		- 0	⊢ Ŭ										
1	١	OLUMES	0	522	200	113	639	0	0	0	0	626	0	31	2,131							106	0	0	16
1		APPROACH %	0%	72%	28%	15%	85%	0%	0%	0%	0%	95%	0%	5%							_				
1		PEAK HR FACTOR	700	0.935		750	0.790	4 265		0.000	242		0.933	_	0.908										
L	A	APP/DEPART	722		553	752	/	1,265	0	/	313	657	/	0	0	l									
						Ι.	Amargos	a	I																

NORTH SIDE WEST SIDE I-15 SB Ramps I-15 SB Ramps EAST SIDE SOUTH SIDE Amargosa

	DATE: 6/16/21 WEDNESDAY	LOCATION NORTH	& SOUTH	:	Victorvill Amargos I-15 SB	e sa	C. tel: 71	4 253 78	88 cs@aiı	PROJEC LOCATION CONTRO	T #: ON #:	SC2957 2 SIGNAL												
	CLASS 2: 2-AXLE WORK VEHICLES/ TRUCKS	NOTES									AM PM MD OTHER	■ W	N S	E►										
	modie	NO	ORTHBOU Amargosa	ND	SC	UTHBOU Amargosa	ND		ASTBOUN I-15 SB Ramp			/ESTBOUN				U-	TURN	S				RT	OR	
	LANES:	NL X	NT 2	NR 1	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 2	WT	WR 1	TOTAL	NB	SB	EB	WB	TTL	NRI 0	2	SRR X	ERR X	WRR 0
AM	APPROACH % APP/DEPART	0 0 0 0 0 0 0 0 0 0 0	6 5 8 6 4 3 4 6 42 64%	3 2 4 2 4 3 2 4 24 36% 43	1 2 0 1 2 0 1 0 7 15%	5 6 9 4 4 5 4 3 40 85%	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 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	2 3 1 1 2 2 2 1 3 15 94%	0 0 0 0 0 0 0 0 0 0	0 0 1 0 0 0 0 0 0 1 6%	17 18 23 14 16 13 12 16 129	0 0 0 0 0 0	0 0 0 0 0 0 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 2 2 2 0		0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 1 0 0 0 0 0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	0 0%	8:00 AM 17 57% 0.750	13 43%	3 16%	16 84% 0.792	0 0%	0 0%	0 0% 0.000	0 0% 16	8 100%	0 0% 0.667	0 0%	57 0.891 0						5		0	0	0
М	4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 5:30 PM	0 0 0 0 0 0 0 0 0 0 0 0 0	4 4 3 6 3 2 2 2 4 28 61%	2 2 3 1 1 4 3 2 18 39% 28	0 0 1 0 0 0 0 0 0 0 1 4%	3 5 3 2 1 2 5 1 2 96%	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	2 3 1 2 4 2 0 2 16 100%	0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0	11 14 11 11 9 10 10 9 85	0 0 0 0 0 0	0 0 0 0 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 3 1 0 7		0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	0 0%	4:30 PM 14 61% 0.821	9 39%	1 11% 9	8 89% 0.563	0 0%	0 0%	0 0% 0.000	0 0% 10	9 100%	0 0% 0.563	0 0% 0%	41 0.932 0						4		0	0	0
						Amargos																		
	I-15 S	B Ramps	WE	ST SIDE	l N	ORTH SI)C	EAST SI	DE	I-15 SE	B Ramps													
						OUTH SIE					_													

	DATE:	LOCATI	ON	PREPA		AIIIIID LLC.	. tel. /14	233 /000	cswaiiii		т #.	CCOOFT													
	6/16/21		.UN: & SOUTH		Victorville Amargos					PROJECT LOCATION		SC2957 2													
	WEDNESDAY	EAST &		•	I-15 SB F					CONTRO		SIGNAL													
	CLASS 3:	NOTES										1			ı										
	3-AXLE	NOTES) i								AM PM		▲ N		l										
	TRUCKS										MD	■ W	, ,,	E▶	i										
	INOCKS										OTHER	- ' ''	l s		i										
											OTHER		_		l										
		1 1	OBTUDO	N.D.		OUTUBOUN		_	ACTROUS	15	OTTILIT	VECTOOLI	_		! —					-					
		I N	ORTHBOU	IND	5	SOUTHBOUNI	ט		ASTBOUN			VESTBOUN			H	U-	-TURI	NS				F	TOR		
		NL	Amargosa NT	NR	SL	Amargosa ST	SR	EL	I-15 SB Ramp ET	ER	WL	I-15 SB Ramp	WR	TOTAL	NB	SB	EB	WB	TTL	H	NRR	SRR	ERR	1/4	VRR
	LANES:	X	2	1	1	2	X	X	X	X	2	X	1	TOTAL	IND	30	LD	WD	1112	L	0	X	X		0
г	7:00 AM	0	0	1	0	2	0	0	0	0	1	0	0	4	0	0	0	0	0	Ē	0	0	0		0
ı	7:15 AM	0	0	1	0	1	0	0	0	0	1	0	0	3	0	0	0	0	0	-	0	0	0		0
1	7:30 AM	0	0	3	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0		2	0	0		0
1	7:45 AM	0	1	1	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0		0	0	0		0
1	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	L	0	0	0		0
1	8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	- 1	0	0	0		0
1_	8:30 AM 8:45 AM	0	0	2	0	0 1	0	0	0	0	2	0	0	4	0	0	0	0	0	- 1	0	0	0		0
Į₹	VOLUMES	0	2	10	0	4	0	0	0	0	6	0	0	22		0	0	0	0	H	2	0	0		0
ľ	APPROACH %	0%	17%	83%	0%	100%	0%	0%	0%	0%	100%	0%	0%	**		U	U	U	U		۷	U			
ĺ	APP/DEPART	12	1	2	4	/	10	0	/	10	6	1	0	0	i										
ĺ	BEGIN PEAK HR	 	8:00 AM								<u> </u>				i										
l	VOLUMES	0	1	4	0	1	0	0	0	0	3	0	0	9	l						0	0	0		0
ĺ	APPROACH %	0%	20%	80%	0%	100%	0%	0%	0%	0%	100%	0%	0%		l					_					
ĺ	PEAK HR FACTOR		0.625			0.250			0.000			0.375		0.563	l										
⊢	APP/DEPART	5	/_	1	1	/_	4	0	_/_	4	3	/_	0	0	I	•	_			_	•				
1	4:00 PM	0	1	0	0	0	0	0	0	0	2	0	0	3	0	0	0	0	0	-	0	0	0		0
ĺ	4:15 PM 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	ŀ	0	0	0		0
ĺ	4:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1		0	0	0	0	H	0	0	0		0
1	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1		0	0	0	0	H	0	0	0		0
1	5:15 PM	Ö	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	_ h	0	0	0		0
ĺ	5:30 PM	0	1	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	ı	0	0	0		0
Σ	5:45 PM	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0		0	0	0		0
I٩	VOLOTILS	0	4	1	1	1	0	0	0	0	5	0	1	13	0	0	0	0	0		0	0	0		0
l	APPROACH %	0%	80%	20%	50%	50%	0%	0%	0%	0%	83%	0%	17%		l										
ĺ	APP/DEPART BEGIN PEAK HR	5	4:30 PM	5	2		6	0	/	2	6	/	0	0	l										
ĺ	VOLUMES	0	4:30 PM	0	1	1	0	0	0	0	0	0	1	4	l					г	0	0	0		0
l	APPROACH %	0%	100%	0%	50%	50%	0%	0%	0%	0%	0%	0%	100%	"	l						U	<u> </u>			<u> </u>
ı	PEAK HR FACTOR	3,0	0.250	J 70	5570	0.500	3 70	""	0.000	5 70	3,0	0.250	20070	1.000	l										
L	APP/DEPART	1		2	2		1	0	1	1	1	1	0	0	l										
															_										
						Amargosa																			
					,	NORTH SIDE	=																		
					1 '	NORTH SIDE	-				-														

WEST SIDE EAST SIDE I-15 SB Ramps I-15 SB Ramps SOUTH SIDE Amargosa

	DATE: 6/16/21 WEDNESDAY	LOCATION: NORTH & SO EAST & WES	UTH:	RED BY: A Victorvill Amargos I-15 SB I	e a	C. tel: 71	4 253 788		ntd.com PROJEC LOCATIO CONTRO	T #: ON #:	SC2957 2 SIGNAL													
	CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:								AM PM MD OTHER OTHER	■ W	N S	E►											
		NORTH Amai	gosa		UTHBOU! Amargosa		1	ASTBOUN -15 SB Ramps	5		ESTBOUN I-15 SB Ramp	s				-TUR					RTC]
	LANES:	NL N		SL 1	ST 2	SR X	EL X	ET X	ER X	WL 2	WT X	WR 1	TOTAL	NB	SB	EB	WB	TTL	NRR 0	SR		ERR X	WRR 0	╛
AM	7:00 AM 7:15 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM VOLUMES APPROACH % APP/DEPART	0 2 0 1 0 0 0 1 0 1 0 0 0 2 0 3 0 3 0 10 0% 31	% 69% ' 10	0 0 1 0 0 0 0 1 1 3 75%	1 0 0 0 0 0 0 0 0 0 1 25%	0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 1 2 2 0 3 3 2 15 100%	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	5 3 5 7 4 6 11 10 51	0 0 0 0 0 0 0	0 0 0 0 0 0 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 2 2 1 3 2 1 12	0 0 0 0 0 0 0 0		0 0 0 0 0 0 0	0 0 0 0 0 0 0	
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	8:00 0 6 0% 29 0.7	15 % 71%	2 100%	0 0% 0.500	0 0%	0 0%	0 0% 0.000	0 0%	8 100%	0 0% 0.667	0 0%	31 0.705 0						7	0		0	0	J
Md	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 %	0 2 0 1 0 2 0 0 0 0 1 0 1 0 4 0 0 0 0 11 0% 50	3 1 3 0 1 1 1 1 1 1 11 % 50%	0 1 0 0 0 0 0 1 0 2 33%	0 2 1 0 1 0 0 0 0 0 4 67%	0 0 0 0 0 0 0 0 0	0 0 0 0 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 3 1 1 1 3 1 1 16 89%	0 0 0 0 0 0 0 0 0 0	1 0 0 0 0 0 0 0 0 2 11%	9 9 9 1 4 5 7 2 46	0 0 0 0 0 0 0	0 0 0 0 0 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 2 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	
	APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	22 4:30 0 4 0% 44 0.4	PM 5 % 56%	0 0%	2 100% 0.500	0 0% 10	0 0 0%	0 0% 0.000 /	0 0% 5	8 100% 8	0 0% 0.667	0 0 0%	0 19 0.528 0						2	0		0	0]
					Amargosa ORTH SID					-														
	I-15 S	B Ramps	WEST SIDE	i.			EAST SI	DE	I-15 SB	3 Ramps														
				S	OUTH SID	E				-														
				A	margosa	a																		

	DATE: 6/16/21 WEDNESDAY	LOCATION: NORTH & SOUTH: EAST & WEST:	RED BY: AimTD LLC. tel: 714 2 Victorville Amargosa I-15 SB Ramps	253 /888 cs@aimtd.com PROJECT # LOCATION CONTROL:	#: 2 SIGNAL				
	RV	NOTES:			AM N N DTHER S T	E►			
	-	NORTHBOUND Amargosa	SOUTHBOUND Amargosa	EASTBOUND I-15 SB Ramps	WESTBOUND I-15 SB Ramps		U-TURNS	RTOF	1
	LANES:	NL NT NR X 2 1			WL WT WR 2 X 1	TOTAL	NB SB EB WB TTL	NRR SRR 0 X	ERR WRR X 0
АМ	7:00 AM 7:15 AM 7:30 AM 7:34 SM 8:00 AM 8:15 AM 8:30 AM 8:45 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 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	8:00 AM 0 0 0 0% 0% 0% 0.000 0 / 0	0% 0% 0% 0.000	0% 0% 0% 0.000	0 0 0 0% 0% 0% 0.000 0 / 0	0 0.000 0		0 0	0 0
М	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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 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 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2 1 0 0 0 0 0 1 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 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	4:30 PM 0 0 0 0% 0% 0% 0.000 0 / 0	0% 0% 0% 0.000	0% 0% 0% 0.000	0 0 0 0% 0% 0% 0.000 0 / 0	0 0.000 0		0 0	0 0
			Amargosa NORTH SIDE						
	I-15 S	B Ramps WEST SIDE	E EA	AST SIDE I-15 SB R	amps				
			SOUTH SIDE Amargosa						

INTERSECTION TURNING MOVEMENT COUNTS
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com DATE: 6/16/21 WEDNESDAY LOCATION: NORTH & SOUTH: EAST & WEST: Victorville Amargosa I-15 SB Ramps PROJECT #: LOCATION #: CONTROL: SC2957 2 SIGNAL CLASS 6: NOTES: BUSES **∢**W

											OTHER		▼						
		NO	ORTHBOU	ND	SC	UTHBOU	ND	E	ASTBOUN	1D	W	'ESTBOUN	ND			U	-TUR	NS	
			Amargosa			Amargosa			I-15 SB Ramp	s	1	I-15 SB Ramp	s						
	LANES:	NL X	NT 2	NR 1	SL 1	ST 2	SR X	EL X	ET X	ER X	WL 2	WT X	WR	TOTAL	NB	SB	EB	WB	TTL
_				_				•					^	_		_	_		$\overline{}$
ı	7:00 AM	0	0	0	0	3	0	0	0	0	2	0	0	5	0	0	0	0	0
ı	7:15 AM 7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0
ı	7:45 AM	0	0	0	0	1	0	0	0	0	2	0	0	3	0	0	0	0	0
ı	8:00 AM	0	0	0	0	1	0	0	0	0	3	0	0	4	0	0	0	0	0
ı	8:15 AM	0	1	0	0	1	0	0	0	0	2	0	0	4	0	0	0	0	0
ı	8:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0
I_		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
I₹	8:45 AM VOLUMES	0	2	0	0	7	0	0	0	0	11	0	0	20	0	0	0	0	0
1	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	20	Ů			Ū	Ů
ı	APP/DEPART	2	1	2	7	1	18	0	1	0	11	1	0	0					
ı	BEGIN PEAK HR		8:00 AM																
ı	VOLUMES	0	1	0	0	2	0	0	0	0	6	0	0	9					
ı	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	100%	0%	0%						
ı	PEAK HR FACTOR		0.250			0.500			0.000			0.500		0.563					
ı	APP/DEPART	1		1	2	/	8	0	/	0	6		0	0					
г	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ı	4:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
ı	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ı	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ı	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ı	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ı	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Σ	5:45 PM VOLUMES	0	0	1	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0
I٩	VOLUMES	0	1	1	0	0	0	0	0	0	1	0	0	3	0	0	0	0	0
ı	APPROACH %	0%	50%	50%	0%	0%	0%	0%	0%	0%	100%	0%	0%						
ı	APP/DEPART	2	1 20 514	1	0		1	0	/	1	1		0	0					
ı	BEGIN PEAK HR	_	4:30 PM	•		•	•	_	•	•		•	•						
1	VOLUMES	0	0	0	0	0	0	0 0%	0	0	0	0	0	0					
1	APPROACH %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0 000					
ı	PEAK HR FACTOR		0.000		_	0.000	0	0	0.000		_	0.000		0.000					
	APP/DEPART	0		0	0		U	U	/	0	0		0	U					

RTOR										
NRR 0	SRR X	ERR X	WRR 0							
0	0	0	0							
0	0	0	0							
0	0	0	0							
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0	0	0	0							
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0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	0
1	0	0	0

0	0	0	0

Amargosa NORTH SIDE I-15 SB Ramps EAST SIDE I-15 SB Ramps WEST SIDE SOUTH SIDE Amargosa

INTERSECTION TURNING MOVEMENT COUNTS PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com Victorville PROJECT #:

DATE: Wed, Jun 16, 21	LOCATION NORTH & EAST & W	SOUTH:		Victorville I-15 NB Ra Nisqualli	amps				PROJECT LOCATION CONTROL	N #:	SC2957 3 SIGNAL							
NOTES:										AM		A		I				
1101201										PM		N						
										MD	■ W	J	E▶					
										OTHER		S		✓ Add U-Turns to Left Turns				
										OTHER		l ĕ						
		IODTUDOU	ND		OLITUDOLII	ID.	_	FACTROUI	up.	UTITER	MECTROUI	<u> </u>	_					
	I N	NORTHBOU		5	OUTHBOUN			EASTBOU	ND		WESTBOU	ND		U-TURNS		R	TOR	
	NL	I-15 NB Ramp		CI	I-15 NB Ramps		-	Nisqualli	- FD	14/1	Nisqualli	WR	TOTAL	NB SB EB WB TTL	NRR	SRR	ERR	WRR
LANES:	1.5	0.5	NR 1	SL X	ST X	SR X	EL 2	3	ER X	WL X	3	1	TOTAL	NB SB EB WB TTL 0 0 0 0	0	X	X	0
7:00 AM	26	1	34	0	0	0	42	161	0	0	133	47	444	0 0 0 0 0	22	0	0	18
7:15 AM	26	0	33	0	0	0	42	200	0	0	157	54	512	0 0 0 0 0	20	0	0	16
7:30 AM	35	0	44	0	0	0	59	270	0	0	177	57	642	0 0 0 0 0	25	0	0	19
7:45 AM	48	0	49	0	0	0	39	285	0	0	205	70	696	0 0 0 0 0	21	0	0	20
8:00 AM	26	0	48	0	0	0	33	228	0	0	229	40	604	0 0 0 0 0	33	0	0	17
8:15 AM	38	1	30	0	0	0	37	185	0	0	191	56	538	0 0 0 0 0	21	0	0	17
8:30 AM	48	0	30	0	0	0	47	222	0	0	164	48	559	0 0 0 0 0	19	0	0	12
8:45 AM	25	0	29	0	0	0	37	253	0	0	218	59	621	0 0 0 0 0	19	0	0	19
VOLUMES	272	2	297	0	0	0	336	1,804	0	0	1,474	431	4,616	0 0 0 0 0	180	0	0	138
APPROACH %	48%	0%	52%	0%	0%	0%	16%	84%	0%	0%	77%	23%						
APP/DEPART	571	- 1	769	0	/	0	2,140	/	2,101	1,905	/	1,746	0					
BEGIN PEAK HR		7:30 AM																
VOLUMES	147	1	171	0	0	0	168	968	0	0	802	223	2,480		100	0	0	73
APPROACH %	46%	0%	54%	0%	0%	0%	15%	85%	0%	0%	78%	22%	1					_
PEAK HR FACTOR		0.822			0.000			0.863			0.932		0.891					
APP/DEPART	319		392	0		0	1,136		1,139	1,025		949	0					
4:00 PM	77	1	47	0	0	0	55	281	0	0	309	76	846	0 0 0 0 0	24	0	0	23
4:15 PM	87	0	71	0	0	0	42	310	0	0	322	60	892	0 0 0 0 0	34	0	0	21
4:30 PM	81	0	61	0	0	0	52	332	0	0	306	66	898	0 0 0 0	24	0	0	20
4:45 PM	94	0	70	0	0	0	58	334	0	0	324	62	942	0 0 0 0	28	0	0	19
5:00 PM	88	0	69	0	0	0	56	310	0	0	322	73	918	0 0 0 0	38	0	0	23
5:15 PM	79	0	69	0	0	0	47	294	0	0	384	63	936	0 0 0 0	33	0	0	26
5:30 PM	73	0	66	0	0	0	42	325	0	0	327	67	900	0 0 0 0	36	0	0	30
5:45 PM VOLUMES	91 670	0	79 532	0	0	0	58 410	304 2,490	0	0	314	82 549	928 7,260	0 0 0 0	32 249	0	0	33 195
APPROACH %	56%	1 0%	532 44%	0 0%	0 0%	0 0%	14%	2,490 86%	0%	0 0%	2,608 83%	549 17%	/,200	0 0 0 0 0	249	0	0	190
APP/DEPART	1,203	1/90	960	0%	/	0%	2,900	/ 00%	3,022	3,157	83%	3,278	0					
BEGIN PEAK HR	1,203	4:45 PM	500	-		U	2,500		3,022	3,137		3,270	+ -					
VOLUMES	334	4:45 PM 0	274	0	0	0	203	1,263	0	0	1,357	265	3,696		135	0	0	98
APPROACH %	55%	0%	45%	0%	0%	0%	14%	86%	0%	0%	84%	16%	3,030		133	U	U	90
PEAK HR FACTOR	33 /0	0.927	TJ /0	0 /0	0.000	0 /0	1770	0.935	0 /0	0 /0	0.907	10 /0	0.981					
APP/DEPART	608	1	468	0	/	0	1,466	/	1,537	1,622	/	1,691	0.901					
. ,							,		-,	,		-,		•				
				I-1	15 NB Ran	nps												
					NORTH SID	E				_								
	Nisqualli	i	WEST SIDE				EAST SIDI	E	Nisquall	i								
	-] :	SOUTH SID	E				-								
				I-1	15 NB Ran	nps												

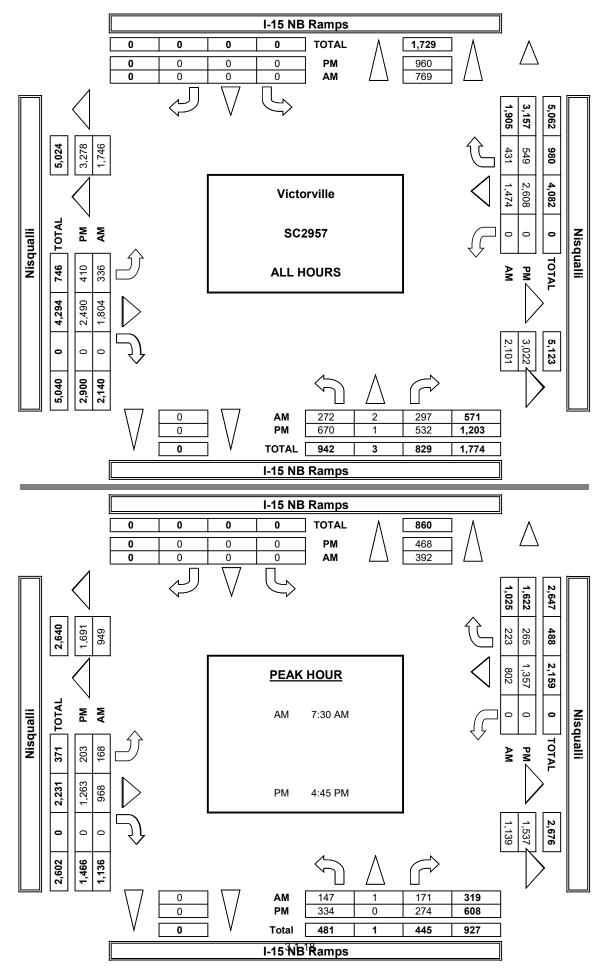
т	7:00 AM
	7:15 AM
	7:30 AM
Ψ	7:45 AM
₹	8:00 AM
	8:15 AM
	8:30 AM
	8:45 AM
	TOTAL
	4:00 PM
	4:15 PM
	4:30 PM
Σ	4:45 PM
- □	5:00 PM
	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL

ALL PED AND BIKE											
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	0	0							
0	0	0	1	1							
0	0	0	1	1							
0	0	0	1	1							
0	0	1	0	1							
0	0	2	0	2							
0	0	3	3	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	1	0	1							
0	0	0	0	0							
0	0	0	0	0							
0	0	1	0	1							

	PEDEST	RIAN CRO	SSINGS	
E SIDE	W SIDE	S SIDE	N 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	1	1
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	2	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

BICYCLE CROSSINGS											
ES	WS	SS	NS	TOTAL							
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	0	0	0							
0	0	1	0	1							
0	0	2	0	2							
0	0	3	1	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	0	1	0	1							
0	0	0	0	0							
0	0	0	0	0							
0	0	1	0	1							

AimTD LLC
TURNING MOVEMENT COUNTS



	<u>DATE:</u> 6/16/21 WEDNESDAY	LOCATION NORTH & EAST & V	& SOUTH:		Victorvill I-15 NB Nisqualli	Ramps	2. tel: 714	253 788	8 cs@ain	PROJECT LOCATIO CONTROI	N #:	SC2957 3 SIGNAL												
	CLASS 1: PASSENGER VEHICLES	NOTES:									AM PM MD OTHER OTHER	■ W	N S V	E ▶										
		N	ORTHBOU			OUTHBOU		E	ASTBOU	ND	V	VESTBOU	ND			U	-TUR	NS		Г		R	TOR	
		NL	I-15 NB Ramps			I-15 NB Ramp	SR	-	Nisqualli ET	FD	14/1	Nisqualli	WR	TOTAL	NB	SB	ED	WB	TT1	-	NDD	SRR	ERR	WRR
	LANES:	1.5	NT 0.5	NR 1	SL X	ST X	X	EL 2	3	ER X	WL X	WT 3	1		IND	SB	EB	WB	TTL	L	NRR 0	X	X	0 0
Г	7:00 AM	24	1	25	0	0	0	41	145	0	0	116	38	390	0	0	0	0	0		15	0	0	16
1	7:15 AM	24	0	22	0	0	0	41	179	0	0	139	48	453	0	0	0	0	0		16	0	0	14
	7:30 AM 7:45 AM	34	0	37	0	0	0	57	241 273	0	0	156	51	576	0	0	0	0	0		19	0	0	18 17
	8:00 AM	43 23	0	42 33	0	0	0	36	2/3	0	0	188 214	60 34	642 548	0	0	0	0	0	- 1-	18 24	0	0	14
	8:15 AM	36	1	24	0	0	0	36	169	0	0	175	51	492		0	0	0	0	\vdash	17	0	0	14
1	8:30 AM	43	0	22	0	0	0	45	207	0	0	152	42	511		0	0	0	0	- 1-	15	0	0	11
I٠		25	0	22	0	0	0	36	239	0	0	202	55	579		0	0	0	0		15	0	0	17
4	8:45 AM VOLUMES	252	2	227	0	0	0	325	1,664	0	0	1,342	379	4,191	l ŏ	0	0	0	0	-	139	0	0	121
	APPROACH %	52%	0%	47%	0%	0%	0%	16%	84%	0%	0%	78%	22%	.,151	ٹ ا				ب	_	100			
	APP/DEPART	481	1	706	0	1	0	1,989	1	1.891	1,721	1	1,594	0										
1	BEGIN PEAK HR	1.7.	7:30 AM					1-,		-,	1-/		-,											
	VOLUMES	136	1	136	0	0	0	162	894	0	0	733	196	2,258							78	0	0	63
	APPROACH %	50%	0%	50%	0%	0%	0%	15%	85%	0%	0%	79%	21%	l						_				
1	PEAK HR FACTOR		0.803			0.000			0.854			0.936		0.879										
	APP/DEPART	273		359	0	/	0	1,056		1,030	929		869	0										
Г	4:00 PM	73	1	44	0	0	0	54	265	0	0	304	72	813	0	0	0	0	0		22	0	0	23
1	4:15 PM	83	0	64	0	0	0	40	290	0	0	316	58	851	0	0	0	0	0		30	0	0	19
1	4:30 PM	78	0	57	0	0	0	50	311	0	0	297	65	858	0	0	0	0	0		24	0	0	20
1	4:45 PM	91	0	62	0	0	0	57	323	0	0	313	60	906	0	0	0	0	0		25	0	0	18
1	5:00 PM	83	0	64	0	0	0	55	299	0	0	314	73	888	0	0	0	0	0		36	0	0	23
	5:15 PM	78	0	65	0	0	0	47	288	0	0	372	58	908	0	0	0	0	0		32	0	0	23
1_	5:30 PM 5:45 PM	67 89	0	60 71	0	0	0	42 58	316 295	0	0	317 309	66 82	868 904	0	0	0	0	0	\vdash	33 32	0	0	29 33
I≧	5:45 PM VOLUMES	642	1	487	0	0	0	403	2.387	0	0	2,542	534	6,996			0	0	0	- ⊢	234	0	0	188
1	APPROACH %	57%	0%	43%	0%	0%	0%	14%	86%	0%	0%	83%	17%	0,550		U	U	U	U	_	237	- 0	0	100
	APP/DEPART	1.130	1	938	0 /0	1	0	2,790	1	2.874	3.076	1	3,184	0										
1	BEGIN PEAK HR	1,130	4:45 PM	<i>J J J J J J J J J J</i>			- 0	2,750		2,077	3,070		J,10-7	- 										
1	VOLUMES	319	0	251	0	0	0	201	1,226	0	0	1,316	257	3,570							126	0	0	93
1	APPROACH %	56%	0%	44%	0%	0%	0%	14%	86%	0%	0%	84%	16%	',						_			-	
1	PEAK HR FACTOR		0.931			0.000			0.939			0.915		0.983										
	APP/DEPART	570	1	458	0	1	0	1,427	/	1,477	1,573	1	1,635	0	l									
	_				I-1	L5 NB Ra	mps	1							-									

I-15 NB Ramps NORTH SIDE Nisqualli WEST SIDE EAST SIDE Nisqualli SOUTH SIDE I-15 NB Ramps

INTERSECTION TURNING MOVEMENT COUNTS

DATE: OATE: OAT				11/			AimTD LL0					13													,
CLASS AVIE					ı.																				1
VALIES																									- 1
VALIES		CLASS 2:	NOTES									ΔM	1	_ A		l									1
WORK VFHICLES / TRUCKS			110122	•								4													,
Vehicles TRUCKS S												MD	⋖ W		E►										ŗ
TRUCKS NORTHBOUND EASTBOUND WESTBOUND NORTHBOUND 131 MB feature 131 MB feature NorthBound NORTHBOUND 131 MB feature NorthBound NORTHBOUND NORTHBOUND NORTHBOUND 131 MB feature NORTHBOUND NORTHB												OTHER		s											,
Second S		TRUCKS										OTHER		▼											
LANES: 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 0.5 1.5 0.5			NO	ORTHBOU	JND	SC	UTHBOU	ND	E	astboui	ND	l v	/ESTBOU	ND	1		U-TUI	RNS				R	TOR		٦ /
LANES: 1.5 0.5 1											- FD			14/5	TOTAL	ND G		14/0.1		- ├	100	CDD	500	11/00	ا ا⊢
THE STATE OF THE S		LANES:													TOTAL	NB SE	B EB	WB	TIL						
Y-30 AM			2	0	3	0	0	0	0	9	0	0	8	4	26		0	0	0		3	0	0	2	י ר
## PAPPALEMENT 1																									_] /
## 8:00 AM						_	-										_	-			_		_		_ <i>'</i>
SIS AM 1						_							_				_				-		_		⊣ <i>'</i>
## 8:30 AM																					,				⊣ ′
E 8:45 AM																					-		_		- <i> </i>
VOLUMES 15 0 35 0 0 0 0 4 80 0 0 65 24 223	_			_																			_		- 1
APP/DEPART 50	₹																		_						⊣ ′
BEĞİN PEAK HR		APPROACH %	30%	0%	70%	0%	0%	0%	5%	95%	0%	0%	73%	27%											- 1
VOLUMES 8			50	1		0	/	0	84	/	115	89	/	80	0										,
APPROACH % PEAK HR FACTOR PEAK HR FACTOR 0.482								_				_								_					_ '
PEAK HR FACTOR				-				-				1 -			123						12	0	0	5	
APP/DEPART 27			30%		70%	0%		0%	/%		0%	0%		23%	0.799										,
## 4:00 PM			27	1.402	15	0	/	n	43	/	50	53	/	40											,
## 4:15 PM	_			0	_		0		_	8			3			0 0	0	0	0		1	0	0	0	י ר
## 4:45 PM			2	0	4	0	0	0	0	17	0	0									2	0	0	1	7
5:00 PM				0		_	-		1			0					0		0		-	0	0	0	_] '
5:15 PM 1 0 2 0 0 0 0 0 2 0 0 0 7 2 14 5 3:30 PM 3 0 5 0 0 0 0 0 0 8 0 0 6 1 23 0 0 0 0 0 0 0 3 0 1 1 5 0 0 0 0 0 0 0 8 0 0 1 1 0 0 0 0 0 0 0 0			_			_	-			_			-				_						_		_] '
5:30 PM 3 0 5 0 0 0 0 8 0 0 6 1 23 5:45 PM 2 0 1 0 0 0 0 5 0 0 3 0 11 VOLUMES 18 0 22 0 0 0 0 4 70 0 0 39 6 159 APPROACH % 4:45 PM VOLUMES 11 0 16 0 0 0 0 2 26 0 0 26 4 85 APPROACH % 4:45 PM VOLUMES 11 0 16 0 0 0 0 2 26 0 0 26 4 85 APPROACH % 41% 0% 59% 0% 0% 0% 7% 93% 0% 0% 87% 13% PEAK HR FACTOR 0.750 0.000 0.778 0.833 0.817			_								_										-				_ '
\$\begin{array}{c c c c c c c c c c c c c c c c c c c				_		_	-				_		-				_	-			-		_		_ '
E VOLUMES 18 0 22 0 0 0 0 4 70 0 0 39 6 159 APPROACH % 45% 0% 55% 0% 0% 0% 5% 95% 0% 0% 0% 87% 13% VOLUMES 10 0 16 0 0 0 2 26 0 0 26 4 85 APPROACH % 41% 0% 59% 0% 0% 0% 7% 93% 0% 0% 87% 13% PEAK HR FACTOR 0.750 0.000 0.000 0.778 0.833 0.817	_			_					-												-		_	_	- 1
APPROACH % 45% 0% 55% 0% 0% 0% 0% 5% 95% 0% 0% 87% 13% APPROACH % 4:45 PM VOLUMES 11 0 16 0 0 0 0 2 26 0 0 0 26 4 85 APPROACH % 41% 0% 59% 0% 0% 0% 7% 93% 0% 0% 87% 13% PEAK HR FACTOR 0.750 0.000 0.078 0.833 0.817	Δ			-						_	-					Ů									⊣ ′
APP/DEPART 40 / 10 0 / 0 74 / 92 45 / 57 0 BEGIN PEAK HR 4:45 PM VOLUMES 11 0 16 0 0 0 2 26 0 0 26 4 85 APPROACH % 41% 0% 59% 0% 0% 0% 7% 93% 0% 0% 87% 13% PEAK HR FACTOR 0.750 0.000 0.778 0.833 0.817															133	0 0	- 0	- 0	0		,	- 0	0		ا ا
VOLUMES 11 0 16 0 0 0 2 26 0 0 26 4 85 APPROACH % 41% 0% 59% 0% 0% 0% 93% 0% 0% 87% 13% PEAK HR FACTOR 0.750 0.000 0.778 0.833 0.817				1			/			/			/		0										,
APPROACH % 41% 0% 59% 0% 0% 0% 7% 93% 0% 0% 87% 13% PEAK HR FACTOR 0.750 0.000 0.778 0.833 0.817			1	4:45 PM																					_ '
PEAK HR FACTOR 0.750 0.000 0.778 0.833 0.817															85						6	0	0	3	」'
			41%		59%	0%		0%	7%		0%	0%		13%											-
APP/DEPAKI 27			1 27	0.750			0.000		20	0.778	42	20	0.833	27											,
		APP/DEPART	27		6	U	/	U	28	/	42	30	/	37	0	l									,

		I-15 NB Ramps		
		NORTH SIDE		
Nisqualli	WEST SIDE		EAST SIDE	Nisqualli
		SOUTH SIDE		
		I-15 NB Ramps		

	DATE: 6/16/21 WEDNESDAY	LOCATI NORTH EAST &	& SOUTH		Victorville I-15 NB I Nisqualli	Ramps	tei. /14	Z33 /666		PROJECT LOCATION CONTRO	ON #:	SC2957 3 SIGNAL												
	CLASS 3: 3-AXLE TRUCKS	NOTES	:								AM PM MD OTHER	■ W	N N S ▼	E▶										
			ORTHBOL		9	OUTHBOUND)	E/	ASTBOUN	ID	W	/ESTBOUI	ND			U	-TURI	IS				RTO	R	
	LANES:	NL 1.5	NT 0.5	NR 1	SL X	I-15 NB Ramps ST X	SR X	EL 2	Nisqualli ET 3	ER X	WL X	Nisqualli WT 3	WR 1	TOTAL	NB	SB	EB	WB	TTL	NRR 0	SRR X		ERR X	WRR 0
	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM	0 0 0 0 0	0 0 0 0 0	1 1 3 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 1 0 1 0	1 2 3 2 0 1	0 0 0 0 0	0 0 0 0 0	0 4 3 1 2 2	1 0 0 1 1 2	3 8 9 5 3 7	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 3 0 0	0 0 0 0 0		0 0 0 0 0	0 0 0 0 1 2
AM	8:30 AM 8:45 AM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR	0 0 1 14% 7	0 0 0 0% / 7:30 AM	0 1 6 86% 10	0 0 0 0% 0	0 0 0 0%	0 0 0 0% 0	1 0 4 24% 17	2 2 13 76%	0 0 0 0% 19	0 0 0 0% 24	2 4 18 75% /	0 1 6 25% 19	5 8 48	0 0	0 0	0 0	0 0	0 0	0 0 5	0 0		0 0	0 0 3
	VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	1 25%	0 0% 0.333	3 75%	0 0%	0 0% 0.000	0 0%	2 25% 8	6 75% 0.667	0 0% 9	0 0%	8 67% 0.750	4 33%	24 0.667 0						3	0		0	3
PM	APPROACH % APP/DEPART	0 1 0 0 0 0 0 0 0 1 17%	0 0 0 0 0 0 0 0 0 0	2 0 0 1 1 0 1 0 5 83% 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 0 0 0 0 0 0 0	0 1 1 0 0 0 0 0 0 2 22% 9	1 0 2 0 2 1 0 1 7 78%	0 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 3 3 0 2 1 2 12 86%	0 1 0 0 0 1 0 0 0 2 14%	3 4 6 4 3 4 2 3 29	0 0 0 0 0 0 0	0 0 0 0 0 0 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 1 0 0 0 1 0 0 2
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	0 0%	4:45 PM 0 0% 0.750	3 100%	0 0%	0 0% 0.000 /	0 0%	0 0%	3 100% 0.375	0 0%	0 0% 7	6 86% 0.583	1 14%	13 0.813 0						0	0		0	1
						15 NB Ram ı NORTH SIDE					_													

		NORTH SIDE		
lisqualli	WEST SIDE		EAST SIDE	Nisqualli
		SOUTH SIDE		
		I-15 NB Ramps		

Nisqualli

WEST SIDE

EAST SIDE

SOUTH SIDE I-15 NB Ramps Nisqualli

				PREPAR	ED BY: A	AimTD LL	C. tel: 71	4 253 78	88 cs@aiı	mtd.com													
	DATE:	LOCATIO	ON:		Victorvill					PROJEC	Т#:	SC2957											
	6/16/21		& SOUTH	:	I-15 NB					LOCATIO		3											
	WEDNESDAY	EAST &	WEST:		Nisqualli					CONTRO	DL:	SIGNAL											
	CLASS 4:	NOTES:									AM		A		Ī								
	4 OR MORE										PM		N										
	AXLE										MD	■ W		E▶									
	TRUCKS										OTHER		s										
											OTHER		▼										
		l NC	ORTHBOU	IND	SC	UTHBOU	ND	l E	ASTBOUN	ID	l V	VESTBOUN	ND.		i —	U	-TUR	NS			RTO)R	
		1	I-15 NB Ramp	s		I-15 NB Ramp	ıs		Nisqualli			Nisqualli											
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	NRR	SRR	ERR	WRR
	LANES:	1.5	0.5	1	X	X	X	2	3	X	X	3	1		<u> </u>					0	X	X	0
Г	7:00 AM	0	0	4	0	0	0	1	3	0	0	5	0	13	0	0	0	0	0	2	0	0	0
	7:15 AM	1	0	4	0	0	0	0	1	0	0	3	2	11	0	0	0	0	0	1	0	0	0
1	7:30 AM	0	0	1	0	0	0	0	7	0	0	2	3	13	0	0	0	0	0	0	0	0	1
1	7:45 AM	1	0	4	0	0	0	0	1	0	0	5	3	14	0	0	0	0	0	2	0	0	0
1	8:00 AM	1	0	3	0	0	0	0	2	0	0	2	1	9	0	0	0	0	0	2	0	0	0
1	8:15 AM 8:30 AM	0	0	4	0	0	0	0	4	0	0	5 6	3	16 17	0	0	0	0	0	2	0	0	0
1_		0	0	3	0	0	0	0	0	0	0	5	2	9	0	0	0	0	0	2	0	0	0
I₹	8:45 AM VOLUMES	4	0	27	0	0	0	1	22	0	0	33	15	102	0	0	0	0	0	13	0	0	2
1	APPROACH %	13%	0%	87%	0%	0%	0%	4%	96%	0%	0%	69%	31%	102		- 0	U	U	<u> </u>		0		
1	APP/DEPART	31	1	16	0	/	0	23	1	49	48	1	37	0									
	BEGIN PEAK HR		7:30 AM																				
1	VOLUMES	2	0	12	0	0	0	0	14	0	0	14	10	52						6	0	0	2
1	APPROACH %	14%	0%	86%	0%	0%	0%	0%	100%	0%	0%	58%	42%										_
1	PEAK HR FACTOR		0.700			0.000			0.500			0.750		0.813									
╙	APP/DEPART	14		10	0	/	0	14	/	26	24	/	16	0							 		
	4:00 PM	3	0	0	0	0	0	0	6	0	0	2	3	14	0	0	0	0	0	0	0	0	0
1	4:15 PM 4:30 PM	1	0	3	0	0	0	0	5	0	0	2	0	8 13	0	0	0	0	0	0	0	0	0
1	4:30 PM 4:45 PM	0	0	1	0	0	0	0	3	0	0	0	0	4		0	0	0	0	1	0	0	0
1	5:00 PM	1	0	0	0	0	0	0	0	0	0	2	0	3	1 0	0	0	0	0	0	0	0	0
1	5:15 PM	ō	0	2	0	0	0	0	3	0	ő	3	2	10	l o	0	0	0	ő	1	0	0	1
1	5:30 PM	3	0	0	0	0	0	0	1	0	0	1	0	5	0	0	0	0	0	0	0	0	0
Ιz	5:45 PM	0	0	7	0	0	0	0	2	0	0	0	0	9	0	0	0	0	0	0	0	0	0
I٩	5:45 PM VOLUMES	9	0	17	0	0	0	1	22	0	0	11	6	66	0	0	0	0	0	4	0	0	1
1	APPROACH %	35%	0%	65%	0%	0%	0%	4%	96%	0%	0%	65%	35%										
1	APP/DEPART	26		7	0	/	0	23	/	39	17	/	20	0									
1	BEGIN PEAK HR	١,	4:45 PM			•	•	_	-	•		_	2	22							 0		
1	VOLUMES APPROACH %	4 57%	0	3 43%	0 0%	0	0 0%	0 0%	7 100%	0	0 0%	6	2 25%	22						2	0	0	1
1	PEAK HR FACTOR	5/%	0% 0.583	43%	0%	0% 0.000	0%	0%	0.583	0%	0%	75% 0.400	25%	0.550									
ı	APP/DEPART	7	1	2	0	/	0	7	/	10	8	/	10	0.550									
-			- '	_										. ·	•								
					I-1	5 NB Ra	mps																
					N	ORTH SII	DE				_												

	DATE: 6/16/21 WEDNESDAY CLASS 5: RV	LOCATION: NORTH & SOUTH: EAST & WEST:	iked BY: Aim1D LLC. tel: 71 Victorville I-15 NB Ramps Nisqualli	4 253 7888 CS@aimtd.com PROJECT LOCATTC CONTRO	DN #: 3 DL: SIGNAL AM N MD W	E►			
		NORTHBOUND I-15 NB Ramps	SOUTHBOUND I-15 NB Ramps	EASTBOUND Nisqualli	OTHER S ▼ WESTBOUND Nisqualli		U-TURNS	RTOR	\neg
	LANES:	NL NT NR 1.5 0.5 1	SL ST SR X X	EL ET ER X	WL WT WR X 3 1	TOTAL	NB SB EB WB TTL		/RR 0
АМ	7:00 AM 7:15 AM 7:30 AM 7:35 AM 8:00 AM 8:15 AM 8:30 AM 8:45 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 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	7:30 AM 0 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% 0.000 0 / 0	0 0 0 0% 0% 0% 0.000 0 / 0	0 0.000 0		0 0 0	0
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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 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 1 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 1 0 0 0 0 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
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	4:45 PM 0 0 1 0% 0% 100%	0 0 0	0 0 0 0% 0% 0% 0.000 0 / 1	0 0 0 0% 0% 0% 0.000 0 / 0	1 0.250 0		1 0 0	0
			I-15 NB Ramps NORTH SIDE		-				
		Nisqualli WEST SID	E	EAST SIDE Nisqual	lli				
			SOUTH SIDE I-15 NB Ramps		-				

	DATE: 6/16/21 WEDNESDAY	LOCATI NORTH EAST &	& SOUTH		Victorvil I-15 NB Nisqualli	le Ramps	.C. tel: /1	4 253 /8		PROJEC LOCATION CONTRO	T #: ON #:	SC2957 3 SIGNAL											
	CLASS 6: BUSES	NOTES	:								AM PM MD OTHER OTHER	■ W	N N S ▼	E►									
			ORTHBOL		l	OUTHBOU		E	ASTBOUN	ID	V	VESTBOU	ND		i	U	-TURNS				RT	OR	
		NL	I-15 NB Ram	NR	SL	I-15 NB Ramp	SR	EL	Nisqualli ET	ER	WL	Nisqualli	WR	TOTAL	NB	SB	EB WB	TTL	_	NRR	SRR	ERR	WRR
	LANES:	1.5	0.5	1	X	X	X	2	3	X	X	3	1						<u> </u>	0	X	X	0
Г	7:00 AM	0	0	1	0	0	0	0	3	0	0	4	4	12	0	0	0 0	0		1	0	0	0
ı	7:15 AM 7:30 AM	0	0	0	0	0	0	0	4	0	0	5	0	10 5	0	0	0 0	0		0	0	0	0
ı	7:45 AM	0	0	0	0	0	0	1	3	0	0	1	1	6	0	0	0 0	0		0	0	0	0
ı	8:00 AM	0	0	0	0	0	0	0	6	0	0	0	0	6	0	0	0 0	0		0	0	0	0
ı	8:15 AM 8:30 AM	0	0	0	0	0	0	0	2	0	0	1	0	5	0	0	0 0	0		0	0	0	0 1
١٠		1 0	0	0	0	0	0	0	2	0	0	0	0	2	0	0	0 0	0		0	0	0	0
₹	VOLUMES	0	0	2	0	0	0	2	25	0	0	16	7	52	0	0	0 0	0		2	0	0	1
ı	APPROACH %	0%	0%	100%	0%	0%	0%	7%	93%	0%	0%	70%	30%										
ı	APP/DEPART BEGIN PEAK HR	2	7:30 AM	9	0	/	0	27	/	27	23	/	16	0									
ı	VOLUMES	l 0	0	1	0	0	0	1	14	0	0	6	1	23						1	0	0	0
ı	APPROACH %	0%	0%	100%	0%	0%	0%	7%	93%	0%	0%	86%	14%						_				
ı	PEAK HR FACTOR		0.250			0.000			0.625			0.438		0.958									
⊢	APP/DEPART 4:00 PM	0	0	2	0	0	0	15 0	0	15 0	7	0	6	0	0	0	0 0	0		0	0	0	0
ı	4:15 PM	1 0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0 0	0		0	0	0	0
ı	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0		0	0	0	0
ı	4:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0 0	0		0	0	0	0
ı	5:00 PM 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 0	0		0	0	0	0
ı	5:30 PM	1 0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0 0	0		0	0	0	0
ΙΣ	5:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0 0	0		0	0	0	0
I٩	5:45 PM VOLUMES	0	0	0	0	0	0	0	2	0	0	4	1	7	0	0	0 0	0	╵└	0	0	0	0
ı	APPROACH % APP/DEPART	0%	0%	0% 1	0% 0	0%	0% 0	0% 2	100%	0% 2	0% 5	80%	20% 4	0									
1	BEGIN PEAK HR	Ť	4:45 PM		, ,	- /		_		-	1			Ť									
ı	VOLUMES	0	0	0	0	0	0	0	1	0	0	3	1	5						0	0	0	0
ı	APPROACH % PEAK HR FACTOR	0%	0% 0.000	0%	0%	0% 0.000	0%	0%	100% 0.250	0%	0%	75% 0.500	25%	0.625									
ı	APP/DEPART	0	1	1	0	/	0	1	/	1	4	/	3	0.025									
_	•	•	•						,		•				•								
					I-1	5 NB Ra	mps																
					l N	IORTH SII	DE																
							•				-												
		Nicaus		EST SIDE				EAST SI	DE	Nicaria													
		Nisqualli	ı W	EST SIDE				EAST SI	.DE	Nisqua	1111												
					,						_												
					S	OUTH SI	DE																
					T-1	5 NB Ra	mns																
						- 115 Ka		1															

INTERSECTION TURNING MOVEMENT COUNTS

DATE: Wed, Jun 16, 21

5:30 PM 5:45 PM TOTAL

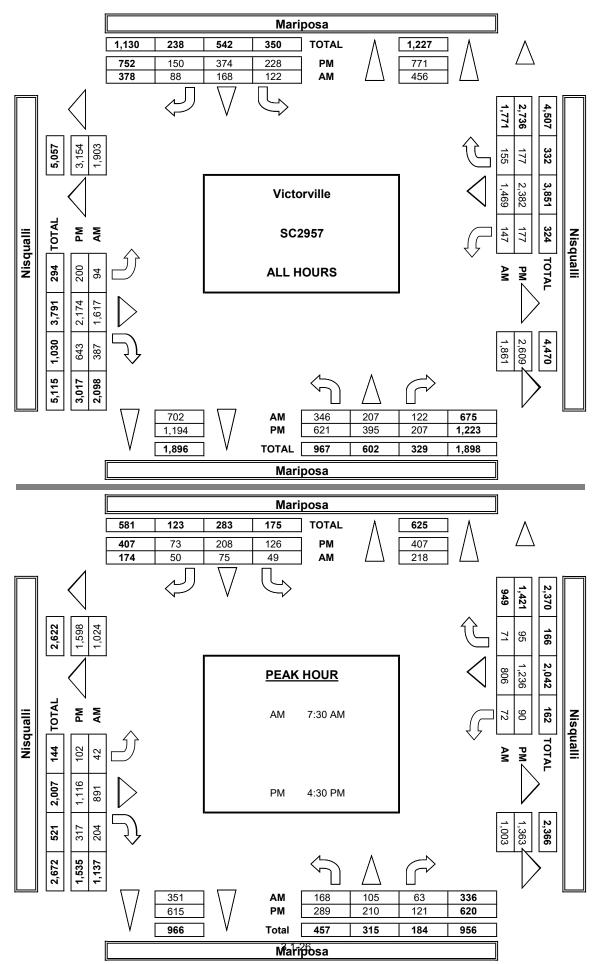
LOCATION: NORTH & SOUTH: EAST & WEST: PROJECT #: LOCATION #: CONTROL: 4 SIGNAL NOTES: **▲** N E► S NORTHBOUND SOUTHBOUND EASTBOUND WESTBOUND U-TURNS RTOR Maripo ST Nisqua ET Nisquall WT NT TOTAL TTL NL NR SL SR EL ER WL WR NB SB EB WB NRR SRR ERR WRR LANES: 7:15 AM 7:30 AM 7:45 AM 8:00 AM 184 254 273 198 159 180 223 215 34 43 35 40 50 54 51 346 51% 20 22 11 18 21 18 23 543 665 702 642 587 612 22 28 26 23 28 27 32 207 11 15 14 11 10 36 50 41 65 21 13 29 15 14 27 26 155 0 0 0 0 0 0 8:15 AM 8:30 AM 8:45 AM 188 163 199 1,469 83% 26 28 29 168 48 52 53 387 11 13 166 191 688 VOLUMES APPROACH % APP/DEPART 0 0 0 31% 23% 702 18% 32% 378 44% 2,098 77% 18% 1,861 9% 1,903 0 7:30 AM 105 31% 0.884 BEGIN PEAK HR 75 43% 0.888 806 85% 0.902 168 50% 42 4% 204 18% 72 8% 42 38 69 VOLUMES 49 891 2,596 26 APPROACH %
PEAK HR FACTOR
APP/DEPART 78% 0.875 0.925 1,003 67 70 86 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 77 77 77 74 65 73 94 84 621 51% 1,223 23 16 28 29 23 15 286 283 281 276 302 318 340 288 290 2,382 918 1,001 1,009 978 995 33 62 54 46 48 25 30 36 29 26 25 36 26 32 32 46 62 53 44 49 20 21 11 15 26 19 22 20 29 31 23 31 200 20 18 23 28 21 25 19 0 0 0 0 0 294 276 263 271 259 2,174 5:30 PM 5:45 PM VOLUMES 963 957 7,728 18 25 207 38 37 374 14 24 150 19 24 177 51 49 21 101 395 32% 228 30% APPROACH %

APP/DEPART

BEGIN PEAK HR 87% 50% 72% / 4:30 PM VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART 210 34% 0.917 208 51% 0.855 1,116 73% 0.957 1,236 87% 0.945 289 47% 121 126 73 18% 102 7% 317 95 7% 3,983 74 39 137 50 31% 0.987 1,363 Mariposa NORTH SIDE WEST SIDE FAST SIDE Nisqualli Nisqualli SOUTH SIDE ALL PED AND BIKE PEDESTRIAN CROSSINGS BICYCLE CROSSINGS TOTAL TOTAL 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 0 0 0 0 0 AM 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM Μ

SC2957

AimTD LLC
TURNING MOVEMENT COUNTS



				PREPAR	RED BY: A	imTD LLC	. tel: 714	253 788	8 cs@aim	td.com									
	DATE:	LOCATIO	N:		Victorville	2				PROJECT	#:	SC2957							
	6/16/21	NORTH 8	& SOUTH:		Mariposa					LOCATIO	N #:	4							
	WEDNESDAY	EAST & V	NEST:		Nisqualli					CONTROL	_:	SIGNAL							
i	CLASS 1:	NOTES:									AM		Ι .		1				
	PASSENGER	NOTES.									PM		l Å N						
	VEHICLES										MD	■ W			1				
	12.110220										OTHER		l s						
											OTHER		▼						
ľ		N/	ORTHBOU	ND	l cr	DUTHBOU	ND		ASTBOUN	ID.	V	VESTBOU	ND.		U-TURNS		RTO	1 D	
			Mariposa	ND		Mariposa	ND.		Nisqualli	ND.	٠	Nisqualli	IND		O-TOKNS	1	KI	, K	
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB SB EB WB TTL	NRR	SRR	ERR	WRR
	LANES:	2	2	1	2	2	1	2	3	1	2	3	1	101712		0	0	0	0
Ti-	7:00 AM	28	17	12	10	24	5	9	130	35	14	128	9	421	0 0 0 0	7	1	15	4
	7:15 AM	28	20	15	15	11	9	9	158	31	19	142	18	475	0 0 0 0 0	10	5	13	5
	7:30 AM	36	26	13	15	17	14	11	227	44	20	160	13	596	0 0 0 0 0	7	10	13	6
	7:45 AM	31	26	13	10	14	11	11	253	39	11	204	28	651	0 0 0 0 0	7	6	17	10
	8:00 AM	38	22	15	11	17	11	9	174	58	8	196	13	572	0 0 0 0 0	12	10	24	4
	8:15 AM	50	28	14	8	24	8	10	150	42	16	169	13	532	0 0 0 0 0	12	7	14	4
	8:30 AM	51	26	8	21	26	7	13	173	49	14	149	23	560	0 0 0 0 0	7	4	22	8
AΜ	8:45 AM	47	30	20	17	26	15	19	184	50	22	182	25	637	0 0 0 0 0	16	13	14	10
	VOLUMES	309	195	110	107	159	80	91	1,449	348	124	1,330	142	4,444	0 0 0 0 0	78	56	132	51
	APPROACH %	50%	32%	18%	31%	46%	23%	5%	77%	18%	8%	83%	9%						
	APP/DEPART	614	7 22 444	428	346	/	631	1,888	/	1,666	1,596	/	1,719	0	4				
	BEGIN PEAK HR	155	7:30 AM	r.	1 44	72	44	4.1	804	102	55	720	C 7	2 251		20	22	68	24
	VOLUMES APPROACH %	155 50%	102 33%	55 18%	44 28%	72 45%	44 28%	41 4%	78%	183 18%	6%	729 86%	67 8%	2,351		38	33	00	24
	PEAK HR FACTOR	30%	0.848	1070	2070	0.870	2070	470	0.848	1070	070	0.876	070	0.903					
	APP/DEPART	312	1	210	160	/	310	1.028	/	903	851	/	928	0.903	1				
H	4:00 PM	76	51	18	28	44	19	25	224	65	22	280	23	875		8	10	25	11
	4:15 PM	75	33	24	23	45	20	19	263	65	20	274	16	877	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	21	11	28	6
	4:30 PM	72	60	30	36	61	21	22	263	83	17	269	27	961	0 0 0 0 0	21	15	38	16
	4:45 PM	71	54	34	26	53	11	20	278	85	22	295	28	977	0 0 0 0 0	16	7	32	12
	5:00 PM	64	45	28	31	41	15	28	263	72	28	309	23	947	0 0 0 0 0	17	7	34	15
	5:15 PM	70	48	25	32	48	26	31	252	71	21	328	14	966	0 0 0 0 0	18	10	29	5
	5:30 PM	92	50	18	20	37	14	22	258	98	25	278	19	931	0 0 0 0 0	12	7	38	13
Σ	5:45 PM	83	48	25	24	36	24	31	246	85	19	286	23	930	0 0 0 0 0	20	10	29	7
	VOLUMES	603	389	202	220	365	150	198	2,047	624	174	2,319	173	7,464	0 0 1 0 1	133	77	253	85
	APPROACH %	51%	33%	17%	30%	50%	20%	7%	71%	22%	7%	87%	6%		1				
	APP/DEPART	1,194	4.20 PM	759	735	/	1,163	2,869	/	2,469	2,666		3,073	0	4				
	BEGIN PEAK HR VOLUMES	277	4:30 PM 207	117	125	202	72	101	1,056	211	00	1 201	02	3,851	l	72	39	133	40
	APPROACH %	277 46%	207 34%	117 19%	31%	203 51%	73 18%	101 7%	72%	311 21%	88 6%	1,201 87%	92 7%	3,031		/2	39	133	48
	PEAK HR FACTOR	70.70	0.927	1570	3170	0.850	10.70	7.70	0.958	21 70	0.70	0.951	7 70	0.985	l				
	APP/DEPART	601	1	400	401	/	602	1.468	/	1.298	1.381	/	1.551	0.963	1				

	1	Mariposa		
		NORTH SIDE		
Nisqualli	WEST SIDE		EAST SIDE	Nisqualli
		SOUTH SIDE		
		Mauluaaa		

INTERSECTION TURNING MOVEMENT COUNTS

				PREPAR		AimTD LLC				ntd.com												
	DATE:	LOCATIO			Victorville					PROJEC		SC2957										
	6/16/21		& SOUTH		Mariposa	1				LOCATIO		4										
	WEDNESDAY	EAST & \	-		Nisqualli					CONTRO)L:	SIGNAL										
	CLASS 2:	NOTES:									AM		<u></u>									
	2-AXLE										PM	4 10/	N									
	WORK VEHICLES/										MD	■ W	s	E►								
	TRUCKS										OTHER		₹									
	TROCKS	I NC	RTHBOU	ND	SO	UTHBOUN	ND.	l F	ASTBOUN	ID	OTTILIT	/ESTBOU	<u> </u>		i —	U-TUI	RNS		_	RT	OR	
			Mariposa	110	50	Mariposa		-	Nisqualli			Nisqualli	10			·					O.K	
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB SB	EB	WB	TTL	NR	SRR	ERR	WRR
	LANES:	2	2	1	2	2	1	2	3	1	2	3	1						0	0	0	0
	7:00 AM	2	1	0	1	1	0	1	10	3	0	8	1	28	0 0	0	0	0	0	0	1	0
I	7:15 AM 7:30 AM	5	0	2	2	0	0	0	16 13	3 6	1	8 10	0	38 38	0 0	0	0	0	0	1 0	2	0
l	7:45 AM	4	0	1	1	0	1	0	11	0	0	11	0	29	0 0	0	0	0	0	0	0	0
l	8:00 AM	Ö	0	1	1	1	0	0	17	1	2	13	1	37	0 0	0	0	0	0	0	0	1
l	8:15 AM	0	0	3	0	1	2	0	8	3	1	7	1	26	0 0	0	0	0	3	2	0	0
l	8:30 AM	1	1	0	2	1	0	0	9	1	2	5	2	24	0 0	0	0	0	0	0	0	1
Σ	8:45 AM VOLUMES	1	2	0	1	3	0	1	11	1	0	8	0	28	0 0	0	0	0	0	0	0	0
١٩	VOLUMES	15	5	8	10	7	4	2	95	18	7	70	7 8%	248	0 0	0	0	0	3	3	4	2
l	APPROACH % APP/DEPART	54% 28	18%	29% 14	48% 21	33%	19% 32	2% 115	83%	16% 113	8% 84	83%	89	0								
ı	BEGIN PEAK HR		7:30 AM	14	21		32	1115	/	113	04		09	U	ł							
ı	VOLUMES	9	0	6	4	2	3	0	49	10	4	41	2	130					3	2	1	1
l	APPROACH %	60%	0%	40%	44%	22%	33%	0%	83%	17%	9%	87%	4%									
l	PEAK HR FACTOR		0.625			0.750			0.776			0.734		0.855								
	APP/DEPART	15		2	9		16	59	/	59	47		53	0	l ——							
l	4:00 PM	1	1	0	0	1	0	0	11	0	0	3	0	17	0 0	0	0	0	0	0	0	0
I	4:15 PM 4:30 PM	5	2	0	0	1	0	0	16 14	3	0	1	0	27 24	0 0	0	0	0	0	0	0	0
I	4:45 PM	1	0	2	0	0	0	0	12	2	1	5	0	23	0 0	0	0	0	1	0	2	0
I	5:00 PM	1	1	0	0	2	0	1	9	0	0	6	0	20	0 0	0	0	0	0	0	0	0
l	5:15 PM	1	0	1	0	1	0	0	5	0	0	7	1	16	0 0	0	0	0	1	0	0	1
I	5:30 PM	0	1	0	1	0	0	1	8	3	0	6	0	20	0 0	0	0	0	0	0	2	0
Σ	5:45 PM	1	1	0	3	1	0	0	6	1	0	3	0	16	0 0	0	0	0	0	0	0	0
I٩	VOLUMES APPROACH %	10 50%	6 30%	4 20%	6 46%	7 54%	0 0%	2 2%	81 88%	9 10%	2 5%	35 92%	1 3%	163	0 0	0	0	0	3	0	6	1
I	APP/DEPART	20	30%	9	13	2 4 %0	18	92	00%	91	38	92%	45	0	·							
I	BEGIN PEAK HR	1 20	4:30 PM	2	13	/	10	72		21	1 30		TJ.	- 	ł							
I	VOLUMES	8	3	3	0	4	0	1	40	2	2	19	1	83					2	0	2	1
I	APPROACH %	57%	21%	21%	0%	100%	0%	2%	93%	5%	9%	86%	5%							 -		
ı	PEAK HR FACTOR		0.500	·		0.500			0.768			0.688		0.865	1							
	APP/DEPART	14	1	5	4	1	8	43	/	43	22	/	27	0	l							

		Mariposa		
		NORTH SIDE		
Nisqualli	EAST SIDE		WEST SIDE	Nisqualli
		SOUTH SIDE		
		Mariposa		

SOUTH SIDE Mariposa

INTERSECTION TURNING MOVEMENT COUNTS
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com Victorville PROJECT #: SC2957

	DATE: 6/16/21 WEDNESDAY	EAST &	& SOUTH WEST:		Victorville Mariposa Nisqualli		tel: /14	233 /688		PROJEC LOCATION CONTRO	ON #:	SC2957 4 SIGNAL											
	CLASS 3:	NOTES	:								AM		A										
	3-AXLE										PM		N										
	TRUCKS										MD	■ W	,	E►									
											OTHER		S										
											OTHER		▼										
		I NO	ORTHBOU	IND	I 0	SOUTHBOUND	D	l F	ASTBOUN	ID.	l v	VESTBOU	ND			11-1	TURNS		1		RT	OP.	
		''`	Mariposa		~	Mariposa		-	Nisqualli			Nisqualli	10			٠.						O.C	
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB SI	В	EB V	/B TTL	1	NRR	SRR	ERR	WRR
	LANES:	2	2	1	2	2	1	2	3	1	2	3	1						1	0	0	0	0
г	7:00 AM	1 1	0	0	0	0	0	0	2	0	0	1	0	4	0 0		0 () I 0	ī	0	0	0	0
ı	7:15 AM	ō	0	0	1	0	0	0	3	0	0	3	0	7	0 0		0 (1	0	0	0	0
ı	7:30 AM	0	1	0	0	0	1	0	5	0	0	2	0	9	0 0		0 (0	1	0	1	0	0
ı	7:45 AM	0	0	0	0	0	2	0	3	0	0	0	0	5	0 0		0 (0	1	0	2	0	0
ı	8:00 AM	1	1	0	0	0	0	0	1	0	0	2	0	5	0 0		0 (0	0	0	0
ı	8:15 AM	0	0	0	0	1	0	0	0	0	0	4	0	5	0 0	_	0 (_	1	0	0	0	0
ı	8:30 AM	0	0	0	0	0	0	0	2	0	0	3	0	5	0 0		0 (1	0	0	0	0
¥	8:45 AM	2	0	0	0	0	0	0	3	0	0	2	0	7	0 0		0 (1	0	0	0	0
١٩	VOLOTILS	4	2	0	1	1	3	0	19	0	0	17	0	47	0 0		0 (0	1	0	3	0	0
ı	APPROACH % APP/DEPART	67% 6	33%	0%	20% 5	20%	60%	0%	100%	0% 20	0% 17	100%	0%	_									
ı	BEGIN PEAK HR	├ °	7:30 AM	2) 5		1	19		20	1/	/	24	0									
ı	VOLUMES	1	7.30 AH	0	0	1	3	0	9	0	0	8	0	24						0	3	0	0
ı	APPROACH %	33%	67%	0%	0%	25%	75%	0%	100%	0%	0%	100%	0%	l - '									Ů
ı	PEAK HR FACTOR	33 / 3	0.375	0 70	0,0	0.500	, 5 , 0	0,0	0.450	0 70	0.0	0.500	0,0	0.667									
ı	APP/DEPART	3		2	4		1	9	- /	9	8	1	12	0									
	4:00 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	0 0		0 (]	0	0	0	0
ı	4:15 PM	1	0	0	0	0	0	0	0	2	0	1	0	4	0 0		0 (0	0	0	0
ı	4:30 PM	0	0	0	0	0	0	0	1	0	0	3	1	5	0 0		0 (1	0	0	0	1
ı	4:45 PM	1	0	0	0	0	0	0	1	0	0	1	0	3	0 0		0 (ı	0	0	0	0
ı	5:00 PM	0	0	0	0	0	0	0	2	0	0	1	0	3	0 0		0 (ł	0	0	0	0
ĺ	5:15 PM 5:30 PM	0	0	0	0	1	0	0	2	0	0	2	0	4 5	0 0		0 (_	1	0	0	0	0
١٠		0	0	0	0	0	0	0	1	0	0	1	0	2	0 0		0 (1	0	0	0	0
Σ	VOLUMES	3	0	0	0	1	0	0	10	2	0	11	1	28	0 0		0 (1	0	0	0	1
ĺ	APPROACH %	100%	0%	0%	0%	100%	0%	0%	83%	17%	0%	92%	8%					•	•				
l	APP/DEPART	3	1	1	1	/	3	12	/	10	12	1	14	0									
l	BEGIN PEAK HR		4:30 PM																			_	
l	VOLUMES	2	0	0	0	0	0	0	5	0	0	7	1	15						0	0	0	1
ı	APPROACH %	100%	0%	0%	0%	0%	0%	0%	100%	0%	0%	88%	13%	0.750									
ı	PEAK HR FACTOR APP/DEPART	2	0.500	1	0	0.000	0	5	0.625	5	8	0.500	9	0.750 0									
—	AFF/DEPART			1	ı U			Э		3	0		7	U	l								
					I	Mariposa		I															
						NORTH SIDE	Ξ				_												
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		Nisqualli	WE	ST SIDE				EAST SI	DE	Nisqua													

Mariposa

Ĺ	DATE: 6/16/21 WEDNESDAY	EAST &	& SOUTH: WEST:	:	Victorvill Mariposa Nisqualli	le a	C. tel. 71	4 253 /8		PROJECT LOCATION CONTRO	ON #: DL:	SC2957 4 SIGNAL							
H	CLASS 4:	NOTES:	:								AM		A						
	4 OR MORE										PM		N						
	AXLE										MD	■ W	_	E►					
	TRUCKS										OTHER		S ▼						
F		1 11	ODTUDOU	ND	- 60	VIITUDOU	ND		ACTROUN	_	OTTILIN	I I							
		NC.	ORTHBOU	ND	SC	OUTHBOU	ND	E.	ASTBOUN	D	v	ESTBOUN	ID		U-TURNS		RI	OR	
H		NL	Mariposa NT	NR	SL	Mariposa	SR	EL	Nisqualli ET	ER	WL	Nisqualli WT	WR	TOTAL	NB SB EB WB TTL	NRR	SRR	ERR	WRR
<u> </u>	LANES:	2	2	1	2	2	1	2	3	1	2	3	1			0	0	0	0
Ιŀ	7:00 AM 7:15 AM	0	0	0	0	0	0	0	5	0	0	4 5	0	12 12	$egin{array}{ c c c c c c c c c c c c c c c c c c c$	0	0	0	0
Ιŀ	7:30 AM	0	1	0	0	0	0	0	8	0	1	6	0	16	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0	0	0	0
Ιŀ	7:45 AM	ŏ	0	0	ő	0	0	0	5	0	0	7	0	12	0 0 0 0 0	0	0	0	0
Ιŀ	8:00 AM	1	0	1	0	0	0	0	6	0	0	3	1	12	0 0 0 0 0	1	0	0	1
Ιŀ	8:15 AM	0	0	0	0	0	0	0	7	0	1	7	0	15	0 0 0 0	0	0	0	0
ΙĪ	8:30 AM	0	0	0	1	1	0	0	6	1	0	6	2	17	0 0 0 0 0	0	0	0	0
IΣL	8:45 AM	1	0	0	0	0	0	0	4	0	0	7	0	12	0 0 0 0 0	0	0	0	0
 4	8:45 AM VOLUMES	3	1	1	2	1	0	0	47	2	2	45	4	108	0 0 0 0 0	1	0	1	1
	APPROACH %	60%	20%	20%	67%	33%	0%	0%	96%	4%	4%	88%	8%	_					
	APP/DEPART	5	7:20 444	5	3	/	5	49	/	50	51	/	48	0					
	BEGIN PEAK HR VOLUMES	1	7:30 AM 1	1	0	0	0	0	26	0	2	23	1	55		1	0	0	1
	APPROACH %	33%	33%	33%	0%	0%	0%	0%	100%	0%	8%	88%	4%	33			U	U	1
	PEAK HR FACTOR	3370	0.375	3370	0 70	0.000	0 70	0 70	0.813	0 70	0 70	0.813	770	0.859					
	APP/DEPART	3	1 1	2	0	/	2	26	/	27	26	/	24	0.839					
H	4:00 PM	Ö	0	0	Ö	0	0	0	5	1	0	4	0	10	0 0 0 0 0	0	0	0	0
Ιŀ	4:15 PM	0	0	0	0	0	0	0	6	0	0	2	0	8	0 0 0 0 0	0	0	0	0
	4:30 PM	_		0	0	0	_		5	3	_	3	0						
1 1	7.30 111	0	0	U			0	0)	,	0	J		11		0	0	2	0
	4:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	3	0 0 0 0 0	0	0	0	0
	4:45 PM 5:00 PM	0	0	0	0	0	0	0	3	0	0	0 2	0	3 5	0 0 0 0 0 0 0 0 0 0	0	0	0	0
	4:45 PM 5:00 PM 5:15 PM	0 0 1	0 0	0 1 0	0 0	0 1 0	0 0 0	0 0	3 1 5	0 0	0 0	0 2 3	0 0	3 5 9	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0	0 0	0 0 0	0 0 0
	4:45 PM 5:00 PM 5:15 PM 5:30 PM	0 0 1 1 1	0 0 0 0	0 1 0 0	0 0 0 0	0 1 0 0	0 0 0 0	0 0 0 0	3 1 5 3	0 0 0 0	0 0 0 0	0 2 3 1	0 0 0 0	3 5 9 5	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0	0 0 0 0
Μ	4:45 PM 5:00 PM 5:15 PM 5:30 PM	0 0 1 1	0 0 0 0	0 1 0 0	0 0 0 0	0 1 0 0	0 0 0 0	0 0 0 0	3 1 5 3 6	0 0 0 0 0	0 0 0 0 0	0 2 3 1	0 0 0 0	3 5 9 5 7	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Md V	4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM VOLUMES	0 0 1 1 0 2	0 0 0 0 0	0 1 0 0 0	0 0 0 0 0	0 1 0 0 0 0	0 0 0 0 0	0 0 0 0 0	3 1 5 3 6 34	0 0 0 0 0 1	0 0 0 0 0	0 2 3 1 0	0 0 0 0 0	3 5 9 5	0 0 0 0 0 0 0 0 0 0 0 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 4	4:45 PM 5:00 PM 5:15 PM 5:30 PM	0 0 1 1	0 0 0 0	0 1 0 0	0 0 0 0	0 1 0 0	0 0 0 0	0 0 0 0	3 1 5 3 6	0 0 0 0 0	0 0 0 0 0	0 2 3 1	0 0 0 0	3 5 9 5 7	0 0 0 0 0 0 0 0 0 0 0 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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A A E	4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM VOLUMES APPROACH % APP/DEPART SEGIN PEAK HR VOLUMES	0 0 1 1 1 0 2 67% 3	0 0 0 0 0 0 0 0 0 0 4:30 PM	0 1 0 0 0 1 33% 0	0 0 0 0 0 0 0 0 0 0,0 0 1	0 1 0 0 0 1 100%	0 0 0 0 0 0 0 0 0 0% 6	0 0 0 0 0 0 0 0 0 0,0 0 0,0 0,0 0,0 0,0	3 1 5 3 6 34 87% /	0 0 0 0 1 5 13% 35	0 0 0 0 0 0 0 0 0 0 0 15	0 2 3 1 0 15 100% /	0 0 0 0 0 0 0 0 0,0 17	3 5 9 5 7 58	0 0 0 0 0 0 0 0 0 0 0 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 A	4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM OOLUMES APPROACH % APP/DEPART 3EGIN PEAK HR VOLUMES APPROACH %	0 0 1 1 1 0 2 67%	0 0 0 0 0 0 0 0 0 4:30 PM 0 0%	0 1 0 0 0 0 1 33%	0 0 0 0 0 0 0 0 0 0 1	0 1 0 0 0 1 100% /	0 0 0 0 0 0 0 0 0 0 0 6	0 0 0 0 0 0 0 0 0 0 0 0 39	3 1 5 3 6 34 87% /	0 0 0 0 1 5 13% 35	0 0 0 0 0 0 0 0 0 0 0 15	0 2 3 1 0 15 100% /	0 0 0 0 0 0 0 0 0 7	3 5 9 5 7 58 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
	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	0 0 1 1 0 2 67% 3	0 0 0 0 0 0 0 0 0 0 4:30 PM	0 1 0 0 0 1 33% 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 1 100%	0 0 0 0 0 0 0 0 0% 6	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 1 5 3 6 34 87% /	0 0 0 0 1 5 13% 35	0 0 0 0 0 0 0 0 0 0 0 15	0 2 3 1 0 15 100% /	0 0 0 0 0 0 0 0 0% 17	3 5 9 5 7 58 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
	4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:45 PM OOLUMES APPROACH % APP/DEPART 3EGIN PEAK HR VOLUMES APPROACH %	0 0 1 1 1 0 2 67% 3	0 0 0 0 0 0 0 0 0 4:30 PM 0 0%	0 1 0 0 0 1 33% 0	0 0 0 0 0 0 0 0 0 0,0 0 1	0 1 0 0 0 1 100% /	0 0 0 0 0 0 0 0 0 0% 6	0 0 0 0 0 0 0 0 0 0,0 0 0,0 0,0 0,0 0,0	3 1 5 3 6 34 87% /	0 0 0 0 1 5 13% 35	0 0 0 0 0 0 0 0 0 0 0 15	0 2 3 1 0 15 100% /	0 0 0 0 0 0 0 0 0,0 17	3 5 9 5 7 58 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 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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	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	0 0 1 1 0 2 67% 3	0 0 0 0 0 0 0 0 0 4:30 PM 0 0%	0 1 0 0 0 1 33% 0	0 0 0 0 0 0 0 0 0 0 0,0 1	0 1 0 0 0 1 100% / 1 100% 0.250	0 0 0 0 0 0 0 0 0% 6	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 1 5 3 6 34 87% /	0 0 0 0 1 5 13% 35	0 0 0 0 0 0 0 0 0 0 0 15	0 2 3 1 0 15 100% /	0 0 0 0 0 0 0 0 0% 17	3 5 9 5 7 58 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
	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	0 0 1 1 0 2 67% 3	0 0 0 0 0 0 0 0 0 4:30 PM 0 0%	0 1 0 0 0 1 33% 0	0 0 0 0 0 0 0 0 0 0 0,0 1	0 1 0 0 0 1 100% / 100% 0.250 /	0 0 0 0 0 0 0 0 0% 6	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 1 5 3 6 34 87% /	0 0 0 0 1 5 13% 35	0 0 0 0 0 0 0 0 0 0 0 15	0 2 3 1 0 15 100% /	0 0 0 0 0 0 0 0 0% 17	3 5 9 5 7 58 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
	4:45 PM 5:00 PM 5:15 PM 5:30 PM 5:30 PM 5:45 PM VOLUMES APPROACH % APP/DEPART SEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	0 0 1 1 0 2 67% 3	0 0 0 0 0 0 0 0 0 4:30 PM 0 0,500	0 1 0 0 0 1 33% 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1	0 1 0 0 0 1 100% / 100% 0.250 /	0 0 0 0 0 0 0 0 0% 6	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3 1 5 3 6 34 87% / 14 82% 0.531	0 0 0 0 1 5 13% 35	0 0 0 0 0 0 0 0 0% 15	0 2 3 1 0 15 100% /	0 0 0 0 0 0 0 0 0% 17	3 5 9 5 7 58 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 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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	DATE: 6/16/21 WEDNESDAY CLASS 5:	LOCATION: NORTH & SOUTH: EAST & WEST:	PARED BY: AimTD LLC. tel: 7 Victorville Mariposa Nisqualli	PROJECT LOCATIO CONTRO	T #: SC2957 ON #: 4		1		
	RV				PM N MD ◀W OTHER S OTHER	E►			
		NORTHBOUND Mariposa	SOUTHBOUND Mariposa	EASTBOUND Nisqualli	WESTBOUND Nisqualli		U-TURNS	RTOR	
	LANES:	NL NT N 2 2 1	R SL ST SR 2 2 1	EL ET ER 2 3 1	WL WT WR 2 3 1	TOTAL	NB SB EB WB TTL	NRR SRR ER 0 0 0	R WRR
АМ	7:00 AM 7:15 AM 7:30 AM 7:35 AM 8:00 AM 8:15 AM 8:30 AM 8:45 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 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 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
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	7:30 AM 0 0 0 0% 0% 09 0.000 0 / 0	0 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% 0.000 0 / 0	0 0.000 0		0 0 0	0
М	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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 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 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 3 3 7 2	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 1 0 0 0 0 3	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	0 0 0 0 0 0 0 0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	4:30 PM 0 0 0 0% 0% 0% 0.000 0 / 0	0 0 0	0 1 0 0% 100% 0% 0.250 1 / 1	0 0 0 0% 0% 0% 0.000 0 / 0	1 0.250 0		0 0 0	0
			Mariposa NORTH SIDE		-				
		Nisqualli WEST S.	IDE	EAST SIDE Nisqua l	lli				
			SOUTH SIDE Mariposa		-				

	DATE: 6/16/21 WEDNESDAY	EAST &	& SOUTH WEST:		ED BY: A Victorville Mariposa Nisqualli	e	C. tel: /1	4 253 /8	88 CS@ai	PROJEC LOCATIO CONTRO	T #: ON #: DL:	SC2957 4 SIGNAL		T	ı									
	CLASS 6: BUSES	NOTES:									AM PM MD OTHER OTHER	■ W	N N S ▼	E►										
		NC	DRTHBOU	IND	SO	UTHBOU	ND	E	ASTBOUN	ND	W	/ESTBOUN	ND			U	-TURI	NS		Γ		RT	OR	
		NL	Mariposa NT	NR	SL	Mariposa ST	SR	EL	Nisqualli ET	ER	WL	Nisqualli WT	WR	TOTAL	NB	SB	EB	WB	TTL	F	NRR	SRR	ERR	WRR
_	LANES:	2	2	1	2	2	1	2	3	1	2	3	1							Ļ	0	0	0	0
	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM	7 4 2 0 0	3 1 0 0 0	0 1 0 0	1 0 0 0 1	0 0 0 0 0	0 1 0 0 0	0 0 0 0 0	1 2 1 1 0	3 2 0 2 6 3	0 0 0 0 8 3	1 1 2 1 1	0 0 0 1 0	18 11 6 5 16 9	0 0 0 0	0 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
AM	8:30 AM 8:45 AM VOLUMES APPROACH %	2 0 15 68%	0 0 0 4 18%	0 0 0 3 14%	0 0 0 2 67%	0 0 0 0 0%	0 0 1 33%	0 0 1 4%	1 0 7 26%	1 2 19 70%	2 0 13 59%	0 0 7 32%	0 1 2 9%	6 3 74	0 0	0 0	0 0	0 0	0 0		0 0	0 0 0 1	0 0 0	0 0 0
	APP/DEPART BEGIN PEAK HR VOLUMES APPROACH %	22 2 67%	7:30 AM 0 0%	7	3 1 100%	0 0 0%	32 0 0%	27 1 7%	3 20%	12 11 73%	22 11 65%	5 29%	23 1 6%	0 36							0	0	0	0
	PEAK HR FACTOR APP/DEPART 4:00 PM 4:15 PM 4:30 PM 4:45 PM	3 0 1 0	0.250 / 0 0 0 0	2 0 0 0	1 1 0 0	0.250 / 0 0 0	22 0 0 0 0	15 0 0 0 0	0.625 / 0 0 0 0	5 0 0 0	17 1 0 0 0	0.472 / 0 0 0 0	7 0 0 0	0.563 0 2 1 0 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
ΡM	5:00 PM 5:15 PM 5:30 PM 5:45 PM VOLUMES APPROACH %	0 0 1 0 3 100%	0 0 0 0 0 0	0 0 0 0 0	1 0 0 0 2 100%	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 1 2 100%	0 0 0 0 1 20%	0 0 1 0 2 40%	0 0 0 1 2 40%	2 0 2 2 12	0 0 0 0	0 0 0 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
	APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR	1 1 100%	4:30 PM 0 0% 0.250	2	1 1 100%	0 0 0% 0.250	0 0 0%	0 0 0%	0 0 0% 0.250	1 1 100%	5 0 0%	1 50% 0.250	5 1 50%	0 5 0.417							0	0	0	0
_	APP/DEPART	1	1	1		/ Mariposa DRTH SII		1	/	1	_ 2	/	2	0										
	ı	Nisqualli	WE	EST SIDE				EAST SI	DE	Nisqua	Ili													
						OUTH SIE					-													

DATE: Wed, Jun 16, 21

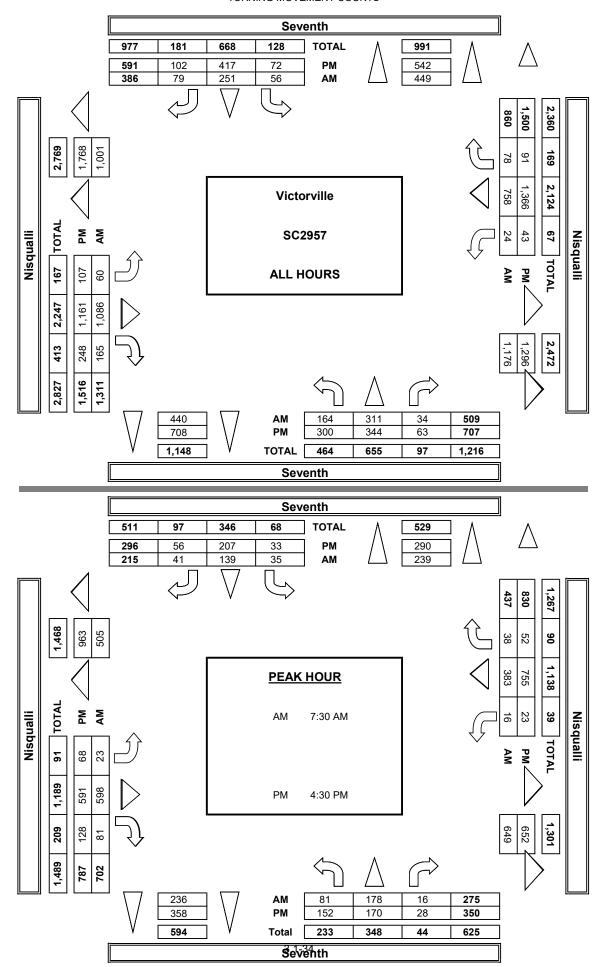
LOCATION: NORTH & SOUTH: EAST & WEST: PROJECT #: LOCATION #: CONTROL: 5 SIGNAL NOTES: ▲ N E► S • NORTHBOUND SOUTHBOUND EASTBOUND WESTBOUND U-TURNS RTOR Nisqual ET Nisquall WT ST NT TOTAL EB TTL NL NR SL SR EL ER WL WR NB SB WB NRR SRR ERR WRR LANES: 72 77 15 15 25 12 20 24 22 31 164 32% 509 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM 125 158 189 135 334 395 480 406 13 0 0 0 0 0 0 33 45 65 36 28 31 43 36 29 28 33 19 20 23 23 88 87 113 95 100 13 13 15 20 29 32 32 41 311 348 372 454 3,066 116 130 VOLUMES APPROACH % APP/DEPART 24 3% 860 0 0 0 56 15% 61% 88% 7% 449 65% 20% 440 83% 13% 1,176 9% 1,001 0 7:30 AM 178 65% 0.809 BEGIN PEAK HR 139 65% 0.827 383 88% 0.881 23 3% 16 4% 24 VOLUMES 81 35 598 1,629 APPROACH %
PEAK HR FACTOR
APP/DEPART 85% 0.809 0.848 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 483 42 34 33 39 43 55 10 16 12 10 14 0 0 0 0 0 0 10 10 134 187 180 197 191 161 159 506 577 31 51 22 39 40 47 32 300 42% 707 56 45 55 63 44 12 14 15 21 18 27 31 22 40 35 577 535 593 558 533 529 4,314 154 148 127 5:30 PM 5:45 PM VOLUMES 48 50 344 11 11 102 10 15 58 42 128 9 91 6% 1,768 APPROACH %

APP/DEPART

BEGIN PEAK HR 49% 71% 77% 91% / 4:30 PM 170 49% 0.893 VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART 152 43% 207 70% 0.902 591 75% 0.941 755 91% 0.974 33 56 19% 68 9% 128 23 3% 2,263 18 26 15 11% 0.954 Seventh NORTH SIDE WEST SIDE FAST SIDE Nisqualli Nisqualli SOUTH SIDE ALL PED AND BIKE PEDESTRIAN CROSSINGS TOTAL TOTAL 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 0 0 0 0 0 0 0 AM 8:15 AM 8:30 AM 8:45 AM TOTAL 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM Μ 5:30 PM 5:45 PM TOTAL

SC2957

AimTD LLC
TURNING MOVEMENT COUNTS



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

				PREPAR	ED BY: A	imTD LLC	. tel: 714	253 788	8 cs@aim	td.com														,
	DATE:	LOCATIO	N:		Victorville	2				PROJECT	#:	SC2957												,
	6/16/21	NORTH 8	& SOUTH:		Seventh					LOCATIO		5												,
	WEDNESDAY	EAST & V	WEST:		Nisqualli					CONTRO	L:	SIGNAL												,
	CLASS 1:	NOTES:									0.04				1									- /
	PASSENGER	MUTES:									AM PM		▲ N											,
	VEHICLES											l ⊲ w] 14	E ▶	ł									
	VEHICLES										MD OTHER	⊢ "	1 s		ł									,
											OTHER] -											- /
															!									_ /
	ĺ	NO.	ORTHBOU	ND	SC	OUTHBOU	ND	E	ASTBOU	ND	V	VESTBOU	ND		U-	TURI	NS		ı	ı	RTOR			17
			Seventh			Seventh	00		Nisqualli			Nisqualli	14/15	TOTAL		FD	wo I		L.,,,	CDD			11/00	4 /
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL	ET 2	ER 0	WL 1	WT	WR 0	TOTAL	NB SB	EB	WB	TTL	NRR	SRR		ERR 0	WRR	17
							U	1				_			!				0				0	4
	7:00 AM	13	24	2	4	21	7	16	76	15	0	60	5	243	0 0	0	0	0	0	5		1	2	47
l	7:15 AM	14	33	1	1	26	13	7	111	18	1	69	9	303	0 0	0	0	0	0	8		3	1	47
l	7:30 AM	24	40	2	9	29	6	4	144	17	2	74	3	354	0 0	0	0	0	1	1		4	0	47
	7:45 AM	12	60	8	8	42	13	5	175	22	7	80	18	450	0 0	0	0	0	4	9		1	3	47
l	8:00 AM 8:15 AM	19 21	33	2	8	34 26	11 8	7	120 103	23 14	2	98 84	8	366 314	0 0	0	0	0	2	7	-	0	2 1	47
l	8:15 AM 8:30 AM	20	30	6	7	26	5	7	119	18	3	82	10	314	0 0	0	0	0	4	3		1	1 5	+ !
l_	8:45 AM	30	40	8	8	33	11	6	135	28	2	117	12	430	0 0	0	0	0	5	3		2	2	+ !
Ā	VOLUMES	153	292	32	54	237	74	58	983	155	20	664	73	2,795	0 0	0	0	0	17	41		14	16	4 /
l 1	APPROACH %	32%	61%	7%	15%	65%	20%	5%	82%	13%	3%	88%	10%	2,755		U	U	U		71		A T	10	ا د
l	APP/DEPART	477	1	423	365	1	412	1,196	1	1,069	757	/	891	0	1									,
l	BEGIN PEAK HR	†	7:30 AM		1000	,		-,255		1,000	1.5.			١Ť	1									,
l	VOLUMES	76	163	15	34	131	38	22	542	76	14	336	37	1,484					8	22		7	6	17
l	APPROACH %	30%	64%	6%	17%	65%	19%	3%	85%	12%	4%	87%	10%										•	- 1
l	PEAK HR FACTOR		0.794			0.806			0.792			0.896		0.824										,
L	APP/DEPART	254		222	203		221	640		591	387		450	0										_ /
	4:00 PM	37	41	7	7	53	17	7	101	26	6	154	10	466	0 0	0	0	0	5	9		1	0	1
l	4:15 PM	31	32	10	8	53	6	12	155	26	6	129	10	478	0 0	0	0	0	6	3		3	1	」 !
l	4:30 PM	50	33	8	6	43	13	14	154	30	6	176	16	549	0 0	0	0	0	6	7		5	3	47
l	4:45 PM	22	38	8	12	55	14	14	142	20	2	176	12	515	0 0	0	0	0	5	6		0	2	47
l	5:00 PM	38	42	7	8	61	11	20	142	40	6	195	10	580	0 0	0	0	0	3	6		4	3	47
l	5:15 PM	38	54	3	7	43	16	18	120	35	7	184	14	539	0 0	0	0	0	3	7		6	0	47
l_	5:30 PM 5:45 PM	46	46	7	15 9	58	11	9	117	34	4	160	10 9	517	0 0	0	0	0	5	7		5	1 1	47
Σ	VOLUMES	31 293	335	11 61	72	42 408	99	11 105	149	31 242	40	156 1,330	91	512 4,156	0 0	0	0	0	39	51	_	24	11	4 /
I -	APPROACH %	43%	49%	9%	12%	70%	99 17%	7%	76%	17%	3%	91%	6%	7,130		U	U	U		51		47	11	۱,
l	APP/DEPART	689	1	531	579	1070	690	1.427	1070	1.213	1,461	1	1.722	0	1									,
	BEGIN PEAK HR	000	4:30 PM	551	3, 3		050	1, 12/		1,213	1, 101		1,,22	Ť	1									,
	VOLUMES	148	167	26	33	202	54	66	558	125	21	731	52	2,183					17	26		15	8	1 /
	APPROACH %	43%	49%	8%	11%	70%	19%	9%	74%	17%	3%	91%	6%	_,_,_										- 1
	PEAK HR FACTOR		0.897			0.892			0.927			0.953		0.941										,
	APP/DEPART	341	1	285	289	1	348	749	1	617	804	/	933	0	1									,
			,												-									•
						Seventh																		,
					I			I																,

		Seventh		
		NORTH SIDE		
Nisqualli	WEST SIDE		EAST SIDE	Nisqualli
		SOUTH SIDE		
		Seventh		

				PREPAR	ED BY:	AimTD LLC	C. tel: 71	4 253 78	88 cs@aiı	ntd.com									
	DATE:	LOCATIO	ON:		Victorvil	le				PROJEC	Г#:	SC2957							
	6/16/21		& SOUTH	l:	Seventh					LOCATIO		5							
	WEDNESDAY	EAST &	_		Nisqualli					CONTRO)L:	SIGNAL			-				
	CLASS 2:	NOTES:	:								AM		A		1				
	2-AXLE										PM		N						
	WORK										MD	■ W	1 _	_ E ▶					
	VEHICLES/										OTHER		S						
	TRUCKS										OTHER		▼		<u> </u>				
		NC	ORTHBOU	IND	SC	OUTHBOU	ND D	E	ASTBOUN	ID	l w	/ESTBOU	ND		U-TURNS		RT	OR	
		NII.	Seventh	ND	CI	Seventh	CD		Nisqualli	- FD	14/1	Nisqualli	MD	TOTAL	NB SB EB WB TTL	NDD	CDD	EDD	WDD
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	IOIAL	NB SB EB WB TTL	NRR 0	SRR 0	ERR 0	WRR 0
	7:00 AM	2	3	0	0	1	0	0	6	1	0	6	1	20	0 0 0 0 0	0	0	0	0
I	7:15 AM	1	0	0	0	1	0	1	7	0	0	2	0	12	0 0 0 0 0	0	0	0	0
l	7:30 AM	0	4	0	0	2	0	0	6	2	0	6	0	20	0 0 0 0	0	0	1	0
	7:45 AM	0	4	0	0	1	0	0	7	0	0	3	1	16	0 0 0 0 0	0	0	0	0
	8:00 AM	3	2	0	0	0	1	1	9 7	0	0	4	0	17	0 0 0 0 0	0	0	0	0
	8:15 AM 8:30 AM	1	0	0	0	2	0	0	6	1	0	6	0	17 18	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0	0	1	1
I_	8:45 AM	1	0	0	0	0	2	0	6	1	0	4	0	14		0	2	0	0
₹	VOLUMES	8	14	0	0	9	3	2	54	6	1	34	3	134	0 0 0 0	0	3	2	1
	APPROACH %	36%	64%	0%	0%	75%	25%	3%	87%	10%	3%	89%	8%	20.					
	APP/DEPART	22	1	19	12	/	16	62	/	54	38	/	45	0					
	BEGIN PEAK HR		7:30 AM												1				
	VOLUMES	3	11	0	0	5	1	1	29	3	0	16	1	70		0	1	1	0
	APPROACH %	21%	79%	0%	0%	83%	17%	3%	88%	9%	0%	94%	6%						
ı	PEAK HR FACTOR	14	0.875	12	_	0.750	_	22	0.825	20	17	0.708	20	0.875					
⊢	APP/DEPART 4:00 PM	14 0	0	13	6	1	8	33 0	7	29	17 0	1	20	9	0 0 0 0 0	0	0	0	0
	4:15 PM	0	2	0	0	2	0	0	10	1	1	5	0	21		0	0	0	0
	4:30 PM	1	0	1	0	2	Ö	0	5	0	2	6	0	17	0 0 0 0 0	1	0	0	0
	4:45 PM	0	0	0	0	0	0	0	6	2	0	2	0	10	0 0 0 0 0	0	0	0	0
	5:00 PM	1	0	0	0	1	0	1	3	0	0	0	0	6	0 0 0 0 0	0	0	0	0
	5:15 PM	2	1	0	0	0	0	0	3	0	0	4	0	10	0 0 0 0 0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	7	1	0	1	0	9	0 0 0 0 0	0	0	0	0
Σ	5:45 PM	1	0	0	0	0	0	0	5	0	0	1	0	7	0 0 0 0	0	0	0	0
١٣	Volumes Approach %	5 56%	3 33%	1 11%	0 0%	6 100%	0 0%	1 2%	46 90%	4 8%	3 13%	20 87%	0 0%	89	0 0 0 0 0	1	0	0	0
I	APP/DEPART	9	3370 1	4	6	/	13	51	9070	47	23	0/70	25	0	1				
l	BEGIN PEAK HR	+ -	4:30 PM		"		13	Jı	/	77			23		i				
l	VOLUMES	4	1	1	0	3	0	1	17	2	2	12	0	43	I	1	0	0	0
I	APPROACH %	67%	17%	17%	0%	100%	0%	5%	85%	10%	14%	86%	0%		I				-
l	PEAK HR FACTOR		0.500			0.375			0.625			0.438		0.632	J				
	APP/DEPART	6	1	2	3	/	7	20		18	14	1	16	0	J				
						Seventh													

		Seventh		
		NORTH SIDE		
Nisqualli	WEST SIDE		EAST SIDE	Nisqualli
		SOUTH SIDE		
		Seventh		

DATE: 6/16/21
 LOCATION:
 Victorville
 PROJECT #:
 SC2957

 NORTH & SOUTH:
 Seventh
 LOCATION #:
 5

 EAST & WEST:
 Nisqualii
 CONTROL:
 SIGNAL

	WEDNESDAY	EAST &	WEST:		Nisqualli					CONTRO	DL:	SIGNAL								
	CLASS 3:	NOTES									AM		A		ı					
	3-AXLE										PM		N		1					
	TRUCKS										MD	_ 4 W_		E►	1					
											OTHER		S		1					
											OTHER		▼		1					
		l NO	ORTHBOU	ND		SOUTHBOUN	ID	Е	ASTBOUN	ID	l V	/ESTBOUN	ID.		i —	U	-TUR	NS		
			Seventh			Seventh			Nisqualli			Nisqualli			i L					
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 1	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL	NB	SB	EB	WB	TTL	
_	7:00 AM	I 0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	⊨
ı	7:15 AM	0	0	1	0	0	0	0	0	1	0	1	0	3	0	0	0	0	0	
ı	7:30 AM	1	0	0	0	0	1	0	3	0	0	0	0	5	0	0	0	0	0	
ı	7:45 AM	0	0	0	0	0	0	0	3	0	0	0	0	3	0	0	0	0	0	
ı	8:00 AM	1	0	0	0	1	0	0	1	0	0	0	0	3	0	0	0	0	0	
ı	8:15 AM	0	1	0	0	0	0	0	1	0	0	1	0	3	0	0	0	0	0	
ı	8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	
ξ	8:45 AM	0	0	0	0	0	0	0	1	0	1	1	0	3	0	0	0	0	0	
٩	VOLUMES	2	1	1	0	1	1	0	10	1	1	4	0	22	0	0	0	0	0	
ı	APPROACH %	50%	25%	25%	0%	50%	50%	0%	91%	9%	20%	80%	0%		1					
ı	APP/DEPART	4	/	1	2	/	3	11		11	5		7	0	1					
ı	BEGIN PEAK HR	١.	7:30 AM	_	_			_	_	_			_		1					_
ı	VOLUMES	2	1	0	0	1	1	0	8	0	0	1	0	14	1					L
ı	APPROACH %	67%	33%	0%	0%	50%	50%	0%	100%	0%	0%	100%	0%	0.700	1					
ı	PEAK HR FACTOR	3	0.750	1	2	0.500	1	8	0.667	8		0.250	4	0.700	1					
⊢	APP/DEPART 4:00 PM	0	_/_	0	0	0	1	0	2	0	0	0	0	4	0	0	0	0	0	
ı	4:00 PM 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
ı	4:30 PM	1 0	0	0	0	0	0	0	3	0	0	0	0	3		0	0	0	0	_
ı	4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	
ı	5:00 PM	0	1	0	0	0	0	0	1	0	0	1	0	3	0	0	0	0	0	
ı	5:15 PM	Ö	0	0	0	0	1	0	1	0	0	1	0	3	0	0	ō	0	0	
ı	5:30 PM	1	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	
Σ	5:45 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0	
ĪĒ	VOLUMES	1	3	0	0	0	2	0	8	0	0	4	0	18	0	0	0	0	0	
ı	APPROACH %	25%	75%	0%	0%	0%	100%	0%	100%	0%	0%	100%	0%							
ı	APP/DEPART	4	1	3	2	/	0	8	/	8	4	1	7	0	ı					
ı	BEGIN PEAK HR		4:30 PM												i					
ı	VOLUMES	0	1	0	0	0	1	0	5	0	0	3	0	10	i					
ı	APPROACH %	0%	100%	0%	0%	0%	100%	0%	100%	0%	0%	100%	0%		i					
ı	PEAK HR FACTOR		0.250			0.250			0.417			0.750		0.833	ı					
<u> </u>	APP/DEPART	1		1	1	/	0	5	/	5	3	/	4	0	i					

	RT	OR	
NRR	SRR	ERR	WRR
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
1	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

Seventh
NORTH SIDE

EAST SIDE Nisqualli

SOUTH SIDE

Seventh

	DATE: 6/16/21 WEDNESDAY CLASS 4:	LOCATION: NORTH & SOUTH: EAST & WEST:	Victorville Seventh Nisqualli	PROJECT LOCATIC CONTRO	DN #: 5 DL: SIGNAL		•	
	4 OR MORE AXLE TRUCKS	NOTES:			AM PM MD OTHER OTHER S V	E►		
		NORTHBOUND Seventh	SOUTHBOUND Seventh	EASTBOUND Nisqualli	WESTBOUND Nisqualli		U-TURNS	RTOR
	LANES:	NL NT NR 1 1 1	SL ST SR 1 1 0	EL ET ER 1 2 0	WL WT WR 1 2 0	TOTAL	NB SB EB WB TTL	NRR SRR ERR WRR 0 0 0 0
W	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM VOLUMES APPROACH %	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 4 0 0 5 0 0 4 1 0 3 1 0 4 0 0 5 0 0 5 0 0 2 0 0 32 2 0% 94% 6%	0 6 0 0 3 1 1 6 0 0 2 0 1 2 0 1 2 0 0 6 0 0 9 0 0 3 0 2 37 1 5% 93% 3%	10 9 13 6 8 12 15 5 78	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	3 / 3 7:30 AM 0 2 0 0% 100% 0% 0.500 2 / 2	1 / 5 0 1 0 0% 100% 0% 0.250 1 / 5	34 / 32 0 16 2 0% 89% 11% 0.900 18 / 16	40 / 38 2 16 0 11% 89% 0% 0.643 18 / 16	0 39 0.750 0		0 0 0
Ma	4:00 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 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 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 1 6 0 0 0 0 0	0 1 0 0 0 0 0 0 4 0 0 1 0 0 1 0 0 2 0 0 0 0 0 1 0	2 4 7 8 1 6 4 6	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	33% 33% 33% 3 / 2 4:30 PM 0 0 1 0% 0% 100% 0.250 1 / 1	0% 50% 50% 2 / 3 0 1 1 0% 50% 50% 0.500 2 / 2	4% 87% 9% 23 / 21 1 9 1 9% 82% 9% 0.393 11 / 10	0% 100% 0% 10 / 12 0 8 0 0% 100% 0% 0.500 8 / 9	0 22 0.688 0		0 0 0
			Seventh NORTH SIDE					
		Nisqualli WEST SID	≣	EAST SIDE Nisqual	li			
			SOUTH SIDE					
			Seventh					

	DATE: 6/16/21 WEDNESDAY CLASS 5:	LOCATION: NORTH & SOUTH: EAST & WEST:	RED BY: AimTD LLC. tel: 714 253 7888 (Victorville Seventh Nisqualli	PROJECT #: LOCATION #: CONTROL:	SC2957 5 SIGNAL				
	RV	NOTES.		PM MD OTHER		E▶			
		NORTHBOUND Seventh		BOUND	WESTBOUND Nisqualli		U-TURNS	RTO	R
	LANES:	NL NT NR 1 1 1		ET ER WL 2 0 1		TOTAL	NB SB EB WB TTL	NRR SRR 0 0	ERR WRR 0 0
АМ	7:00 AM 7:15 AM 7:30 AM 7:35 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM VOLUMES APPROACH % APPP/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 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	7:30 AM 0 0 0 0% 0% 0% 0.000	0 0 0 0 0% 0% 0% 0%	0 0 0 0% 0% 0% .000 / 0 0	0 0	0.000		0 0	0 0
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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	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 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 1 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
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	4:30 PM 0 0 0 0% 0% 0% 0.000 0 / 0	0 0 0 0 0% 0% 0% 0% 10	1 0 0 00% 0% 0% .250 / 1 0	0 0	1 0.250 0		0 0	0 0
			Seventh NORTH SIDE						
		Nisqualli WEST SIDE	EAST SIDE	Nisqualli					
			SOUTH SIDE Seventh						

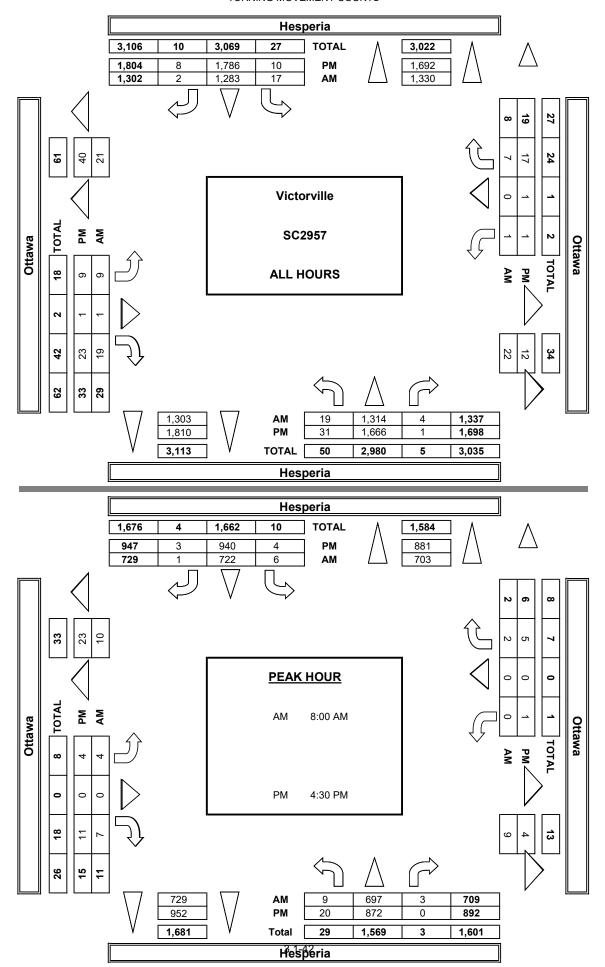
DATE: 6/16/21 LOCATION: Victorville PROJECT #: SC2957 NORTH & SOUTH: Seventh LOCATION #: 5

	WEDNESDAY		WEST:		Nisqualli	i				CONTRO		SIGNAL												
	CLASS 6:	NOTES	i:								AM		A											
											PM		N											
	BUSES										MD	⋖ W		E▶										
											OTHER		S											
											OTHER		▼											
	-	I N	ORTHBOL	IND	SC	DUTHBOU	ND	F	ASTBOUN	ND.	. v	/ESTBOUN	ID.		i —		J-TUR	NS		г		RT	OR	
		l "	Seventh	,,,,	~	Seventh		-	Nisqualli		'	Nisqualli				•							O.K	
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL	- I	NRR	SRR	ERR	WRR
	LANES:	1	1	1	1	1	0	1	2	0	1	2	0								0	0	0	0
	7:00 AM	I 0	0	0	0	1	0	0	2	0	0	0	0	3	0	0	0	0	0	Ē	0	0	0	0
1	7:15 AM	0	0	0	1	1	0	0	2	0	0	2	1	7	0	0	0	0	0		0	0	0	0
1	7:30 AM	0	0	0	0	0	0	0	1	0	0	2	0	3	0	0	0	0	0		0	0	0	0
1	7:45 AM	0	1	0	1	0	0	0	1	0	0	2	0	5	0	0	0	0	0		0	0	0	0
1	8:00 AM	0	0	0	0	1	1	0	1	0	0	9	0	12	0	0	0	0	0		0	1	0	0
1	8:15 AM	0	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0		1	0	0	0
1	8:30 AM	0	0	0	0	0	0	0	0	1	0	2	0	3	0	0	0	0	0		0	0	0	0
ĮΣ	8:45 AM VOLUMES	0	1	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	L	0	0	0	0
I٩	VOLUMES	0	2	1	2	3	1	0	7	1	0	19	1	37	0	0	0	0	0	L	1	1	0	0
1	APPROACH %	0%	67%	33%	33%	50%	17%	0%	88%	13%	0%	95%	5%	ļ										
1	APP/DEPART	3	7.22.41	3	6	/	4	8	/	10	20	/	20	0										
1	BEGIN PEAK HR	Ι,	7:30 AM		١.				2	•		1.4	•	22						-	-			
1	VOLUMES APPROACH %	0 0%	1 50%	1 50%	33%	1 33%	1 33%	0 0%	3 100%	0 0%	0 0%	14 100%	0 0%	22						L	1	11	0	0
1	PEAK HR FACTOR	070	0.500	3070	3370	0.375	3370	070	0.750	070	070	0.389	070	0.458										
1	APP/DEPART	2	0.300	1	3	1	1	3	/	5	14	0.369	15	0.436										
\vdash	4:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	0	0	0	0	0	Г	0	0	0	0
1	4:15 PM	1 0	0	0	0	1	0	0	1	0	0	0	0	2	0	0	0	0	0	- 1	0	0	0	0
1	4:30 PM	ŏ	0	0	Ö	0	0	Ö	0	0	0	1	0	1	0	0	0	0	Ö	- 1	0	0	0	0
1	4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0		0	0	0	0
1	5:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	2	0	0	0	0	0		0	0	0	0
1	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
1	5:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0		0	0	0	0
Σ	5:45 PM	0	1	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	0	L	0	0	0	0
I٩		0	2	0	0	2	0	0	5	0	0	2	0	11	0	0	0	0	0	L	0	0	0	0
1	APPROACH %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	_										
1	APP/DEPART BEGIN PEAK HR	2	4:30 PM	2	2		2	5	/	5	2		2	0										
1	VOLUMES	0	1	0	0	1	0	0	1	0	0	1	0	4						г	0	0	0	0
1	APPROACH %	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	"							0			0
1	PEAK HR FACTOR	""	0.250	0,0	0,0	0.250	0,0	0 / 0	0.250	0,0	0,0	0.250	0,0	0.500										
	APP/DEPART	1	1	1	1	1	1	1	1	1	1	1	1	0										
															•									
						Seventh	1																	
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] N	IORTH SI)E				-													
	1	Nisquall	i wi	EST SIDE				EAST SI	DE	Nisqua	lli													
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					1 -		_				-													
					S	OUTH SI)E																	
						Seventh																		
					1	Seventi	•	1																

INTERSECTION TURNING MOVEMENT COUNTS PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com Victorville Hesperia LOCAT Oltawa

	DATE: Wed, Jun 16, 21	LOCATION: NORTH & SOUTH: EAST & WEST:	Victorville Hesperia Ottawa	PROJECT #: LOCATION # CONTROL:				
	NOTES:				AM PM N N OTHER S THE S	E►	✓ Add U-Turns to Left Turns	
İ		NORTHBOUND Hesperia	SOUTHBOUND Hesperia	EASTBOUND Ottawa	WESTBOUND Ottawa		U-TURNS	RTOR
	LANES:	NL NT NR 0 2 0		EL ET ER 0 1 0	WL WT WR 0 1 0	TOTAL	NB SB EB WB TTL 0 0 0 0	NRR SRR ERR WRR X X X X
	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR	3 122 0		0	0 0 1 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 1 0 7 13% 0% 88% 8 / 21	209 274 340 402 333 363 343 412 2,676	0 0 0 0 0 0 0 0 0 0 0 0 0 0 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	VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART 4:00 PM 4:15 PM 4:15 PM 4:35 PM 5:00 PM 5:15 PM 5:15 PM 5:30 PM 5:30 PM 5:45 PM VOLUMES APP/DEPART BEGIN PEAK HR	9 697 3 1% 98% 0% 0.900 709 / 703 5 206 0 0 202 0 6 219 0 5 212 0 6 210 0 3 231 0 3 186 0 3 200 1 31 1,666 1 2% 98% 0% 1,698 / 1,692	0.864 729 / 729 0 233 2 2 212 0 2 231 0 1 219 2 1 228 1 0 262 0 0 217 2 4 184 1 10 1,786 8 1% 99% 0%	4 0 7 36% 0% 64% 0.917 0 0.917 11 / 9 0 0 3 1 0 2 2 0 4 0 0 2 1 0 4 1 0 1 4 1 7 0 0 0 9 1 23 27% 3% 70% 33 / 12	0 0 2 0% 0% 100% 0.500 .500 . 2 / 10 0 0 4 0 0 2 0 0 2 0 0 2 0 0 1 0 0 2 0 0 3 0 1 3 1 1 17 5% 5% 89% 19 / 40	1,451 0.880 0 453 421 466 441 453 500 423 397 3,554	0 0 0 0 0 0 0 0 0 0 0 0 0 0 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	20 872 0 2% 98% 0% 0.953 892 / 881	4 940 3 0% 99% 0% 0.904 947 / 952 Hesperia NORTH SIDE	4 0 11 27% 0% 73% 0.625 15 / 4	1 0 5 17% 0% 83% 0.750 6 / 23	1,860 0.930 0		0 0 0 0
		Ottawa WEST SI	IDE	EAST SIDE Ottawa				
		1	SOUTH SIDE Hesperia LLL PED AND BIKE	DEDICATE:	IAN CROSSINGS	1	DIOVOLE CROCCINICS	
PM	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM TOTAL 4:00 PM 4:15 PM 4:30 PM 5:00 PM 5:15 PM 5:30 PM 5:30 PM 5:34 PM TOTAL		N N N N N N N N N N		Name		BICYCLE CROSSINGS ES WS SS NS SS NS TOTAL	

AimTD LLC
TURNING MOVEMENT COUNTS



INTERSECTION TURNING MOVEMENT COUNTS
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com
Victorville
PROJECT #-

				PREPAR	KED BY: A	AimTD LLC	tei: 714	253 7888	s cs@aim	ta.com									
	DATE:	LOCATIO	ON:		Victorville	е				PROJECT	#:	SC2957							
	6/16/21		& SOUTH:		Hesperia					LOCATIO		6							
	WEDNESDAY	EAST &	WEST:		Ottawa					CONTRO	L:	STOP E/	W						
	CLASS 1:	NOTES									AM		A		1				
	PASSENGER	NOTES									PM		l n						
	VEHICLES										MD	■ W	1 "	E▶	1				
	VEHICLES										OTHER	<u> </u>	l s						
											OTHER		¥						
								_					<u> </u>						
		l N	IORTHBOU	IND	S	OUTHBOU	ND	E	ASTBOUN	ND	V	VESTBOU	ND		U-TURNS		RT	OR	
		NII	Hesperia	NID	CI	Hesperia	CD		Ottawa	FD	140	Ottawa	NA/ID	TOTAL	ND CD FD WD FT	NDD	CDD	EDD	WDD
	LANES:	NL 0	NT 2	NR 0	SL 0	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB SB EB WB TTL	NRR X	SRR X	ERR X	WRR X
_													_	101					
1	7:00 AM	3	107	0	1	69	0	0	0	1	0	0	0	181		0	0	0	0
1	7:15 AM 7:30 AM	1	135 153	0	2	89 159	0	1	0	2	0	0	0	232 317	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0	0	0	0
	7:30 AM 7:45 AM	1 4	164	0	5	184	1	1	0	7	0	0	0	366		U	0	0	0
	8:00 AM	0	135	0	2	159	0	2	0	1	0	0	0	299	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0	0	0	0
	8:15 AM	3	170	0	1	151	0	1	0	2	0	0	0	328		0	0	0	0
	8:30 AM	0	154	1	2	151	0	1	0	1	0	0	0	313		0	0	0	0
L	8:45 AM	6	172	1	0	200	1	0	0	3	0	0	1	384		0	0	0	0
¥	VOLUMES	18	1,190	3	15	1,165	2	8	0	18	0	0	1	2,420		0	0	0	0
	APPROACH %	1%	98%	0%	1%	99%	0%	31%	0%	69%	0%	0%	100%	2,.20			Ū	ŭ	
	APP/DEPART	1,211	1	1,199	1,182	/	1,183	26	/	18	1	1	20	0	1				
	BEGIN PEAK HR	1 -/	8:00 AM		-/		-,				<u> </u>				1				
	VOLUMES	9	631	2	5	664	1	4	0	7	0	0	1	1,324		0	0	0	0
	APPROACH %	1%	98%	0%	1%	99%	0%	36%	0%	64%	0%	0%	100%	· ·		-			
	PEAK HR FACTOR		0.897			0.833			0.917			0.250		0.862					
L	APP/DEPART	642		636	670		671	11		7	1		10	0]				
	4:00 PM	5	196	0	0	218	2	0	0	3	0	0	3	427	0 0 0 0 0	0	0	0	0
	4:15 PM	0	196	0	1	202	0	1	0	2	0	0	2	404	0 0 0 0 0	0	0	0	0
	4:30 PM	6	211	0	2	222	0	2	0	4	0	0	1	448	0 0 0 0 0	0	0	0	0
	4:45 PM	5	198	0	0	210	2	0	0	2	0	0	0	417	0 0 0 0 0	0	0	0	0
	5:00 PM	6	203	0	1	218	1	1	0	4	1	0	0	435	0 0 0 0 0	0	0	0	0
	5:15 PM	3	227	0	0	253	0	1	0	1	0	0	1	486	0 0 0 0 0	0	0	0	0
	5:30 PM	3	182	0	0	210	2	0	1	7	0	0	3	412	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0	0	0	0
Σ	5:45 PM VOLUMES	31	191 1,604	0	8	179 1,712	8	9	1	23	1	1	12	381 3,410	0 0 0 0 0	0	0	0	0
Ι-	APPROACH %	2%	98%	0%	0%	99%	8 0%	27%	3%	23 70%	7%	1 7%	12 86%	3,410			U	U	U
	APP/DEPART	1.635	J070 1	1.625	1.728	1	1,736	33	1	9	14	1 / 1	40	0	1				
	BEGIN PEAK HR	1,000	4:30 PM		1,720		1,/30	- 33			17		70	⊢ Č	1				
	VOLUMES	20	839	0	3	903	3	4	0	11	1	0	2	1,786	l	0	0	0	0
	APPROACH %	2%	98%	0%	0%	99%	0%	27%	0%	73%	33%	0%	67%	-,	l		-	-	
	PEAK HR FACTOR	1	0.934			0.898			0.625			0.750		0.919	l				
L	APP/DEPART	859	1	845	909	1	915	15	1	3	3	1	23	0	1				
															=				
						Hesperia	1												
					l .	IODTI I CT	> F												
					J 1	NORTH SIE	ᇨ				-								
				IECT CIDE				EACT CT	D.E.	011									

WEST SIDE EAST SIDE Ottawa Ottawa SOUTH SIDE Hesperia

				PREPAR	ED BY: A	Aim ID LLO	tel: /1	4 253 /8	88 cs@aii	mtd.com																
	DATE:	LOCATION	ON:		Victorvill	e				PROJECT	Γ#:	SC2957														
	6/16/21	NORTH	& SOUTH	:	Hesperia					LOCATIO	ON #:	6														
	WEDNESDAY	EAST &	WEST:		Ottawa					CONTRO	DL:	STOP E/	W													
	CLASS 2:	NOTES									AM	1	A													
	2-AXLE	HOILS									PM		N													
	WORK										MD	■ W		Ε.▶												
	VEHICLES/												_													
	,										OTHER		S													
	TRUCKS										OTHER		▼													
		NO	ORTHBOU	ND	SC	UTHBOU	ND	E	ASTBOUN	ND	l W	/ESTBOUN	۱D			U-	·TUR	NS					RTOR			7 !
			Hesperia			Hesperia			Ottawa			Ottawa														_
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL		NRR	SRR		ERR	WRR	71
	LANES:	0	2	0	0	2	0	0	1	0	0	1	0								X	X		X	X	!
	7:00 AM	0	11	0	0	11	0	0	0	0	0	0	0	22	0	0	0	0	0		0	0		0	0	\neg !
1	7:15 AM	1	6	0	0	8	0	0	0	0	1	0	0	16	0	0	0	0	0		0	0		0	0	\dashv
ı	7:30 AM	0	6	0	0	4	0	0	0	0	0	0	0	10	0	0	0	0	0		0	0		0	0	\neg
ı	7:45 AM	0	9	0	0	7	0	0	1	0	0	0	0	17	0	0	0	0	0		0	0		0	0	
	8:00 AM	0	11	0	0	8	0	0	0	0	0	0	0	19	0	0	0	0	0		0	0		0	0	11
ı	8:15 AM	0	10	0	0	14	0	0	0	0	0	0	0	24	0	0	0	0	0		0	0		0	0	
ı	8:30 AM	0	13	0	0	11	0	0	0	0	0	0	0	24	0	0	0	0	0		0	0		0	0	
15	8:45 AM	0	14	0	0	8	0	0	0	0	0	0	0	22	0	0	0	0	0		0	0		0	0	
₽	VOLUMES	1	80	0	0	71	0	0	1	0	1	0	0	154	0	0	0	0	0		0	0		0	0	7 /
	APPROACH %	1%	99%	0%	0%	100%	0%	0%	100%	0%	100%	0%	0%													_
	APP/DEPART	81	1	80	71	/	72	1	/	1	1	/	1	0												
	BEGIN PEAK HR		8:00 AM																							
	VOLUMES	0	48	0	0	41	0	0	0	0	0	0	0	89							0	0		0	0	
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%													
	PEAK HR FACTOR		0.857			0.732			0.000			0.000		0.927												
_	APP/DEPART	48		48	41	/	41	0		0	0		0	0						_						_ !
1	4:00 PM	0	6	0	0	8	0	0	0	0	0	0	0	14	0	0	0	0	0		0	0		0	0	_
	4:15 PM	0	2	0	0	9	0	0	0	0	0	0	0	11	0	0	0	0	0	-	0	0		0	0	⊣ !
1	4:30 PM	0	6	0	0	7	0	0	0	0	0	0	0	10	0	0	0	0	0		0	0		0	0	-1
1	4:45 PM 5:00 PM	0	9 5	0	0	6	0	0	0	0	0	0	0	16 11	0	0	0	0	0		0	0		0	0	-1
ı	5:00 PM 5:15 PM	0	4	0	0	5	0	0	0	0	0	0	0	9	0	0	0	0	0		0	0		0	<u>U</u>	- 1
	5:30 PM	0	4	0	0	4	0	0	0	0	0	0	0	8	0	0	0	0	0		0	0		0	0	-
I_{-}		0	8	0	0	2	0	0	0	0	0	0	0	10	0	0	0	0	0	-	0	0		0	0	-
Σ	VOLUMES	0	44	0	0	45	0	0	0	0	0	0	0	89	0	0	0	0	0	- ⊢	0	0	_	0	0	⊣ !
	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	05		0	-	0				0		U		- 1
ı	APP/DEPART	44	1	44	45	1	45	0	1	0	0	1	0	0												
1	BEGIN PEAK HR	 	4:30 PM								<u> </u>			<u> </u>												
ı	VOLUMES	0	24	0	0	22	0	0	0	0	0	0	0	46							0	0		0	0	\neg !
ı	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%								-	-				- 1
1	PEAK HR FACTOR		0.667			0.786			0.000			0.000		0.719												
Ĺ	APP/DEPART	24		24	22	/	22	0	1	0	0	1	0	0												
_	•	•	-			-						-			1											

		Hesperia		
		NORTH SIDE		
Ottawa	WEST SIDE		EAST SIDE	Ottaw
		SOUTH SIDE		
		Hesperia		

SOUTH SIDE Hesperia

	DATE: 6/16/21 WEDNESDAY	LOCATI NORTH EAST &	& SOUTH		Victorville Hesperia Ottawa		tei: /14	233 / 6 88	cswaim	PROJECT LOCATION CONTRO	ON #:	SC2957 6 STOP E/	w												
	CLASS 3:	NOTES	<u>;</u>								AM		A		ı										
	3-AXLE		-								PM		l N												
	TRUCKS										MD	■ W		E►											
	11100110										OTHER	<u> </u>	l s												
											OTHER		▼												
											UTITLE														
		N	ORTHBOU	ND	5	OUTHBOUND	D	E.	ASTBOUN	ND	V	VESTBOU	ND			U-	-TUR	NS				R	TOR		
			Hesperia			Hesperia			Ottawa			Ottawa			l										
	LANES:	NL 0	NT 2	NR 0	SL 0	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB :	SB	EB	WB	TTL		NRR X	SRR X	ERR X		rr X
_	7:00 AM	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	I 0	i	0	0	0	0)
	7:15 AM	0	6	0	0	5	0	0	0	0	0	0	0	11		0	0	0	ő		0	0	0	0	
	7:30 AM	ŏ	1	0	0	2	0	0	0	0	0	0	0	3		0	0	0	ő		0	0	0	0	
ĺ	7:45 AM	0	2	0	0	2	0	0	0	0	0	0	0	4		0	0	0	ő		0	0	0		
ĺ	8:00 AM	0	2	0	0	4	0	0	0	0	0	0	0	6		0	0	0	ő		0	0	0	0	
ĺ	8:15 AM	Ö	2	0	0	2	0	0	0	0	0	0	0	4		0	0	0	ő		0	0	0	0	
ĺ	8:30 AM	0	2	0	0	3	0	0	0	0	0	0	0	5		0	0	0	0		0	0	0	0	
١٠		ő	1	0	0	0	0	0	0	0	0	0	0	1		o l	0	0	ő		0	0	0	Ö	
₹	VOLUMES	Ö	19	0	0	18	0	0	0	0	0	0	0	37		0	0	0	ő	1	0	0	0	0	
ı	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%							•					
ı	APP/DEPART	19	1	19	18		18	0	/	0	0	1	0	0											
ı	BEGIN PEAK HR		8:00 AM																						
ı	VOLUMES	0	7	0	0	9	0	0	0	0	0	0	0	16							0	0	0	0)
ı	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%												
ı	PEAK HR FACTOR		0.875			0.563			0.000			0.000		0.667											
	APP/DEPART	7		7	9	/	9	0	/	0	0	/	0	0											
ı	4:00 PM	0	3	0	0	4	0	0	0	0	0	0	0	7		0	0	0	0		0	0	0	0	
ĺ	4:15 PM	0	0	0	1	1	0	0	0	0	0	0	0	2		0	0	0	0		0	0	0	0	
ĺ	4:30 PM	0	1	0	0	2	0	0	0	0	0	0	1	4		0	0	0	0		0	0	0	0	
ĺ	4:45 PM	0	2	0	1	0	0	0	0	0	0	0	0	3		0	0	0	0		0	0	0	0	
ĺ	5:00 PM	0	2	0	0	0	0	0	0	0	0	0	0	4 0		0	0	0	0		0	0	0	0	
ĺ	5:15 PM 5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1		0	0	0	0		0	0	0	0	
l_		0	0	1	0	1	0	0	0	0	0	0	0	2		0	0	0	0		0	0	0	0	
Σ	VOLUMES	0	8	1	2	11	0	0	0	0	0	0	1	23		0	0	0	0		0	0	0	0	
ĺ	APPROACH %	0%	89%	11%	15%	85%	0%	0%	0%	0%	0%	0%	100%	"						•					
ĺ	APP/DEPART	9	1	9	13	/	11	0	1	3	1	/	0	0											
ĺ	BEGIN PEAK HR		4:30 PM																						
ĺ	VOLUMES	0	5	0	1	4	0	0	0	0	0	0	1	11							0	0	0	0	
ı	APPROACH %	0%	100%	0%	20%	80%	0%	0%	0%	0%	0%	0%	100%											-	
ı	PEAK HR FACTOR		0.625			0.625			0.000			0.250		0.688											
	APP/DEPART	5	1	6	5		4	0	1	1	1	/	0	0	l										
						Hesperia																			
						NORTH SIDE	<u>-</u>																		
					1	NOK ITI SIDE	-				-														
		Ottawa	. WE	ST SIDE				EAST SI	DE	Ottawa	1														

	DATE: 6/16/21 WEDNESDAY CLASS 4:	LOCATION: NORTH & SOUTH: EAST & WEST:	Victorville Hesperia Ottawa	PROJECT LOCATIO CONTRO	DN #: 6 IL: STOP E/W				
	4 OR MORE AXLE TRUCKS	NOTES.			AM PM MD OTHER OTHER S V	E▶			
		NORTHBOUND Hesperia	SOUTHBOUND Hesperia	EASTBOUND Ottawa	WESTBOUND Ottawa		U-TURNS	RTO	R
	LANES:	NL NT NR 0 2 0	SL ST SR 0 2 0	EL ET ER 0 1 0	WL WT WR 0 1 0	TOTAL	NB SB EB WB TTL	NRR SRR X X	ERR WRR
АМ	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:13 AM 8:45 AM VOLUMES APPROACH % APP/DEPART	0 1 0 0 4 0 0 2 0 0 3 0 0 1 0 0 3 0 0 0 1 0 2 0 0 0 1 0 2 0 16 1 0% 6%	0 0 0 0 0 0 10 0 10 0 10 0 10 0 10 0 1	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 1 f 3	0 0 1 0 0 0 0 0 0 0 0 0 0 4 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 6 0% 0% 100% 6 / 0	2 14 6 9 4 4 1 4 44	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	8:00 AM 0 6 1 0% 86% 14% 0.583	1 4 0 20% 80% 0% 0.625 5 / 4	0 0 0 0% 0% 0% 0.000 0 / 2	0 0 1 0% 0% 100% 0.250 1 / 0	13 0.813 0		0 0	0 0
ММ	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 %	0 1 0 0 3 0 0 1 0 0 3 0	0 2 0 0 0 0 0 0 1 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 0 0 2 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 1 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 4 0% 0% 100%	4 3 2 5 3 4 2 4 27	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	9 / 13 4:30 PM 0 4 0 0% 100% 0% 0.333 4 / 6	14 / 14 0 8 0 0% 100% 0% 0.667 8 / 8	0 / 0 0 0 0 0% 0% 0% 0.000 0 / 0	4 / 0 0 0 2 0% 0% 100% 0.500 2 / 0	0 14 0.700 0		0 0	0 0
			Hesperia NORTH SIDE						
		Ottawa WEST SIE	DE	EAST SIDE Ottawa					
			SOUTH SIDE						
			Hesperia						

	DATE: 6/16/21 WEDNESDAY CLASS 5:	LOCATION: NORTH & SOUTH: EAST & WEST:	RED BY: AimTD LLC. tel: 714 253 7888 ci Victorville Hesperia Ottawa	PROJECT #: LOCATION #: CONTROL:	SC2957 6 STOP E/W				
	RV	I NORTHBOUND	SOUTHBOUND EASTE	PM MD OTHER OTHER	N N S V WESTBOUND	E▶	U-TURNS	RTO	D
		Hesperia NR NR		tawa ET ER WL	Ottawa	TOTAL	NB SB EB WB TTL	NRR SRR	ERR WRR
	LANES:	0 2 0	0 2 0 0	1 0 0	1 0			XXX	X X
АМ	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 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 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	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
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	8:00 AM 0 1 0 0% 100% 0% 0.250 1 / 1		0 0 % 0% 0% 000 / 0 0	0 0 0% 0% 0.000 (1 0.250 0		0 0	0 0
Μď	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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	4:30 PM 0 0 0 0% 0% 0% 0.000 0 / 0		0 0 % 0% 0% 000 / 0 0	0 0 0% 0% 0.000 (0 0.000 0		0 0	0 0
			Hesperia NORTH SIDE						
		Ottawa WEST SIDE	EAST SIDE	Ottawa					
			SOUTH SIDE						
			Hesperia						

DATE: 6/16/21 LOCATION: Victorville PROJECT #: SC2957 NORTH & SOUTH: Hesperia LOCATION #: 6

	WEDNESDAY	EAST &	WEST:		Ottawa	-				CONTRO		STOP E/	W										
	CLASS 6:	NOTES	i:								AM		A										
											PM		N	L									
	BUSES										MD	⋖ W		E►									
											OTHER OTHER		S ▼										
	-	I N	ORTHBOU	IND	SC	OUTHBOU	ND	F	ASTBOU	ND		VESTBOUN	ID.			U	-TURNS		1 1		RT	OR	
			Hesperia			Hesperia		_	Ottawa			Ottawa							Ιl				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB V	/B TTL	1 [NRR	SRR	ERR	WRR
_	LANES:	0	2	0	0	2	0	0	1	0	0	1	0		<u> </u>			+	ן ו	X	X	X	X
ı	7:00 AM 7:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0 (1 1	0	0	0	0
ı	7:30 AM	0	2	0	0	1	0	0	0	1	0	0	0	4	0	0	0 (1 1	0	0	0	0
ı	7:45 AM	0	2	0	0	4	0	0	0	0	0	0	0	6	0	0	0 (1	0	0	0	0
ı	8:00 AM	0	3	0	0	2	0	0	0	0	0	0	0	5	0	0	0 (_	1 1	0	0	0	0
ı	8:15 AM	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0 (-	1 1	0	0	0	0
I_	8:30 AM 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 (1 1	0	0	0	0
₹	8:45 AM VOLUMES	 0	8	0	0	11	0	0	0	1	0	0	0	20	0	0		0	1 1	0	0	0	0
ı	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%										
ı	APP/DEPART	8		8	11	/	12	1	/	0	0	/	0	0									
ı	BEGIN PEAK HR	Ι,	8:00 AM		_	4	0	_	0	0	_	0	0						r	0	0	0	
ı	VOLUMES APPROACH %	0 0%	4 100%	0 0%	0 0%	4 100%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	8					L	0	0	0	0
ı	PEAK HR FACTOR	""	0.333	070	0,0	0.500	070	0 70	0.000	070	0 70	0.000	0 70	0.400									
L	APP/DEPART	4	1	4	4	1	4	0	1	0	0	1	0	0									
Г	4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0 (] [0	0	0	0
ı	4:15 PM 4:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	0 (1 1	0	0	0	0
ı	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 (1 1	0	0	0	0
ı	5:00 PM	ő	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 (1 1	0	0	0	0
ı	5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0 (1 [0	0	0	0
ı	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0 (1 1	0	0	0	0
ĮΣ	5:45 PM VOLUMES	0	1	0	0	4	0	0	0	0	0	0	0	5	0	0	0 (- I	0	0	0	0
Ι-	APPROACH %	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	,		U	0 (, , ,	ו נ	U	U	U	0
ı	APP/DEPART	1	1	1	4	/	4	0	1	0	0	1	0	0									
ı	BEGIN PEAK HR	١.	4:30 PM			_	_			_	_		_	_									
ı	VOLUMES APPROACH %	0 0%	0 0%	0 0%	0 0%	3 100%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%	3					L	0	0	0	0
ı	PEAK HR FACTOR	0,0	0.000	070	070	0.375	0 70	0 /0	0.000	070	0 /0	0.000	0 70	0.375									
L	APP/DEPART	0	1	0	3	/	3	0	/	0	0	/	0	0									
						U									-								
						Hesperia	1																
					N	ORTH SIE	DE																
		Ottawa	a W/F	ST SIDE				EAST SI	DF	Ottawa													
		J 110	- ***	SIDL				2.01.01		J 170													
					1 ^	OUTU CT	> F				-												
					5	OUTH SIE	ᄺ																
						Hesperia	3																
					•																		

DATE: Wed, Jun 16, 21

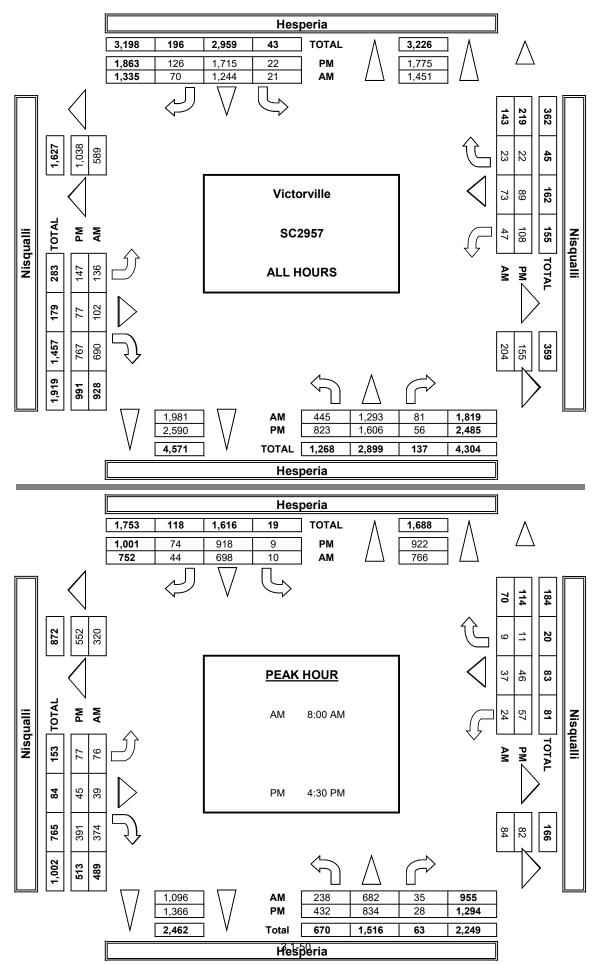
LOCATION: NORTH & SOUTH: EAST & WEST: PROJECT #: LOCATION #: CONTROL: 7 SIGNAL NOTES: ▲ N E► S • NORTHBOUND SOUTHBOUND EASTBOUND WESTBOUND U-TURNS RTOR Hesper ST Nisqua ET Nisquall WT NT TOTAL TTL NL NR SL SR EL ER WL WR NB SB EB WB NRR SRR ERR WRR LANES: 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM 65 104 99 88 40 49 75 43 50 74 71 445 24% 1,819 169 145 168 159 175 167 114 174 182 156 164 173 205 1,244 93% 10 20 24 15 17 20 24 136 10 17 442 558 616 524 546 559 637 4,225 88 94 181 1,293 71% 104 690 74% 204 VOLUMES APPROACH % APP/DEPART 0 0 73 51% 23 16% 15% 928 11% 33% 143 4% 1,451 5% 1,981 0 8:00 AM BEGIN PEAK HR 698 93% 0.866 39 8% 0.873 238 25% 35 4% 374 76% 12 14 31 VOLUMES 2,266 APPROACH %
PEAK HR FACTOR
APP/DEPART 13% 0.889 0.929 0.761 955 109 101 121 107 109 95 99 82 823 33% 2,485 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM 14 17 15 189 215 191 220 208 199 216 218 230 254 15 14 21 20 19 111 116 688 752 697 736 737 24 21 29 10 17 0 0 0 0 0 0 85 94 96 10 14 13 12 11 89 21 12 199 176 1,715 92% 5:30 PM 5:45 PM VOLUMES 196 173 1,606 65% 646 601 5,558 16 8 126 88 APPROACH %

APP/DEPART

BEGIN PEAK HR 8% 1% 1,863 41% 10% ,038 4:30 PM VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART 432 33% 834 64% 0.946 918 92% 0.910 45 9% 0.861 46 40% 0.770 9 1% 77 15% 391 76% 57 50% 11 10% 2,922 14 0.971 1,001 Hesperia NORTH SIDE WEST SIDE FAST SIDE Nisqualli Nisqualli SOUTH SIDE ALL PED AND BIKE PEDESTRIAN CROSSINGS BICYCLE CROSSINGS TOTAL TOTAL 7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM AM 8:15 AM 8:30 AM 8:45 AM TOTAL 4:00 PM 4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM Μ 5:30 PM 5:45 PM TOTAL

SC2957

AimTD LLC
TURNING MOVEMENT COUNTS



				PREPAR	RED BY: A	imTD LLC	. tel: 714	253 7888	cs@aim	td.com									
	DATE:	LOCATIO	N:		Victorville	е				PROJECT	#:	SC2957							
	6/16/21		& SOUTH:		Hesperia					LOCATIO		7							
	WEDNESDAY	EAST & \	WEST:		Nisqualli					CONTROL	.:	SIGNAL							
	CLASS 1:	NOTES:									AM		A						
	PASSENGER										PM		N						
	VEHICLES										MD	◀ W	1 -	E►					
											OTHER		S						
			007110011							15		ECTROLL							
		I N	ORTHBOUI Hesperia	ND	SC	OUTHBOUI Hesperia	ND	5	ASTBOUN Nisqualli	ND	l w	ESTBOUI Nisqualli	ND		U-TURNS		RI	OR	
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB SB EB WB TTL	NRR	SRR	ERR	WRR
	LANES:	1	3	0	1	2	0	2	1	2	1	2	0	101712		0	0	0	0
	7:00 AM	38	119	6	3	67	1	5	6	43	4	1	3	296	0 0 0 0 0	0	0	9	1
	7:15 AM	34	155	4	2	99	4	7	9	62	3	6	1	386	0 0 0 0 0	0	1	9	0
	7:30 AM 7:45 AM	44 66	136 156	9 13	3	161 169	7	18 20	8 14	99 94	7 5	11	4	506 549	0 0 0 0 0	0	0 1	9	1
	8:00 AM	39	143	10	1	146	17	14	8	86	4	4	1	473	$egin{array}{ c c c c c c c c c c c c c c c c c c c$	4	8	6	0
	8:15 AM	47	160	9	1	145	9	15	2	83	7	3	1	482	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	2	3	12	1
	8:30 AM	67	154	3	0	160	4	17	4	90	Ó	5	1	505	0 0 0 0 0	2	1	5	1
Ψ	8:45 AM	67	160	2	4	192	6	23	2	101	6	4	1	568	0 0 0 0 0	1	0	6	0
₹	VOLUMES	402	1,183	56	14	1,139	54	119	53	658	36	38	13	3,765	0 0 1 0 1	11	14	63	5
	APPROACH %	24%	72%	3%	1%	94%	4%	14%	6%	79%	41%	44%	15%						
	APP/DEPART BEGIN PEAK HR	1,641	8:00 AM	1,314	1,207	/	1,833	830	/	123	87		495	0					
	VOLUMES	220	617	24	6	643	36	68	16	360	17	16	4	2,028		9	12	29	2
	APPROACH %	26%	72%	3%	1%	94%	5%	15%	4%	81%	46%	43%	11%	2,020					
	PEAK HR FACTOR		0.940			0.848			0.883			0.841		0.893					
	APP/DEPART	861		689	685	/	1,020	445	/	46	37	/	273	0					
1	4:00 PM	104	207	8	1	214	12	15	2	77	13	9	3	665	$egin{array}{ c c c c c c c c c c c c c c c c c c c$	0	1	10 9	1
	4:15 PM 4:30 PM	96 117	185 205	5	3 2	186 208	15 13	24 21	6 10	104 110	12 12	10 5	2	646 710	0 0 0 0 0 0 0 0 0 0	1	3	12	1
	4:45 PM	106	183	4	3	207	21	26	14	82	8	10	2	666		1	3	7	1
	5:00 PM	109	211	8	0	224	19	10	4	92	19	12	2	710	0 0 0 0 0	0	4	8	2
	5:15 PM	92	204	8	2	244	18	17	9	91	12	10	1	708	0 0 0 0 0	1	5	3	1
	5:30 PM	98	194	5	4	192	16	12	4	85	5	10	2	627	0 0 0 0 0	1	7	3	2
Σ	5:45 PM	81	165	8	2	170	8	16	6	92 733	13	10	4	575	0 0 0 0	1	1	12	3
I۴	VOLUMES APPROACH %	803 33%	1,554 65%	51 2%	17 1%	1,645 92%	122 7%	141 15%	55 6%	733 79%	94 51%	76 41%	16 9%	5,307	0 0 0 0 0	6	25	64	11
	APP/DEPART	2,408	1 1	1.711	1.784	9270 /	2,472	929	/	123	186	7170	1,001	0					
	BEGIN PEAK HR	2, 100	4:30 PM	-,/ 11	2,701		-, 1/2	, ,,,	- /	125	100		1,001	Ť					
	VOLUMES	424	803	25	7	883	71	74	37	375	51	37	7	2,794		3	13	30	5
l	APPROACH %	34%	64%	2%	1%	92%	7%	15%	8%	77%	54%	39%	7%			-	•		
	PEAK HR FACTOR	4 252	0.954	20.4	054	0.910	4 200	40.5	0.862		0.5	0.720		0.984					
Щ	APP/DEPART	1,252		884	961	/	1,309	486	/	69	95		532	0					
					ı														

Hesperia
NORTH SIDE

EAST SIDE Nisqualli

SOUTH SIDE

Hesperia

				PREPAR	ED BY: A	AimTD LLC	C. tel: 71	4 253 78	88 cs@ai	mtd.com													
	<u>DATE:</u> 6/16/21 WEDNESDAY	LOCATION NORTH EAST &	& SOUTH		Victorvill Hesperia Nisqualli					PROJECT LOCATIO CONTRO	ON #:	SC2957 7 SIGNAL											
	CLASS 2: 2-AXLE WORK	NOTES	:								AM PM MD	■ W	N N	E►									
	VEHICLES/ TRUCKS										OTHER OTHER		S ▼										
		NO	ORTHBOU Hesperia	IND	SC	UTHBOUI Hesperia	ND	Е	ASTBOUN Nisqualli	ID	W	/ESTBOUN Nisqualli	ND			U	-TUR	NS			RT	OR	
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 0	EL 2	ET 1	ER 2	WL 1	WT 2	WR 0	TOTAL	NB	SB	EB	WB	TTL	NRR 0	SRR 0	ERR 0	WRR 0
	7:00 AM 7:15 AM	3	6 7	1	0	6	1 0	0	1 0	3	0	0	1 0	23	0	0	0	0	0	0	0	0	0
	7:15 AM 7:30 AM	3	6	2	0	7	1	2	2	2	0	2	1	25 27	0	0	0	0	0	0	0	0	0
	7:45 AM	6	6	5	1	7	0	2	3	4	0	1	1	36	0	0	0	0	0	0	0	0	0
	8:00 AM	2	10	0	0	5	0	1	1	2	0	2	1	24	0	0	0	0	0	0	0	1	1
	8:15 AM	2	14	2	0	13	1	1	1	4	1	0	1	40	0	0	0	0	0	0	0	1	0
L	8:30 AM	2	12	3	0	13	1	1	0	3	1	0	0	36	0	0	0	0	0	1	0	0	0
¥	8:45 AM	4	17	2	2	10	0 4	1	8	2	3	8	6	52	0	0	0	0	0	1	0	2	3
	VOLUMES APPROACH %	26 22%	78 65%	16 13%	4 5%	68 89%	5%	9 19%	16 34%	22 47%	6 30%	8 40%	30%	263		0	0	0	0	3	U		3
	APP/DEPART	120	1	93	76	/	96	47	J 7/0	36	20	/	38	0									
	BEGIN PEAK HR	120	8:00 AM		70		- 50	- 17		50			50	Ť									
L	VOLUMES	10	53	7	2	41	2	4	10	11	5	4	3	152						2	0	2	2
	APPROACH %	14%	76%	10%	4%	91%	4%	16%	40%	44%	42%	33%	25%										-
	PEAK HR FACTOR		0.761			0.804			0.568			0.500		0.731									
ш	APP/DEPART	70		60	45	_/	57	25	/_	19	12	_/_	16	0			•	_				•	
L	4:00 PM 4:15 PM	3	5	0	1	6	0	0	2	5	0 4	0	0	21 31	0	0	0	0	0	0	0	0	0
	4:15 PM 4:30 PM	2	7	0	0	12 3	1	0	2	6	2	1	2	26	0	0	0	0	0	0	0	0	2
	4:45 PM	0	7	1	0	8	0	1	0	2	1	0	0	20	0	0	0	0	0	0	0	0	0
	5:00 PM	0	8	1	0	4	1	0	1	2	0	0	0	17	0	0	0	0	0	0	0	0	0
ı	5:15 PM	2	3	0	0	6	0	0	0	4	0	1	1	17	0	0	0	0	0	0	0	1	1
	5:30 PM	0	2	0	0	4	0	1	0	3	0	1	0	11	0	0	0	0	0	0	0	0	0
Σ	5:45 PM	0	6	0	0	3	0	1	0	3	0	1	0	14	0	0	0	0	0	0	0	0	0
	Volumes Approach %	11 20%	40 74%	3 6%	2 4%	46 90%	3 6%	3 8%	6 17%	27 75%	7 44%	5 31%	4 25%	157	0	0	0	0	0	0	0	1	4
	APP/DEPART	54	/ 1 70	47	51	9070	80	36	1/70	11	16	J170 /	19	0									
	BEGIN PEAK HR	J-1	4:30 PM		J1	/	30	50	/	11	10	/	1,7	<u> </u>									
	VOLUMES	4	25	3	0	21	2	1	2	14	3	2	3	80						0	0	1	3
	APPROACH %	13%	78%	9%	0%	91%	9%	6%	12%	82%	38%	25%	38%										
	PEAK HR FACTOR		0.800			0.719			0.607			0.400		0.769									
	APP/DEPART	32	1	29	23	/	38	17	1	5	8	/	8	0									
															-								

Hesperia NORTH SIDE Nisqualli WEST SIDE EAST SIDE Nisqualli SOUTH SIDE Hesperia

	DATE: 6/16/21 WEDNESDAY	LOCATION: NORTH & SOUTH EAST & WEST: NOTES:	l:	Victorville Hesperia Nisqualli	nTD LLC. tel: 714 2	253 7888 CS@a	PROJECT LOCATION CONTRO	ON #:	SC2957 7 SIGNAL	<u> </u>		I							
	3-AXLE TRUCKS	NO 1251						PM MD OTHER	⋖ W	N S ▼	E►								
		NORTHBOU Hesperia	JND		THBOUND Hesperia	EASTBC Nisqua		W	ESTBOUN Nisqualli	D			J-TURN:	3			RT	OR	
	LANES:	NL NT	NR 0	SL 1	ST SR	EL ET	ER 2	WL 1	WT 2	WR 0	TOTAL	NB SB	EB \	VB TTL		NRR 0	SRR 0	ERR 0	WRR 0
АМ	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM VOLUMES APPROACH %	0 2 0 4 0 1 2 1 0 1 1 0 0 0 1 1 0 0 0 3 1 0 0 0 3 0 0 0 67%	1 1 0 0 0 0 0 0 0 0 2 13%	0 0 0 0 0 2 0 0 0 0 2 11%	2 0 3 0 2 0 2 0 2 0 2 0 3 2 0 0 0 0 0 0 14 2 78% 11%	0 2 1 0 0 4 1 3 0 0 0 0 0 0 0 0 1 2 10 14% 71%	1 0 0 0 0 0 0 1 0 2 14%	0 0 0 1 1 0 0 1 3 33%	0 1 0 0 1 0 1 1 4 44%	0 1 0 1 0 0 0 0 0 2 22%	8 11 7 11 7 6 3 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 1 0 0	0 0 0 0 0 0 0	0 0 0 0 1 0 0 0 0
	APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	15 / 8:00 AM 1 2 33% 67% 0.750	0 0% 2	22% ! 0 9	/ 19 5 2 56% 22% 0.450 / 8	14 / 0 1 0% 50% 0.50 2 /	3	9 2 40%	3 60% 0.625	9 0 0%	0 19 0.679					0	1	0	0
MA	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 %	1 1 0 1 0 0 0 0 0 1 1 1 0 0 0 1 1 1 5 4 56% 44%	0 0 0 0 0 0 0 0 0	0 0 0 1 0 0 0 0	2 0 1 0 2 0 0 0 0 0 1 0 2 0 1 0 2 0 1 0 9 0	0 2 0 0 0 0 1 1 0 0 0 0 1 1 1 0 0 2 4 29% 57%	1 0 0 0 0 0 0 0 0 0 1 14%	0 0 0 0 0 0 0 0 1 1 50%	0 0 0 0 0 0 1 0	0 0 0 0 0 0 0 0	7 2 4 1 2 3 5 4 28	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		0 0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0	0 0 0 0 0 0 0
	APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	9 / 4:30 PM 2 2 50% 50% 0.500 4 /	6	10 1 25%	7 11 3 0 75% 0% 0.500 7 3	7 / 1 1 50% 50% 0.50 2 /	5 0 6 0%	0 0%	0 0% 0.000	6 0 0%	0 10 0.625					0	0	0	0
	JAFF/DEFART		3	Не	esperia RTH SIDE		2			2	U	ı							
		Nisqualli Wi	EST SIDE			EAST SIDE	Nisqua	lli											
					JTH SIDE			-											

Nisqualli

WEST SIDE

EAST SIDE

SOUTH SIDE Hesperia

Nisqualli

	DATE: 6/16/21 WEDNESDAY	LOCATION NORTH & EAST &	& SOUTH		Victorvill Hesperia Nisqualli	e I	C. tel: /1	4 233 76		PROJECT LOCATION	ON #:	SC2957 7 SIGNAL											
	CLASS 4: 4 OR MORE AXLE TRUCKS	NOTES:									AM PM MD OTHER	■ W	N S	E▶									
		l NC	ORTHBOU	ND	SC	UTHBOU	ND	E	ASTBOUN	ND .	OTHER	/ESTBOUN	▼		 	U-	TURN	IS			RT	OR .	
	LANES:	NL 1	Hesperia NT 3	NR 0	SL 1	Hesperia ST 2	SR 0	EL 2	Nisqualli ET 1	ER 2	WL 1	Nisqualli WT 2	WR 0	TOTAL	NB	SB	EB	WB	TTL	NRR 0	SRR 0	ERR 0	WRR 0
	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM	2 1 0 0 2	2 2 1 2 2 1	3 0 0 0 1 1	0 1 0 0 0	0 4 3 2 2 2	1 2 0 0 0 0	1 0 1 1 0 1	3 4 1 3 4 3	1 0 1 1 0 0	1 0 0 1 0	1 2 4 2 2 5	0 0 0 0 1	15 16 11 12 14 14	0 0 0 0 0	0 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
Ψ	8:30 AM 8:45 AM VOLUMES APPROACH % APP/DEPART BEGIN PEAK HR	4 0 9 33% 27	0 3 13 48% / 8:00 AM	0 0 5 19% 21	0 0 1 5% 20	0 1 14 70%	1 0 5 25% 20	2 0 6 18% 33	4 1 23 70%	0 1 4 12% 29	0 0 2 8% 26	3 3 22 85% /	0 1 2 8% 36	14 10 106	0 0	0 0	0 0	0 0	0 0	0 0	1 0 2	0 0	0 0
L	VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART 4:00 PM	6 43% 14 0	6 43% 0.700 /	2 14% 11 2	0 0% 7 1	5 71% 0.583 /	2 29% 6 0	3 19% 16 0	12 75% 0.667 /	1 6% 14	0 0% 15 1	13 87% 0.750 /	2 13% 21 0	52 0.929 0	0	0	0	0 [0 1	2	0	0	0
	4:15 PM 4:30 PM 4:45 PM 5:00 PM 5:15 PM	0 0 1 0	1 3 1 0	0 0 0 0	0 0 0 0 1	0 1 3 2 3	0 0 0 0	0 0 1 0	3 0 3 0 2	0 0 1 0	1 1 0 2	0 3 0 2 2	1 1 0 0	6 9 10 7	0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0	0 0 0 0
Δ	5:30 PM 5:45 PM VOLUMES APPROACH % APP/DEPART	0 0 1 10% 10	0 1 7 70%	0 0 2 20% 10	0 0 2 13% 16	1 2 13 81%	0 0 1 6% 22	0 0 1 6% 16	1 3 12 75%	0 1 3 19% 16	0 1 6 40% 15	0 0 7 47%	0 0 2 13% 9	2 8 57	0 0	0 0	0 0	0 0	0 0	0 0 2	0 0 1	0 0	0 0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	1 20%	4:30 PM 4 80% 0.417	0 0% 6	1 9% 11	9 82% 0.688	1 9% 13	1 14% 7	5 71% 0.350	1 14% 6	3 27%	7 64% 0.550	1 9% 9	34 0.850 0						0	1	0	0
						Hesperia ORTH SII					_												

	DATE: 6/16/21 WEDNESDAY CLASS 5:	LOCATION: NORTH & SOUTH: EAST & WEST:	Victor Hespe Nisqua	ria	/14 253 /88	PROJ	ECT #: TION #:	SC2957 7 SIGNAL	A		Ī							
	RV	110125.					PM MD OTHER OTHER	■ W	N S ▼	E►								
		NORTHBOUNE Hesperia		SOUTHBOUND Hesperia		ASTBOUND Nisqualli		WESTBOUN Nisqualli					URNS				FOR	
	LANES:	NL NT 1 3	NR SL 0 1	ST SR 2 0	EL 2	ET ER	WL 1	WT 2	WR 0	TOTAL	NB	SB	EB WB	ΠL	NRR 0	SRR 0	ERR 0	WRR 0
АМ	7:00 AM 7:15 AM 7:30 AM 7:35 AM 8:00 AM 8:15 AM 8:30 AM 8:45 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 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 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 0 0 0	0 0 0 0 0 0 0 0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	8:00 AM 0 0 0% 0% 0.000 0 /	0 0% 0% 0	0 0 0% 0% 0.000 / 0	0 0%	0 0 0% 0% 0.000 / 0	0 0%	0 0% 0.000	0 0%	0 0.000 0					0	0	0	0
MA	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	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 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	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0
	BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	4:30 PM 0 0 0% 0% 0.000	0 0 0% 0% 0 0	0 0 0% 0% 0.000 / 0	0 0%	0 0 0% 0% 0.000 / 0	0	0 0% 0.000 /	0 0%	0 0.000 0					0	0	0	0
				Hesperia NORTH SIDE			_											
	!	Nisqualli WEST	SIDE		EAST SID	DE Nisq i	ualli											
				SOUTH SIDE			_											

	DATE: 6/16/21 WEDNESDAY	EAST &	& SOUTH WEST:		Victorvil Hesperia Nisqualli	а	C. tel: 71	.4 253 78	88 CS@ai	PROJECT LOCATION CONTRO	ON #:)L:	SC2957 7 SIGNAL											
	CLASS 6: BUSES	NOTES									AM PM MD OTHER OTHER	■ W	N N S ▼	E►									
		N	ORTHBOU	ND	SC	DUTHBOU	ND	Е	ASTBOU	ND	W	/ESTBOUN	ND			U	-TURNS	3			R	TOR	
	LANES:	NL 1	Hesperia NT 3	NR 0	SL 1	Hesperia ST 2	SR 0	EL 2	Nisqualli ET 1	ER 2	WL 1	Nisqualli WT 2	WR 0	TOTAL	NB	SB	EB V	/B T	TL	NRR 0	SRR 0	ERR 0	WRR 0
АМ	7:00 AM 7:15 AM 7:30 AM 7:45 AM 8:00 AM 8:15 AM 8:30 AM 8:45 AM VOLUMES APPROACH %	0 1 2 1 0 0 1 0 5 33%	0 1 1 2 3 0 0 1 8 53%	0 0 0 0 1 0 0 1 2 13%	0 0 0 0 0 0 0 0	1 1 2 1 1 0 2 9 64%	0 0 1 2 1 1 0 0 5 36%	0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	0 1 2 0 0 1 0 1 0 0 4 100%	0 0 0 0 0 0 0 0	0 0 0 0 0 1 0 0 1 100%	0 0 0 0 0 0 0 0 0	1 4 7 7 6 4 1 4 34	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
	APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	15 1 14% 7	8:00 AM 4 57% 0.438	2 29% 4	0 0% 6	4 67% 0.750	13 2 33% 5	0 0%	0 0% 0.250	1 100%	0 0%	1 100% 0.250	0 0% 4	0 15 0.625 0						1	0	0	0
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	1 0 1 0 0 0 0 1 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 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 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	1 2 3 0 0 1 1 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
	APPROACH % APP/DEPART BEGIN PEAK HR VOLUMES APPROACH % PEAK HR FACTOR APP/DEPART	75% 4 1 100%	25% / 4:30 PM 0 0% 0.250 /	0% 1 0 0%	0% 2 0 0%	100% / 2 100% 0.250 /	0% 4 0 0%	0% 2 0 0%	0% / 0 0% 0.250 /	100% 0 1 100%	0% 0 0 0%	0% / 0 0% 0.000 /	0% 3 0 0%	0 4 0.333 0			·			0	0	0	0
		Nisquall	i WE	ST SIDE	N	Hesperi a		EAST SI	DE	Nisqual	Ili												
						OUTH SI					-												

Counts Unlimited Inc. 25286 Jaclyn Avenue Moreno Valley, CA 92557 (951) 485-7934

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIAM Site Code : 9220092 Start Date : 8/18/2009 Page No : 1

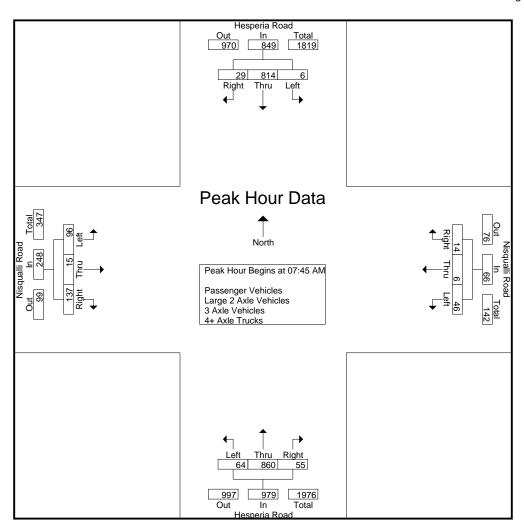
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

			ia Road	1 400	onger .		ılli Road	l	1110105		ia Road	, , , , , , , , , , , , , , , , , , , ,	Trucks		lli Road	l	
			bound				bound				nbound				oound		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	112	6	119	3	0	3	6	19	168	15	202	17	6	19	42	369
07:15 AM	2	140	8	150	3	4	3	10	10	204	6	220	16	5	19	40	420
07:30 AM	2	180	7	189	8	0	4	12	8	202	15	225	22	3	24	49	475
07:45 AM	2	213	4	219	15	4	4	23	18	260	18	296	30	4	40	74	612
Total	7	645	25	677	29	8	14	51	55	834	54	943	85	18	102	205	1876
08:00 AM	1	185	4	190	10	0	3	13	15	212	8	235	27	4	33	64	502
08:15 AM	1	187	7	195	11	2	5	18	19	195	12	226	17	2	30	49	488
08:30 AM	2	229	14	245	10	0	2	12	12	193	17	222	22	5	34	61	540
08:45 AM	1	215	12	228	13	7	4	24	14	230	14	258	20	7	29	56	566
Total	5	816	37	858	44	9	14	67	60	830	51	941	86	18	126	230	2096
									•								
Grand Total	12	1461	62	1535	73	17	28	118	115	1664	105	1884	171	36	228	435	3972
Apprch %	0.8	95.2	4		61.9	14.4	23.7		6.1	88.3	5.6		39.3	8.3	52.4		
Total %	0.3	36.8	1.6	38.6	1.8	0.4	0.7	3	2.9	41.9	2.6	47.4	4.3	0.9	5.7	11	
Passenger Vehicles	7	1403	57	1467	51	16	10	77	110	1573	85	1768	163	35	217	415	3727
% Passenger Vehicles	58.3	96	91.9	95.6	69.9	94.1	35.7	65.3	95.7	94.5	81	93.8	95.3	97.2	95.2	95.4	93.8
Large 2 Axle Vehicles	0	50	5	55	3	1	3	7	4	75	3	82	7	0	8	15	159
% Large 2 Axle Vehicles	0	3.4	8.1	3.6	4.1	5.9	10.7	5.9	3.5	4.5	2.9	4.4	4.1	0	3.5	3.4	4_
3 Axle Vehicles	3	5	0	8	3	0	2	5	1	9	4	14	1	1	0	2	29
% 3 Axle Vehicles	25	0.3	0	0.5	4.1	0	7.1	4.2	0.9	0.5	3.8	0.7	0.6	2.8	0	0.5	0.7
4+ Axle Trucks	2	3	0	5	16	0	13	29	0	7	13	20	0	0	3	3	57
% 4+ Axle Trucks	16.7	0.2	0	0.3	21.9	0	46.4	24.6	0	0.4	12.4	1.1	0	0	1.3	0.7	1.4

		Hesper	ia Road			Nisqua	lli Road			Hesper	ia Road			Nisqua	lli Road]
		South	bound			West	bound			Nortl	nbound			Eastl	oound		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	ysis Fron	n 07:00	AM to 0	8:45 AM -	Peak 1	of 1	_				_				_		
Peak Hour for E	ntire Inte	ersection	Begins	at 07:45 A	M												
07:45 AM	2	213	4	219	15	4	4	23	18	260	18	296	30	4	40	74	612
08:00 AM	1	185	4	190	10	0	3	13	15	212	8	235	27	4	33	64	502
08:15 AM	1	187	7	195	11	2	5	18	19	195	12	226	17	2	30	49	488
08:30 AM	2	229	14	245	10	0	2	12	12	193	17	222	22	5	34	61	540
Total Volume	6	814	29	849	46	6	14	66	64	860	55	979	96	15	137	248	2142
% App. Total	0.7	95.9	3.4		69.7	9.1	21.2		6.5	87.8	5.6		38.7	6	55.2		
PHF	.750	.889	.518	.866	.767	.375	.700	.717	.842	.827	.764	.827	.800	.750	.856	.838	.875

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIAM Site Code : 9220092 Start Date : 8/18/2009 Page No : 2



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

Peak Hour for E	Each App	roach E	Begins at:													
	08:00 AM	I			08:00 AM	[07:30 AM	1			07:45 AM	[
+0 mins.	1	185	4	190	10	0	3	13	8	202	15	225	30	4	40	74
+15 mins.	1	187	7	195	11	2	5	18	18	260	18	296	27	4	33	64
+30 mins.	2	229	14	245	10	0	2	12	15	212	8	235	17	2	30	49
+45 mins.	1	215	12	228	13	7	4	24	19	195	12	226	22	5	34	61
Total Volume	5	816	37	858	44	9	14	67	60	869	53	982	96	15	137	248
% App. Total	0.6	95.1	4.3		65.7	13.4	20.9		6.1	88.5	5.4		38.7	6	55.2	
PHF	.625	.891	.661	.876	.846	.321	.700	.698	.789	.836	.736	.829	.800	.750	.856	.838

Counts Unlimited Inc. 25286 Jaclyn Avenue Moreno Valley, CA 92557 (951) 485-7934

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIAM Site Code : 9220092 Start Date : 8/18/2009 Page No : 1

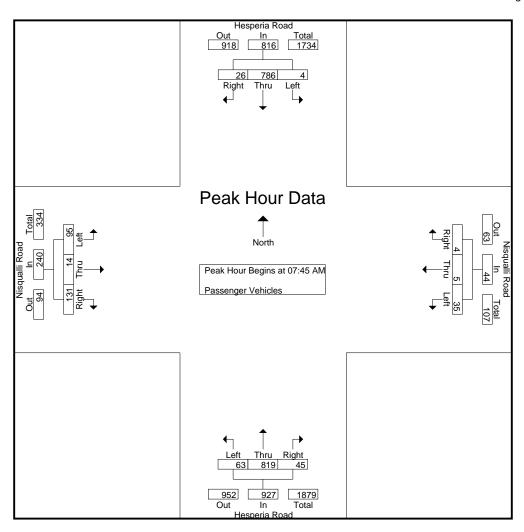
Groups Printed- Passenger Vehicles

_							OIO	upo i iiii	tea rasse	inger ve	1110103							
			Hesper	ia Road			Nisqua	ılli Road			Hesper	ia Road			Nisqua	lli Road		
			South	bound			West	bound			North	nbound			Eastl	ound		
Į	Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
	07:00 AM	0	108	6	114	1	0	0	1	17	157	11	185	16	6	18	40	340
	07:15 AM	2	133	8	143	2	4	1	7	8	189	5	202	14	5	18	37	389
	07:30 AM	1	168	6	175	2	0	2	4	8	193	11	212	21	3	23	47	438
	07:45 AM	2	209	4	215	11	4	0	15	18	252	13	283	30	3	37	70	583
	Total	5	618	24	647	16	8	3	27	51	791	40	882	81	17	96	194	1750
	08:00 AM	1	179	3	183	10	0	2	12	15	198	7	220	27	4	32	63	478
	08:15 AM	0	178	6	184	8	1	1	10	18	183	9	210	17	2	29	48	452
	08:30 AM	1	220	13	234	6	0	1	7	12	186	16	214	21	5	33	59	514
	08:45 AM	0	208	11	219	11	7	3	21	14	215	13	242	17	7	27	51	533
	Total	2	785	33	820	35	8	7	50	59	782	45	886	82	18	121	221	1977
	Grand Total	7	1403	57	1467	51	16	10	77	110	1573	85	1768	163	35	217	415	3727
	Apprch %	0.5	95.6	3.9		66.2	20.8	13		6.2	89	4.8		39.3	8.4	52.3		
	Total %	0.2	37.6	1.5	39.4	1.4	0.4	0.3	2.1	3	42.2	2.3	47.4	4.4	0.9	5.8	11.1	

			ia Road bound				ılli Road bound				ria Road abound				ılli Road bound		
Ct. t.TE'	T C				т с				т с				т с				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	ysis Fron	n 07:45	AM to 0	8:30 AM -	Peak 1	of 1											
Peak Hour for E	ntire Inte	rsection	Begins	at 07:45 A	M												
07:45 AM	2	209	4	215	11	4	0	15	18	252	13	283	30	3	37	70	583
08:00 AM	1	179	3	183	10	0	2	12	15	198	7	220	27	4	32	63	478
08:15 AM	0	178	6	184	8	1	1	10	18	183	9	210	17	2	29	48	452
08:30 AM	1	220	13	234	6	0	1	7	12	186	16	214	21	5	33	59	514
Total Volume	4	786	26	816	35	5	4	44	63	819	45	927	95	14	131	240	2027
% App. Total	0.5	96.3	3.2		79.5	11.4	9.1		6.8	88.3	4.9		39.6	5.8	54.6		
PHE	500	893	500	872	795	313	500	733	875	813	703	819	792	700	885	857	869

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIAM Site Code : 9220092 Start Date : 8/18/2009 Page No : 2



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for E	Each App	roach E	Begins at:													
	07:45 AM				07:45 AM	[07:45 AM	1			07:45 AM			
+0 mins.	2	209	4	215	11	4	0	15	18	252	13	283	30	3	37	70
+15 mins.	1	179	3	183	10	0	2	12	15	198	7	220	27	4	32	63
+30 mins.	0	178	6	184	8	1	1	10	18	183	9	210	17	2	29	48
+45 mins.	1	220	13	234	6	0	1	7	12	186	16	214	21	5	33	59
Total Volume	4	786	26	816	35	5	4	44	63	819	45	927	95	14	131	240
% App. Total	0.5	96.3	3.2		79.5	11.4	9.1		6.8	88.3	4.9		39.6	5.8	54.6	
PHF	.500	.893	.500	.872	.795	.313	.500	.733	.875	.813	.703	.819	.792	.700	.885	.857

Counts Unlimited Inc. 25286 Jaclyn Avenue Moreno Valley, CA 92557 (951) 485-7934

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIAM Site Code : 9220092 Start Date : 8/18/2009 Page No : 1

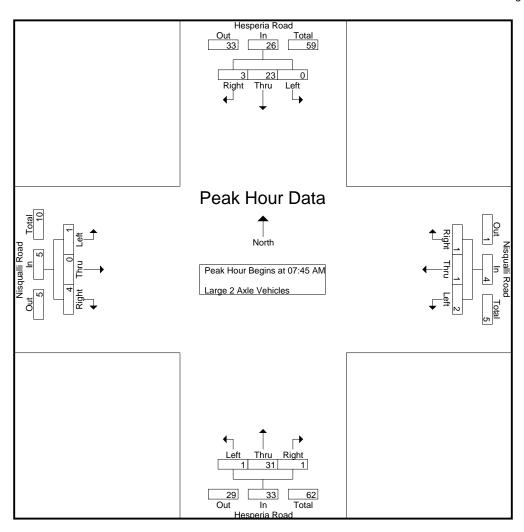
Groups Printed- Large 2 Axle Vehicles

		Hesper	ia Road			Nisqua	lli Road			Hesper	ia Road			Nisqua	lli Road		
		South	bound			West	bound			Nortl	hbound			Eastl	ound		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	3	0	3	0	0	2	2	1	10	1	12	1	0	1	2	19
07:15 AM	0	7	0	7	0	0	0	0	2	12	0	14	2	0	1	3	24
07:30 AM	0	10	1	11	1	0	0	1	0	9	0	9	1	0	1	2	23
07:45 AM	0	3	0	3	0	0	1	1	0	7	0	7	0	0	2	2	13
Total	0	23	1	24	1	0	3	4	3	38	1	42	4	0	5	9	79
08:00 AM	0	6	1	7	0	0	0	0	0	11	1	12	0	0	0	0	19
08:15 AM	0	7	1	8	2	1	0	3	1	8	0	9	0	0	1	1	21
08:30 AM	0	7	1	8	0	0	0	0	0	5	0	5	1	0	1	2	15
08:45 AM	0	7	1	8	0	0	0	0	0	13	1	14	2	0	1	3	25
Total	0	27	4	31	2	1	0	3	1	37	2	40	3	0	3	6	80
Grand Total	0	50	5	55	3	1	3	7	4	75	3	82	7	0	8	15	159
Apprch %	0	90.9	9.1		42.9	14.3	42.9		4.9	91.5	3.7		46.7	0	53.3		
Total %	0	31.4	3.1	34.6	1.9	0.6	1.9	4.4	2.5	47.2	1.9	51.6	4.4	0	5	9.4	

		Hesperi	a Road			Nisqua	lli Road			Hesper	ia Road]			
		South	bound			West	bound			North	nbound						
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	3	0	3	0	0	1	1	0	7	0	7	0	0	2	2	13
08:00 AM	0	6	1	7	0	0	0	0	0	11	1	12	0	0	0	0	19
08:15 AM	0	7	1	8	2	1	0	3	1	8	0	9	0	0	1	1	21
08:30 AM	0	7	1	8	0	0	0	0	0	5	0	5	1	0	1	2	15
Total Volume	0	23	3	26	2	1	1	4	1	31	1	33	1	0	4	5	68
% App. Total	0	88.5	11.5		50	25	25		3	93.9	3		20	0	80		
PHF	.000	821	750	813	250	250	250	333	250	.705	.250	688	250	.000	500	625	810

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIAM Site Code : 9220092 Start Date : 8/18/2009 Page No : 2



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at:																
	07:45 AM	[07:45 AM	[07:45 AN	1			07:45 AM			
+0 mins.	0	3	0	3	0	0	1	1	0	7	0	7	0	0	2	2
+15 mins.	0	6	1	7	0	0	0	0	0	11	1	12	0	0	0	0
+30 mins.	0	7	1	8	2	1	0	3	1	8	0	9	0	0	1	1
+45 mins.	0	7	1	8	0	0	0	0	0	5	0	5	1	0	1	2
Total Volume	0	23	3	26	2	1	1	4	1	31	1	33	1	0	4	5
% App. Total	0	88.5	11.5		50	25	25		3	93.9	3		20	0	80	
PHF	.000	.821	.750	.813	.250	.250	.250	.333	.250	.705	.250	.688	.250	.000	.500	.625

Counts Unlimited Inc. 25286 Jaclyn Avenue Moreno Valley, CA 92557 (951) 485-7934

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIAM Site Code : 9220092 Start Date : 8/18/2009 Page No : 1

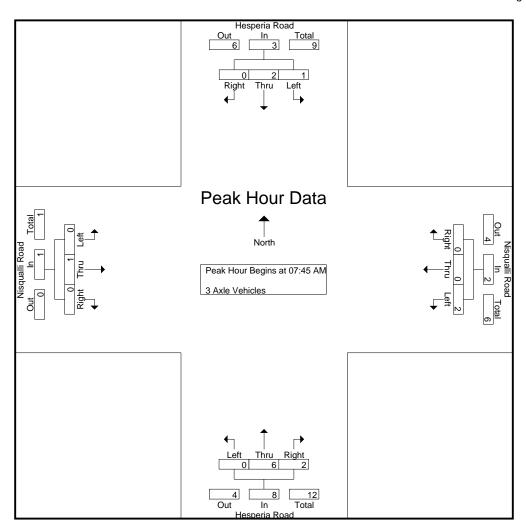
Groups Printed- 3 Axle Vehicles

	Hesperia Road					Nisqua	ılli Road	l		Hesper	ia Road						
		South	bound			West	bound			Nortl	nbound						
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	0	0	0	0	1	0	2	3	0	0	0	0	4
07:15 AM	0	0	0	0	0	0	1	1	0	2	0	2	0	0	0	0	3
07:30 AM	1	2	0	3	1	0	1	2	0	0	0	0	0	0	0	0	5
07:45 AM	0	1	0	1	1	0	0	1	0	0	1	1	0	1	0	1	4
Total	1	4	0	5	2	0	2	4	1	2	3	6	0	1	0	1	16
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	1	0	1	0	0	0	0	0	3	1	4	0	0	0	0	5
08:30 AM	1	0	0	1	1	0	0	1	0	2	0	2	0	0	0	0	4
08:45 AM	1	0	0	1	0	0	0	0	0	1	0	1	1	0	0	1	3_
Total	2	1	0	3	1	0	0	1	0	7	1	8	1	0	0	1	13
Grand Total	3	5	0	8	3	0	2	5	1	9	4	14	1	1	0	2	29
Apprch %	37.5	62.5	0		60	0	40		7.1	64.3	28.6		50	50	0		
Total %	10.3	17.2	0	27.6	10.3	0	6.9	17.2	3.4	31	13.8	48.3	3.4	3.4	0	6.9	

	Hesperia Road						lli Road				ia Road						
		South	bound			West	bound			North	ibound						
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for E	ntire Inte	ersection	Begins	at 07:45 A	M												
07:45 AM	0	1	0	1	1	0	0	1	0	0	1	1	0	1	0	1	4
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	1	0	1	0	0	0	0	0	3	1	4	0	0	0	0	5
08:30 AM	1	0	0	1	1	0	0	1	0	2	0	2	0	0	0	0	4_
Total Volume	1	2	0	3	2	0	0	2	0	6	2	8	0	1	0	1	14
% App. Total	33.3	66.7	0		100	0	0		0	75	25		0	100	0		
PHF	.250	.500	.000	.750	.500	.000	.000	.500	.000	.500	.500	.500	.000	.250	.000	.250	.700

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIAM Site Code : 9220092 Start Date : 8/18/2009 Page No : 2



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for Each Approach Begins at: 07:45 AM 07:45 AM 07:45 AM 07:45 AM +0 mins. +15 mins. +30 mins. +45 mins. Total Volume % App. Total 33.3 .750 .500 .250 PHF .250 .000 .500 .000 .000 .000 .500 .500 .000

Counts Unlimited Inc. 25286 Jaclyn Avenue Moreno Valley, CA 92557 (951) 485-7934

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIAM Site Code : 9220092 Start Date : 8/18/2009 Page No : 1

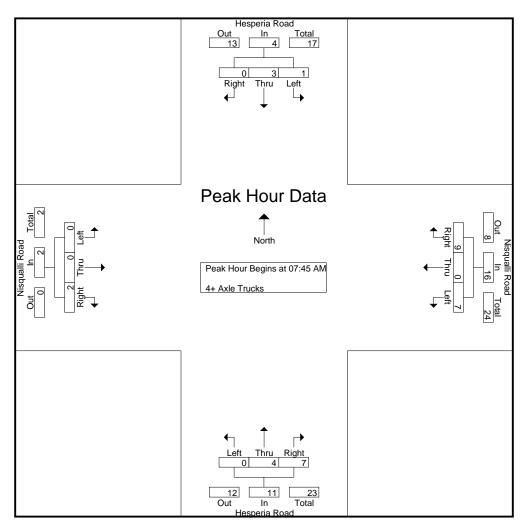
Groups Printed- 4+ Axle Trucks

									1111000									
			Hesper	ia Road			Nisqua	lli Road	l		Hesper	ia Road			Nisqua	ılli Road	[
			South	bound			West	bound			Nortl	nbound			Eastl	bound		
[Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
	07:00 AM	1	0	0	1	2	0	1	3	0	1	1	2	0	0	0	0	6
	07:15 AM	0	0	0	0	1	0	1	2	0	1	1	2	0	0	0	0	4
	07:30 AM	0	0	0	0	4	0	1	5	0	0	4	4	0	0	0	0	9
	07:45 AM	0	0	0	0	3	0	3	6	0	1	4	5	0	0	1	1	12
	Total	1	0	0	1	10	0	6	16	0	3	10	13	0	0	1	1	31
	08:00 AM	0	0	0	0	0	0	1	1	0	2	0	2	0	0	1	1	4
	08:15 AM	1	1	0	2	1	0	4	5	0	1	2	3	0	0	0	0	10
	08:30 AM	0	2	0	2	3	0	1	4	0	0	1	1	0	0	0	0	7
	08:45 AM	0	0	0	0	2	0	1	3	0	1	0	1	0	0	1	1	5_
	Total	1	3	0	4	6	0	7	13	0	4	3	7	0	0	2	2	26
	Grand Total	2	3	0	5	16	0	13	29	0	7	13	20	0	0	3	3	57
	Apprch %	40	60	0		55.2	0	44.8		0	35	65		0	0	100		
	Total %	3.5	5.3	0	8.8	28.1	0	22.8	50.9	0	12.3	22.8	35.1	0	0	5.3	5.3	

		Hesper	ia Road			Nisqua	lli Road			Hesper	ia Road			Nisqua	ılli Road]
		South	bound			West	bound			North	bound			East	bound		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	ysis Fron	n 07:45	AM to 0	8:30 AM -	Peak 1	of 1	_				_				-		
Peak Hour for E	ntire Inte	rsection	Begins	at 07:45 A	M												
07:45 AM	0	0	0	0	3	0	3	6	0	1	4	5	0	0	1	1	12
08:00 AM	0	0	0	0	0	0	1	1	0	2	0	2	0	0	1	1	4
08:15 AM	1	1	0	2	1	0	4	5	0	1	2	3	0	0	0	0	10
08:30 AM	0	2	0	2	3	0	1	4	0	0	1	1	0	0	0	0	7
Total Volume	1	3	0	4	7	0	9	16	0	4	7	11	0	0	2	2	33
% App. Total	25	75	0		43.8	0	56.2		0	36.4	63.6		0	0	100		
PHF	250	375	000	500	583	000	563	667	000	500	438	550	000	000	500	500	688

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIAM Site Code : 9220092 Start Date : 8/18/2009 Page No : 2



Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1

Peak Hour for E	Each App	roach B	egins at:													
	07:45 AM				07:45 AM				07:45 AM	I			07:45 AM			
+0 mins.	0	0	0	0	3	0	3	6	0	1	4	5	0	0	1	1
+15 mins.	0	0	0	0	0	0	1	1	0	2	0	2	0	0	1	1
+30 mins.	1	1	0	2	1	0	4	5	0	1	2	3	0	0	0	0
+45 mins.	0	2	0	2	3	0	1	4	0	0	1	1	0	0	0	0
Total Volume	1	3	0	4	7	0	9	16	0	4	7	11	0	0	2	2
% App. Total	25	75	0		43.8	0	56.2		0	36.4	63.6		0	0	100	
PHF	.250	.375	.000	.500	.583	.000	.563	.667	.000	.500	.438	.550	.000	.000	.500	.500

Counts Unlimited Inc. 25286 Jaclyn Avenue Moreno Valley, CA 92557 (951) 485-7934

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIPM Site Code : 9220001 Start Date : 8/18/2009 Page No : 1

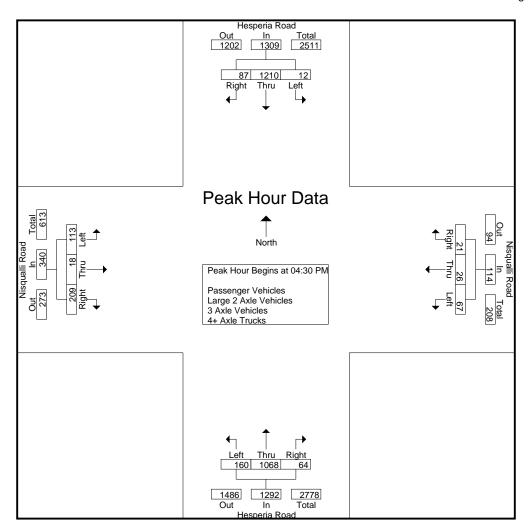
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

			ia Road	inca ras	, enger v		lli Road		1110105		ia Road	5 7171AIC	1140110	Nisqua	lli Road	l	
			bound				bound				bound				oound		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	287	11	301	7	6	6	19	22	246	8	276	20	9	32	61	657
04:15 PM	2	281	16	299	11	7	2	20	39	244	13	296	24	1	38	63	678
04:30 PM	1	279	23	303	22	8	2	32	32	242	10	284	29	5	45	79	698
04:45 PM	8	324	18	350	14	8	3	25	42	247	15	304	21	7	55	83	762
Total	14	1171	68	1253	54	29	13	96	135	979	46	1160	94	22	170	286	2795
05:00 PM	1	291	22	314	19	7	8	34	52	297	18	367	30	0	63	93	808
05:15 PM	2	316	24	342	12	3	8	23	34	282	21	337	33	6	46	85	787
05:30 PM	2	248	20	270	22	5	6	33	39	223	16	278	18	3	61	82	663
05:45 PM	0	228	14	242	5	8	3	16	28	208	10	246	16	1	46	63	567
Total	5	1083	80	1168	58	23	25	106	153	1010	65	1228	97	10	216	323	2825
Grand Total	19	2254	148	2421	112	52	38	202	288	1989	111	2388	191	32	386	609	5620
Apprch %	0.8	93.1	6.1		55.4	25.7	18.8		12.1	83.3	4.6		31.4	5.3	63.4		
Total %	0.3	40.1	2.6	43.1	2	0.9	0.7	3.6	5.1	35.4	2	42.5	3.4	0.6	6.9	10.8	
Passenger Vehicles	14	2205	147	2366	105	52	20	177	284	1962	93	2339	187	32	377	596	5478
% Passenger Vehicles	73.7	97.8	99.3	97.7	93.8	100	52.6	87.6	98.6	98.6	83.8	97.9	97.9	100	97.7	97.9	97.5
Large 2 Axle Vehicles	0	41	1	42	3	0	2	5	4	22	5	31	4	0	9	13	91
% Large 2 Axle Vehicles	0	1.8	0.7	1.7	2.7	0	5.3	2.5	1.4	1.1	4.5	1.3	2.1	0	2.3	2.1	1.6
3 Axle Vehicles	1	1	0	2	3	0	1	4	0	0	4	4	0	0	0	0	10
% 3 Axle Vehicles	5.3	0	0	0.1	2.7	0	2.6	2	0	0	3.6	0.2	0	0	0	0	0.2
4+ Axle Trucks	4	7	0	11	1	0	15	16	0	5	9	14	0	0	0	0	41
% 4+ Axle Trucks	21.1	0.3	0	0.5	0.9	0	39.5	7.9	0	0.3	8.1	0.6	0	0	0	0	0.7

		Hesper	ia Road			Nisqua	lli Road			Hesper	ia Road			Nisqua	lli Road		
		South	bound			West	bound			North	bound			Eastl	oound		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	ysis Fror	n 04:00	PM to 0	5:45 PM -	Peak 1 c	of 1	-				-				<u>-</u>		
Peak Hour for E	ntire Inte	ersection	Begins	at 04:30 P	M												
04:30 PM	1	279	23	303	22	8	2	32	32	242	10	284	29	5	45	79	698
04:45 PM	8	324	18	350	14	8	3	25	42	247	15	304	21	7	55	83	762
05:00 PM	1	291	22	314	19	7	8	34	52	297	18	367	30	0	63	93	808
05:15 PM	2	316	24	342	12	3	8	23	34	282	21	337	33	6	46	85	787
Total Volume	12	1210	87	1309	67	26	21	114	160	1068	64	1292	113	18	209	340	3055
% App. Total	0.9	92.4	6.6		58.8	22.8	18.4		12.4	82.7	5		33.2	5.3	61.5		
PHF	.375	.934	.906	.935	.761	.813	.656	.838	.769	.899	.762	.880	.856	.643	.829	.914	.945

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny File Name: VICHENIPM Site Code: 9220001 Start Date: 8/18/2009

Page No : 2



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

Peak Hour for Each Approach Begins at: 04:45 PM 04:30 PM 04:45 PM 04:30 PM +0 mins. 23 303 14 3 25 32 242 10 284 21 55 83 1 350 34 93 +15 mins. 8 324 18 19 7 8 42 247 15 304 30 0 63 +30 mins. 291 22 314 12 23 52 297 18 367 33 46 85 1 3 8 6 +45 mins. 316 24 342 22 33 34 282 21 337 18 61 82 Total Volume 1292 12 1210 1309 23 25 115 160 1068 102 225 343 87 67 16 64 % App. Total 0.9 92.4 6.6 58.3 20 21.7 12.4 82.7 29.7 4.7 65.6 .935 .899 .922 PHF .375 .934 .906 .719 .846 .769 .762 .880 .773 .571 .761 .781 .893

Counts Unlimited Inc. 25286 Jaclyn Avenue Moreno Valley, CA 92557 (951) 485-7934

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIPM Site Code : 9220001 Start Date : 8/18/2009 Page No : 1

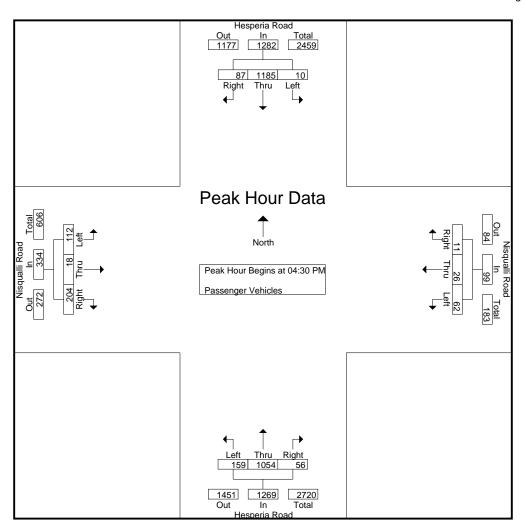
Groups Printed- Passenger Vehicles

						Oro	upo i iiii	tea Tasse	11501 10.	1110105							
		Hesper	ia Road			Nisqua	lli Road	[Hesper	ia Road			Nisqua	lli Road		
		South	bound			West	bound			North	nbound			Eastl	ound		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	278	11	290	6	6	3	15	21	241	5	267	18	9	30	57	629
04:15 PM	1	276	15	292	10	7	0	17	37	241	11	289	23	1	36	60	658
04:30 PM	1	269	23	293	22	8	2	32	32	237	9	278	28	5	44	77	680
04:45 PM	7	318	18	343	12	8	2	22	41	243	13	297	21	7	54	82	744
Total	10	1141	67	1218	50	29	7	86	131	962	38	1131	90	22	164	276	2711
05:00 PM	1	284	22	307	17	7	2	26	52	294	17	363	30	0	62	92	788
05:15 PM	1	314	24	339	11	3	5	19	34	280	17	331	33	6	44	83	772
05:30 PM	2	243	20	265	22	5	4	31	39	221	14	274	18	3	61	82	652
05:45 PM	0	223	14	237	5	8	2	15	28	205	7	240	16	1	46	63	555
Total	4	1064	80	1148	55	23	13	91	153	1000	55	1208	97	10	213	320	2767
Grand Total	14	2205	147	2366	105	52	20	177	284	1962	93	2339	187	32	377	596	5478
Apprch %	0.6	93.2	6.2		59.3	29.4	11.3		12.1	83.9	4		31.4	5.4	63.3		
Total %	0.3	40.3	2.7	43.2	1.9	0.9	0.4	3.2	5.2	35.8	1.7	42.7	3.4	0.6	6.9	10.9	

		Hesper	ia Road			Nisqua	ılli Road			Hesper	ia Road			Nisqua	lli Road]
		South	bound			West	bound			North	nbound			Eastl	oound		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	ysis Fror	n 04:30	PM to 0	5:15 PM -	Peak 1 o	f 1	_				_				_		
Peak Hour for E	ntire Inte	ersection	Begins	at 04:30 P	M												
04:30 PM	1	269	23	293	22	8	2	32	32	237	9	278	28	5	44	77	680
04:45 PM	7	318	18	343	12	8	2	22	41	243	13	297	21	7	54	82	744
05:00 PM	1	284	22	307	17	7	2	26	52	294	17	363	30	0	62	92	788
05:15 PM	1	314	24	339	11	3	5	19	34	280	17	331	33	6	44	83	772
Total Volume	10	1185	87	1282	62	26	11	99	159	1054	56	1269	112	18	204	334	2984
% App. Total	0.8	92.4	6.8		62.6	26.3	11.1		12.5	83.1	4.4		33.5	5.4	61.1		
PHF	357	932	906	934	705	813	550	773	764	896	824	874	848	643	823	908	947

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny File Name: VICHENIPM Site Code: 9220001 Start Date: 8/18/2009

Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at: 04:30 PM 04:30 PM 04:30 PM 04:30 PM +0 mins. 269 23 293 22 32 32 237 278 28 44 77 1 343 7 82 +15 mins. 7 318 18 12 8 2 22 41 243 13 297 21 54 +30 mins. 284 22 307 17 7 2 26 52 294 17 363 30 0 62 92 1 +45 mins. 314 339 11 19 34 280 17 331 33 44 83 Total Volume 10 1185 1282 26 11 99 159 1054 1269 112 204 334 87 62 56 18 % App. Total 0.8 92.4 6.8 62.6 26.3 11.1 12.5 83.1 4.4 33.5 5.4 61.1 .934 .773 .824 .874 .908 PHF .357 .932 .906 .705 .848 .813 .550 .764 .896 .643 .823

Counts Unlimited Inc. 25286 Jaclyn Avenue Moreno Valley, CA 92557 (951) 485-7934

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIPM Site Code : 9220001 Start Date : 8/18/2009 Page No : 1

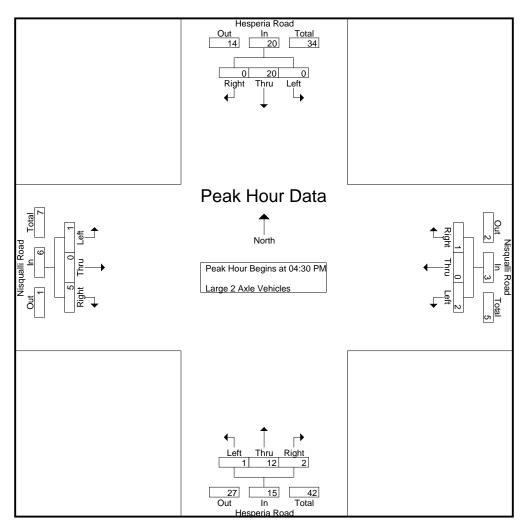
Groups Printed- Large 2 Axle Vehicles

						Orou	po i iiiw	a Laige	- I IAIC	CITICIO	,						
		Hesper	ia Road			Nisqua	lli Road			Hesper	ia Road			Nisqua	lli Road		
		South	bound			West	bound			North	nbound			Eastl	ound		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	8	0	8	1	0	0	1	1	3	2	6	2	0	2	4	19
04:15 PM	0	5	1	6	0	0	0	0	2	2	1	5	1	0	2	3	14
04:30 PM	0	8	0	8	0	0	0	0	0	4	0	4	1	0	1	2	14
04:45 PM	0	5	0	5	0	0	0	0	1	4	0	5	0	0	1	1	11
Total	0	26	1	27	1	0	0	1	4	13	3	20	4	0	6	10	58
05:00 PM	0	6	0	6	1	0	0	1	0	2	0	2	0	0	1	1	10
05:15 PM	0	1	0	1	1	0	1	2	0	2	2	4	0	0	2	2	9
05:30 PM	0	5	0	5	0	0	1	1	0	2	0	2	0	0	0	0	8
05:45 PM	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
Total	0	15	0	15	2	0	2	4	0	9	2	11	0	0	3	3	33
Grand Total	0	41	1	42	3	0	2	5	4	22	5	31	4	0	9	13	91
Apprch %	0	97.6	2.4		60	0	40		12.9	71	16.1		30.8	0	69.2		
Total %	0	45.1	1.1	46.2	3.3	0	2.2	5.5	4.4	24.2	5.5	34.1	4.4	0	9.9	14.3	

		Hesperi	a Road			Nisqua	lli Road			Hesper	ia Road			Nisqua	ılli Road]
		South	bound			West	bound			North	bound			Eastl	bound		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	ysis Fron	n 04:30 l	PM to 0	5:15 PM -	Peak 1 o	f 1	_				_				_		
Peak Hour for E	ntire Inte	rsection	Begins	at 04:30 P	M												
04:30 PM	0	8	0	8	0	0	0	0	0	4	0	4	1	0	1	2	14
04:45 PM	0	5	0	5	0	0	0	0	1	4	0	5	0	0	1	1	11
05:00 PM	0	6	0	6	1	0	0	1	0	2	0	2	0	0	1	1	10
05:15 PM	0	1	0	1	1	0	1	2	0	2	2	4	0	0	2	2	9
Total Volume	0	20	0	20	2	0	1	3	1	12	2	15	1	0	5	6	44
% App. Total	0	100	0		66.7	0	33.3		6.7	80	13.3		16.7	0	83.3		
PHF	000	625	000	625	500	000	250	375	250	750	250	750	250	000	625	750	786

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIPM Site Code : 9220001 Start Date : 8/18/2009 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for E	Each App	roach B	egins at:													
	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	8	0	8	0	0	0	0	0	4	0	4	1	0	1	2
+15 mins.	0	5	0	5	0	0	0	0	1	4	0	5	0	0	1	1
+30 mins.	0	6	0	6	1	0	0	1	0	2	0	2	0	0	1	1
+45 mins.	0	1	0	1	1	0	1	2	0	2	2	4	0	0	2	2
Total Volume	0	20	0	20	2	0	1	3	1	12	2	15	1	0	5	6
% App. Total	0	100	0		66.7	0	33.3		6.7	80	13.3		16.7	0	83.3	
PHF	.000	.625	.000	.625	.500	.000	.250	.375	.250	.750	.250	.750	.250	.000	.625	.750

Counts Unlimited Inc. 25286 Jaclyn Avenue Moreno Valley, CA 92557 (951) 485-7934

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIPM Site Code : 9220001 Start Date : 8/18/2009 Page No : 1

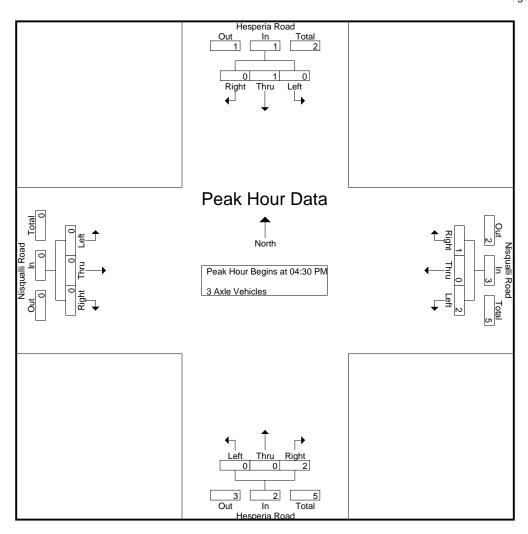
Groups Printed- 3 Axle Vehicles

_								Toups I	illited- 3 A	IAIC VCI	iicics							
			Hesper	ia Road			Nisqua	ılli Road	1		Hesper	ia Road			Nisqua	lli Road		
			South	bound			West	bound			North	bound			Eastl	ound		
L	Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
	04:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
	04:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
	04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	04:45 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
	Total	1	0	0	1	2	0	0	2	0	0	1	1	0	0	0	0	4
	05:00 PM	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	2
	05:15 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2
	05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	05:45 PM	0	0	0	0	0	0	0	0	0	0	2	2	0	0	0	0	2
	Total	0	1	0	1	1	0	1	2	0	0	3	3	0	0	0	0	6
	Grand Total	1	1	0	2	3	0	1	4	0	0	4	4	0	0	0	0	10
	Apprch %	50	50	0		75	0	25		0	0	100		0	0	0		
	Total %	10	10	0	20	30	0	10	40	0	0	40	40	0	0	0	0	

			ia Road				lli Road				ia Road				ılli Road		
		South	bound			West	bound			North	bound			Eastl	bound		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	ysis Fron	n 04:30	PM to 0	5:15 PM -	Peak 1 o	of 1											
Peak Hour for E	ntire Inte	rsection	Begins	at 04:30 P	M												
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	1	0	0	1	0	0	1	1	0	0	0	0	2
05:00 PM	0	0	0	0	1	0	1	2	0	0	0	0	0	0	0	0	2
05:15 PM	0	1	0	1	0	0	0	0	0	0	1	1	0	0	0	0	2_
Total Volume	0	1	0	1	2	0	1	3	0	0	2	2	0	0	0	0	6
% App. Total	0	100	0		66.7	0	33.3		0	0	100		0	0	0		
PHF	000	250	000	250	500	000	250	375	000	000	500	500	000	000	000	000	750

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIPM Site Code : 9220001 Start Date : 8/18/2009 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at: 04:30 PM 04:30 PM 04:30 PM 04:30 PM +0 mins. +15 mins. +30 mins. +45 mins. Total Volume % App. Total 66.7 33.3 .250 .375 .500 .000 PHF .000 .000 .000 .000 .500

Counts Unlimited Inc. 25286 Jaclyn Avenue Moreno Valley, CA 92557 (951) 485-7934

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIPM Site Code : 9220001 Start Date : 8/18/2009 Page No : 1

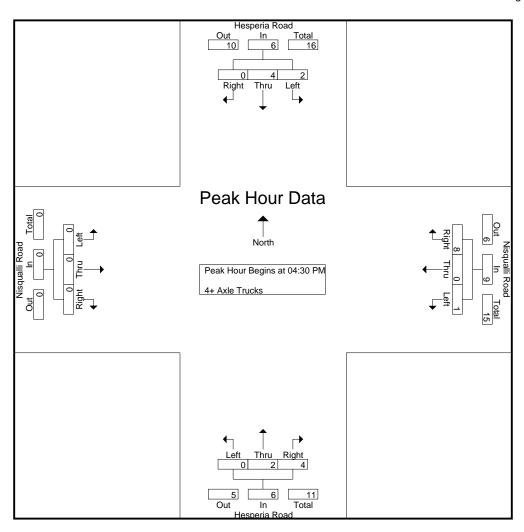
Groups Printed- 4+ Axle Trucks

							noups 1.	IIIICu- 4T	AAIC II	ucks							
		Hesper	ia Road			Nisqua	ılli Road			Hesper	ia Road			Nisqua	ılli Road		
		South	bound			West	bound			Nortl	nbound			East	bound		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	1	0	2	0	0	3	3	0	2	1	3	0	0	0	0	8
04:15 PM	1	0	0	1	0	0	2	2	0	1	1	2	0	0	0	0	5
04:30 PM	0	2	0	2	0	0	0	0	0	1	1	2	0	0	0	0	4
04:45 PM	1	1	0	2	1	0	1	2	0	0	1	1	0	0	0	0	5_
Total	3	4	0	7	1	0	6	7	0	4	4	8	0	0	0	0	22
05:00 PM	0	1	0	1	0	0	5	5	0	1	1	2	0	0	0	0	8
05:15 PM	1	0	0	1	0	0	2	2	0	0	1	1	0	0	0	0	4
05:30 PM	0	0	0	0	0	0	1	1	0	0	2	2	0	0	0	0	3
05:45 PM	0	2	0	2	0	0	1	1	0	0	1	1	0	0	0	0	4
Total	1	3	0	4	0	0	9	9	0	1	5	6	0	0	0	0	19
Grand Total	4	7	0	11	1	0	15	16	0	5	9	14	0	0	0	0	41
Apprch %	36.4	63.6	0		6.2	0	93.8		0	35.7	64.3		0	0	0		
Total %	9.8	17.1	0	26.8	2.4	0	36.6	39	0	12.2	22	34.1	0	0	0	0	

		Hesperi					lli Road				ia Road				lli Road		
		South	bound			West	bound			North	nbound			Easti	bound		
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analy	ysis Fron	n 04:30 l	PM to 05	5:15 PM -	Peak 1 c	f 1											
Peak Hour for E	ntire Inte	ersection	Begins	at 04:30 P	M												
04:30 PM	0	2	0	2	0	0	0	0	0	1	1	2	0	0	0	0	4
04:45 PM	1	1	0	2	1	0	1	2	0	0	1	1	0	0	0	0	5
05:00 PM	0	1	0	1	0	0	5	5	0	1	1	2	0	0	0	0	8
05:15 PM	1	0	0	1	0	0	2	2	0	0	1	1	0	0	0	0	4
Total Volume	2	4	0	6	1	0	8	9	0	2	4	6	0	0	0	0	21
% App. Total	33.3	66.7	0		11.1	0	88.9		0	33.3	66.7		0	0	0		
PHF	.500	.500	.000	.750	.250	.000	.400	.450	.000	.500	1.000	.750	.000	.000	.000	.000	.656_

City of Victorville N/S: Hesperia Road E/W: Nisqualli Road Weather: Sunny

File Name: VICHENIPM Site Code : 9220001 Start Date : 8/18/2009 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at: 04:30 PM 04:30 PM 04:30 PM 04:30 PM +0 mins. +15 mins. +30 mins. +45 mins. Total Volume % App. Total 33.3 11.1 88.9 66.7 .750 .450 .750 .000 PHF .500 .000 .250 .000 .000 1.000

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard

Weather: Clear

File Name: VIC_Hesp_Green AM Site Code: 05121691

Start Date : 11/16/2021 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

							e z Axie v					TTUCKS		
			ria Road			speria F		Gr		e Boulev	/ard			
			nbound		N	<u>Iorthbou</u>	nd			bound				
Start Time	Thru	Right	RTOR	App. Total	Left	Thru	App. Total	Left	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	101	25	5	126	58	107	165	17	41	16	58	21	349	370
07:15 AM	124	28	9	152	74	113	187	43	39	17	82	26	421	447
07:30 AM	176	34	12	210	61	143	204	41	49	21	90	33	504	537
07:45 AM	192	22	9	214	68	164	232	33	70	24	103	33	549	582
Total	593	109	35	702	261	527	788	134	199	78	333	113	1823	1936
08:00 AM	166	27	7	193	73	150	223	18	51	39	69	46	485	531
08:15 AM	197	15	5	212	67	141	208	17	58	29	75	34	495	529
08:30 AM	185	10	3	195	75	157	232	15	51	29	66	32	493	525
08:45 AM	213	15	7	228	85	146	231	20	62	39	82	46	541	587
Total	761	67	22	828	300	594	894	70	222	136	292	158	2014	2172
Grand Total	1354	176	57	1530	561	1121	1682	204	421	214	625	271	3837	4108
Apprch %	88.5	11.5			33.4	66.6		32.6	67.4					
Total %	35.3	4.6		39.9	14.6	29.2	43.8	5.3	11		16.3	6.6	93.4	
Passenger Vehicles	1291	166		1511	545	1049	1594	192	401		801	0	0	3906
% Passenger Vehicles	95.3	94.3	94.7	95.2	97.1	93.6	94.8	94.1	95.2	97.2	95.5	0	0	95.1
Large 2 Axle Vehicles	42	9		53	16	58	74	12	19		36	0	0	163
% Large 2 Axle Vehicles	3.1	5.1	3.5	3.3	2.9	5.2	4.4	5.9	4.5	2.3	4.3	0	0	4
3 Axle Vehicles	11	1		13	0	7	7	0	0		0	0	0	20
% 3 Axle Vehicles	0.8	0.6	1.8	0.8	0	0.6	0.4	0	0	0	0	0	0	0.5
4+ Axle Trucks	10	0		10	0	7	7	0	1		2	0	0	19
% 4+ Axle Trucks	0.7	0	0	0.6	0	0.6	0.4	0	0.2	0.5	0.2	0	0	0.5

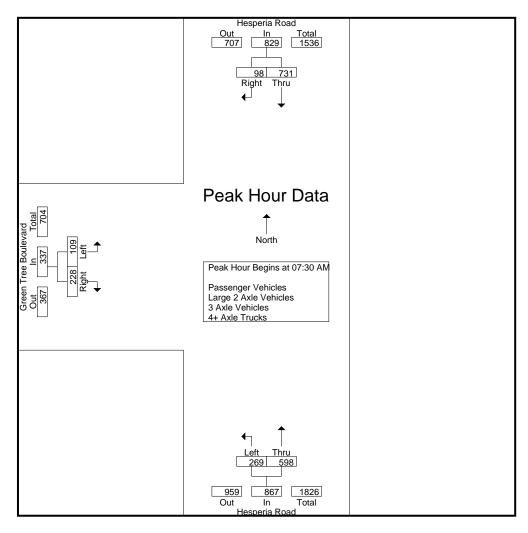
	F	lesperia Ro	ad	Н	lesperia Ro	ad	Gree	n Tree Bou	levard	
		Southboun	d		Northboun	d		Eastbound	d	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis Fr	om 07:00 Al	M to 08:45	AM - Peak 1 d	of 1				_		
Peak Hour for Entire Ir	tersection E	Begins at 07	7:30 AM							
07:30 AM	176	34	210	61	143	204	41	49	90	504
07:45 AM	192	22	214	68	164	232	33	70	103	549
MA 00:80	166	27	193	73	150	223	18	51	69	485
08:15 AM	197	15	212	67	141	208	17	58	75	495
Total Volume	731	98	829	269	598	867	109	228	337	2033
% App. Total	88.2	11.8		31	69		32.3	67.7		
PHF	.928	.721	.968	.921	.912	.934	.665	.814	.818	.926

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard

Weather: Clear

File Name: VIC_Hesp_Green AM Site Code: 05121691

Start Date : 11/16/2021 Page No : 2



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

Peak Hour for Each Approach Begins at:

reak noul loi cacil A	pproacri begi	no al.							
	07:30 AM			07:45 AM			07:15 AM		
+0 mins.	176	34	210	68	164	232	43	39	82
+15 mins.	192	22	214	73	150	223	41	49	90
+30 mins.	166	27	193	67	141	208	33	70	103
+45 mins.	197	15	212	75	157	232	18	51	69
Total Volume	731	98	829	283	612	895	135	209	344
% App. Total	88.2	11.8		31.6	68.4		39.2	60.8	
PHF	.928	.721	.968	.943	.933	.964	.785	.746	.835

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard Weather: Clear

File Name: VIC_Hesp_Green AM Site Code: 05121691

Start Date : 11/16/2021 Page No : 1

Groups Printed- Passenger Vehicles

					Group	JS FIIIILE	tu- rassen	ger verii	CIES					
		Hespe	ria Road		He	speria F	Road	Gı	een Tre	e Boulev	/ard			
		South	nbound		N	lorthbou	ınd		East	bound				
Start Time	Thru	Right	RTOR	App. Total	Left	Thru	App. Total	Left	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	97	23	4	120	56	94	150	17	39	16	56	20	326	346
07:15 AM	120	25	8	145	69	107	176	41	35	15	76	23	397	420
07:30 AM	173	34	12	207	59	134	193	37	48	21	85	33	485	518
07:45 AM	183	21	9	204	68	157	225	33	66	23	99	32	528	560
Total	573	103	33	676	252	492	744	128	188	75	316	108	1736	1844
08:00 AM	164	26	6	190	71	144	215	14	50	38	64	44	469	513
08:15 AM	173	12	5	185	64	134	198	17	52	28	69	33	452	485
08:30 AM	180	10	3	190	74	150	224	14	49	28	63	31	477	508
08:45 AM	201	15	7	216	84	129	213	19	62	39	81	46	510	556
Total	718	63	21	781	293	557	850	64	213	133	277	154	1908	2062
Grand Total	1291	166	54	1457	545	1049	1594	192	401	208	593	262	3644	3906
Apprch %	88.6	11.4			34.2	65.8		32.4	67.6					
Total %	35.4	4.6		40	15	28.8	43.7	5.3	11		16.3	6.7	93.3	

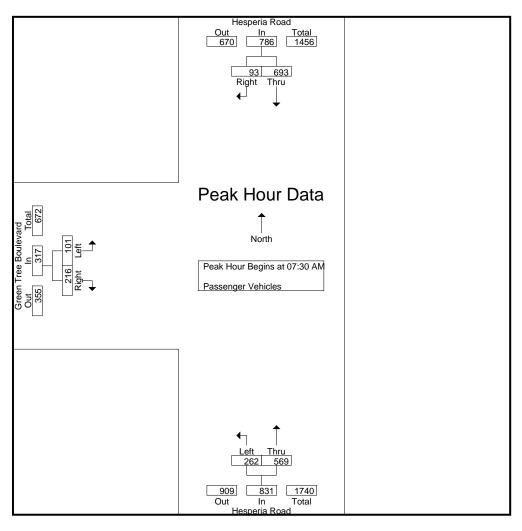
	Н	lesperia Ro	ad	Н	lesperia Ro	ad	Gree	n Tree Bou	levard	
		Southbound	b		Northboun	d		Eastbound	t	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis Fr	om 07:30 Al	M to 08:15 A	AM - Peak 1 d	of 1						
Peak Hour for Entire Ir	ntersection E	Begins at 07	:30 AM							
07:30 AM	173	34	207	59	134	193	37	48	85	485
07:45 AM	183	21	204	68	157	225	33	66	99	528
08:00 AM	164	26	190	71	144	215	14	50	64	469
08:15 AM	173	12	185	64	134	198	17	52	69	452
Total Volume	693	93	786	262	569	831	101	216	317	1934
% App. Total	88.2	11.8		31.5	68.5		31.9	68.1		
PHF	.947	.684	.949	.923	.906	.923	.682	.818	.801	.916

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard

Weather: Clear

File Name: VIC_Hesp_Green AM Site Code: 05121691

Start Date : 11/16/2021 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

Peak Hour for Each A	pproacri begi	115 al.							
	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	173	34	207	59	134	193	37	48	85
+15 mins.	183	21	204	68	157	225	33	66	99
+30 mins.	164	26	190	71	144	215	14	50	64
+45 mins.	173	12	185	64	134	198	17	52	69
Total Volume	693	93	786	262	569	831	101	216	317
% App. Total	88.2	11.8		31.5	68.5		31.9	68.1	
PHF	.947	.684	.949	.923	.906	.923	.682	.818	.801

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard Weather: Clear

File Name: VIC_Hesp_Green AM Site Code: 05121691

Start Date : 11/16/2021 Page No : 1

Groups Printed- Large 2 Axle Vehicles

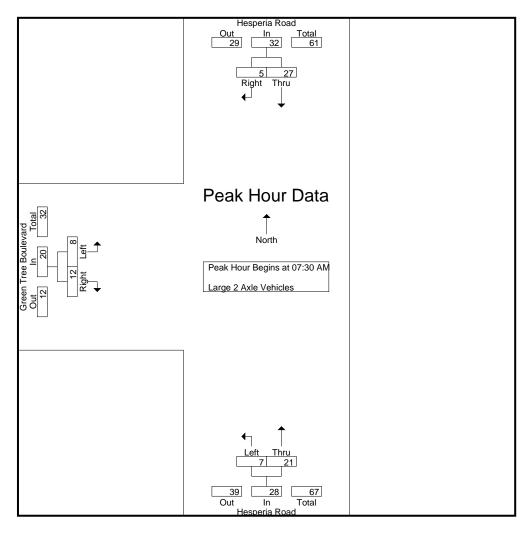
					Groups	5 Fillite	u- Large Z	Axie vei	licies					
		Hespe	ria Road		He	speria F	Road	Gı	reen Tre	e Boulev	/ard			
		South	nbound		N	Iorthbou	ınd		East	bound				
Start Time	Thru	Right	RTOR	App. Total	Left	Thru	App. Total	Left	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	1	0	2	2	10	12	0	2	0	2	0	16	16
07:15 AM	3	3	1	6	5	4	9	2	3	1	5	2	20	22
07:30 AM	2	0	0	2	2	4	6	4	1	0	5	0	13	13
07:45 AM	7	1	0	8	0	4	4	0	4	1	4	1	16	17
Total	13	5	1	18	9	22	31	6	10	2	16	3	65	68
08:00 AM	1	1	1	2	2	6	8	4	1	1	5	2	15	17
08:15 AM	17	3	0	20	3	7	10	0	6	1	6	1	36	37
08:30 AM	4	0	0	4	1	6	7	1	2	1	3	1	14	15
08:45 AM	7	0	0	7	1	17	18	1	0	0	1	0	26	26
Total	29	4	1	33	7	36	43	6	9	3	15	4	91	95
Grand Total	42	9	2	51	16	58	74	12	19	5	31	7	156	163
Apprch %	82.4	17.6			21.6	78.4		38.7	61.3					
Total %	26.9	5.8		32.7	10.3	37.2	47.4	7.7	12.2		19.9	4.3	95.7	

	Н	esperia Ro	ad	F	lesperia Ro	ad	Gree	n Tree Bou	levard	
		Southbound	b		Northboun	d		Eastbound	t	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis Fr	om 07:30 Al	d to 08:15 A	AM - Peak 1 d	of 1				_		
Peak Hour for Entire Ir	ntersection B	egins at 07	:30 AM							
07:30 AM	2	0	2	2	4	6	4	1	5	13
07:45 AM	7	1	8	0	4	4	0	4	4	16
08:00 AM	1	1	2	2	6	8	4	1	5	15
08:15 AM	17	3	20	3	7	10	0	6	6	36
Total Volume	27	5	32	7	21	28	8	12	20	80
% App. Total	84.4	15.6		25	75		40	60		
PHF	.397	.417	.400	.583	.750	.700	.500	.500	.833	.556

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard Weather: Clear

File Name: VIC_Hesp_Green AM Site Code: 05121691

Start Date : 11/16/2021 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

Peak Hour for Each Ap	pproacri begi	IIIS al.							
	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	2	0	2	2	4	6	4	1	5
+15 mins.	7	1	8	0	4	4	0	4	4
+30 mins.	1	1	2	2	6	8	4	1	5
+45 mins.	17	3	20	3	7	10	0	6	6
Total Volume	27	5	32	7	21	28	8	12	20
% App. Total	84.4	15.6		25	75		40	60	
PHF	.397	.417	.400	.583	.750	.700	.500	.500	.833

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard Weather: Clear

File Name: VIC_Hesp_Green AM Site Code: 05121691

Start Date : 11/16/2021
Page No : 1

Groups Printed- 3 Axle Vehicles

-								ILEU- J ANI					1		
			Hespe	ria Road		He	speria R	Road	Gı	een Tre	e Boulev	/ard			
L			South	nbound		N	orthbou	nd		East	bound				
	Start Time	Thru	Right	RTOR	App. Total	Left	Thru	App. Total	Left	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
	07:00 AM	2	1	1	3	0	1	1	0	0	0	0	1	4	5
	07:15 AM	0	0	0	0	0	1	1	0	0	0	0	0	1	1
	07:30 AM	0	0	0	0	0	2	2	0	0	0	0	0	2	2
	07:45 AM	1	0	0	1	0	3	3	0	0	0	0	0	4	4
	Total	3	1	1	4	0	7	7	0	0	0	0	1	11	12
	08:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	1	1
	08:15 AM	4	0	0	4	0	0	0	0	0	0	0	0	4	4
	08:30 AM	1	0	0	1	0	0	0	0	0	0	0	0	1	1
	08:45 AM	2	0	0	2	0	0	0	0	0	0	0	0	2	2
	Total	8	0	0	8	0	0	0	0	0	0	0	0	8	8
	Grand Total	11	1	1	12	0	7	7	0	0	0	0	1	19	20
	Apprch %	91.7	8.3			0	100		0	0					
	Total %	57.9	5.3		63.2	0	36.8	36.8	0	0		0	5	95	

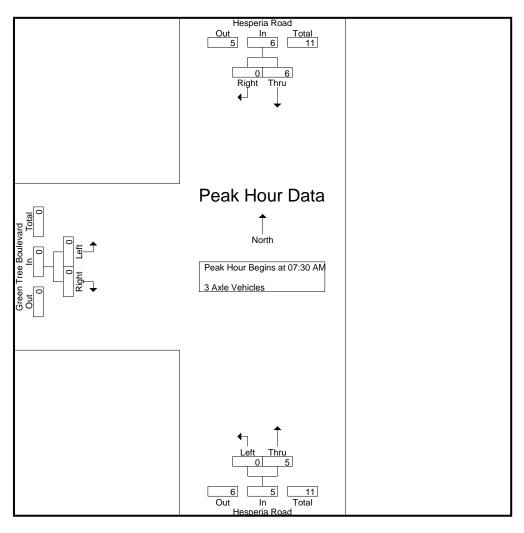
	He	esperia Ro	ad	ŀ	lesperia Ro	ad	Gree	n Tree Bou	llevard	
	9	Southboun	d		Northboun	d		Eastbound	b	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis Fr	om 07:30 AM	1 to 08:15	AM - Peak 1 c	of 1				_		
Peak Hour for Entire In	tersection Be	egins at 07	:30 AM							
07:30 AM	0	0 0 0			2	2	0	0	0	2
07:45 AM	1	0	1	0	3	3	0	0	0	4
08:00 AM	1	0	1	0	0	0	0	0	0	1
08:15 AM	4	0	4	0	0	0	0	0	0	4
Total Volume	6	0	6	0	5	5	0	0	0	11
% App. Total	100	0		0	100		0	0		
PHF	.375	.000	.375	.000	.417	.417	.000	.000	.000	.688

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard

Weather: Clear

File Name: VIC_Hesp_Green AM Site Code: 05121691

Start Date : 11/16/2021 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

reak noul loi cach A	privacii begi	ns al.							
	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	0	0	0	2	2	0	0	0
+15 mins.	1	0	1	0	3	3	0	0	0
+30 mins.	1	0	1	0	0	0	0	0	0
+45 mins.	4	0	4	0	0	0	0	0	0
Total Volume	6	0	6	0	5	5	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.375	.000	.375	.000	.417	.417	.000	.000	.000

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard Weather: Clear

File Name: VIC_Hesp_Green AM Site Code: 05121691

Start Date : 11/16/2021 Page No : 1

Groups Printed- 4+ Axle Trucks

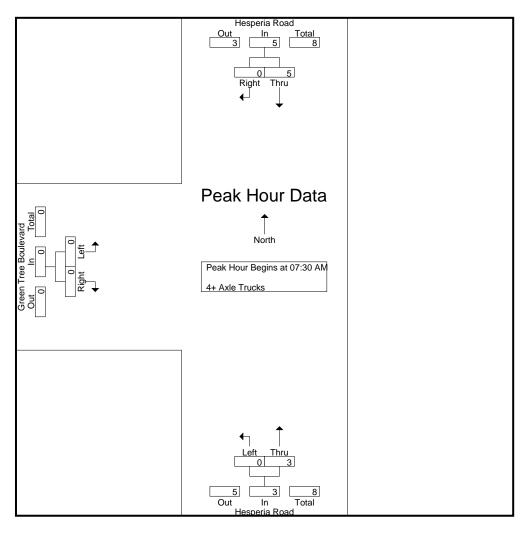
					Gloups Filited- 4+ Axie Trucks									
		Hespe	ria Road		He	speria F	Road	Gi	reen Tre	e Boulev	/ard			
		South	nbound		N	lorthboι	ınd		East	bound				
Start Time	Thru	Right	RTOR	App. Total	Left	Thru	App. Total	Left	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	0	0	1	0	2	2	0	0	0	0	0	3	3
07:15 AM	1	0	0	1	0	1	1	0	1	1	1	1	3	4
07:30 AM	1	0	0	1	0	3	3	0	0	0	0	0	4	4
07:45 AM	1	0	0	1	0	0	0	0	0	0	0	0	1	1_
Total	4	0	0	4	0	6	6	0	1	1	1	1	11	12
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	3	0	0	3	0	0	0	0	0	0	0	0	3	3
08:30 AM	0	0	0	0	0	1	1	0	0	0	0	0	1	1
08:45 AM	3	0	0	3	0	0	0	0	0	0	0	0	3	3_
Total	6	0	0	6	0	1	1	0	0	0	0	0	7	7
Grand Total	10	0	0	10	0	7	7	0	1	1	1	1	18	19
Apprch %	100	0			0	100		0	100					
Total %	55.6	0		55.6	0	38.9	38.9	0	5.6		5.6	5.3	94.7	

	Н	lesperia Ro	ad	H	lesperia Ro	ad	Gree	levard		
		Southbound	b		Northboun	d		Eastbound	t	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis Fr	om 07:30 Al	M to 08:15 A	AM - Peak 1 d	of 1				_		
Peak Hour for Entire Ir	ntersection B	Begins at 07	:30 AM							
07:30 AM	1	0	1	0	3	3	0	0	0	4
07:45 AM	1	0	1	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	3	0	3	0	0	0	0	0	0	3_
Total Volume	5	0	5	0	3	3	0	0	0	8
% App. Total	100	0		0	100		0	0		
PHF	.417	.000	.417	.000	.250	.250	.000	.000	.000	.500

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard Weather: Clear

File Name: VIC_Hesp_Green AM Site Code: 05121691

Start Date : 11/16/2021 Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

reak noul loi cacil A	privacii beg	ii is at.							
	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	1	0	1	0	3	3	0	0	0
+15 mins.	1	0	1	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	3	0	3	0	0	0	0	0	0
Total Volume	5	0	5	0	3	3	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.417	.000	.417	.000	.250	.250	.000	.000	.000

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard

Weather: Clear

File Name: VIC_Hesp_Green PM Site Code: 05121691

Start Date : 11/16/2021 Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

			ria Road			speria F	Road			e Boulev	ard	Tradito		
			nbound			orthbou				bound				
Start Time	Thru	Right	RTOR	App. Total	Left	Thru	App. Total	Left	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	195	22	1	217	95	184	279	28	68	38	96	39	592	631
04:15 PM	185	27	13	212	75	168	243	31	98	17	129	30	584	614
04:30 PM	183	36	6	219	96	215	311	21	86	32	107	38	637	675
04:45 PM	157	18	6	175	86	162	248	24	95	37	119	43	542	585
Total	720	103	26	823	352	729	1081	104	347	124	451	150	2355	2505
,														
05:00 PM	200	20	5	220	63	181	244	29	95	39	124	44	588	632
05:15 PM	188	22	5	210	105	188	293	20	90	51	110	56	613	669
05:30 PM	166	20	6	186	48	156	204	20	79	40	99	46	489	535
05:45 PM	126	18	7	144	61	158	219	14	89	44	103	51	466	517
Total	680	80	23	760	277	683	960	83	353	174	436	197	2156	2353
Grand Total	1400	183	49	1583	629	1412	2041	187	700	298	887	347	4511	4858
Apprch %	88.4	11.6			30.8	69.2		21.1	78.9					
Total %	31	4.1		35.1	13.9	31.3	45.2	4.1	15.5		19.7	7.1	92.9	
Passenger Vehicles	1353	179		1581	617	1379	1996	182	689		1167	0	0	4744
% Passenger Vehicles	96.6	97.8	100	96.9	98.1	97.7	97.8	97.3	98.4	99.3	98.5	0	0	97.7
Large 2 Axle Vehicles	24	4		28	9	23	32	3	11		16	0	0	76
% Large 2 Axle Vehicles	1.7	2.2	0	1.7	1.4	1.6	1.6	1.6	1.6	0.7	1.4	0	0	1.6
3 Axle Vehicles	7	0		7	0	4	4	1	0		1	0	0	12
% 3 Axle Vehicles	0.5	0	0	0.4	0	0.3	0.2	0.5	0	0	0.1	0	0	0.2
4+ Axle Trucks	16	0		16	3	6	9	1	0		1	0	0	26
% 4+ Axle Trucks	1.1	0	0	1	0.5	0.4	0.4	0.5	0	0	0.1	0	0	0.5

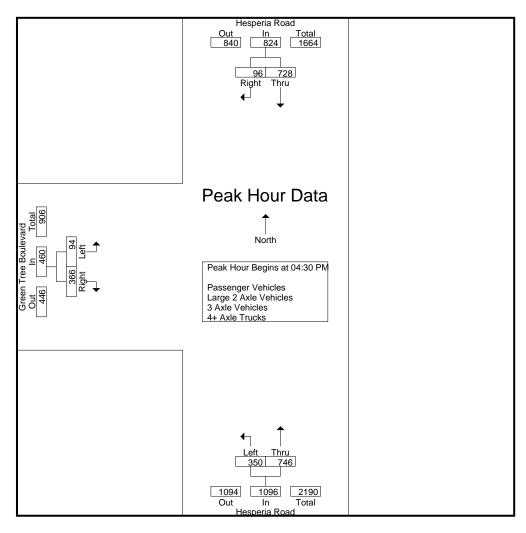
		speria Ro Southboun			esperia Ro Northboun		Gree	llevard d		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis Fro	om 04:00 PM	to 05:45	PM - Peak 1 c	f 1				_	• •	
Peak Hour for Entire In	tersection Be	gins at 04								
04:30 PM	ersection Begins at 04:30 PM 183 36 219			96	215	311	21	86	107	637
04:45 PM	157	18	175	86	162	248	24	95	119	542
05:00 PM	200	20	220	63	181	244	29	95	124	588
05:15 PM	188	22	210	105	188	293	20	90	110	613
Total Volume	728	96	824	350	746	1096	94	366	460	2380
% App. Total	88.3	11.7		31.9	68.1		20.4	79.6		
PHF	910	667	936	833	867	881	810	963	927	934

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard

Weather: Clear

File Name: VIC_Hesp_Green PM Site Code: 05121691

Start Date : 11/16/2021 Page No : 2



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

Peak Hour for Each Ap	prioacii begi	115 al.							
	04:15 PM			04:30 PM			04:15 PM		
+0 mins.	185	27	212	96	215	311	31	98	129
+15 mins.	183	36	219	86	162	248	21	86	107
+30 mins.	157	18	175	63	181	244	24	95	119
+45 mins.	200	20	220	105	188	293	29	95	124
Total Volume	725	101	826	350	746	1096	105	374	479
% App. Total	87.8	12.2		31.9	68.1		21.9	78.1	
PHF	.906	.701	.939	.833	.867	.881	.847	.954	.928

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard Weather: Clear

File Name: VIC_Hesp_Green PM Site Code: 05121691

Start Date : 11/16/2021 Page No : 1

Groups Printed- Passenger Vehicles

					Gloups Fillited- Fasseriger Verlicies									
		Hespe	ria Road		He	speria F	Road	Gı	reen Tre	e Boule	/ard			
		South	nbound		N	Iorthbou	ınd		East	bound				
Start Time	Thru	Right	RTOR	App. Total	Left	Thru	App. Total	Left	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	189	21	1	210	95	178	273	28	68	38	96	39	579	618
04:15 PM	179	26	13	205	73	162	235	29	97	17	126	30	566	596
04:30 PM	178	35	6	213	96	207	303	21	86	32	107	38	623	661
04:45 PM	146	18	6	164	84	161	245	24	94	37	118	43	527	570
Total	692	100	26	792	348	708	1056	102	345	124	447	150	2295	2445
05:00 PM	190	20	5	210	61	174	235	28	94	39	122	44	567	611
05:15 PM	183	21	5	204	104	187	291	18	86	51	104	56	599	655
05:30 PM	165	20	6	185	47	154	201	20	77	39	97	45	483	528
05:45 PM	123	18	7	141	57	156	213	14	87	43	101	50	455	505
Total	661	79	23	740	269	671	940	80	344	172	424	195	2104	2299
Grand Total	1353	179	49	1532	617	1379	1996	182	689	296	871	345	4399	4744
Apprch %	88.3	11.7			30.9	69.1		20.9	79.1					
Total %	30.8	4.1		34.8	14	31.3	45.4	4.1	15.7		19.8	7.3	92.7	

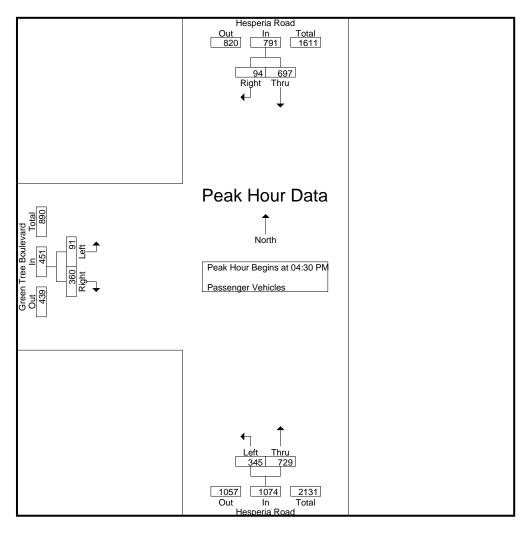
	Н	lesperia Ro	ad	Н	lesperia Ro	ad	Gree	levard		
		Southbound	b		Northboun	d		Eastbound	t	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis Fr	om 04:30 Pl	M to 05:15 F	PM - Peak 1 d	of 1				_		
Peak Hour for Entire Ir	ntersection B	Begins at 04	:30 PM							
04:30 PM	178	35	213	96	207	303	21	86	107	623
04:45 PM	146	18	164	84	161	245	24	94	118	527
05:00 PM	190	20	210	61	174	235	28	94	122	567
05:15 PM	183	21	204	104	187	291	18	86	104	599
Total Volume	697	94	791	345	729	1074	91	360	451	2316
% App. Total	88.1	11.9		32.1	67.9		20.2	79.8		
PHF	.917	.671	.928	.829	.880	.886	.813	.957	.924	.929

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard

Weather: Clear

File Name: VIC_Hesp_Green PM Site Code: 05121691

Start Date : 11/16/2021 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

Peak Hour for Each Ap	prioacii begii	iis al.							
	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	178	35	213	96	207	303	21	86	107
+15 mins.	146	18	164	84	161	245	24	94	118
+30 mins.	190	20	210	61	174	235	28	94	122
+45 mins.	183	21	204	104	187	291	18	86	104
Total Volume	697	94	791	345	729	1074	91	360	451
% App. Total	88.1	11.9		32.1	67.9		20.2	79.8	
PHF	.917	.671	.928	.829	.880	.886	.813	.957	.924

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard Weather: Clear

File Name : VIC_Hesp_Green PM Site Code : 05121691

Start Date : 11/16/2021
Page No : 1

Groups Printed- Large 2 Axle Vehicles

					Groups	s Printed	ı- ∟arge ∠	<u>Axie ven</u>	icies					
		Hespei	ria Road		He	speria R	load	Gr	een Tre	e Boulev	ard ard			
		South	bound		N	orthbou	nd		East	bound				
Start Time	Thru	Right	RTOR	App. Total	Left	Thru	App. Total	Left	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	2	1	0	3	0	6	6	0	0	0	0	0	9	9
04:15 PM	2	1	0	3	1	3	4	1	1	0	2	0	9	9
04:30 PM	2	1	0	3	0	6	6	0	0	0	0	0	9	9
04:45 PM	7	0	0	7	2	0	2	0	1	0	1	0	10	10
Total	13	3	0	16	3	15	18	1	2	0	3	0	37	37
05:00 PM	5	0	0	5	2	5	7	1	1	0	2	0	14	14
05:15 PM	3	1	0	4	1	0	1	1	4	0	5	0	10	10
05:30 PM	0	0	0	0	1	2	3	0	2	1	2	1	5	6
05:45 PM	3	0	0	3	2	1	3	0	2	1	2	1	8	9
Total	11	1	0	12	6	8	14	2	9	2	11	2	37	39
Grand Total	24	4	0	28	9	23	32	3	11	2	14	2	74	76
Apprch %	85.7	14.3			28.1	71.9		21.4	78.6					
Total %	32.4	5.4		37.8	12.2	31.1	43.2	4.1	14.9		18.9	2.6	97.4	
	04:00 PM 04:15 PM 04:30 PM 04:45 PM Total 05:00 PM 05:15 PM 05:30 PM 05:45 PM Total Grand Total Apprch %	04:00 PM 2 04:15 PM 2 04:30 PM 2 04:45 PM 7 Total 13 05:00 PM 5 05:15 PM 3 05:30 PM 0 05:45 PM 3 Total 11 Grand Total Apprch % 85.7	Start Time Thru Right 04:00 PM 2 1 04:15 PM 2 1 04:30 PM 2 1 04:45 PM 7 0 Total 13 3 05:00 PM 5 0 05:15 PM 3 1 05:30 PM 0 0 05:45 PM 3 0 Total 11 1 Grand Total 24 4 Apprch % 85.7 14.3	Start Time Thru Right RTOR 04:00 PM 2 1 0 04:15 PM 2 1 0 04:30 PM 2 1 0 04:45 PM 7 0 0 Total 13 3 0 05:00 PM 5 0 0 05:15 PM 3 1 0 05:30 PM 0 0 0 05:45 PM 3 0 0 Total 11 1 0 Grand Total Apprich 24 4 0 85.7 14.3 4 0	Start Time Thru Right RTOR App. Total 04:00 PM 2 1 0 3 04:15 PM 2 1 0 3 04:30 PM 2 1 0 3 04:45 PM 7 0 0 7 Total 13 3 0 16 05:00 PM 5 0 0 5 05:15 PM 3 1 0 4 05:30 PM 0 0 0 0 05:45 PM 3 0 0 3 Total 11 1 0 12 Grand Total 24 4 0 28 Apprich % 85.7 14.3 0 - 28	Hesperia Road Southbound No. Start Time Thru Right RTOR App. Total Left O4:00 PM 2	Hesperia Road Southbound Hesperia Road Northbound Start Time Thru Right RTOR App. Total Left Thru O4:00 PM 2 1 0 3 0 6 04:15 PM 2 1 0 3 0 6 04:30 PM 2 1 0 3 0 6 04:45 PM 7 0 0 7 2 0 0 Total 13 3 0 16 3 15 05:00 PM 5 0 0 0 5 2 5 05:15 PM 3 1 0 4 1 0 05:30 PM 0 0 0 0 1 2 05:45 PM 3 0 0 3 2 1 Total Total 11 1 0 12 6 8 Grand Total 24 4 0 28 9 23 Apprich % 85.7 14.3 28.1 71.9	Hesperia Road Southbound Hesperia Road Northbound Start Time Thru Right RTOR App. Total Left Thru App. Total 04:00 PM 2 1 0 3 0 6 6 04:15 PM 2 1 0 3 1 3 4 04:30 PM 2 1 0 3 0 6 6 04:45 PM 7 0 0 7 2 0 2 Total 13 3 0 16 3 15 18 05:00 PM 5 0 0 5 2 5 7 05:15 PM 3 1 0 4 1 0 1 05:30 PM 0 0 0 1 2 3 05:45 PM 3 0 0 3 2 1 3 Total 11 1 0 12	Hesperia Road South-bound Hesperia Road Northbound Gr Northbound Start Time Thru Right RTOR App. Total Left Thru App. Total Left 04:00 PM 2 1 0 3 0 6 6 0 04:15 PM 2 1 0 3 1 3 4 1 04:30 PM 2 1 0 3 0 6 6 0 04:45 PM 7 0 0 7 2 0 2 0 Total 13 3 0 16 3 15 18 1 05:00 PM 5 0 0 5 2 5 7 1 05:15 PM 3 1 0 4 1 0 1 1 05:45 PM 3 0 0 3 2 1 3 0 Total 11	Southbound Northbound East Start Time Thru Right RTOR App. Total Left Thru App. Total Left Thru App. Total Left Right 04:00 PM 2 1 0 3 0 6 6 0 0 04:15 PM 2 1 0 3 1 3 4 1 1 04:30 PM 2 1 0 3 0 6 6 0 0 04:45 PM 7 0 0 7 2 0 2 0 1 Total 13 3 0 16 3 15 18 1 2 05:00 PM 5 0 0 5 2 5 7 1 1 4 05:15 PM 3 1 0 4 1 0 1 1 4 05:45 PM	Hesperia Road Southbound Hesperia Road Northbound Green Tree Boulev Eastbound Start Time Thru Right RTOR App. Total Left Thru App. Total Left Right RTOR 04:00 PM 2 1 0 3 0 6 6 0 0 0 04:15 PM 2 1 0 3 1 3 4 1 1 0 04:30 PM 2 1 0 3 0 6 6 0 0 0 04:30 PM 2 1 0 3 0 6 6 0 0 0 04:45 PM 7 0 0 7 2 0 2 0 1 0 05:00 PM 5 0 0 5 2 5 7 1 1 0 05:15 PM 3 1 0 4 1 0 1	Hesperia Road South-bound Hesperia Road Northbound Hesperia Road South-bound Hesperia Road Northbound Hesperia Road Rastbound Hesperia Road Northbound Hesperia Road Rastbound Rastbound Hesperia Road Rastbound Rastbound Hesperia Road Rastbound Rastbound Hesperia Road Rastbound Rast	Hesperia Road South-bound Hesperia Road Northbound Hesperia Road South-bound Start Time Thru Right RTOR App. Total Left Thru App. Total Left Right RTOR App. Total Exclu. Total	Hesperia Road Southbound Hesperia Road Northbound Hesperia Road Northbound Eastbound Eastbound

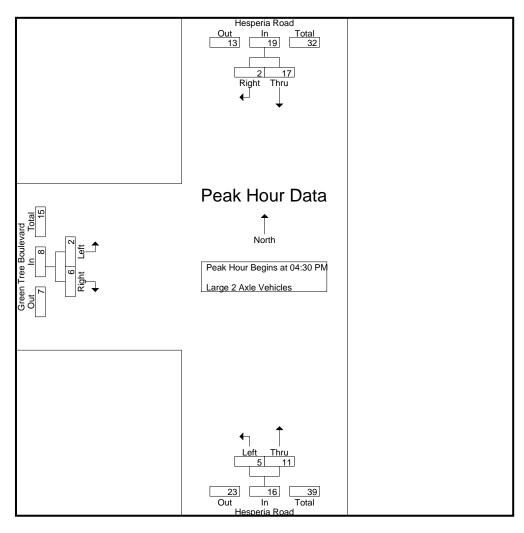
	He	esperia Ro	ad	H	lesperia Ro	oad	Gree	n Tree Bou	levard	
	9	Southbound	d		Northboun	d		Eastbound	t	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis Fr	om 04:30 PM	1 to 05:15 F	PM - Peak 1 c	of 1				_		
Peak Hour for Entire Ir	ntersection Be	egins at 04	:30 PM							
04:30 PM	2	1	3	0	6	6	0	0	0	9
04:45 PM	7	0	7	2	0	2	0	1	1	10
05:00 PM	5	0	5	2	5	7	1	1	2	14
05:15 PM	3	1	4	1	0	1	1	4	5	10
Total Volume	17	2	19	5	11	16	2	6	8	43
% App. Total	89.5	10.5		31.2	68.8		25	75		
PHF	.607	.500	.679	.625	.458	.571	.500	.375	.400	.768

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard

Weather: Clear

File Name: VIC_Hesp_Green PM Site Code: 05121691

Start Date : 11/16/2021 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

reak noul loi cacii A	prioacii begi	ns at.							
	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	2	1	3	0	6	6	0	0	0
+15 mins.	7	0	7	2	0	2	0	1	1
+30 mins.	5	0	5	2	5	7	1	1	2
+45 mins.	3	1	4	1	0	1	1	4	5
Total Volume	17	2	19	5	11	16	2	6	8
% App. Total	89.5	10.5		31.2	68.8		25	75	
PHF	.607	.500	.679	.625	.458	.571	.500	.375	.400

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard Weather: Clear

File Name: VIC_Hesp_Green PM Site Code: 05121691

Start Date : 11/16/2021 Page No : 1

Groups Printed- 3 Axle Vehicles

					<u>s</u>	<u>e venicie</u>	itea- 3 Axi	ups Prin	Gro					
			/ard	e Boulev	een Tre	Gr	oad	speria R	He		ria Road	Hespei		
				bound	East		nd	lorthboui	N		nbound	South		
lu. Total Int. Total	Inclu. Total	Exclu. Total	App. Total	RTOR	Right	Left	App. Total	Thru	Left	App. Total	RTOR	Right	Thru	Start Time
1 1	1	0	0	0	0	0	0	0	0	1	0	0	1	04:00 PM
4 4	4	0	1	0	0	1	1	1	0	2	0	0	2	04:15 PM
4 4	4	0	0	0	0	0	2	2	0	2	0	0	2	04:30 PM
1 1	1_	0	0	0	0	0	0	0	0	1	0	0	1	04:45 PM
10 10	10	0	1	0	0	1	3	3	0	6	0	0	6	Total
2 2	2	0	0	0	0	0	1	1	0	1	0	0	1	05:00 PM
0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	05:15 PM
0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	05:30 PM
0 0	0	0	0	0	0	0	0	0	0	0	0	0	0	05:45 PM
2 2	2	0	0	0	0	0	1	1	0	1	0	0	1	Total
12 12	12	0	1	0	0	1	4	4	0	7	0	0	7	Grand Total
					0	100		100	0			0	100	Apprch %
100	100	0	8.3		0	8.3	33.3	33.3	0	58.3		0	58.3	Total %
	_	0 0 0 0	1	0 0 0 0 0	0 0 0 0	1 100	1 0 0 0 0	3 1 0 0 0 0 1 4 100	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	1 0 0 0 1 7 100	04:45 PM Total 05:00 PM 05:15 PM 05:30 PM 05:45 PM Total Grand Total Apprch %

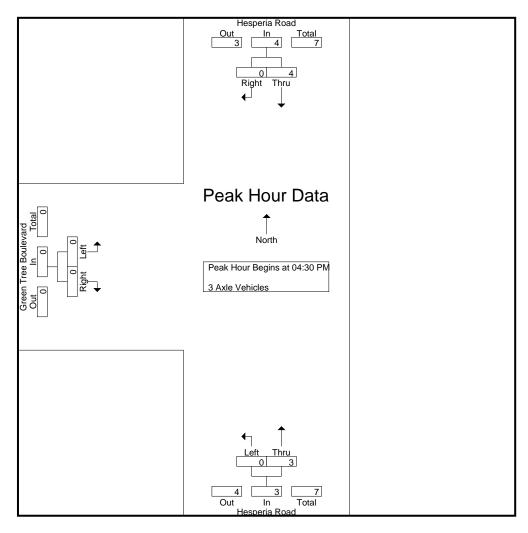
		esperia Ro		H	lesperia Ro		Gree	n Tree Bou		
		<u>Southbound</u>	d		Northbound	d		Eastbound		
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis Fr	om 04:30 PN	A to 05:15 F	PM - Peak 1 d	of 1						
Peak Hour for Entire In	tersection B	egins at 04	:30 PM							
04:30 PM	2	0	2	0	2	2	0	0	0	4
04:45 PM	1	0	1	0	0	0	0	0	0	1
05:00 PM	1	0	1	0	1	1	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0_
Total Volume	4	0	4	0	3	3	0	0	0	7
% App. Total	100	0		0	100		0	0		
PHF	.500	.000	.500	.000	.375	.375	.000	.000	.000	.438

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard

Weather: Clear

File Name: VIC_Hesp_Green PM Site Code: 05121691

Start Date : 11/16/2021 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1 Peak Hour for Each Approach Begins at:

I Cak Hour for Lacil Ap	oproach begi	no at.							
	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	2	0	2	0	2	2	0	0	0
+15 mins.	1	0	1	0	0	0	0	0	0
+30 mins.	1	0	1	0	1	1	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	4	0	4	0	3	3	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.500	.000	.500	.000	.375	.375	.000	.000	.000

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard Weather: Clear

File Name: VIC_Hesp_Green PM Site Code: 05121691

Start Date : 11/16/2021
Page No : 1

Groups Printed- 4+ Axle Trucks

												1		
		Hespei	ria Road		He	speria F	Road	Gı	een Tre	e Boule	/ard			
		South	nbound		N	orthbou	ınd		East	bound				
Start Time	Thru	Right	RTOR	App. Total	Left	Thru	App. Total	Left	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	3	0	0	3	0	0	0	0	0	0	0	0	3	3
04:15 PM	2	0	0	2	1	2	3	0	0	0	0	0	5	5
04:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1	1
04:45 PM	3	0	0	3	0	1	1	0	0	0	0	0	4	4
Total	9	0	0	9	1	3	4	0	0	0	0	0	13	13
05:00 PM	4	0	0	4	0	1	1	0	0	0	0	0	5	5
05:15 PM	2	0	0	2	0	1	1	1	0	0	1	0	4	4
05:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1	1
05:45 PM	0	0	0	0	2	1	3	0	0	0	0	0	3	3
Total	7	0	0	7	2	3	5	1	0	0	1	0	13	13
Grand Total	16	0	0	16	3	6	9	1	0	0	1	0	26	26
Apprch %	100	0			33.3	66.7		100	0					
Total %	61.5	0		61.5	11.5	23.1	34.6	3.8	0		3.8	0	100	
	04:00 PM 04:15 PM 04:30 PM 04:45 PM Total 05:00 PM 05:15 PM 05:30 PM 05:45 PM Total Grand Total Apprch %	04:00 PM 3 04:15 PM 2 04:30 PM 1 04:45 PM 3 Total 9 05:00 PM 4 05:15 PM 2 05:30 PM 1 05:45 PM 0 Total 7 Grand Total 16 Apprch % 100	Start Time Thru Right 04:00 PM 3 0 04:15 PM 2 0 04:30 PM 1 0 04:45 PM 3 0 Total 9 0 05:00 PM 4 0 05:15 PM 2 0 05:30 PM 1 0 05:45 PM 0 0 Total 7 0 Grand Total 16 0 Apprch % 100 0	Start Time Thru Right RTOR 04:00 PM 3 0 0 04:15 PM 2 0 0 04:30 PM 1 0 0 04:45 PM 3 0 0 Total 9 0 0 05:00 PM 4 0 0 05:15 PM 2 0 0 05:30 PM 1 0 0 05:45 PM 0 0 0 Total 7 0 0 Grand Total 16 0 0 Apprch % 100 0 0	Start Time Thru Right RTOR App. Total 04:00 PM 3 0 0 3 04:15 PM 2 0 0 2 04:30 PM 1 0 0 1 04:45 PM 3 0 0 3 Total 9 0 0 9 05:00 PM 4 0 0 4 05:15 PM 2 0 0 2 05:30 PM 1 0 0 0 Total 7 0 0 7 Grand Total 16 0 0 16 Apprich % 100 0 0 16	Hesperia Road Southbound No. Start Time Thru Right RTOR App. Total Left O4:00 PM 3 0 0 3 0 0 0 1 0 0 0 1 0 0	Hesperia Road Southbound Hesperia Found Northbound Start Time Thru Right RTOR App. Total Left Thru 04:00 PM 3 0 0 3 0 0 04:15 PM 2 0 0 2 1 2 04:30 PM 1 0 0 1 0 0 04:45 PM 3 0 0 3 0 1 Total 9 0 0 9 1 3 05:00 PM 4 0 0 4 0 1 05:15 PM 2 0 0 2 0 1 05:30 PM 1 0 0 1 0 0 05:45 PM 0 0 0 2 1 Total 7 0 0 7 2 3 Grand Total 16 0 0 16 3 6 <t< td=""><td>Hesperia Road Southbound Hesperia Road Northbound Start Time Thru Right RTOR App. Total Left Thru App. Total 04:00 PM 3 0 0 3 0 0 0 04:00 PM 2 0 0 2 1 2 3 04:30 PM 1 0 0 1 0 0 0 04:45 PM 3 0 0 3 0 1 1 Total 9 0 0 9 1 3 4 05:00 PM 4 0 0 4 0 1 1 05:15 PM 2 0 0 2 0 1 1 05:30 PM 1 0 0 0 2 1 3 Total 7 0 0 7 2 3 5 Grand Total Apprich % 100 0 0</td><td>Hesperia Road South-bound Hesperia Road Northbound Grand Total App. Total Hesperia Road Northbound Grand Total App. Total Hesperia Road Northbound Grand Total Appr. Total Hesperia Road Northbound Grand Total Appr. Total Hesperia Road Northbound Sunt Hosper. Total Left Thru App. Total D 0</td><td>Southbound Northbound East Start Time Thru Right RTOR App. Total Left Thru App. Total Left Thru App. Total Left Right 04:00 PM 3 0</td><td>Hesperia Road Southbound Hesperia Road Northbound Green Tree Boulet Eastbound Start Time Thru Right RTOR App. Total Left Thru App. Total Left Right RTOR 04:00 PM 3 0</td><td> Hesperia Road South-bound Hesperia Road South-bound Hesperia Road Northbound Hesperia Road South-bound Hesperia Road Northbound Hesperia Road Raybound Hesperia Road Northbound Hesperia Road Raybound Hesperia Road Raybound Hesperia Road Northbound Hesperia Road Raybound Hesperia Road Raybound Hesperia Road Northbound Hesperia Road Raybound Ra</td><td> Hesperia Road South-bound Hesperia Road Northbound Hesperia Road South-bound Hesperia Road Northbound Hesperia Road Reast-bound Hesperia Road Reast-bound Hesperia Road Northbound Hesperia Road Reast-bound Hesperia Road Reast-bound Hesperia Road Reast-bound Hesperia Road Road Road Hesperia Road Road Road Hesperia Road Road Road Hesperia Road Ro</td><td> Hesperia Road Southbound Hesperia Road Northbound Hesperia Road Real Northbound Hesperia Road Hesp</td></t<>	Hesperia Road Southbound Hesperia Road Northbound Start Time Thru Right RTOR App. Total Left Thru App. Total 04:00 PM 3 0 0 3 0 0 0 04:00 PM 2 0 0 2 1 2 3 04:30 PM 1 0 0 1 0 0 0 04:45 PM 3 0 0 3 0 1 1 Total 9 0 0 9 1 3 4 05:00 PM 4 0 0 4 0 1 1 05:15 PM 2 0 0 2 0 1 1 05:30 PM 1 0 0 0 2 1 3 Total 7 0 0 7 2 3 5 Grand Total Apprich % 100 0 0	Hesperia Road South-bound Hesperia Road Northbound Grand Total App. Total Hesperia Road Northbound Grand Total App. Total Hesperia Road Northbound Grand Total Appr. Total Hesperia Road Northbound Grand Total Appr. Total Hesperia Road Northbound Sunt Hosper. Total Left Thru App. Total D 0	Southbound Northbound East Start Time Thru Right RTOR App. Total Left Thru App. Total Left Thru App. Total Left Right 04:00 PM 3 0	Hesperia Road Southbound Hesperia Road Northbound Green Tree Boulet Eastbound Start Time Thru Right RTOR App. Total Left Thru App. Total Left Right RTOR 04:00 PM 3 0	Hesperia Road South-bound Hesperia Road South-bound Hesperia Road Northbound Hesperia Road South-bound Hesperia Road Northbound Hesperia Road Raybound Hesperia Road Northbound Hesperia Road Raybound Hesperia Road Raybound Hesperia Road Northbound Hesperia Road Raybound Hesperia Road Raybound Hesperia Road Northbound Hesperia Road Raybound Ra	Hesperia Road South-bound Hesperia Road Northbound Hesperia Road South-bound Hesperia Road Northbound Hesperia Road Reast-bound Hesperia Road Reast-bound Hesperia Road Northbound Hesperia Road Reast-bound Hesperia Road Reast-bound Hesperia Road Reast-bound Hesperia Road Road Road Hesperia Road Road Road Hesperia Road Road Road Hesperia Road Ro	Hesperia Road Southbound Hesperia Road Northbound Hesperia Road Real Northbound Hesperia Road Hesp

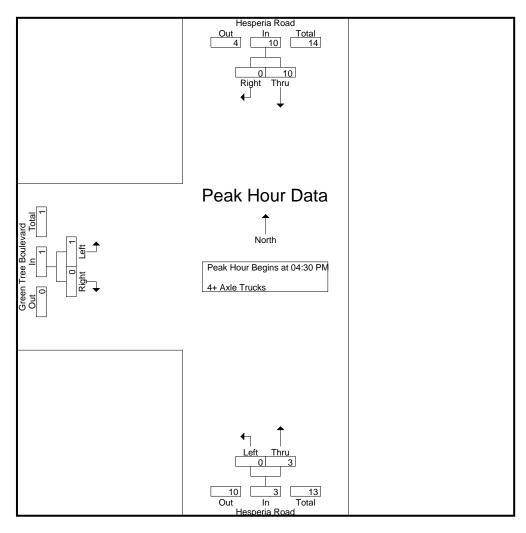
	Н	lesperia Ro	ad	H	lesperia Ro	ad	Gree	n Tree Bou	levard	
		Southbound	d		Northboun	d		Eastbound	t	
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis Fr	om 04:30 Pl	M to 05:15 F	PM - Peak 1 d	of 1						
Peak Hour for Entire Ir	ntersection B	Begins at 04	:30 PM							
04:30 PM	1	0	1	0	0	0	0	0	0	1
04:45 PM	3	0	3	0	1	1	0	0	0	4
05:00 PM	4	0	4	0	1	1	0	0	0	5
05:15 PM	2	0	2	0	1	1	1	0	1	4
Total Volume	10	0	10	0	3	3	1	0	1	14
% App. Total	100	0		0	100		100	0		
PHF	.625	.000	.625	.000	.750	.750	.250	.000	.250	.700

City of Victorville N/S: Hesperia Road E/W: Green Tree Boulevard

Weather: Clear

File Name: VIC_Hesp_Green PM Site Code: 05121691

Start Date : 11/16/2021 Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

I Cak Hour for Lacif A	oproach begi	is at.							
	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	1	0	1	0	0	0	0	0	0
+15 mins.	3	0	3	0	1	1	0	0	0
+30 mins.	4	0	4	0	1	1	0	0	0
+45 mins.	2	0	2	0	1	1	1	0	1
Total Volume	10	0	10	0	3	3	1	0	1
% App. Total	100	0		0	100		100	0	
PHF	.625	.000	.625	.000	.750	.750	.250	.000	.250

Location: Victorville

N/S: Hesperia Road

E/W: Green Tree Boulevard



Date: 11/16/2021 Day: Tuesday

PEDESTRIANS

	North Leg Hesperia Road	East Leg Green Tree Boulevard	South Leg Hesperia Road	West Leg Green Tree Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	1
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	1	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

	North Leg Hesperia Road	East Leg Green Tree Boulevard	South Leg Hesperia Road	West Leg Green Tree Boulevard	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	1	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	1	1

Location: Victorville
N/S: Hesperia Road
E/W: Green Tree Boulevard



Date: 11/16/2021 Day: Tuesday

BICYCLES

		Southbound			Westbound			Northbound		Cros	Eastbound		
	Left	lesperia Roa Thru	u Right	Left	n Tree Boule Thru	Right	Left	lesperia Roa Thru	u Right	Left	n Tree Boule Thru	Right	
7:00 AM		0	0	0	0	0	0	1	0	0	0	0	1
7:15 AM	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
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	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
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	0	1

		Southbound Tesperia Roa			Westbound on Tree Boule			Northbound lesperia Roa		Gree	Eastbound en Tree Boul		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	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
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Wed, Feb 7, 18 LOCATION: Hesperia PROJECT #: SC
NORTH & SOUTH: Hesperia LOCATION #: 8
EAST & WEST: Bear Valley CONTROL: SIGNAL

NOTES:

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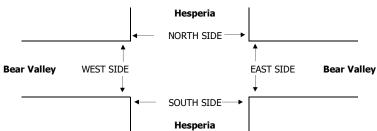
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Add U-Turns to Left Turns

		NORTHBOUND		SOUTHBOUND EASTBOUND		ND	WESTBOUND							
			Hesperia			Hesperia			Bear Valley			Bear Valley	,	
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	LANES:	2	2	1	2	2	0	2	3	1	2	3	1	
	7:00 AM	17	84	26	38	58	10	16	193	8	45	281	29	805
	7:15 AM	24	106	33	41	60	7	28	235	19	63	298	34	948
	7:30 AM	22	137	70	48	92	12	18	228	19	71	278	52	1,047
	7:45 AM	25	135	74	62	88	11	36	293	32	82	323	39	1,200
	8:00 AM	25	125	61	54	76	28	53	256	31	64	285	36	1,094
	8:15 AM	20	116	95	57	70	19	34	317	24	66	295	48	1,161
	8:30 AM	26	106	48	63	79	24	40	260	21	68	293	55	1,083
ΑM	8:45 AM	30	112	67	51	96	22	39	248	16	78	273	40	1,072
⋖	VOLUMES	189	921	474	414	619	133	264	2,030	170	537	2,326	333	8,410
	Approach %	12%	58%	30%	36%	53%	11%	11%	82%	7%	17%	73%	10%	
	APP/DEPART	1,584	- /	1,518	1,166	/	1,326	2,464	/	2,918	3,196	/	2,648	0
	BEGIN PEAK HR		7:45 AM											
	VOLUMES	96	482	278	236	313	82	163	1,126	108	280	1,196	178	4,538
	Approach %	11%	56%	32%	37%	50%	13%	12%	81%	8%	17%	72%	11%	
	PEAK HR FACTOR		0.915			0.950			0.931			0.931		0.945
	APP/DEPART	856		823	631	1	701	1,397	/	1,640	1,654	/	1,374	0
	4:00 PM	39	114	75	71	128	38	30	340	20	69	264	47	1,235
	4:15 PM	37	125	75	83	115	27	34	353	18	68	287	34	1,256
	4:30 PM	43	102	67	95	162	28	39	342	31	80	288	38	1,315
	4:45 PM	50	121	69	77	132	25	31	345	29	83	315	33	1,310
	5:00 PM	49	113	91	97	152	36	30	349	27	81	324	34	1,383
	5:15 PM	41	110	70	88	135	22	32	364	28	64	326	52	1,332
	5:30 PM	51	109	77	91	155	41	28	369	17	79	337	35	1,389
Σ	5:45 PM	53	101	79	97	143	34	33	386	26	64	308	30	1,354
۵	VOLUMES	363	895	603	699	1,122	251	257	2,848	196	588	2,449	303	10,574
	Approach %	20%	48%	32%	34%	54%	12%	8%	86%	6%	18%	73%	9%	
	APP/DEPART	1,861		1,455	2,072	/	1,906	3,301	/	4,150	3,340	/	3,063	0
	BEGIN PEAK HR		5:00 PM											
	VOLUMES	194	433	317	373	585	133	123	1,468	98	288	1,295	151	5,458
	Approach %	21%	46%	34%	34%	54%	12%	7%	87%	6%	17%	75%	9%	
	PEAK HR FACTOR		0.933			0.950			0.949			0.961		0.982
	APP/DEPART	944	1	707	1,091	1	971	1,689	/	2,158	1,734	/	1,622	0

U-TURNS								
NB 0	SB 0	EB 0	WB 0	TTL				
0	0	0	0	0				
0	0	0	0	0				
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0	0	0	0	0



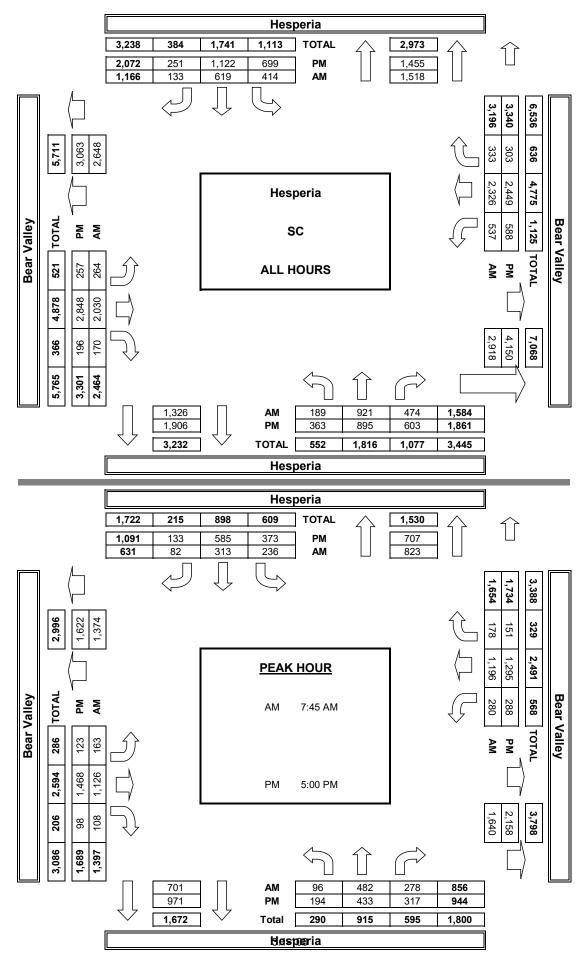
	7:00 AM
	7:15 AM
	7:30 AM
l_	7:45 AM
Ψ	8:00 AM
`	8:15 AM
	8:30 AM
	8:45 AM
	TOTAL
	4:00 PM
	4:15 PM
	4:30 PM
l_	4:45 PM
Σ	5:00 PM
-	5:15 PM
	5:30 PM
	5:45 PM
	TOTAL

PED	PEDESTRIAN + BIKE CROSSINGS								
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL					
0	2	0	0	2					
0	1	1	1	3					
1	0	1	1	3					
0	1	0	0	1					
0	0	0	1	1					
0	1	1	0	2					
0	0	0	1	1					
0	1	1	0	2					
1	6	4	4	15					
0	2	0	4	6					
0	1	4	1	6					
0	2	1	2	5					
0	2	2	1	5					
2	5	3	1	11					
1	0	2	1	4					
1	0	0	2	3					
0	1	0	0	1					
4	13	12	12	41					

	PEDESTRIAN CROSSINGS							
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL				
0	2	0	0	2				
0	1	1	1	3				
1	0	0	1	2				
0	1	0	0	1				
0	0	0	1	1				
0	1	1	0	2				
0	0	0	1	1				
0	1	1	0	2				
1	6	3	4	14				
0	1	0	2	3				
0	1	4	1	6				
0	1	1	1	3				
0	2	2	1	5				
1	5	3	1	10				
1	0	2	1	4				
1	0	0	2	3				
0	1	0	0	1				
3	11	12	9	35				

	BICYCLE CROSSINGS								
NS	SS	ES	WS	TOTAL					
0	0	0	0	0					
0	0	0	0	0					
0	0	1	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	1	0	1					
0	1	0	2	3					
0	0	0	0	0					
0	1	0	1	2					
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					
1	2	0	3	6					

AIMTD LLC
TURNING MOVEMENT COUNTS



APPENDIX 3.2:

EXISTING (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS



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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	† †	7	1,1	ተተተ	7	77	† †	7	77	† †	7
Traffic Volume (vph)	177	798	69	104	461	579	23	110	76	360	201	107
Future Volume (vph)	177	798	69	104	461	579	23	110	76	360	201	107
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	27.8	27.8	9.5	27.8	27.8	9.5	10.8		9.5	27.8	27.8
Total Split (s)	18.6	61.3	61.3	14.0	56.7	56.7	9.6	14.2		30.5	35.1	35.1
Total Split (%)	15.5%	51.1%	51.1%	11.7%	47.3%	47.3%	8.0%	11.8%		25.4%	29.3%	29.3%
Yellow Time (s)	3.5	4.8	4.8	3.5	4.8	4.8	3.5	4.8		3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	4.5	5.8	5.8	4.5	5.8		4.5	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	Max
Act Effct Green (s)	10.0	28.0	28.0	7.5	25.6	25.6	5.2	13.3	85.3	15.4	30.0	30.0
Actuated g/C Ratio	0.12	0.33	0.33	0.09	0.30	0.30	0.06	0.16	1.00	0.18	0.35	0.35
v/c Ratio	0.54	0.73	0.12	0.42	0.31	0.70	0.14	0.21	0.05	0.71	0.17	0.18
Control Delay	43.4	29.6	0.4	44.8	23.9	7.0	45.3	36.5	0.1	41.9	22.6	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	29.6	0.4	44.8	23.9	7.0	45.3	36.5	0.1	41.9	22.6	3.2
LOS	D	С	Α	D	С	Α	D	D	Α	D	С	Α
Approach Delay		30.0			17.2			24.2			29.9	
Approach LOS		С			В			С			С	

Cycle Length: 120

Actuated Cycle Length: 85.3

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

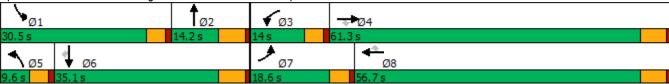
Maximum v/c Ratio: 0.73

Intersection Signal Delay: 24.8
Intersection Capacity Utilization 61.4%

Intersection LOS: C
ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Armargosa Rd. & La Mesa Rd./Nisqualli Rd.



	۶	→	•	•	•	•	4	†	/	/	↓	4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	^	7	14.54	^	7	77	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	177	798	69	104	461	579	23	110	76	360	201	107
Future Volume (veh/h)	177	798	69	104	461	579	23	110	76	360	201	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	192	867	75	113	501	493	25	120	0	391	218	116
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	255	1441	611	167	2007	567	77	643		462	1098	465
Arrive On Green	0.08	0.40	0.40	0.05	0.37	0.37	0.03	0.18	0.00	0.15	0.30	0.30
Sat Flow, veh/h	3048	3600	1525	3048	5400	1525	3048	3600	1525	3048	3600	1525
Grp Volume(v), veh/h	192	867	75	113	501	493	25	120	0	391	218	116
Grp Sat Flow(s),veh/h/ln	1524	1800	1525	1524	1800	1525	1524	1800	1525	1524	1800	1525
Q Serve(g_s), s	5.9	18.3	3.0	3.5	6.2	28.8	0.8	2.7	0.0	12.0	4.3	5.5
Cycle Q Clear(g_c), s	5.9	18.3	3.0	3.5	6.2	28.8	0.8	2.7	0.0	12.0	4.3	5.5
Prop In Lane	1.00		1.00	1.00	V	1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	255	1441	611	167	2007	567	77	643		462	1098	465
V/C Ratio(X)	0.75	0.60	0.12	0.68	0.25	0.87	0.32	0.19		0.85	0.20	0.25
Avail Cap(c_a), veh/h	447	2080	881	301	2861	808	162	643		825	1098	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	22.8	18.2	44.6	20.9	28.0	46.0	33.5	0.0	39.7	24.7	25.1
Incr Delay (d2), s/veh	1.7	0.4	0.1	1.8	0.1	7.3	0.9	0.6	0.0	1.7	0.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	7.2	1.0	1.3	2.4	10.8	0.3	1.2	0.0	4.4	1.8	2.0
Unsig. Movement Delay, s/veh		1.2	1.0	1.0	- . 1	10.0	0.0	1.6	0.0		1.0	2.0
LnGrp Delay(d),s/veh	44.8	23.2	18.3	46.3	21.0	35.3	46.9	34.2	0.0	41.3	25.1	26.4
LnGrp LOS	D	C	В	D	C C	D	70.5 D	C	0.0	D	C	C
Approach Vol, veh/h		1134			1107			145	Α		725	
Approach Delay, s/veh		26.5			30.0			36.4			34.1	
Approach LOS		20.5 C			0.0 C			30.4 D			04.1	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.1	23.0	9.8	44.3	6.9	35.1	12.5	41.5				
Change Period (Y+Rc), s	4.5	5.8	4.5	5.8	4.5	5.8	4.5	5.8				
Max Green Setting (Gmax), s	26.0	8.4	9.5	55.5	5.1	29.3	14.1	50.9				
Max Q Clear Time (g_c+l1), s	14.0	4.7	5.5	20.3	2.8	7.5	7.9	30.8				
Green Ext Time (p_c), s	0.6	0.2	0.1	6.6	0.0	1.5	0.2	4.9				
Intersection Summary												
HCM 6th Ctrl Delay			29.9									
HCM 6th LOS			С									
Notes												

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

	•	•	†	/	>	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻሻ	7	† †	7	ሻ	^
Traffic Volume (vph)	757	36	640	289	137	750
Future Volume (vph)	757	36	640	289	137	750
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.7	9.7	10.8	10.8	9.5	10.8
Total Split (s)	36.0	36.0	34.0	34.0	20.0	54.0
Total Split (%)	40.0%	40.0%	37.8%	37.8%	22.2%	60.0%
Yellow Time (s)	3.7	3.7	4.8	4.8	3.5	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	5.8	5.8	4.5	5.8
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	25.6	25.6	37.1	37.1	12.3	53.9
Actuated g/C Ratio	0.28	0.28	0.41	0.41	0.14	0.60
v/c Ratio	0.83	0.08	0.47	0.37	0.61	0.38
Control Delay	37.5	7.4	22.1	4.1	46.7	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	7.4	22.1	4.1	46.7	10.6
LOS	D	Α	С	Α	D	В
Approach Delay	36.2		16.5			16.2
Approach LOS	D		В			В
Intersection Summary						
Cycle Length: 90						

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 50

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 22.4 Intersection LOS: C
Intersection Capacity Utilization 59.4% ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 2: Armargosa Rd. & I-15 SB Ramps



	•	•	†	/	/	ţ	
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	1/1	7	^	7	ሻ	^	
Traffic Volume (veh/h)	757	36	640	289	137	750	
Future Volume (veh/h)	757	36	640	289	137	750	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	823	39	696	314	149	815	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	921	423	1692	755	185	2242	
Arrive On Green	0.26	0.26	0.47	0.47	0.10	0.62	
Sat Flow, veh/h	3510	1610	3705	1610	1810	3705	
Grp Volume(v), veh/h	823	39	696	314	149	815	
Grp Sat Flow(s),veh/h/ln	1755	1610	1805	1610	1810	1805	
Q Serve(g_s), s	20.3	1.6	11.4	11.6	7.3	9.9	
Cycle Q Clear(g_c), s	20.3	1.6	11.4	11.6	7.3	9.9	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	921	423	1692	755	185	2242	
V/C Ratio(X)	0.89	0.09	0.41	0.42	0.81	0.36	
Avail Cap(c_a), veh/h	1221	560	1692	755	312	2242	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	0.76	0.76	1.00	1.00	
Uniform Delay (d), s/veh	32.0	25.1	15.7	15.8	39.5	8.4	
Incr Delay (d2), s/veh	5.8	0.0	0.6	1.3	8.0	0.5	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	8.5	0.6	4.3	4.1	3.5	3.3	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	37.8	25.1	16.3	17.1	47.5	8.8	
LnGrp LOS	D	С	В	В	D	Α	
Approach Vol, veh/h	862		1010			964	
Approach Delay, s/veh	37.3		16.5			14.8	
Approach LOS	D		В			В	
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	13.7	48.0				61.7	28.3
Change Period (Y+Rc), s	4.5	5.8				5.8	4.7
Max Green Setting (Gmax), s	15.5	28.2				48.2	31.3
Max Q Clear Time (g_c+l1), s	9.3	13.6				11.9	22.3
Green Ext Time (p_c), s	0.2	4.8				5.9	1.3
Intersection Summary							
HCM 6th Ctrl Delay			22.2				
HCM 6th LOS			С				

	•	→	+	•	1	†	<i>></i>
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	ሻሻ	^	^	7	ች	ની	1
Traffic Volume (vph)	195	1162	976	288	177	1	236
Future Volume (vph)	195	1162	976	288	177	1	236
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	7	4	8			2	
Permitted Phases				8	2		2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	10.8	22.8	22.8	11.5	11.5	11.5
Total Split (s)	17.0	57.0	40.0	40.0	33.0	33.0	33.0
Total Split (%)	18.9%	63.3%	44.4%	44.4%	36.7%	36.7%	36.7%
Yellow Time (s)	3.5	4.8	4.8	4.8	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	5.8	6.5	6.5	6.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	10.0	61.9	47.4	47.4	15.8	15.8	15.8
Actuated g/C Ratio	0.11	0.69	0.53	0.53	0.18	0.18	0.18
v/c Ratio	0.57	0.37	0.40	0.32	0.33	0.33	0.74
Control Delay	43.4	6.9	14.7	3.0	33.3	33.5	35.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	6.9	14.7	3.0	33.3	33.5	35.3
LOS	D	Α	В	Α	С	С	D
Approach Delay		12.2	12.0			34.5	
Approach LOS		В	В			С	
Intersection Summary							
Cycle Length: 90							

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 45

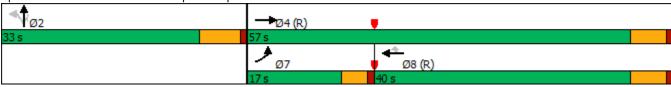
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 15.2 Intersection LOS: B Intersection Capacity Utilization 47.3% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: I-15 NB Ramps & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	ተተተ			ተተተ	7	ሻ	4	7			
Traffic Volume (veh/h)	195	1162	0	0	976	288	177	1	236	0	0	0
Future Volume (veh/h)	195	1162	0	0	976	288	177	1	236	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	219	1306	0	0	1097	324	200	0	265			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	297	3473	0	0	2774	861	701	0	312			
Arrive On Green	0.08	0.67	0.00	0.00	0.53	0.53	0.19	0.00	0.19			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	219	1306	0	0	1097	324	200	0	265			
Grp Sat Flow(s),veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	5.5	10.0	0.0	0.0	11.2	10.5	4.2	0.0	14.3			
Cycle Q Clear(g_c), s	5.5	10.0	0.0	0.0	11.2	10.5	4.2	0.0	14.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	297	3473	0	0	2774	861	701	0	312			
V/C Ratio(X)	0.74	0.38	0.00	0.00	0.40	0.38	0.29	0.00	0.85			
Avail Cap(c_a), veh/h	488	3473	0	0	2774	861	1066	0	474			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.67	0.67	0.00	0.00	0.89	0.89	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.2	6.6	0.0	0.0	12.3	12.2	31.0	0.0	35.0			
Incr Delay (d2), s/veh	0.9	0.2	0.0	0.0	0.4	1.1	0.2	0.0	8.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.3	2.8	0.0	0.0	3.8	3.5	1.7	0.0	5.9			
Unsig. Movement Delay, s/vel	ı											
LnGrp Delay(d),s/veh	41.1	6.8	0.0	0.0	12.7	13.3	31.2	0.0	43.9			
LnGrp LOS	D	Α	Α	Α	В	В	С	Α	D			
Approach Vol, veh/h		1525			1421			465				
Approach Delay, s/veh		11.7			12.9			38.4				
Approach LOS		В			В			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		23.9		66.1			12.1	53.9				
Change Period (Y+Rc), s		6.5		5.8			4.5	5.8				
Max Green Setting (Gmax), s		26.5		51.2			12.5	34.2				
Max Q Clear Time (g_c+l1), s		16.3		12.0			7.5	13.2				
Green Ext Time (p_c), s		1.1		11.1			0.2	8.6				
Intersection Summary												
HCM 6th Ctrl Delay			15.8									
HCM 6th LOS			В									
Notes												

User approved volume balancing among the lanes for turning movement.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	ተተተ	7	1,1	ተተተ	7	44	^	7	1,4	^	7
Traffic Volume (vph)	48	1111	238	89	1001	84	200	124	77	58	88	62
Future Volume (vph)	48	1111	238	89	1001	84	200	124	77	58	88	62
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	32.8	32.8	9.6	33.8	33.8	9.6	40.2	40.2	9.6	16.2	16.2
Total Split (s)	11.0	49.0	49.0	14.0	52.0	52.0	22.0	45.0	45.0	12.0	35.0	35.0
Total Split (%)	9.2%	40.8%	40.8%	11.7%	43.3%	43.3%	18.3%	37.5%	37.5%	10.0%	29.2%	29.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	6.1	31.4	31.4	7.5	34.7	34.7	12.6	14.6	14.6	6.5	10.9	10.9
Actuated g/C Ratio	0.08	0.41	0.41	0.10	0.46	0.46	0.17	0.19	0.19	0.09	0.14	0.14
v/c Ratio	0.22	0.59	0.33	0.33	0.48	0.12	0.44	0.20	0.22	0.25	0.19	0.19
Control Delay	41.6	20.3	3.6	40.8	16.6	0.6	36.9	31.6	5.5	41.1	36.7	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	20.3	3.6	40.8	16.6	0.6	36.9	31.6	5.5	41.1	36.7	1.2
LOS	D	С	Α	D	В	Α	D	С	Α	D	D	Α
Approach Delay		18.2			17.3			29.2			27.3	
Approach LOS		В			В			С			С	

Cycle Length: 120

Actuated Cycle Length: 76.1

Natural Cycle: 95

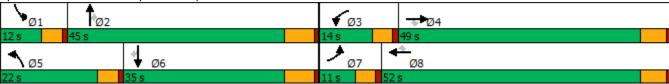
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.59

Intersection Signal Delay: 19.8 Intersection LOS: B
Intersection Capacity Utilization 59.6% ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Mariposa & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	^ ^	7	ሻሻ	ተተተ	7	ሻሻ	^	7	ሻሻ	^↑	7
Traffic Volume (veh/h)	48	1111	238	89	1001	84	200	124	77	58	88	62
Future Volume (veh/h)	48	1111	238	89	1001	84	200	124	77	58	88	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	52	1195	256	96	1076	90	215	133	83	62	95	67
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	136	1858	577	182	1935	601	301	678	302	150	502	224
Arrive On Green	0.05	0.38	0.38	0.06	0.39	0.39	0.10	0.20	0.20	0.05	0.15	0.15
Sat Flow, veh/h	2956	4914	1525	2956	4914	1525	2956	3420	1525	2956	3420	1525
Grp Volume(v), veh/h	52	1195	256	96	1076	90	215	133	83	62	95	67
Grp Sat Flow(s),veh/h/ln	1478	1638	1525	1478	1638	1525	1478	1710	1525	1478	1710	1525
Q Serve(g_s), s	1.2	13.6	8.5	2.1	11.6	2.6	4.8	2.2	3.1	1.4	1.7	2.7
Cycle Q Clear(g_c), s	1.2	13.6	8.5	2.1	11.6	2.6	4.8	2.2	3.1	1.4	1.7	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	136	1858	577	182	1935	601	301	678	302	150	502	224
V/C Ratio(X)	0.38	0.64	0.44	0.53	0.56	0.15	0.71	0.20	0.27	0.41	0.19	0.30
Avail Cap(c_a), veh/h	278	3119	968	408	3336	1036	756	1950	870	321	1447	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	17.4	15.8	31.0	16.0	13.3	29.6	22.8	23.1	31.3	25.5	25.9
Incr Delay (d2), s/veh	0.7	0.4	0.5	0.9	0.3	0.1	1.2	0.1	0.5	0.7	0.2	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	4.4	2.6	0.7	3.7	0.8	1.6	0.8	1.1	0.5	0.6	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.2	17.8	16.3	31.9	16.3	13.4	30.8	22.9	23.6	32.0	25.7	26.6
LnGrp LOS	С	В	В	С	В	В	С	С	С	С	С	С
Approach Vol, veh/h		1503			1262			431			224	
Approach Delay, s/veh		18.0			17.2			27.0			27.7	
Approach LOS		В			В			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.1	19.7	8.8	31.5	11.5	16.2	7.7	32.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	7.4	38.8	9.4	43.2	17.4	28.8	6.4	46.2				
Max Q Clear Time (g_c+l1), s	3.4	5.1	4.1	15.6	6.8	4.7	3.2	13.6				
Green Ext Time (p_c), s	0.0	1.0	0.1	10.1	0.3	0.6	0.0	8.6				
Intersection Summary												
HCM 6th Ctrl Delay			19.5									
HCM 6th LOS			В									

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	7	∱ ∱	7	∱ }	ሻ	†	7	7	†	7	
Traffic Volume (vph)	27	742	23	482	96	214	18	40	164	48	
Future Volume (vph)	27	742	23	482	96	214	18	40	164	48	
Turn Type	Prot	NA	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	
Protected Phases	7	4	3	8	5	2	3	1	6		
Permitted Phases							2			6	
Detector Phase	7	4	3	8	5	2	3	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	30.8	9.6	30.8	9.6	25.8	9.6	9.6	15.8	15.8	
Total Split (s)	12.0	54.0	12.0	54.0	22.0	39.0	12.0	15.0	32.0	32.0	
Total Split (%)	10.0%	45.0%	10.0%	45.0%	18.3%	32.5%	10.0%	12.5%	26.7%	26.7%	
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	4.8	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	5.8	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Min	None	None	Min	Min	
Act Effct Green (s)	6.8	32.7	6.7	32.6	11.2	22.2	35.6	7.8	16.3	16.3	
Actuated g/C Ratio	0.08	0.41	0.08	0.41	0.14	0.28	0.44	0.10	0.20	0.20	
v/c Ratio	0.23	0.72	0.20	0.45	0.50	0.51	0.03	0.30	0.53	0.13	
Control Delay	50.2	25.6	49.9	20.6	47.8	34.3	0.1	49.0	40.9	0.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	50.2	25.6	49.9	20.6	47.8	34.3	0.1	49.0	40.9	0.6	
LOS	D	С	D	С	D	С	Α	D	D	Α	
Approach Delay		26.3		21.8		36.4			34.6		
Approach LOS		С		С		D			С		

Cycle Length: 120

Actuated Cycle Length: 80.3

Natural Cycle: 80

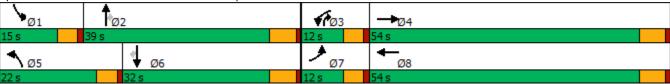
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 27.8 Intersection Capacity Utilization 54.6% Intersection LOS: C ICU Level of Service A

Analysis Period (min) 15

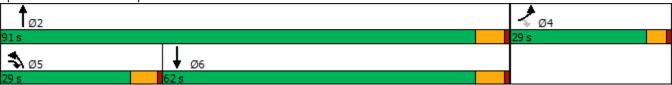
Splits and Phases: 5: 7th/Arrowhead Dr & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	∱ ∱		ሻ	∱ }		ሻ	↑	7	7	↑	7
Traffic Volume (veh/h)	27	742	98	23	482	44	96	214	18	40	164	48
Future Volume (veh/h)	27	742	98	23	482	44	96	214	18	40	164	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	32	873	115	27	567	52	113	252	21	47	193	56
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	55	1172	154	49	1209	111	142	367	357	72	290	246
Arrive On Green	0.03	0.39	0.39	0.03	0.38	0.38	0.09	0.20	0.20	0.04	0.16	0.16
Sat Flow, veh/h	1619	3038	400	1619	3168	290	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	32	491	497	27	306	313	113	252	21	47	193	56
Grp Sat Flow(s),veh/h/ln	1619	1710	1728	1619	1710	1748	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	1.2	15.4	15.4	1.0	8.3	8.4	4.2	8.0	0.7	1.8	6.2	2.0
Cycle Q Clear(g_c), s	1.2	15.4	15.4	1.0	8.3	8.4	4.2	8.0	0.7	1.8	6.2	2.0
Prop In Lane	1.00		0.23	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	55	660	667	49	653	667	142	367	357	72	290	246
V/C Ratio(X)	0.58	0.74	0.74	0.56	0.47	0.47	0.80	0.69	0.06	0.65	0.66	0.23
Avail Cap(c_a), veh/h	193	1329	1343	193	1329	1358	454	964	862	271	760	644
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	16.4	16.4	29.7	14.4	14.4	27.8	22.8	18.4	29.1	24.4	22.6
Incr Delay (d2), s/veh	3.5	1.7	1.7	3.7	0.5	0.5	3.8	2.3	0.1	3.6	2.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.1	5.2	0.4	2.7	2.8	1.7	3.3	0.2	0.7	2.5	0.7
Unsig. Movement Delay, s/veh		10.1	10.1	22.2	4= 0	4-0	24.2	0= 4	40 =		0= 4	22.4
LnGrp Delay(d),s/veh	33.0	18.1	18.1	33.3	15.0	15.0	31.6	25.1	18.5	32.7	27.1	23.1
LnGrp LOS	С	В	В	С	В	В	С	С	В	С	С	<u>C</u>
Approach Vol, veh/h		1020			646			386			296	
Approach Delay, s/veh		18.6			15.7			26.7			27.2	
Approach LOS		В			В			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.4	18.5	6.5	29.7	10.0	15.8	6.7	29.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	10.4	33.2	7.4	48.2	17.4	26.2	7.4	48.2				
Max Q Clear Time (g_c+I1), s	3.8	10.0	3.0	17.4	6.2	8.2	3.2	10.4				
Green Ext Time (p_c), s	0.0	1.4	0.0	6.6	0.1	1.0	0.0	3.7				
Intersection Summary												
HCM 6th Ctrl Delay			20.2									
HCM 6th LOS			С									

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Lane Group	EBL	EBR	NBL	NBT	SBT	
Lane Configurations	ሻ	77	ሻሻ	^	† }	
Traffic Volume (vph)	129	266	313	724	870	
Future Volume (vph)	129	266	313	724	870	
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	26.6	15.8	15.8	16.2	28.2	
Total Split (s)	29.0	29.0	29.0	91.0	62.0	
Total Split (%)	24.2%	24.2%	24.2%	75.8%	51.7%	
Yellow Time (s)	3.6	4.8	4.8	5.2	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	5.8	6.2	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	12.1	32.5	15.5	55.9	34.2	
Actuated g/C Ratio	0.15	0.41	0.20	0.70	0.43	
v/c Ratio	0.57	0.24	0.59	0.32	0.73	
Control Delay	44.3	9.5	35.9	5.0	22.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	44.3	9.5	35.9	5.0	22.2	
LOS	D	Α	D	Α	С	
Approach Delay	20.9			14.3	22.2	
Approach LOS	С			В	С	
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 79.4						
Natural Cycle: 75						
Control Type: Actuated-Unc	oordinated	i				
Maximum v/c Ratio: 0.73						
Intersection Signal Delay: 18	3.6			Ir	ntersectio	ı LOS: B
Intersection Capacity Utilizat)		IC	CU Level	of Service B
Analysis Period (min) 15						

Splits and Phases: 6: Hesperia Rd. & Green Tree Bl.



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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	ሻ	77	ሻሻ	^	† 1>	
Traffic Volume (veh/h)	129	266	313	724	870	114
Future Volume (veh/h)	129	266	313	724	870	114
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1700	1800	1600	1800	1800	1800
Adj Flow Rate, veh/h	139	221	337	778	935	91
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	199	773	487	2389	1379	134
Arrive On Green	0.12	0.12	0.16	0.70	0.44	0.44
Sat Flow, veh/h	1619	2685	2956	3510	3238	306
Grp Volume(v), veh/h	139	221	337	778	508	518
Grp Sat Flow(s),veh/h/ln	1619	1342	1478	1710	1710	1745
Q Serve(g_s), s	5.0	3.9	6.5	5.4	14.4	14.4
Cycle Q Clear(g_c), s	5.0	3.9	6.5	5.4	14.4	14.4
Prop In Lane	1.00	1.00	1.00			0.18
Lane Grp Cap(c), veh/h	199	773	487	2389	749	764
V/C Ratio(X)	0.70	0.29	0.69	0.33	0.68	0.68
Avail Cap(c_a), veh/h	653	1524	1133	4791	1576	1608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	16.7	23.8	3.6	13.6	13.6
Incr Delay (d2), s/veh	1.6	0.1	1.8	0.1	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	2.1	0.7	4.3	4.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.1	16.8	25.6	3.6	14.7	14.7
LnGrp LOS	С	В	С	Α	В	В
Approach Vol, veh/h	360			1115	1026	
Approach Delay, s/veh	20.8			10.3	14.7	
Approach LOS	С			В	В	
Timer - Assigned Phs		2			5	6
				40.4		
Phs Duration (G+Y+Rc), s		48.5		12.1	15.8	32.7
Change Period (Y+Rc), s		6.2		4.6	5.8	6.2
Max Green Setting (Gmax), s		84.8		24.4	23.2	55.8
Max Q Clear Time (g_c+l1), s		7.4		7.0	8.5	16.4
Green Ext Time (p_c), s		8.1		0.5	0.9	10.1
Intersection Summary						
HCM 6th Ctrl Delay			13.6			
HCM 6th LOS			В			
HCM 6th LOS			В			

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			† }			∱ }	
Traffic Vol, veh/h	5	0	8	0	0	5	10	1028	6	9	1125	1
Future Vol, veh/h	5	0	8	0	0	5	10	1028	6	9	1125	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	_	_	None	_	_	None
Storage Length	_	_	-	-	_	-	100	-	-	100	-	-
Veh in Median Storage	.# -	2	-	-	2	_	_	0	_	_	0	_
Grade, %	-	0	-	-	0	_	_	0	_	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	0	9	0	0	6	11	1168	7	10	1278	1
											0	•
Major/Minor	Minor2		ľ	Minor1		1	Major1		N	/lajor2		
Conflicting Flow All	1905	2496	640	1853	2493	588	1279	0	0	1175	0	0
Stage 1	1299	1299	-	1194	1194	-	-	-	-	-	_	-
Stage 2	606	1197	_	659	1299	_	_	_	_	_	_	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	_	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	_	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	_	_	2.2	_	_
Pot Cap-1 Maneuver	43	29	423	47	30	457	550	-	-	602	_	_
Stage 1	174	234	-	201	262	-	-	_	-	-	-	_
Stage 2	456	261	_	424	234	-	-	-	-	-	_	_
Platoon blocked, %	.00							-	-		-	-
Mov Cap-1 Maneuver	41	28	423	45	29	457	550	-	-	602	-	-
Mov Cap-2 Maneuver	153	159	-	170	158	-	-	_	-	-	-	-
Stage 1	171	230	_	197	257	_	-	-	-	-	-	-
Stage 2	441	256	_	408	230	_	_	_	-	_	-	-
2.0.30 2		_55		.00	_00							
Approach	EB			WB			NB			SB		
HCM Control Delay, s	20.2			13			0.1			0.1		
HCM LOS	С			В								
Minor Lane/Major Mvm	nt	NBL	NBT	NBR I	EBLn1V	VBLn1	SBL	SBT	SBR			
Capacity (veh/h)		550	-	-	252	457	602	-				
HCM Lane V/C Ratio		0.021	-	_		0.012		-	-			
HCM Control Delay (s)		11.7	-	_	20.2	13	11.1	_	-			
HCM Lane LOS		В	_	_	C	В	В	_	_			
HCM 95th %tile Q(veh))	0.1	-	-	0.2	0	0.1	-	-			
7000 0(1011)		V . 1			V. <u>L</u>		J .,					

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	ሻሻ	<u></u>	77	ř	↑ ↑	44	∱ }	ň	↑ ↑
Traffic Volume (vph)	125	69	385	78	68	256	1096	15	1030
Future Volume (vph)	125	69	385	78	68	256	1096	15	1030
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	32.8	9.6	9.6	30.8	9.6	27.2	9.6	33.2
Total Split (s)	13.2	33.0	20.2	11.0	30.8	20.2	66.2	9.8	55.8
Total Split (%)	11.0%	27.5%	16.8%	9.2%	25.7%	16.8%	55.2%	8.2%	46.5%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	8.0	11.9	28.6	10.1	10.3	14.5	56.6	5.2	41.1
Actuated g/C Ratio	0.08	0.12	0.30	0.11	0.11	0.15	0.59	0.05	0.43
v/c Ratio	0.57	0.35	0.54	0.51	0.31	0.64	0.66	0.20	0.83
Control Delay	53.4	45.4	30.3	59.0	29.4	46.8	15.5	52.5	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	45.4	30.3	59.0	29.4	46.8	15.5	52.5	29.5
LOS	D	D	С	Е	С	D	В	D	С
Approach Delay		37.1			41.8		21.1		29.9
Approach LOS		D			D		С		С
Intersection Summary									

Cycle Length: 120

Actuated Cycle Length: 95.3

Natural Cycle: 100

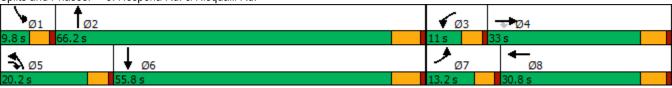
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83 Intersection Signal Delay: 28.0

Intersection LOS: C
ICU Level of Service C

Intersection Capacity Utilization 65.8% Analysis Period (min) 15

Splits and Phases: 8: Hesperia Rd. & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	+	77		∱ ∱		ሻሻ	∱ ⊅		ሻ	∱ ⊅	
Traffic Volume (veh/h)	125	69	385	78	68	41	256	1096	90	15	1030	52
Future Volume (veh/h)	125	69	385	78	68	41	256	1096	90	15	1030	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1600	No	1000	1700	No	1000	1600	No 1800	1000	1700	No	1000
Adj Sat Flow, veh/h/ln Adj Flow Rate, veh/h	1600 140	1800 78	1800 433	1700 88	1800 76	1800 46	1600 288	1231	1800 101	1700 17	1800 1157	1800 58
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0.03	0.09	0.09	0.03	0.09	0.03	0.03	0.03	0.03	0.03	0.09	0.03
Cap, veh/h	197	316	791	109	373	209	352	1637	134	31	1364	68
Arrive On Green	0.07	0.18	0.18	0.07	0.18	0.18	0.12	0.51	0.51	0.02	0.41	0.41
Sat Flow, veh/h	2956	1800	2685	1619	2112	1185	2956	3201	262	1619	3314	166
Grp Volume(v), veh/h	140	78	433	88	60	62	288	657	675	17	597	618
Grp Sat Flow(s), veh/h/ln	1478	1800	1342	1619	1710	1587	1478	1710	1753	1619	1710	1770
Q Serve(g_s), s	4.3	3.5	12.7	5.0	2.8	3.1	8.9	28.5	28.7	1.0	29.5	29.5
Cycle Q Clear(g_c), s	4.3	3.5	12.7	5.0	2.8	3.1	8.9	28.5	28.7	1.0	29.5	29.5
Prop In Lane	1.00		1.00	1.00		0.75	1.00		0.15	1.00		0.09
Lane Grp Cap(c), veh/h	197	316	791	109	302	280	352	874	896	31	704	728
V/C Ratio(X)	0.71	0.25	0.55	0.81	0.20	0.22	0.82	0.75	0.75	0.55	0.85	0.85
Avail Cap(c_a), veh/h	272	523	1100	111	457	424	493	1097	1124	90	907	939
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.8	33.2	27.8	43.0	32.9	33.0	40.2	18.1	18.2	45.5	24.9	24.9
Incr Delay (d2), s/veh	2.4	0.4	0.6	31.5	0.3	0.4	5.1	2.3	2.3	5.6	6.1	5.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.5	3.9	2.9	1.1	1.2	3.3	10.0	10.4	0.4	11.7	12.1
Unsig. Movement Delay, s/veh LnGrp Delay(d),s/veh	45.2	33.6	28.3	74.5	33.2	33.4	45.4	20.4	20.4	51.0	31.0	30.8
LnGrp LOS	45.2 D	33.0 C	20.3 C	74.5 E	33.2 C	33.4 C	45.4 D	20.4 C	20.4 C	51.0 D	31.0 C	30.6 C
Approach Vol, veh/h	U	651		<u> </u>	210	U	<u> </u>	1620	U	ט	1232	
Approach Delay, s/veh		32.6			50.6			24.8			31.2	
Approach LOS		02.0 C			50.0 D			24.0 C			01.2 C	
											U	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.4	54.0	10.9	22.2	15.7	44.7	10.8	22.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.2	60.0	6.4	27.2	15.6	49.6	8.6	25.0				
Max Q Clear Time (g_c+I1), s	3.0	30.7	7.0	14.7	10.9	31.5	6.3	5.1				
Green Ext Time (p_c), s	0.0	9.6	0.0	1.7	0.2	6.9	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			29.8									
HCM 6th LOS			С									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Configurations	1/4	ተተተ	7	77	ተተተ	7	77	44	7	1/4	∱ ∱	
Traffic Volume (vph)	175	1206	116	300	1281	191	103	516	298	253	335	
Future Volume (vph)	175	1206	116	300	1281	191	103	516	298	253	335	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	31.2	9.6	9.6	33.2	9.6	9.6	39.2	39.2	9.6	37.2	
Total Split (s)	15.7	42.0	14.4	20.0	46.3	18.0	14.4	40.0	40.0	18.0	43.6	
Total Split (%)	13.1%	35.0%	12.0%	16.7%	38.6%	15.0%	12.0%	33.3%	33.3%	15.0%	36.3%	
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	10.1	34.1	43.9	14.4	38.5	52.8	8.1	25.0	25.0	12.6	29.5	
Actuated g/C Ratio	0.09	0.32	0.41	0.13	0.36	0.49	0.07	0.23	0.23	0.12	0.27	
v/c Ratio	0.68	0.83	0.19	0.81	0.78	0.26	0.50	0.69	0.61	0.78	0.49	
Control Delay	62.5	40.6	8.3	63.8	35.6	10.0	58.3	43.3	17.0	64.7	32.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	62.5	40.6	8.3	63.8	35.6	10.0	58.3	43.3	17.0	64.7	32.9	
LOS	E	D	Α	Е	D	В	Е	D	В	E	С	
Approach Delay		40.6			37.6			36.4			44.8	
Approach LOS		D			D			D			D	

Cycle Length: 120

Actuated Cycle Length: 108.1

Natural Cycle: 105

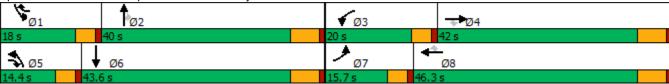
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.83 Intersection Signal Delay: 39.3 Intersection Capacity Utilization 77.2%

Intersection LOS: D
ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Hesperia Rd. & Bear Valley Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	ተተተ	7	ሻሻ	^	7	ሻሻ	^	7	ሻሻ	∱ ኈ	
Traffic Volume (veh/h)	175	1206	116	300	1281	191	103	516	298	253	335	88
Future Volume (veh/h)	175	1206	116	300	1281	191	103	516	298	253	335	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	4000	No	4000	1000	No	4000	1000	No	4000	1000	No	4000
Adj Sat Flow, veh/h/ln	1600 186	1800 1283	1800 91	1600 319	1800	1800 150	1600	1800 549	1800 237	1600 269	1800 356	1800
Adj Flow Rate, veh/h Peak Hour Factor	0.94	0.94	0.94	0.94	1363 0.94	0.94	110 0.94	0.94	0.94	0.94	0.94	73 0.94
Percent Heavy Veh, %	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Cap, veh/h	243	1603	580	376	1825	734	161	748	333	326	778	158
Arrive On Green	0.08	0.33	0.33	0.13	0.37	0.37	0.05	0.22	0.22	0.11	0.27	0.27
Sat Flow, veh/h	2956	4914	1524	2956	4914	1523	2956	3420	1521	2956	2832	574
Grp Volume(v), veh/h	186	1283	91	319	1363	150	110	549	237	269	213	216
Grp Sat Flow(s), veh/h/ln	1478	1638	1524	1478	1638	1523	1478	1710	1521	1478	1710	1697
Q Serve(g_s), s	6.1	23.6	3.9	10.5	24.0	5.6	3.6	14.8	14.3	8.8	10.3	10.5
Cycle Q Clear(g_c), s	6.1	23.6	3.9	10.5	24.0	5.6	3.6	14.8	14.3	8.8	10.3	10.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.34
Lane Grp Cap(c), veh/h	243	1603	580	376	1825	734	161	748	333	326	470	466
V/C Ratio(X)	0.77	0.80	0.16	0.85	0.75	0.20	0.68	0.73	0.71	0.83	0.45	0.46
Avail Cap(c_a), veh/h	330	1772	632	459	1985	783	292	1164	518	399	644	639
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	30.5	20.3	42.4	27.1	14.8	46.1	36.1	35.9	43.2	29.8	29.9
Incr Delay (d2), s/veh	4.6	2.5	0.1	10.2	1.5	0.1	1.9	1.4	2.8	9.3	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	8.9	1.3	4.2	8.8	1.8	1.3	6.0	5.3	3.5	4.0	4.1
Unsig. Movement Delay, s/veh		00.0	00.4	50.0	20.0	440	40.0	07.5	00.7	50.0	00.5	00.0
LnGrp Delay(d),s/veh	49.2	33.0	20.4	52.6	28.6	14.9	48.0	37.5	38.7	52.6	30.5	30.6
LnGrp LOS	D	C	С	D	C	В	D	D	D	D	С	С
Approach Vol, veh/h		1560			1832			896			698	
Approach LOS		34.2			31.7			39.1			39.1	
Approach LOS		С			С			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	27.9	17.2	38.6	10.0	33.5	12.7	43.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	13.4	33.8	15.4	35.8	9.8	37.4	11.1	40.1				
Max Q Clear Time (g_c+l1), s	10.8	16.8	12.5	25.6	5.6	12.5	8.1	26.0				
Green Ext Time (p_c), s	0.1	4.6	0.2	6.7	0.0	3.1	0.1	9.2				
Intersection Summary												
HCM 6th Ctrl Delay			34.8									
HCM 6th LOS			С									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	† †	7	1,4	ተተተ	7	1,1	† †	7	1,4	^	7
Traffic Volume (vph)	140	917	136	352	1440	652	131	316	394	798	632	402
Future Volume (vph)	140	917	136	352	1440	652	131	316	394	798	632	402
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	27.8	27.8	9.5	27.8	27.8	9.5	10.8		9.5	27.8	27.8
Total Split (s)	12.0	43.0	43.0	20.0	51.0	51.0	11.8	19.0		38.0	45.2	45.2
Total Split (%)	10.0%	35.8%	35.8%	16.7%	42.5%	42.5%	9.8%	15.8%		31.7%	37.7%	37.7%
Yellow Time (s)	3.5	4.8	4.8	3.5	4.8	4.8	3.5	4.8		3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	4.5	5.8	5.8	4.5	5.8		4.5	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	Max
Act Effct Green (s)	7.4	35.7	35.7	15.3	43.6	43.6	7.2	13.9	118.2	32.8	39.4	39.4
Actuated g/C Ratio	0.06	0.30	0.30	0.13	0.37	0.37	0.06	0.12	1.00	0.28	0.33	0.33
v/c Ratio	0.75	0.86	0.23	0.92	0.74	0.68	0.73	0.76	0.26	0.97	0.54	0.67
Control Delay	79.3	48.2	2.3	80.1	35.0	6.4	77.7	63.9	0.4	66.7	34.3	26.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.3	48.2	2.3	80.1	35.0	6.4	77.7	63.9	0.4	66.7	34.3	26.6
LOS	Е	D	Α	F	С	Α	Е	Е	Α	Е	С	С
Approach Delay		46.6			33.9			36.3			46.7	
Approach LOS		D			С			D			D	

Cycle Length: 120

Actuated Cycle Length: 118.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.97

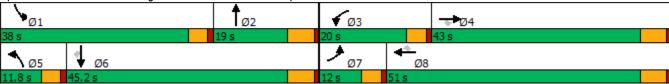
Intersection Signal Delay: 40.3
Intersection Capacity Utilization 92.1%

Intersection LOS: D
ICU Level of Service F

2.1% ICU Level of Service

Analysis Period (min) 15

Splits and Phases: 1: Armargosa Rd. & La Mesa Rd./Nisqualli Rd.

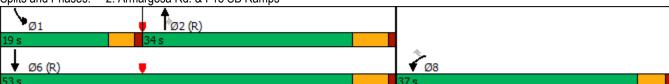


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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,4	^	7	14.54	^	7	ሻሻ	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	140	917	136	352	1440	652	131	316	394	798	632	402
Future Volume (veh/h)	140	917	136	352	1440	652	131	316	394	798	632	402
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	143	936	119	359	1469	486	134	322	0	814	645	308
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	191	1070	453	402	1980	559	182	412		856	1209	512
Arrive On Green	0.06	0.30	0.30	0.13	0.37	0.37	0.06	0.11	0.00	0.28	0.34	0.34
Sat Flow, veh/h	3048	3600	1525	3048	5400	1525	3048	3600	1525	3048	3600	1525
Grp Volume(v), veh/h	143	936	119	359	1469	486	134	322	0	814	645	308
Grp Sat Flow(s),veh/h/ln	1524	1800	1525	1524	1800	1525	1524	1800	1525	1524	1800	1525
Q Serve(g_s), s	5.4	29.0	7.0	13.6	27.8	34.8	5.1	10.2	0.0	30.8	17.0	19.7
Cycle Q Clear(g_c), s	5.4	29.0	7.0	13.6	27.8	34.8	5.1	10.2	0.0	30.8	17.0	19.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	1070	453	402	1980	559	182	412		856	1209	512
V/C Ratio(X)	0.75	0.87	0.26	0.89	0.74	0.87	0.74	0.78		0.95	0.53	0.60
Avail Cap(c_a), veh/h	195	1141	483	402	2080	587	190	412		870	1209	512
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.1	39.2	31.4	50.1	32.3	34.6	54.3	50.5	0.0	41.4	31.5	32.4
Incr Delay (d2), s/veh	12.9	7.5	0.3	20.7	1.4	12.8	11.7	13.7	0.0	19.2	1.7	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	13.3	2.5	6.2	11.8	14.2	2.2	5.3	0.0	13.3	7.4	7.7
Unsig. Movement Delay, s/veh		10.0	2.0	0.2	11.0	17.2	2.2	0.0	0.0	10.0	7.4	1.1
LnGrp Delay(d),s/veh	67.0	46.6	31.7	70.9	33.7	47.3	66.0	64.3	0.0	60.7	33.2	37.6
LnGrp LOS	67.0 E	70.0 D	C	70.5 E	C	77.3 D	E	04.0 E	0.0	E	C	D
Approach Vol, veh/h	<u> </u>	1198		<u> </u>	2314	<u>U</u>	<u> </u>	456	Α	<u> </u>	1767	
		47.6			42.4			64.8	А		46.6	
Approach LOS		47.0 D			42.4 D						40.0 D	
Approach LOS		ט			U			Е			U	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	37.5	19.2	20.0	40.7	11.5	45.2	11.8	48.8				
Change Period (Y+Rc), s	4.5	5.8	4.5	5.8	4.5	5.8	4.5	5.8				
Max Green Setting (Gmax), s	33.5	13.2	15.5	37.2	7.3	39.4	7.5	45.2				
Max Q Clear Time (g_c+l1), s	32.8	12.2	15.6	31.0	7.1	21.7	7.4	36.8				
Green Ext Time (p_c), s	0.2	0.2	0.0	3.2	0.0	4.8	0.0	6.3				
Intersection Summary												
HCM 6th Ctrl Delay			46.5									
HCM 6th LOS			D									
Notes												

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

	•	•	†	<i>></i>	>	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	44	7	^	7	7	† †
Traffic Volume (vph)	933	46	783	321	164	927
Future Volume (vph)	933	46	783	321	164	927
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.7	9.7	10.8	10.8	9.5	10.8
Total Split (s)	37.0	37.0	34.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	37.8%	21.1%	58.9%
Yellow Time (s)	3.7	3.7	4.8	4.8	3.5	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	5.8	5.8	4.5	5.8
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	29.6	29.6	32.6	32.6	12.8	49.9
Actuated g/C Ratio	0.33	0.33	0.36	0.36	0.14	0.55
v/c Ratio	0.89	0.09	0.66	0.44	0.70	0.51
Control Delay	39.1	6.3	28.1	4.6	51.7	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.1	6.3	28.1	4.6	51.7	14.1
LOS	D	Α	С	Α	D	В
Approach Delay	37.5		21.3			19.7
Approach LOS	D		С			В
Intersection Summary						
Cycle Length: 90						
Actuated Cycle Length: 90						
Offset: 0 (0%), Referenced to	phase 2	:NBT and	16:SBT, S	Start of G	reen	
Natural Cycle: 65	_					
Control Type: Actuated-Coor	dinated					
Maximum v/c Ratio: 0.89						
Intersection Signal Delay: 25	.7			lr	ntersectio	n LOS: C
Intersection Capacity Utilizati)				of Service
Analysis Period (min) 15						
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	•	•	†	/	/	↓	
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	ሻሻ	7	^	7	ሻ	^	
Traffic Volume (veh/h)	933	46	783	321	164	927	
Future Volume (veh/h)	933	46	783	321	164	927	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	1025	51	860	353	180	1019	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	1115	511	1430	638	217	2042	
Arrive On Green	0.32	0.32	0.40	0.40	0.12	0.57	
Sat Flow, veh/h	3510	1610	3705	1610	1810	3705	
Grp Volume(v), veh/h	1025	51	860	353	180	1019	
Grp Sat Flow(s),veh/h/ln	1755	1610	1805	1610	1810	1805	
Q Serve(g_s), s	25.3	2.0	17.0	15.3	8.8	15.4	
Cycle Q Clear(g_c), s	25.3	2.0	17.0	15.3	8.8	15.4	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1115	511	1430	638	217	2042	
V/C Ratio(X)	0.92	0.10	0.60	0.55	0.83	0.50	
Avail Cap(c_a), veh/h	1260	578	1430	638	292	2042	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	0.63	0.63	1.00	1.00	
Uniform Delay (d), s/veh	29.6	21.6	21.6	21.0	38.7	11.8	
Incr Delay (d2), s/veh	9.6	0.0	1.2	2.2	13.8	0.9	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	11.0	0.7	6.8	5.6	4.5	5.4	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	39.2	21.7	22.7	23.2	52.5	12.7	
LnGrp LOS	D	С	С	С	D	В	
Approach Vol, veh/h	1076		1213			1199	
Approach Delay, s/veh	38.4		22.9			18.7	
Approach LOS	D		С			В	
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	15.3	41.4				56.7	33.3
Change Period (Y+Rc), s	4.5	5.8				5.8	4.7
Max Green Setting (Gmax), s	14.5	28.2				47.2	32.3
Max Q Clear Time (g_c+l1), s	10.8	19.0				17.4	27.3
Green Ext Time (p_c), s	0.2	4.5				7.6	1.2
Intersection Summary							
HCM 6th Ctrl Delay			26.2				
HCM 6th LOS			С				

	٠	→	←	•	4	†	/
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	ሻሻ	^	^	7	*	ર્ન	7
Traffic Volume (vph)	287	1818	1952	382	489	0	409
Future Volume (vph)	287	1818	1952	382	489	0	409
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	7	4	8			2	
Permitted Phases				8	2		2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	10.8	22.8	22.8	11.5	11.5	11.5
Total Split (s)	14.0	60.0	46.0	46.0	30.0	30.0	30.0
Total Split (%)	15.6%	66.7%	51.1%	51.1%	33.3%	33.3%	33.3%
Yellow Time (s)	3.5	4.8	4.8	4.8	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	5.8	6.5	6.5	6.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	9.4	55.6	41.7	41.7	22.1	22.1	22.1
Actuated g/C Ratio	0.10	0.62	0.46	0.46	0.25	0.25	0.25
v/c Ratio	0.80	0.58	0.83	0.41	0.59	0.60	0.90
Control Delay	57.0	11.4	25.3	3.1	36.1	36.2	50.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	11.4	25.3	3.1	36.1	36.2	50.4
LOS	Е	В	С	Α	D	D	D
Approach Delay		17.6	21.7			42.6	
Approach LOS		В	С			D	
Intersection Summary							
Cycle Length: 90							
Naturated Cycle Langth: 00							

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 70

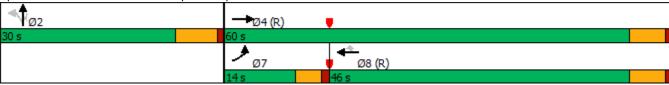
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 23.6 Intersection LOS: C
Intersection Capacity Utilization 73.4% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: I-15 NB Ramps & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	ተተተ			ተተተ	7	7	र्स	7			
Traffic Volume (veh/h)	287	1818	0	0	1952	382	489	0	409	0	0	0
Future Volume (veh/h)	287	1818	0	0	1952	382	489	0	409	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	293	1855	0	0	1992	390	499	0	417			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	365	3124	0	0	2326	722	945	0	420			
Arrive On Green	0.10	0.60	0.00	0.00	0.45	0.45	0.26	0.00	0.26			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	293	1855	0	0	1992	390	499	0	417			
Grp Sat Flow(s),veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	7.3	19.9	0.0	0.0	31.0	15.9	10.6	0.0	23.2			
Cycle Q Clear(g_c), s	7.3	19.9	0.0	0.0	31.0	15.9	10.6	0.0	23.2			
Prop In Lane	1.00	10.0	0.00	0.00	01.0	1.00	1.00	0.0	1.00			
Lane Grp Cap(c), veh/h	365	3124	0	0	2326	722	945	0	420			
V/C Ratio(X)	0.80	0.59	0.00	0.00	0.86	0.54	0.53	0.00	0.99			
Avail Cap(c_a), veh/h	371	3124	0	0	2326	722	945	0	420			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.52	0.52	0.00	0.00	0.44	0.44	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.4	11.1	0.0	0.0	22.2	18.1	28.5	0.0	33.2			
Incr Delay (d2), s/veh	6.0	0.4	0.0	0.0	2.0	1.3	0.6	0.0	41.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.3	6.3	0.0	0.0	11.5	5.5	4.3	0.0	13.0			
Unsig. Movement Delay, s/veh		0.0	0.0	0.0		0.0		0.0				
LnGrp Delay(d),s/veh	45.5	11.5	0.0	0.0	24.2	19.4	29.1	0.0	74.8			
LnGrp LOS	D	В	A	A	C	В	C	A	Ε			
Approach Vol, veh/h		2148			2382			916				
Approach Delay, s/veh		16.2			23.4			49.9				
Approach LOS		В			20.4 C			TJ.5				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		30.0		60.0			13.8	46.2				
, , ,												
Change Period (Y+Rc), s		6.5		5.8			4.5	5.8				
Max Green Setting (Gmax), s		23.5		54.2			9.5 9.3	40.2 33.0				
Max Q Clear Time (g_c+l1), s		25.2		21.9			0.0					
Green Ext Time (p_c), s		0.0		17.1			0.0	6.3				
Intersection Summary			05.0									
HCM 6th Ctrl Delay			25.0									
HCM 6th LOS			С									
Notes												

User approved volume balancing among the lanes for turning movement.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	77	^	7	77	ተተተ	7	44	^	7	77	^	7
Traffic Volume (vph)	144	1644	456	128	1784	136	418	297	175	177	298	103
Future Volume (vph)	144	1644	456	128	1784	136	418	297	175	177	298	103
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	32.8	32.8	9.6	33.8	33.8	9.6	40.2	40.2	9.6	16.2	16.2
Total Split (s)	12.0	52.7	52.7	12.3	53.0	53.0	24.0	41.0	41.0	14.0	31.0	31.0
Total Split (%)	10.0%	43.9%	43.9%	10.3%	44.2%	44.2%	20.0%	34.2%	34.2%	11.7%	25.8%	25.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	7.4	46.0	46.0	7.4	46.0	46.0	18.4	24.3	24.3	9.1	15.0	15.0
Actuated g/C Ratio	0.07	0.43	0.43	0.07	0.43	0.43	0.17	0.22	0.22	0.08	0.14	0.14
v/c Ratio	0.72	0.79	0.54	0.64	0.86	0.19	0.84	0.39	0.39	0.72	0.64	0.30
Control Delay	71.3	31.0	8.1	65.4	33.9	3.1	60.2	37.2	12.8	66.8	50.7	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.3	31.0	8.1	65.4	33.9	3.1	60.2	37.2	12.8	66.8	50.7	4.3
LOS	Е	С	Α	Е	С	Α	Е	D	В	Е	D	А
Approach Delay		28.9			33.8			43.2			47.4	
Approach LOS		С			С			D			D	

Cycle Length: 120

Actuated Cycle Length: 108.1

Natural Cycle: 105

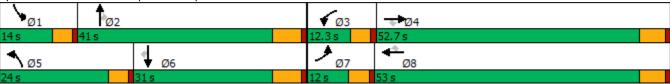
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.86 Intersection Signal Delay: 34.7 Intersection Capacity Utilization 81.8%

Intersection LOS: C
ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 4: Mariposa & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,4	ተተተ	7	ሻሻ	ተተተ	7	44	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	144	1644	456	128	1784	136	418	297	175	177	298	103
Future Volume (veh/h)	144	1644	456	128	1784	136	418	297	175	177	298	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	145	1661	461	129	1802	137	422	300	177	179	301	104
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	198	2176	675	181	2148	667	481	701	313	234	416	185
Arrive On Green	0.07	0.44	0.44	0.06	0.44	0.44	0.16	0.20	0.20	0.08	0.12	0.12
Sat Flow, veh/h	2956	4914	1525	2956	4914	1525	2956	3420	1525	2956	3420	1525
Grp Volume(v), veh/h	145	1661	461	129	1802	137	422	300	177	179	301	104
Grp Sat Flow(s),veh/h/ln	1478	1638	1525	1478	1638	1525	1478	1710	1525	1478	1710	1525
Q Serve(g_s), s	4.8	28.5	24.2	4.3	32.6	5.6	14.0	7.7	10.4	5.9	8.5	6.4
Cycle Q Clear(g_c), s	4.8	28.5	24.2	4.3	32.6	5.6	14.0	7.7	10.4	5.9	8.5	6.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	198	2176	675	181	2148	667	481	701	313	234	416	185
V/C Ratio(X)	0.73	0.76	0.68	0.71	0.84	0.21	0.88	0.43	0.57	0.76	0.72	0.56
Avail Cap(c_a), veh/h	219	2302	715	227	2317	719	573	1189	530	278	847	378
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	23.5	22.3	46.1	25.0	17.4	40.9	34.7	35.8	45.2	42.4	41.5
Incr Delay (d2), s/veh	8.8	1.5	2.5	4.8	2.7	0.2	11.5	0.4	1.6	8.0	2.4	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	10.3	8.4	1.6	12.0	1.8	5.6	3.1	3.9	2.3	3.5	2.5
Unsig. Movement Delay, s/veh		05.0	04.0	E0.0	07.0	47.0	50.4	25.4	07.4	F0 0	44.0	44.4
LnGrp Delay(d),s/veh	54.6	25.0	24.8	50.9	27.8	17.6	52.4	35.1	37.4	53.2	44.8	44.1
LnGrp LOS	D	С	С	D	С	В	D	D	D	D	D = 504	D
Approach Vol, veh/h		2267			2068			899			584	
Approach Delay, s/veh		26.8			28.6			43.7			47.2	
Approach LOS		С			С			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	26.7	10.7	50.1	20.9	18.4	11.3	49.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	9.4	34.8	7.7	46.9	19.4	24.8	7.4	47.2				
Max Q Clear Time (g_c+l1), s	7.9	12.4	6.3	30.5	16.0	10.5	6.8	34.6				
Green Ext Time (p_c), s	0.0	2.3	0.0	11.4	0.3	1.7	0.0	9.1				
Intersection Summary												
HCM 6th Ctrl Delay			32.1									
HCM 6th LOS			С									

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	7	∱ ∱	7	∱ }	*	†	7	7	†	7	
Traffic Volume (vph)	99	875	34	1097	217	241	43	46	296	83	
Future Volume (vph)	99	875	34	1097	217	241	43	46	296	83	
Turn Type	Prot	NA	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	
Protected Phases	7	4	3	8	5	2	3	1	6		
Permitted Phases							2			6	
Detector Phase	7	4	3	8	5	2	3	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	30.8	9.6	30.8	9.6	25.8	9.6	9.6	15.8	15.8	
Total Split (s)	14.0	54.2	9.8	50.0	15.0	41.9	9.8	14.1	41.0	41.0	
Total Split (%)	11.7%	45.2%	8.2%	41.7%	12.5%	34.9%	8.2%	11.8%	34.2%	34.2%	
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	4.8	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	5.8	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Min	None	None	Min	Min	
Act Effct Green (s)	9.1	49.7	5.2	43.6	10.5	29.2	40.2	7.4	24.0	24.0	
Actuated g/C Ratio	0.08	0.46	0.05	0.40	0.10	0.27	0.37	0.07	0.22	0.22	
v/c Ratio	0.76	0.72	0.47	0.90	1.46	0.52	0.07	0.44	0.78	0.21	
Control Delay	84.3	28.1	72.8	41.1	276.4	39.1	2.7	62.8	53.8	4.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	84.3	28.1	72.8	41.1	276.4	39.1	2.7	62.8	53.8	4.8	
LOS	F	С	Е	D	F	D	Α	Е	D	Α	
Approach Delay		32.9		42.0		138.6			45.2		
Approach LOS		С		D		F			D		

Cycle Length: 120 Actuated Cycle Length: 108

Natural Cycle: 90

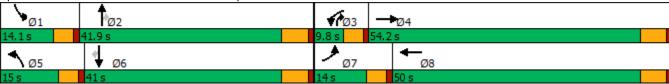
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.46
Intersection Signal Delay: 53.9
Intersection Capacity Utilization 87.8%

Intersection LOS: D
ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 5: 7th/Arrowhead Dr & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	ተ ኈ		ሻ	∱ ∱		ሻ	↑	7	ሻ	•	7
Traffic Volume (veh/h)	99	875	184	34	1097	73	217	241	43	46	296	83
Future Volume (veh/h)	99	875	184	34	1097	73	217	241	43	46	296	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	104	921	194	36	1155	77	228	254	45	48	312	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	128	1260	265	51	1306	87	171	490	464	60	367	311
Arrive On Green	0.08	0.45	0.45	0.03	0.40	0.40	0.11	0.27	0.27	0.04	0.20	0.20
Sat Flow, veh/h	1619	2812	592	1619	3254	217	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	104	560	555	36	606	626	228	254	45	48	312	87
Grp Sat Flow(s),veh/h/ln	1619	1710	1693	1619	1710	1761	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	6.2	26.5	26.6	2.2	32.5	32.6	10.4	11.8	2.1	2.9	16.5	4.8
Cycle Q Clear(g_c), s	6.2	26.5	26.6	2.2	32.5	32.6	10.4	11.8	2.1	2.9	16.5	4.8
Prop In Lane	1.00		0.35	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	766	759	51	686	706	171	490	464	60	367	311
V/C Ratio(X)	0.82	0.73	0.73	0.70	0.88	0.89	1.34	0.52	0.10	0.80	0.85	0.28
Avail Cap(c_a), veh/h	154	838	830	85	766	788	171	658	606	156	642	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.8	22.3	22.4	47.3	27.4	27.5	44.2	30.4	24.6	47.2	37.8	33.2
Incr Delay (d2), s/veh	20.1	3.0	3.0	6.3	11.1	11.0	185.8	0.9	0.1	8.8	5.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	10.2	10.2	0.9	14.2	14.6	12.8	5.0	0.7	1.3	7.4	1.7
Unsig. Movement Delay, s/veh		05.0	05.4	F0 0	20.5	20.4	000.0	24.2	047	FF 0	40.4	20.7
LnGrp Delay(d),s/veh	64.9	25.3	25.4	53.6	38.5	38.4	229.9	31.3	24.7	55.9	43.4	33.7
LnGrp LOS	E	C	С	D	D	D	F	C	С	<u>E</u>	D	<u>C</u>
Approach Vol, veh/h		1219			1268			527			447	
Approach Delay, s/veh		28.7			38.9			116.7			42.8	
Approach LOS		С			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	32.7	7.7	50.0	15.0	25.9	12.4	45.4				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	9.5	36.1	5.2	48.4	10.4	35.2	9.4	44.2				
Max Q Clear Time (g_c+l1), s	4.9	13.8	4.2	28.6	12.4	18.5	8.2	34.6				
Green Ext Time (p_c), s	0.0	1.4	0.0	6.8	0.0	1.7	0.0	5.0				
Intersection Summary												
HCM 6th Ctrl Delay			47.7									
HCM 6th LOS			D									

	•	•	4	†	↓		
Lane Group	EBL	EBR	NBL	NBT	SBT		
_ane Configurations	ሻ	77	16.56	^	† }		
Traffic Volume (vph)	136	519	497	1086	1071		
Future Volume (vph)	136	519	497	1086	1071		
Turn Type	Prot	pm+ov	Prot	NA	NA		
Protected Phases	4	5	5	2	6		
Permitted Phases		4					
Detector Phase	4	5	5	2	6		
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0		
Minimum Split (s)	26.6	15.8	15.8	16.2	28.2		
Total Split (s)	26.6	36.0	36.0	93.4	57.4		
Total Split (%)	22.2%	30.0%	30.0%	77.8%	47.8%		
Yellow Time (s)	3.6	4.8	4.8	5.2	5.2		
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	4.6	5.8	5.8	6.2	6.2		
Lead/Lag		Lead	Lead		Lag		
Lead-Lag Optimize?	. .	Yes	Yes		Yes		
Recall Mode	None	None	None	Min	Min		
Act Effct Green (s)	14.0	43.1	24.4	78.2	47.8		
Actuated g/C Ratio	0.14	0.42	0.24	0.76	0.46		
v/c Ratio	0.67	0.48	0.77	0.45	0.83		
Control Delay	59.9	21.3	45.8	5.5	30.9		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	59.9	21.3	45.8	5.5	30.9		
LOS Anna ach Dalau	E 20.2	С	D	A	C		
Approach Delay	29.3 C			18.2	30.9 C		
Approach LOS	C			В	C		
ntersection Summary							
Cycle Length: 120							
Actuated Cycle Length: 1	03.2						
Natural Cycle: 90							
Control Type: Actuated-L	Incoordinated	ł					
Maximum v/c Ratio: 0.83							
Intersection Signal Delay					ntersection		
Intersection Capacity Util	ization 74.9%	b		l(CU Level o	of Service D	
Analysis Period (min) 15							
Splits and Phases: 6: I	Hesperia Rd.	& Green	Tree Bl.				
↑ Ø2							
93.4s							

Existing (PCE) (2021) - PM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	ሻ	77	ሻሻ	^	† 1>	
Traffic Volume (veh/h)	136	519	497	1086	1071	136
Future Volume (veh/h)	136	519	497	1086	1071	136
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1700	1800	1600	1800	1800	1800
Adj Flow Rate, veh/h	146	424	534	1168	1152	119
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	242	967	622	2514	1448	149
Arrive On Green	0.15	0.15	0.21	0.74	0.46	0.46
Sat Flow, veh/h	1619	2685	2956	3510	3219	323
Grp Volume(v), veh/h	146	424	534	1168	629	642
Grp Sat Flow(s),veh/h/ln	1619	1342	1478	1710	1710	1742
Q Serve(g_s), s	7.9	11.2	16.3	12.9	29.3	29.4
Cycle Q Clear(g_c), s	7.9	11.2	16.3	12.9	29.3	29.4
Prop In Lane	1.00	1.00	1.00			0.19
Lane Grp Cap(c), veh/h	242	967	622	2514	791	806
V/C Ratio(X)	0.60	0.44	0.86	0.46	0.79	0.80
Avail Cap(c_a), veh/h	380	1196	953	3184	935	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	22.8	35.6	5.0	21.4	21.4
Incr Delay (d2), s/veh	0.9	0.1	5.0	0.1	4.1	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	9.1	6.2	3.6	11.9	12.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.1	22.9	40.6	5.1	25.5	25.5
LnGrp LOS	D	С	D	Α	С	С
Approach Vol, veh/h	570			1702	1271	
Approach Delay, s/veh	26.8			16.3	25.5	
Approach LOS	С			В	С	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		75.1		18.6	25.5	49.5
Change Period (Y+Rc), s		6.2		4.6	5.8	6.2
Max Green Setting (Gmax), s		87.2		22.0	30.2	51.2
Max Q Clear Time (g_c+l1), s		14.9		13.2	18.3	31.4
Green Ext Time (p_c), s		19.6		0.8	1.4	11.9
** /		13.0		0.0	1.4	11.3
Intersection Summary						
HCM 6th Ctrl Delay			21.3			
HCM 6th LOS			С			

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ች	∱ ∱		ች	† }	
Traffic Vol, veh/h	6	0	15	1	0	14	28	1564	0	7	1578	4
Future Vol, veh/h	6	0	15	1	0	14	28	1564	0	7	1578	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage	,# -	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	0	16	1	0	15	30	1682	0	8	1697	4
Major/Minor N	Minor2		ľ	Minor1			Major1		N	/lajor2		
Conflicting Flow All	2616	3457	851	2607	3459	841	1701	0	0	1682	0	0
Stage 1	1715	1715	-	1742	1742	-	-	-	-	-	-	-
Stage 2	901	1742	-	865	1717	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	12	7	308	12	7	312	379	-	-	386	-	-
Stage 1	96	147	-	92	142	-	-	-	-	-	-	-
Stage 2	303	142	-	319	146	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	11	6	308	11	6	312	379	-	-	386	-	-
Mov Cap-2 Maneuver	78	86	-	76	79	-	-	-	-	-	-	-
Stage 1	88	144	-	85	131	-	-	-	-	-	-	-
Stage 2	266	131	-	296	143	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	29.9			19.9			0.3			0.1		
HCM LOS	D			С								
Minor Lane/Major Mvm	t	NBL	NBT	NBR I	EBLn1V	VBLn1	SBL	SBT	SBR			
Capacity (veh/h)		379	-	-	167	258	386	-	-			
HCM Lane V/C Ratio		0.079	-	-		0.063		-	_			
HCM Control Delay (s)		15.3	-	-	29.9	19.9	14.5	-	-			
HCM Lane LOS		С	-	-	D	С	В	-	-			
HCM 95th %tile Q(veh)		0.3	-	-	0.5	0.2	0.1	-	-			

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Configurations	1/2	1	77.77	ሻ	∱ }	44	∱ }	ሻ	↑ ↑	
Traffic Volume (vph)	142	57	400	92	61	438	1327	18	1511	
Future Volume (vph)	142	57	400	92	61	438	1327	18	1511	
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA	
Protected Phases	7	4	5	3	8	5	2	1	6	
Permitted Phases			4							
Detector Phase	7	4	5	3	8	5	2	1	6	
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	32.8	9.6	9.6	30.8	9.6	27.2	9.6	33.2	
Total Split (s)	11.6	32.8	20.0	9.6	30.8	20.0	68.0	9.6	57.6	
Total Split (%)	9.7%	27.3%	16.7%	8.0%	25.7%	16.7%	56.7%	8.0%	48.0%	
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Min	None	Min	
Act Effct Green (s)	7.0	11.6	29.6	8.6	10.0	15.4	67.6	5.0	51.4	
Actuated g/C Ratio	0.07	0.11	0.28	0.08	0.10	0.15	0.64	0.05	0.49	
v/c Ratio	0.74	0.30	0.54	0.73	0.32	1.05	0.67	0.25	1.01	
Control Delay	71.4	47.0	34.0	81.9	28.7	100.1	14.4	56.4	50.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	71.4	47.0	34.0	81.9	28.7	100.1	14.4	56.4	50.8	
LOS	Е	D	С	F	С	F	В	Е	D	
Approach Delay		44.1			53.1		34.6		50.8	
Approach LOS		D			D		С		D	
Intersection Summary										

Cycle Length: 120 Actuated Cycle Length: 105

Natural Cycle: 130

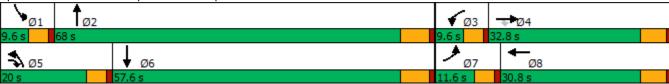
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.05
Intersection Signal Delay: 43.0
Intersection Capacity Utilization 88.8%

Intersection LOS: D
ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 8: Hesperia Rd. & Nisqualli Rd.



	۶	→	*	•	+	•	1	†	/	/	+	✓
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	↑	77	ሻ	∱ ∱		ሻሻ	∱ }		7	∱ ∱	
Traffic Volume (veh/h)	142	57	400	92	61	48	438	1327	92	18	1511	109
Future Volume (veh/h)	142	57	400	92	61	48	438	1327	92	18	1511	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1700	1800	1800	1600	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	146	59	309	95	63	39	452	1368	74	19	1558	86
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	195	226	726	76	224	128	428	2006	108	33	1593	88
Arrive On Green	0.07	0.13	0.13	0.05	0.11	0.11	0.14	0.61	0.61	0.02	0.48	0.48
Sat Flow, veh/h	2956	1800	2685	1619	2098	1197	2956	3300	178	1619	3296	181
Grp Volume(v), veh/h	146	59	309	95	50	52	452	707	735	19	805	839
Grp Sat Flow(s),veh/h/ln	1478	1800	1342	1619	1710	1585	1478	1710	1768	1619	1710	1767
Q Serve(g_s), s	5.2	3.2	10.1	5.0	2.9	3.2	15.4	29.4	29.6	1.2	48.9	49.7
Cycle Q Clear(g_c), s	5.2	3.2	10.1	5.0	2.9	3.2	15.4	29.4	29.6	1.2	48.9	49.7
Prop In Lane	1.00		1.00	1.00		0.76	1.00		0.10	1.00		0.10
Lane Grp Cap(c), veh/h	195	226	726	76	183	169	428	1039	1075	33	826	854
V/C Ratio(X)	0.75	0.26	0.43	1.25	0.28	0.30	1.06	0.68	0.68	0.58	0.97	0.98
Avail Cap(c_a), veh/h	195	457	1070	76	402	372	428	1039	1075	76	826	854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	42.0	32.0	50.7	43.7	43.9	45.5	14.0	14.0	51.7	26.8	27.0
Incr Delay (d2), s/veh	13.4	0.6	0.4	183.9	8.0	1.0	59.1	1.8	1.8	5.9	25.0	26.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	1.4	3.2	5.9	1.2	1.3	8.9	10.0	10.4	0.5	23.2	24.6
Unsig. Movement Delay, s/veh		40 C	20.4	0246	11 E	440	101 E	15.0	15.0	E7 6	E4 0	E2 E
LnGrp Delay(d),s/veh LnGrp LOS	62.3 E	42.6 D	32.4 C	234.6 F	44.5 D	44.9 D	104.5 F	15.8 B	15.8 B	57.6 E	51.8 D	53.5
			U	Г		U	Г		Б			<u>D</u>
Approach Vol, veh/h		514			197			1894			1663	
Approach LOC		42.0			136.3			37.0			52.7	
Approach LOS		D			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	70.9	9.6	19.2	20.0	57.6	11.6	17.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.0	61.8	5.0	27.0	15.4	51.4	7.0	25.0				
Max Q Clear Time (g_c+l1), s	3.2	31.6	7.0	12.1	17.4	51.7	7.2	5.2				
Green Ext Time (p_c), s	0.0	10.9	0.0	1.3	0.0	0.0	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			48.3									
HCM 6th LOS			D									

	۶	→	•	•	←	•	4	†	<i>></i>	>	ļ	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Configurations	1,4	ተተተ	7	77	ተተተ	7	ሻሻ	^	7	16.56	∱ ∱	
Traffic Volume (vph)	132	1573	105	309	1388	162	208	464	340	400	627	
Future Volume (vph)	132	1573	105	309	1388	162	208	464	340	400	627	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	31.2	9.6	9.6	33.2	9.6	9.6	39.2	39.2	9.6	37.2	
Total Split (s)	12.7	42.5	16.3	17.1	46.9	20.5	16.3	39.9	39.9	20.5	44.1	
Total Split (%)	10.6%	35.4%	13.6%	14.3%	39.1%	17.1%	13.6%	33.3%	33.3%	17.1%	36.8%	
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	7.8	36.4	53.5	12.5	41.2	63.3	10.9	27.9	27.9	15.9	32.9	
Actuated g/C Ratio	0.07	0.32	0.47	0.11	0.36	0.55	0.10	0.24	0.24	0.14	0.29	
v/c Ratio	0.68	1.03	0.14	0.98	0.80	0.18	0.76	0.57	0.70	1.00	0.81	
Control Delay	70.5	69.0	8.1	96.3	38.1	5.9	68.8	40.5	28.5	93.3	43.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	70.5	69.0	8.1	96.3	38.1	5.9	68.8	40.5	28.5	93.3	43.9	
LOS	Е	Е	Α	F	D	Α	Е	D	С	F	D	
Approach Delay		65.6			44.9			42.3			60.8	
Approach LOS		E			D			D			Е	

Cycle Length: 120

Actuated Cycle Length: 114.4

Natural Cycle: 125

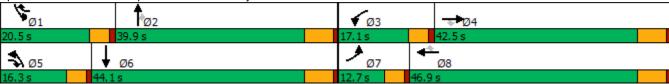
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.03 Intersection Signal Delay: 54.0 Intersection Capacity Utilization 90.7%

Intersection LOS: D
ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 9: Hesperia Rd. & Bear Valley Rd.



	۶	→	*	•	+	•	1	†	~	/	+	-✓
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	ተተተ	7	ሻሻ	ተተተ	7	ሻሻ	^	7	75	∱ β	
Traffic Volume (veh/h)	132	1573	105	309	1388	162	208	464	340	400	627	143
Future Volume (veh/h)	132	1573	105	309	1388	162	208	464	340	400	627	143
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	135	1605	107	315	1416	165	212	473	347	408	640	146
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	182	1532	610	317	1758	754	260	885	395	404	850	194
Arrive On Green	0.06	0.31	0.31	0.11	0.36	0.36	0.09	0.26	0.26	0.14	0.31	0.31
Sat Flow, veh/h	2956	4914	1525	2956	4914	1525	2956	3420	1525	2956	2766	630
Grp Volume(v), veh/h	135	1605	107	315	1416	165	212	473	347	408	395	391
Grp Sat Flow(s),veh/h/ln	1478	1638	1525	1478	1638	1525	1478	1710	1525	1478	1710	1687
Q Serve(g_s), s	5.2	36.3	5.3	12.4	30.3	7.1	8.2	13.9	25.4	15.9	24.2	24.3
Cycle Q Clear(g_c), s	5.2	36.3	5.3	12.4	30.3	7.1	8.2	13.9	25.4	15.9	24.2	24.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	182	1532	610	317	1758	754	260	885	395	404	526	518
V/C Ratio(X)	0.74	1.05	0.18	0.99	0.81	0.22	0.81	0.53	0.88	1.01	0.75	0.75
Avail Cap(c_a), veh/h	206	1532	610	317	1758	754	297	990	442	404	557	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	40.1	22.6	51.9	33.7	16.7	52.2	37.1	41.4	50.3	36.3	36.4
Incr Delay (d2), s/veh	9.7	36.6	0.1	48.3	2.9	0.1	12.5	0.5	16.8	47.5	5.4	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	19.6	1.9	6.7	12.3	2.5	3.5	5.8	11.3	8.5	10.8	10.7
Unsig. Movement Delay, s/veh		76.6	20.7	100.0	26.6	16.0	64.7	27.6	E0 0	07.7	11 7	44.0
LnGrp Delay(d),s/veh	63.5 E	76.6 F	22.7 C	100.2 F	36.6 D	16.8 B	64.7 E	37.6 D	58.2 E	97.7 F	41.7 D	41.9 D
LnGrp LOS			U	Г		Б	<u> </u>		<u> </u>	Г		<u> </u>
Approach Vol, veh/h		1847			1896			1032			1194	
Approach LOC		72.5			45.4			50.1			60.9	
Approach LOS		Е			D			D			Е	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.5	36.3	17.1	42.5	14.8	42.0	11.8	47.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	15.9	33.7	12.5	36.3	11.7	37.9	8.1	40.7				
Max Q Clear Time (g_c+l1), s	17.9	27.4	14.4	38.3	10.2	26.3	7.2	32.3				
Green Ext Time (p_c), s	0.0	2.7	0.0	0.0	0.1	5.1	0.0	6.7				
Intersection Summary												
HCM 6th Ctrl Delay			57.7									
HCM 6th LOS			Е									

APPENDIX 3.3:

EXISTING (2021) CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = Existing (2021) Conditions - Weekday PM Peak Hour

Major Street Name = Hesperia Road Total of Both Approaches (VPH) = 3091

Number of Approach Lanes Major Street = 2

Minor Street Name = Ottawa Street High Volume Approach (VPH) = 21

Number of Approach Lanes Minor Street = 1

SIGNAL WARRANT NOT SATISFIED 500 Minor Street - Higher-Volume Approach (VPH) 400 200 0 400 500 600 700 800 900 1200 1300 300 1000 1100 Major Street - Total of Both Approaches (VPH) 1 Lane (Major) & 1 Lane (Minor) 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor) 2+ Lanes (Major) & 2+ Lanes (Minor) Major Street Approaches ■ ■ • Minor Street Approaches

*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane



3.3-1

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APPENDIX 3.4:

EXISTING (2021) CONDITIONS QUEUING ANALYSIS WORKSHEETS



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2: Armargosa Rd. & I-15 SB Ramps

	•	•	†	<i>></i>	\	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	823	39	696	314	149	815
v/c Ratio	0.83	0.08	0.47	0.37	0.61	0.38
Control Delay	37.5	7.4	22.1	4.1	46.7	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	7.4	22.1	4.1	46.7	10.6
Queue Length 50th (ft)	224	0	149	0	80	116
Queue Length 95th (ft)	267	21	235	57	137	181
Internal Link Dist (ft)	1021		670			1219
Turn Bay Length (ft)	465	570			300	
Base Capacity (vph)	1217	587	1488	850	310	2161
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.07	0.47	0.37	0.48	0.38
Intersection Summary						

3: I-15 NB Ramps & Nisqualli Rd.

	•	→	←	•	•	†	/
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	219	1306	1097	324	99	101	265
v/c Ratio	0.57	0.37	0.40	0.32	0.33	0.33	0.74
Control Delay	43.4	6.9	14.7	3.0	33.3	33.5	35.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	6.9	14.7	3.0	33.3	33.5	35.3
Queue Length 50th (ft)	61	97	128	0	52	53	96
Queue Length 95th (ft)	93	162	207	47	88	89	158
Internal Link Dist (ft)		731	593			1882	
Turn Bay Length (ft)	250				645		915
Base Capacity (vph)	490	3565	2731	1004	504	506	537
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.37	0.40	0.32	0.20	0.20	0.49
Intersection Summary							

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		*	ħβ			∱ }	
Traffic Vol. veh/h	5	0	8	0	0	5	10	1028	6	9	1125	1
Future Vol, veh/h	5	0	8	0	0	5	10	1028	6	9	1125	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	_	-	None	_	_	None	-	_	None	_	_	None
Storage Length	_	-	_	_	_	_	100	_	-	100	_	-
Veh in Median Storage	.# -	2	_	_	2	-	-	0	_	_	0	_
Grade, %	_	0	_	_	0	_	_	0	-	_	0	_
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mymt Flow	6	0	9	0	0	6	11	1168	7	10	1278	1
									-			
Major/Minor N	Minor2		ľ	Minor1		ı	Major1		N	/lajor2		
Conflicting Flow All	1905	2496	640	1853	2493	588	1279	0	0	1175	0	0
Stage 1	1299	1299	-	1194	1194	-	-	-	-	-	_	-
Stage 2	606	1197	-	659	1299	-	_	_	_	_	-	_
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	_	-	4.1	_	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	_	-	-	-	_
Critical Hdwy Stg 2	6.5	5.5	_	6.5	5.5	_	_	_	-	_	_	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	_	-	2.2	-	_
Pot Cap-1 Maneuver	43	29	423	47	30	457	550	_	-	602	_	-
Stage 1	174	234	-	201	262	-	-	_	_	-	-	-
Stage 2	456	261	_	424	234	_	-	-	-	_	_	-
Platoon blocked, %								_	-		-	_
Mov Cap-1 Maneuver	41	28	423	45	29	457	550	_	-	602	_	-
Mov Cap-2 Maneuver	153	159	-	170	158	-	-	-	-	-	-	-
Stage 1	171	230	-	197	257	-	-	-	-	-	-	-
Stage 2	441	256	-	408	230	-	_	-	-	-	-	-
<u>g</u> .												
Approach	EB			WB			NB			SB		
HCM Control Delay, s	20.2			13			0.1			0.1		
HCM LOS	С			В								
Minor Lane/Major Mvm	t	NBL	NBT	NBR I	EBLn1V	VBLn1	SBL	SBT	SBR			
Capacity (veh/h)		550	-	_	252	457	602	-	-			
HCM Lane V/C Ratio		0.021	-	-		0.012		-	-			
HCM Control Delay (s)		11.7	-	-	20.2	13	11.1	-	-			
HCM Lane LOS		В	-	-	С	В	В	-	-			
HCM 95th %tile Q(veh)		0.1	-	-	0.2	0	0.1	-	-			

2: Armargosa Rd. & I-15 SB Ramps

	•	•	†	~	-	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1025	51	860	353	180	1019
v/c Ratio	0.89	0.09	0.66	0.44	0.70	0.51
Control Delay	39.1	6.3	28.1	4.6	51.7	14.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.1	6.3	28.1	4.6	51.7	14.1
Queue Length 50th (ft)	276	0	222	0	97	183
Queue Length 95th (ft)	347	23	302	60	166	246
Internal Link Dist (ft)	1021		670			1219
Turn Bay Length (ft)	465	570			300	
Base Capacity (vph)	1256	612	1306	809	290	2000
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.08	0.66	0.44	0.62	0.51
Intersection Summary						

	•	→	←	•	•	†	/
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	293	1855	1992	390	249	250	417
v/c Ratio	0.80	0.58	0.83	0.41	0.59	0.60	0.90
Control Delay	57.0	11.4	25.3	3.1	36.1	36.2	50.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	11.4	25.3	3.1	36.1	36.2	50.4
Queue Length 50th (ft)	85	219	360	0	128	129	181
Queue Length 95th (ft)	#147	261	429	49	210	210	#347
Internal Link Dist (ft)		731	593			1882	
Turn Bay Length (ft)	250				645		915
Base Capacity (vph)	372	3206	2404	958	447	447	486
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.58	0.83	0.41	0.56	0.56	0.86
Intersection Summary							

^{# 95}th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ች	ħβ		ች	† ‡	
Traffic Vol, veh/h	6	0	15	1	0	14	28	1564	0	7	1578	4
Future Vol, veh/h	6	0	15	1	0	14	28	1564	0	7	1578	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	_	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage	, # -	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	0	16	1	0	15	30	1682	0	8	1697	4
Major/Minor N	Minor2			Minor1			Major1		N	//ajor2		
Conflicting Flow All	2616	3457	851	2607	3459	841	1701	0	0	1682	0	0
Stage 1	1715	1715	-	1742	1742	-	-	-	-	-	-	-
Stage 2	901	1742	-	865	1717	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	12	7	308	12	7	312	379	-	-	386	-	-
Stage 1	96	147	-	92	142	-	-	-	-	-	-	-
Stage 2	303	142	-	319	146	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	11	6	308	11	6	312	379	-	-	386	-	-
Mov Cap-2 Maneuver	78	86	-	76	79	-	-	-	-	-	-	-
Stage 1	88	144	-	85	131	-	-	-	-	-	-	-
Stage 2	266	131	-	296	143	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	29.9			19.9			0.3			0.1		
HCM LOS	D			С								
Minor Lane/Major Mvm	t	NBL	NBT	NBR I	EBLn1V	VBLn1	SBL	SBT	SBR			
Capacity (veh/h)		379	-	-	167	258	386	-	-			
HCM Lane V/C Ratio		0.079	-	-		0.063		-	-			
HCM Control Delay (s)		15.3	-	-	29.9	19.9	14.5	-	-			
HCM Lane LOS		С	-	-	D	С	В	-	-			
HCM 95th %tile Q(veh)		0.3	-	-	0.5	0.2	0.1	-	-			

APPENDIX 5.1:

OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT CONDITIONS INTERSECTION
OPERATIONS ANALYSIS WORKSHEETS



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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	† †	7	ሻሻ	ተተተ	7	77	^	7	77	^	7
Traffic Volume (vph)	188	847	74	110	489	655	24	116	81	408	214	114
Future Volume (vph)	188	847	74	110	489	655	24	116	81	408	214	114
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	27.8	27.8	9.5	27.8	27.8	9.5	10.8		9.5	27.8	27.8
Total Split (s)	18.6	61.3	61.3	14.0	56.7	56.7	9.6	14.2		30.5	35.1	35.1
Total Split (%)	15.5%	51.1%	51.1%	11.7%	47.3%	47.3%	8.0%	11.8%		25.4%	29.3%	29.3%
Yellow Time (s)	3.5	4.8	4.8	3.5	4.8	4.8	3.5	4.8		3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	4.5	5.8	5.8	4.5	5.8		4.5	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	Max
Act Effct Green (s)	10.4	31.2	31.2	7.8	28.6	28.6	5.2	11.6	89.2	17.4	30.4	30.4
Actuated g/C Ratio	0.12	0.35	0.35	0.09	0.32	0.32	0.06	0.13	1.00	0.20	0.34	0.34
v/c Ratio	0.58	0.73	0.13	0.45	0.31	0.77	0.15	0.27	0.06	0.75	0.19	0.20
Control Delay	46.7	29.1	0.4	47.9	23.3	10.0	48.4	41.9	0.1	43.3	24.9	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	29.1	0.4	47.9	23.3	10.0	48.4	41.9	0.1	43.3	24.9	4.3
LOS	D	С	Α	D	С	Α	D	D	Α	D	С	Α
Approach Delay		30.1			18.5			27.2			31.9	
Approach LOS		С			В			С			С	

Cycle Length: 120

Actuated Cycle Length: 89.2

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

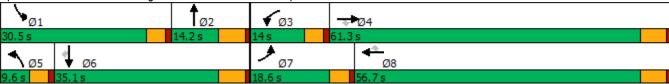
Maximum v/c Ratio: 0.77

Intersection Signal Delay: 25.9 Intersection Capacity Utilization 66.8% Intersection LOS: C

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Armargosa Rd. & La Mesa Rd./Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	^	7	14.54	^	7	ሻሻ	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	188	847	74	110	489	655	24	116	81	408	214	114
Future Volume (veh/h)	188	847	74	110	489	655	24	116	81	408	214	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	204	921	53	120	532	522	26	126	0	443	233	86
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	265	1504	637	174	2095	592	78	544		512	1056	447
Arrive On Green	0.09	0.42	0.42	0.06	0.39	0.39	0.03	0.15	0.00	0.17	0.29	0.29
Sat Flow, veh/h	3048	3600	1525	3048	5400	1525	3048	3600	1525	3048	3600	1525
Grp Volume(v), veh/h	204	921	53	120	532	522	26	126	0	443	233	86
Grp Sat Flow(s),veh/h/ln	1524	1800	1525	1524	1800	1525	1524	1800	1525	1524	1800	1525
Q Serve(g_s), s	6.5	20.0	2.1	3.9	6.7	31.8	0.8	3.1	0.0	14.1	4.9	4.2
Cycle Q Clear(g_c), s	6.5	20.0	2.1	3.9	6.7	31.8	0.8	3.1	0.0	14.1	4.9	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	265	1504	637	174	2095	592	78	544		512	1056	447
V/C Ratio(X)	0.77	0.61	0.08	0.69	0.25	0.88	0.33	0.23		0.87	0.22	0.19
Avail Cap(c_a), veh/h	430	2000	847	290	2751	777	156	544		793	1056	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	22.8	17.5	46.2	20.8	28.4	47.8	37.3	0.0	40.5	26.7	26.4
Incr Delay (d2), s/veh	1.8	0.4	0.1	1.8	0.1	9.4	0.9	1.0	0.0	4.0	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	7.9	0.7	1.5	2.6	12.2	0.3	1.4	0.0	5.3	2.1	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	23.2	17.6	48.1	20.8	37.8	48.7	38.3	0.0	44.5	27.2	27.4
LnGrp LOS	D	С	В	D	С	D	D	D		D	C	С
Approach Vol, veh/h		1178			1174			152	А		762	
Approach Delay, s/veh		26.9			31.2			40.1	7.		37.3	
Approach LOS		C C			C C			D			D D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.3	20.9	10.2	47.5	7.1	35.1	13.2	44.6				
Change Period (Y+Rc), s	4.5	5.8	4.5	5.8	4.5	5.8	4.5	5.8				
Max Green Setting (Gmax), s	26.0	8.4	9.5	55.5	5.1	29.3	14.1	50.9				
Max Q Clear Time (g_c+I1), s	16.1	5.1	5.9	22.0	2.8	6.9	8.5	33.8				
Green Ext Time (p_c), s	0.6	0.2	0.1	7.0	0.0	1.5	0.2	5.0				
Intersection Summary												
HCM 6th Ctrl Delay			31.5									
HCM 6th LOS			С									
Notes												

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

	•	•	†	/	-	ļ	
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	ሻሻ	7	^	#	ች	^	
Traffic Volume (vph)	830	39	679	347	145	795	
Future Volume (vph)	830	39	679	347	145	795	
Turn Type	Prot	Perm	NA	Perm	Prot	NA	
Protected Phases	8		2		1	6	
Permitted Phases		8		2			
Detector Phase	8	8	2	2	1	6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.7	9.7	10.8	10.8	9.5	10.8	
Total Split (s)	36.0	36.0	34.0	34.0	20.0	54.0	
Total Split (%)	40.0%	40.0%	37.8%	37.8%	22.2%	60.0%	
Yellow Time (s)	3.7	3.7	4.8	4.8	3.5	4.8	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.7	4.7	5.8	5.8	4.5	5.8	
Lead/Lag			Lag	Lag	Lead		
Lead-Lag Optimize?			Yes	Yes	Yes		
Recall Mode	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	27.1	27.1	35.3	35.3	12.6	52.4	
Actuated g/C Ratio	0.30	0.30	0.39	0.39	0.14	0.58	
v/c Ratio	0.86	0.08	0.52	0.44	0.63	0.41	
Control Delay	38.3	7.1	24.0	4.3	47.3	11.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.3	7.1	24.0	4.3	47.3	11.6	
LOS	D	Α	С	Α	D	В	
Approach Delay	36.9		17.3			17.1	
Approach LOS	D		В			В	
Intersection Summary							
Cycle Length: 90							
Actuated Cycle Length: 90							
		MDT and	CODT C	Start of C			
Offset: 0 (0%), Referenced	i to phase z	ווסו מווט	10.501, 3	start of Gr	een		
Natural Cycle: 55	ordinated						
Control Type: Actuated-Co Maximum v/c Ratio: 0.86	ordinated						
	າວ ວ			l.	atoro o oti o	n LOS: C	
Intersection Signal Delay:							
Intersection Capacity Utiliz	ation 63.0%			10	JU Level	of Service	∌ B
Analysis Period (min) 15							
Splits and Phases: 2: Ar	margosa Ro	d. & I-15 S	SB Ramp	S			
\		-					
™ Ø1	ľØ	2 (R)					
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OYC NP (PCE) - AM Peak Hour Urban Crossroads, Inc.

Synchro 11 Report Page 3

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Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	A.A.	7	^	7	7	^	
Traffic Volume (veh/h)	830	39	679	347	145	795	
Future Volume (veh/h)	830	39	679	347	145	795	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	902	42	738	377	158	864	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	997	457	1595	711	194	2163	
Arrive On Green	0.28	0.28	0.44	0.44	0.11	0.60	
Sat Flow, veh/h	3510	1610	3705	1610	1810	3705	
Grp Volume(v), veh/h	902	42	738	377	158	864	
Grp Sat Flow(s), veh/h/ln	1755	1610	1805	1610	1810	1805	
Q Serve(g_s), s	22.3	1.7	12.9	15.4	7.7	11.3	
Cycle Q Clear(g_c), s	22.3	1.7	12.9	15.4	7.7	11.3	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	997	457	1595	711	194	2163	
V/C Ratio(X)	0.90	0.09	0.46	0.53	0.81	0.40	
Avail Cap(c_a), veh/h	1221	560	1595	711	312	2163	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	0.69	0.69	1.00	1.00	
Uniform Delay (d), s/veh	31.0	23.7	17.6	18.3	39.3	9.5	
Incr Delay (d2), s/veh	7.5	0.0	0.7	2.0	8.3	0.6	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	9.5	0.6	5.0	5.5	3.7	3.8	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	38.6	23.7	18.3	20.3	47.6	10.1	
LnGrp LOS	D	С	В	С	D	В	
Approach Vol, veh/h	944		1115			1022	
Approach Delay, s/veh	37.9		19.0			15.9	
Approach LOS	D		В			В	
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	14.2	45.6				59.7	30.3
Change Period (Y+Rc), s	4.5	5.8				5.8	4.7
Max Green Setting (Gmax), s	15.5	28.2				48.2	31.3
Max Q Clear Time (g_c+l1), s	9.7	17.4				13.3	24.3
Green Ext Time (p_c), s	0.2	4.5				6.3	1.3
Intersection Summary							
			22.7				
HCM 6th Ctrl Delay			23.7				

	•	→	←	*	4	†	<i>></i>
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	14.14	ተተተ	ተተተ	7	7	4	7
Traffic Volume (vph)	207	1260	1076	345	188	1	276
Future Volume (vph)	207	1260	1076	345	188	1	276
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	7	4	8			2	
Permitted Phases				8	2		2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	10.8	22.8	22.8	11.5	11.5	11.5
Total Split (s)	17.0	57.0	40.0	40.0	33.0	33.0	33.0
Total Split (%)	18.9%	63.3%	44.4%	44.4%	36.7%	36.7%	36.7%
Yellow Time (s)	3.5	4.8	4.8	4.8	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	5.8	6.5	6.5	6.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	10.1	59.3	44.6	44.6	18.4	18.4	18.4
Actuated g/C Ratio	0.11	0.66	0.50	0.50	0.20	0.20	0.20
v/c Ratio	0.59	0.41	0.47	0.39	0.30	0.30	0.78
Control Delay	44.1	8.5	17.1	3.3	30.5	30.6	36.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	8.5	17.1	3.3	30.5	30.6	36.5
LOS	D	Α	В	Α	С	С	D
Approach Delay		13.5	13.8			34.1	
Approach LOS		В	В			С	
Intersection Summary							

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 45

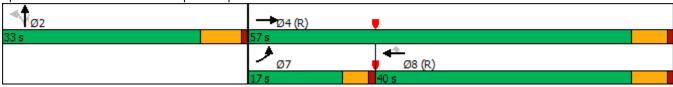
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 16.5 Intersection LOS: B Intersection Capacity Utilization 51.7% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: I-15 NB Ramps & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	^ ^			ተተተ	7	ሻ	4	7			
Traffic Volume (veh/h)	207	1260	0	0	1076	345	188	1	276	0	0	0
Future Volume (veh/h)	207	1260	0	0	1076	345	188	1	276	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	233	1416	0	0	1209	388	212	0	310			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	311	3333	0	0	2614	811	799	0	355			
Arrive On Green	0.09	0.64	0.00	0.00	0.50	0.50	0.22	0.00	0.22			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	233	1416	0	0	1209	388	212	0	310			
Grp Sat Flow(s), veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	5.8	12.1	0.0	0.0	13.6	14.2	4.4	0.0	16.7			
Cycle Q Clear(g_c), s	5.8	12.1	0.0	0.0	13.6	14.2	4.4	0.0	16.7			
Prop In Lane	1.00		0.00	0.00	10.0	1.00	1.00	0.0	1.00			
Lane Grp Cap(c), veh/h	311	3333	0	0	2614	811	799	0	355			
V/C Ratio(X)	0.75	0.42	0.00	0.00	0.46	0.48	0.27	0.00	0.87			
Avail Cap(c_a), veh/h	488	3333	0	0	2614	811	1066	0	474			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.66	0.66	0.00	0.00	0.81	0.81	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.0	7.9	0.0	0.0	14.4	14.6	29.0	0.0	33.8			
Incr Delay (d2), s/veh	0.9	0.3	0.0	0.0	0.5	1.6	0.2	0.0	12.9			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.4	3.6	0.0	0.0	4.8	4.9	1.8	0.0	7.2			
Unsig. Movement Delay, s/veh		0.0	0.0	0.0	1.0	1.0	1.0	0.0	1.5			
LnGrp Delay(d),s/veh	40.9	8.2	0.0	0.0	14.9	16.2	29.2	0.0	46.7			
LnGrp LOS	D	A	A	A	В	В	C	A	D			
Approach Vol, veh/h		1649	<u>, , , , , , , , , , , , , , , , , , , </u>		1597			522				
Approach Vol, ven/ii Approach Delay, s/veh		12.8			15.2			39.6				
Approach LOS		12.0 B			В			D				
					U							
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		26.4		63.6			12.5	51.1				
Change Period (Y+Rc), s		6.5		5.8			4.5	5.8				
Max Green Setting (Gmax), s		26.5		51.2			12.5	34.2				
Max Q Clear Time (g_c+l1), s		18.7		14.1			7.8	16.2				
Green Ext Time (p_c), s		1.1		12.3			0.2	9.0				
Intersection Summary												
HCM 6th Ctrl Delay			17.5									
HCM 6th LOS			В									
Notes												

User approved volume balancing among the lanes for turning movement.

	•	→	•	•	•	•	4	†	/	>	ļ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	77	^	7	77	ተተተ	7	44	44	7	77	^	7
Traffic Volume (vph)	51	1198	285	94	1120	89	235	141	82	62	93	66
Future Volume (vph)	51	1198	285	94	1120	89	235	141	82	62	93	66
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	32.8	32.8	9.6	33.8	33.8	9.6	40.2	40.2	9.6	16.2	16.2
Total Split (s)	11.0	49.0	49.0	14.0	52.0	52.0	22.0	45.0	45.0	12.0	35.0	35.0
Total Split (%)	9.2%	40.8%	40.8%	11.7%	43.3%	43.3%	18.3%	37.5%	37.5%	10.0%	29.2%	29.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	6.0	34.0	34.0	7.5	35.4	35.4	12.2	18.9	18.9	6.5	10.4	10.4
Actuated g/C Ratio	0.07	0.41	0.41	0.09	0.42	0.42	0.15	0.23	0.23	0.08	0.12	0.12
v/c Ratio	0.26	0.64	0.38	0.38	0.58	0.13	0.59	0.20	0.20	0.29	0.23	0.22
Control Delay	44.9	22.0	4.2	44.2	19.8	0.9	41.3	31.9	5.9	44.4	39.5	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	22.0	4.2	44.2	19.8	0.9	41.3	31.9	5.9	44.4	39.5	1.6
LOS	D	С	Α	D	В	Α	D	С	Α	D	D	Α
Approach Delay		19.5			20.2			32.1			29.6	
Approach LOS		В			С			С			С	

Cycle Length: 120

Actuated Cycle Length: 83.3

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

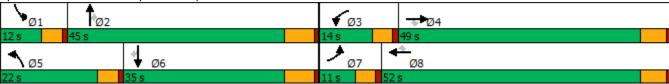
Maximum v/c Ratio: 0.64

Intersection Signal Delay: 22.0
Intersection Capacity Utilization 62.6%

Intersection LOS: C
ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Mariposa & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	ተተተ	7	ሻሻ	ተተተ	7	ሻሻ	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	51	1198	285	94	1120	89	235	141	82	62	93	66
Future Volume (veh/h)	51	1198	285	94	1120	89	235	141	82	62	93	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	55	1288	306	101	1204	96	253	152	88	67	100	71
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	137	1939	602	177	2007	623	337	688	307	151	473	211
Arrive On Green	0.05	0.39	0.39	0.06	0.41	0.41	0.11	0.20	0.20	0.05	0.14	0.14
Sat Flow, veh/h	2956	4914	1525	2956	4914	1525	2956	3420	1525	2956	3420	1525
Grp Volume(v), veh/h	55	1288	306	101	1204	96	253	152	88	67	100	71
Grp Sat Flow(s),veh/h/ln	1478	1638	1525	1478	1638	1525	1478	1710	1525	1478	1710	1525
Q Serve(g_s), s	1.3	15.6	11.0	2.4	13.9	2.9	6.0	2.7	3.5	1.6	1.9	3.0
Cycle Q Clear(g_c), s	1.3	15.6	11.0	2.4	13.9	2.9	6.0	2.7	3.5	1.6	1.9	3.0
Prop In Lane	1.00	1000	1.00	1.00		1.00	1.00		1.00	1.00	4=0	1.00
Lane Grp Cap(c), veh/h	137	1939	602	177	2007	623	337	688	307	151	473	211
V/C Ratio(X)	0.40	0.66	0.51	0.57	0.60	0.15	0.75	0.22	0.29	0.44	0.21	0.34
Avail Cap(c_a), veh/h	262	2934	911	384	3138	974	711	1834	818	302	1361	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	18.0	16.6	33.1	16.8	13.5	31.0	24.2	24.5	33.3	27.7	28.2
Incr Delay (d2), s/veh	0.7	0.4	0.7	1.1	0.3	0.1	1.3	0.2	0.5	0.8	0.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.1	3.4	0.8	4.5	0.9	2.0	1.0	1.2	0.5	0.7	1.1
Unsig. Movement Delay, s/veh		10.4	17.0	24.0	171	10.6	20.2	04.2	25.0	244	27.0	20.4
LnGrp Delay(d),s/veh LnGrp LOS	34.2 C	18.4 B	17.2 B	34.2 C	17.1 B	13.6 B	32.3 C	24.3 C	25.0 C	34.1 C	27.9 C	29.1
	U		D	U		Б	U		U	U		<u>C</u>
Approach Vol, veh/h		1649			1401			493			238	
Approach LOC		18.7			18.1			28.5			30.0	
Approach LOS		В			В			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	20.8	8.9	34.4	12.9	16.2	7.9	35.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	7.4	38.8	9.4	43.2	17.4	28.8	6.4	46.2				
Max Q Clear Time (g_c+l1), s	3.6	5.5	4.4	17.6	8.0	5.0	3.3	15.9				
Green Ext Time (p_c), s	0.0	1.1	0.1	11.0	0.3	0.7	0.0	9.7				
Intersection Summary												
HCM 6th Ctrl Delay			20.4									
HCM 6th LOS			С									

	۶	→	•	←	4	†	<i>></i>	>	ļ	4	
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	7	∱ }	7	∱ î≽	7	†	7	*	†	7	
Traffic Volume (vph)	28	788	24	512	102	244	19	42	183	51	
Future Volume (vph)	28	788	24	512	102	244	19	42	183	51	
Turn Type	Prot	NA	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	
Protected Phases	7	4	3	8	5	2	3	1	6		
Permitted Phases							2			6	
Detector Phase	7	4	3	8	5	2	3	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	30.8	9.6	30.8	9.6	25.8	9.6	9.6	15.8	15.8	
Total Split (s)	12.0	54.0	12.0	54.0	22.0	39.0	12.0	15.0	32.0	32.0	
Total Split (%)	10.0%	45.0%	10.0%	45.0%	18.3%	32.5%	10.0%	12.5%	26.7%	26.7%	
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	4.8	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	5.8	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Min	None	None	Min	Min	
Act Effct Green (s)	6.6	34.5	6.5	34.4	11.5	27.1	40.0	7.6	17.2	17.2	
Actuated g/C Ratio	0.08	0.40	0.07	0.40	0.13	0.31	0.46	0.09	0.20	0.20	
v/c Ratio	0.27	0.78	0.23	0.49	0.56	0.51	0.03	0.35	0.60	0.14	
Control Delay	53.8	28.8	53.1	22.2	52.2	34.4	0.1	52.9	43.8	0.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	53.8	28.8	53.1	22.2	52.2	34.4	0.1	52.9	43.8	0.7	
LOS	D	С	D	С	D	С	Α	D	D	Α	
Approach Delay		29.6		23.4		37.6			37.2		
Approach LOS		С		С		D			D		
1.1											

Cycle Length: 120

Actuated Cycle Length: 86.8

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

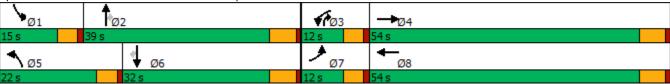
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 30.3

Intersection LOS: C
ICU Level of Service B

Intersection Capacity Utilization 57.7%

Analysis Period (min) 15

Splits and Phases: 5: 7th/Arrowhead Dr & Nisqualli Rd.



	۶	→	•	•	+	•	1	†	~	/	+	✓
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	∱ ∱		ሻ	∱ ∱		7	↑	7	ሻ	↑	7
Traffic Volume (veh/h)	28	788	104	24	512	46	102	244	19	42	183	51
Future Volume (veh/h)	28	788	104	24	512	46	102	244	19	42	183	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	33	927	122	28	602	54	120	287	22	49	215	60
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	56	1217	160	49	1259	113	150	375	364	73	289	245
Arrive On Green	0.03	0.40	0.40	0.03	0.40	0.40	0.09	0.21	0.21	0.04	0.16	0.16
Sat Flow, veh/h	1619	3038	400	1619	3175	284	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	33	522	527	28	324	332	120	287	22	49	215	60
Grp Sat Flow(s),veh/h/ln	1619	1710	1728	1619	1710	1749	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	1.3	17.3	17.3	1.1	9.3	9.3	4.8	9.9	0.7	2.0	7.5	2.3
Cycle Q Clear(g_c), s	1.3	17.3	17.3	1.1	9.3	9.3	4.8	9.9	0.7	2.0	7.5	2.3
Prop In Lane	1.00		0.23	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	56	685	692	49	678	693	150	375	364	73	289	245
V/C Ratio(X)	0.59	0.76	0.76	0.57	0.48	0.48	0.80	0.77	0.06	0.67	0.74	0.25
Avail Cap(c_a), veh/h	182	1252	1265	182	1252	1280	428	907	815	256	716	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.3	17.0	17.0	31.5	14.8	14.8	29.3	24.6	19.4	31.0	26.4	24.2
Incr Delay (d2), s/veh	3.7	1.8	1.8	3.8	0.5	0.5	3.7	3.3	0.1	4.0	3.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.9	6.0	0.5	3.1	3.2	1.9	4.1	0.2	0.8	3.1	0.8
Unsig. Movement Delay, s/veh		10.0	10.0	25.2	15.0	15.0	20.0	07.0	10.4	25.0	20.0	047
LnGrp Delay(d),s/veh	35.0 D	18.8 B	18.8 B	35.3 D	15.3 B	15.3 B	32.9 C	27.8 C	19.4 B	35.0 C	30.2 C	24.7 C
LnGrp LOS	U		D	U		Б	U		Б	U		
Approach Vol, veh/h		1082			684			429			324	
Approach LOC		19.3			16.1			28.8			29.9	
Approach LOS		В			В			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	19.5	6.6	32.2	10.7	16.4	6.9	31.9				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	10.4	33.2	7.4	48.2	17.4	26.2	7.4	48.2				
Max Q Clear Time (g_c+l1), s	4.0	11.9	3.1	19.3	6.8	9.5	3.3	11.3				
Green Ext Time (p_c), s	0.0	1.5	0.0	7.0	0.1	1.1	0.0	3.9				
Intersection Summary												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			С									

6: Hesperia Rd. & Green Tree Bl.

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Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	ሻ	77	1/4	^	↑ ↑
Traffic Volume (vph)	132	275	325	738	894
Future Volume (vph)	132	275	325	738	894
Turn Type	Prot	pm+ov	Prot	NA	NA
Protected Phases	4	5	5	2	6
Permitted Phases		4			
Detector Phase	4	5	5	2	6
Switch Phase					
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0
Minimum Split (s)	26.6	15.8	15.8	16.2	28.2
Total Split (s)	29.0	29.0	29.0	91.0	62.0
Total Split (%)	24.2%	24.2%	24.2%	75.8%	51.7%
Yellow Time (s)	3.6	4.8	4.8	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	6.2	6.2
Lead/Lag		Lead	Lead		Lag
Lead-Lag Optimize?		Yes	Yes		Yes
Recall Mode	None	None	None	Min	Min
Act Effct Green (s)	12.7	33.8	16.2	61.4	39.1
Actuated g/C Ratio	0.15	0.39	0.19	0.72	0.46
v/c Ratio	0.59	0.26	0.62	0.32	0.71
Control Delay	48.5	11.5	39.8	4.9	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.5	11.5	39.8	4.9	21.8
LOS	D	В	D	Α	С
Approach Delay	23.5			15.6	21.8
Approach LOS	С			В	С
Intersection Summary					

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 85.6

Natural Cycle: 80

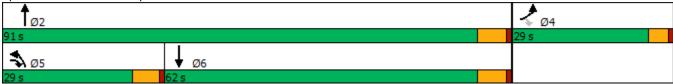
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 19.4 Intersection LOS: B
Intersection Capacity Utilization 63.1% ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Hesperia Rd. & Green Tree Bl.



OYC NP (PCE) - AM Peak Hour Urban Crossroads, Inc.

	ၨ	•	1	†	ţ	4
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	ሻ	77	ሻሻ	^	^	
Traffic Volume (veh/h)	132	275	325	738	894	118
Future Volume (veh/h)	132	275	325	738	894	118
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1700	1800	1600	1800	1800	1800
Adj Flow Rate, veh/h	142	296	349	794	961	127
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	207	760	459	2442	1439	190
Arrive On Green	0.13	0.13	0.16	0.71	0.47	0.47
Sat Flow, veh/h	1619	2685	2956	3510	3127	401
Grp Volume(v), veh/h	142	296	349	794	541	547
Grp Sat Flow(s), veh/h/ln	1619	1342	1478	1710	1710	1728
Q Serve(g_s), s	5.7	6.1	7.7	5.9	16.6	16.6
Cycle Q Clear(g_c), s	5.7	6.1	7.7	5.9	16.6	16.6
Prop In Lane	1.00	1.00	1.00	0.0	10.0	0.23
Lane Grp Cap(c), veh/h	207	760	459	2442	810	819
V/C Ratio(X)	0.69	0.39	0.76	0.33	0.67	0.67
Avail Cap(c_a), veh/h	578	1376	1004	4247	1397	1412
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	19.7	27.6	3.6	13.8	13.8
	1.5	0.1	27.6	0.1	1.0	0.9
Incr Delay (d2), s/veh						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	4.8	2.8	1.3	5.8	5.9
Unsig. Movement Delay, s/veh		40.0	20.0	0.7	440	140
LnGrp Delay(d),s/veh	30.0	19.8	30.2	3.7	14.8	14.8
LnGrp LOS	С	В	С	Α	В	В
Approach Vol, veh/h	438			1143	1088	
Approach Delay, s/veh	23.1			11.8	14.8	
Approach LOS	С			В	В	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		55.0		13.3	16.4	38.6
Change Period (Y+Rc), s		6.2		4.6	5.8	6.2
Max Green Setting (Gmax), s		84.8		24.4	23.2	55.8
Max Q Clear Time (g_c+l1), s		7.9		8.1	9.7	18.6
Green Ext Time (p_c), s		10.6		0.7	0.9	13.7
** /		10.0		0.7	0.5	13.7
Intersection Summary						
HCM 6th Ctrl Delay			14.9			
HCM 6th LOS			В			

Intersection												
Int Delay, s/veh	0.2											
		EDT	EDD	WDI	WDT	WDD	NDI	NDT	NDD	CDI	CDT	CDD
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	_	4	•	•	4	_	7	†	•	ች	†	
Traffic Vol, veh/h	5	0	8	0	0	5	11	1107	6	10	1206	1
Future Vol, veh/h	5	0	8	0	0	5	11	1107	6	10	1206	1
Conflicting Peds, #/hr	0	0	0	0	0	0	_ 0	_ 0	_ 0	_ 0	_ 0	_ 0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage	e, # -	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	0	9	0	0	6	13	1258	7	11	1370	1
Major/Minor I	Minor2			Minor1		ı	Major1		N	//ajor2		
Conflicting Flow All	2048	2684	686	1995	2681	633	1371	0	0	1265	0	0
Stage 1	1393	1393	-	1288	1288	000	10/1	-	-	1200	-	-
Stage 2	655	1291	_	707	1393			_				_
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-		4.1	_	_
Critical Hdwy Stg 1	6.5	5.5	0.9	6.5	5.5	0.9	4.1	_		4.1		_
Critical Hdwy Stg 2	6.5	5.5	_	6.5	5.5	_					_	
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	_	_	2.2	_	_
Pot Cap-1 Maneuver	33	22	395	3.5	22	427	507	-	-	556	_	<u>-</u>
Stage 1	152	211	J95 -	176	237	421	JU1	_	_	550	_	_
Stage 2	426	236	-	397	211	_	-	_	<u>-</u>	_	-	<u>-</u>
Platoon blocked, %	420	230	_	331	211	-	-	_	_	-	_	-
Mov Cap-1 Maneuver	31	21	395	35	21	427	507	-	-	556	-	-
Mov Cap-1 Maneuver	133	141	-	149	140	421	30 <i>1</i>	_	_	550	_	_
Stage 1	148	207	-	171	231	_	-	_	<u>-</u>	_	-	<u>-</u>
Stage 2	410	230	_	380	207	-	-	_	_	-	-	-
Slaye Z	410	230	-	300	201	_	-	_	<u>-</u>	_	-	<u>-</u>
Approach	EB			WB			NB			SB		
HCM Control Delay, s	22.1			13.5			0.1			0.1		
HCM LOS	С			В								
Minor Lane/Major Mvm	nt	NBL	NBT	NBR I	EBLn1V	VBLn1	SBL	SBT	SBR			
Capacity (veh/h)		507		-		427	556		<u> </u>			
HCM Lane V/C Ratio		0.025	-		0.066		0.02	_	<u> </u>			
HCM Control Delay (s)		12.3	-	<u>-</u>		13.5	11.6	_				
HCM Lane LOS		12.3 B	-	_	22.1 C	13.5 B	11.0 B	_	<u>-</u>			
HCM 95th %tile Q(veh)	١	0.1			0.2	0	0.1					
How som while Q(ven))	0.1	-	-	0.2	U	0.1	-	-			

Lane Configurations		•	→	•	•	•	•	†	\	↓	
Traffic Volume (vph)	Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Traffic Volume (vph)	Lane Configurations	ሻሻ	†	77	ሻ	↑ ↑	ሻሻ	∱ 1≽	ሻ	∱ }	
Turn Type	Traffic Volume (vph)		73		83				16		
Protected Phases 7 4 5 3 8 5 2 1 6 Permitted Phases Detector Phase 7 4 5 3 8 5 2 1 6 Switch Phase Minimum Initial (s) 5.0 10.0 5.0 5.0 10.0 5.0 10.0 5.0 10.0 Minimum Split (s) 9.6 32.8 9.6 9.6 30.8 9.6 27.2 9.6 33.2 Total Split (s) 13.2 33.0 20.2 11.0 30.8 20.2 66.2 9.8 55.8 Total Split (%) 11.0% 27.5% 16.8% 9.2% 25.7% 16.8% 55.2% 8.2% 46.5% Yellow Time (s) 3.6 4.8 3.6 3.6 4.8 3.6 5.2 3.6 5.2 All-Red Time (s) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 Lost Time Adjust (s) 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Total Lost Time (s) 4.6 5.8 4.6 4.6 5.8 4.6 6.2 4.6 6.2 Lead/Lag Lead Lag Lag Lead Lag Lead Lag Lead Lag Lag Lead Lag Lag Lead Lag Lag Lead Lag Lag Lead Lag L	Future Volume (vph)	133	73	409	83	72	272	1163	16	1105	
Permitted Phases 7	Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA	
Detector Phase	Protected Phases	7	4	5	3	8	5	2	1	6	
Switch Phase Minimum Initial (s) 5.0 10.0 5.0 5.0 10.0 5.0 10.0 5.0 10.0 5.0 10.0 5.0 10.0 5.0 10.0 5.0 10.0 Minimum Initial (s) 9.6 32.8 9.6 9.6 30.8 9.6 27.2 9.6 33.2 Total Split (s) 13.2 33.0 20.2 11.0 30.8 20.2 66.2 9.8 55.8 Total Split (%) 11.0% 27.5% 16.8% 9.2% 25.7% 16.8% 55.2% 8.2% 46.5% Yellow Time (s) 3.6 4.8 3.6 3.6 4.8 3.6 5.2 3.6 5.2 All-Red Time (s) 1.0	Permitted Phases										
Minimum Initial (s) 5.0 10.0 5.0 5.0 10.0 5.0 10.0 5.0 10.0 5.0 10.0 5.0 10.0 Minimum Split (s) 9.6 32.8 9.6 9.6 30.8 9.6 27.2 9.6 33.2 Total Split (s) 13.2 33.0 20.2 11.0 30.8 20.2 66.2 9.8 55.8 Total Split (w) 11.0% 27.5% 16.8% 9.2% 25.7% 16.8% 55.2% 8.2% 46.5% Yellow Time (s) 3.6 4.8 3.6 3.6 4.8 3.6 5.2 3.6 5.2 All-Red Time (s) 1.0 <td>Detector Phase</td> <td>7</td> <td>4</td> <td>5</td> <td>3</td> <td>8</td> <td>5</td> <td>2</td> <td>1</td> <td>6</td> <td></td>	Detector Phase	7	4	5	3	8	5	2	1	6	
Minimum Split (s) 9.6 32.8 9.6 9.6 30.8 9.6 27.2 9.6 33.2 Total Split (s) 13.2 33.0 20.2 11.0 30.8 20.2 66.2 9.8 55.8 Total Split (%) 11.0% 27.5% 16.8% 9.2% 25.7% 16.8% 55.2% 8.2% 46.5% Yellow Time (s) 3.6 4.8 3.6 3.6 4.8 3.6 5.2 3.6 5.2 All-Red Time (s) 1.0	Switch Phase										
Total Split (s) 13.2 33.0 20.2 11.0 30.8 20.2 66.2 9.8 55.8 Total Split (%) 11.0% 27.5% 16.8% 9.2% 25.7% 16.8% 55.2% 8.2% 46.5% Yellow Time (s) 3.6 4.8 3.6 3.6 4.8 3.6 5.2 3.6 5.2 All-Red Time (s) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Minimum Initial (s)										
Total Split (%) 11.0% 27.5% 16.8% 9.2% 25.7% 16.8% 55.2% 8.2% 46.5% Yellow Time (s) 3.6 4.8 3.6 3.6 4.8 3.6 5.2 3.6 5.2 All-Red Time (s) 1.0											
Yellow Time (s) 3.6 4.8 3.6 3.6 4.8 3.6 5.2 3.6 5.2 All-Red Time (s) 1.0 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>											
All-Red Time (s) 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.											
Lost Time Adjust (s) 0.0	. ,										
Total Lost Time (s)	` ,										
Lead/Lag Lead Lag Lag Lead Lag <	• • • •										
Lead-Lag Optimize? Yes	\ /	4.6			4.6				4.6		
Recall Mode None None None None None None Min None Min Act Effct Green (s) 8.2 12.1 29.5 10.1 10.4 15.2 61.3 5.1 45.1 Actuated g/C Ratio 0.08 0.12 0.29 0.10 0.10 0.15 0.61 0.05 0.45 v/c Ratio 0.62 0.38 0.58 0.57 0.34 0.68 0.68 0.22 0.85 Control Delay 57.7 47.7 32.9 64.1 30.6 50.0 15.9 54.8 30.9 Queue Delay 0.0 <											
Act Effct Green (s) 8.2 12.1 29.5 10.1 10.4 15.2 61.3 5.1 45.1 Actuated g/C Ratio 0.08 0.12 0.29 0.10 0.10 0.15 0.61 0.05 0.45 v/c Ratio 0.62 0.38 0.58 0.57 0.34 0.68 0.68 0.22 0.85 Control Delay 57.7 47.7 32.9 64.1 30.6 50.0 15.9 54.8 30.9 Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Total Delay 57.7 47.7 32.9 64.1 30.6 50.0 15.9 54.8 30.9 LOS E D C E C D B D C Approach Delay 40.0 44.6 21.9 31.2	• .										
Actuated g/C Ratio 0.08 0.12 0.29 0.10 0.10 0.15 0.61 0.05 0.45 v/c Ratio 0.62 0.38 0.58 0.57 0.34 0.68 0.68 0.22 0.85 Control Delay 57.7 47.7 32.9 64.1 30.6 50.0 15.9 54.8 30.9 Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.											
v/c Ratio 0.62 0.38 0.58 0.57 0.34 0.68 0.68 0.22 0.85 Control Delay 57.7 47.7 32.9 64.1 30.6 50.0 15.9 54.8 30.9 Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Total Delay 57.7 47.7 32.9 64.1 30.6 50.0 15.9 54.8 30.9 LOS E D C E C D B D C Approach Delay 40.0 44.6 21.9 31.2	` ,										
Control Delay 57.7 47.7 32.9 64.1 30.6 50.0 15.9 54.8 30.9 Queue Delay 0.0											
Queue Delay 0.0											
Total Delay 57.7 47.7 32.9 64.1 30.6 50.0 15.9 54.8 30.9 LOS E D C E C D B D C Approach Delay 40.0 44.6 21.9 31.2	Control Delay										
LOS E D C E C D B D C Approach Delay 40.0 44.6 21.9 31.2	•										
Approach Delay 40.0 44.6 21.9 31.2	Total Delay										
· · · · · · · · · · · · · · · · · · ·		E		С	E		D		D		
Approach LOS D D C C											
	Approach LOS		D			D		С		С	

Cycle Length: 120

Actuated Cycle Length: 100.2

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85 Intersection Signal Delay: 29.5 Intersection Capacity Utilization 68.9%

Intersection LOS: C
ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 8: Hesperia Rd. & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,4		77	*	∱β		ሻሻ	∱ ኈ		7	∱ ∱	
Traffic Volume (veh/h)	133	73	409	83	72	43	272	1163	96	16	1105	55
Future Volume (veh/h)	133	73	409	83	72	43	272	1163	96	16	1105	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1700	1800	1800	1600	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	149	82	460	93	81	48	306	1307	108	18	1242	62
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	202	325	814	102	372	205	363	1691	139	32	1410	70
Arrive On Green	0.07	0.18	0.18	0.06	0.18	0.18	0.12	0.53	0.53	0.02	0.43	0.43
Sat Flow, veh/h	2956	1800	2685	1619	2128	1172	2956	3199	264	1619	3315	165
Grp Volume(v), veh/h	149	82	460	93	64	65	306	697	718	18	640	664
Grp Sat Flow(s),veh/h/ln	1478	1800	1342	1619	1710	1589	1478	1710	1753	1619	1710	1770
Q Serve(g_s), s	5.0	4.0	14.7	5.8	3.3	3.6	10.3	33.0	33.3	1.1	35.0	35.1
Cycle Q Clear(g_c), s	5.0	4.0	14.7	5.8	3.3	3.6	10.3	33.0	33.3	1.1	35.0	35.1
Prop In Lane	1.00		1.00	1.00		0.74	1.00		0.15	1.00		0.09
Lane Grp Cap(c), veh/h	202	325	814	102	299	278	363	904	926	32	727	753
V/C Ratio(X)	0.74	0.25	0.56	0.91	0.21	0.23	0.84	0.77	0.78	0.57	0.88	0.88
Avail Cap(c_a), veh/h	250	481	1048	102	420	391	453	1009	1034	83	834	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	35.8	29.8	47.4	36.0	36.1	43.7	19.1	19.2	49.4	26.8	26.9
Incr Delay (d2), s/veh	6.1	0.4	0.6	61.0	0.4	0.4	9.4	3.3	3.4	5.8	9.8	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.7	4.5	4.0	1.3	1.4	4.1	12.0	12.5	0.5	14.7	15.2
Unsig. Movement Delay, s/veh		20.0	20.4	400.0	20.2	20.5	FO 4	00.4	00.5	FF 0	20.0	20.5
LnGrp Delay(d),s/veh	52.6	36.2	30.4	108.3	36.3	36.5	53.1	22.4	22.5	55.2	36.6	36.5
LnGrp LOS	D	D	С	F	D	D	D	C	С	E	D	D
Approach Vol, veh/h		691			222			1721			1322	
Approach Delay, s/veh		35.9			66.6			27.9			36.8	
Approach LOS		D			Е			С			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	60.0	11.0	24.2	17.1	49.5	11.6	23.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.2	60.0	6.4	27.2	15.6	49.6	8.6	25.0				
Max Q Clear Time (g_c+l1), s	3.1	35.3	7.8	16.7	12.3	37.1	7.0	5.6				
Green Ext Time (p_c), s	0.0	9.8	0.0	1.7	0.2	6.2	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			34.5									
HCM 6th LOS			С									

	•	→	•	•	•	•	•	†	<i>></i>	>	ţ	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Configurations	1/1	ተተተ	7	1,4	ተተተ	7	77	^	7	14.54	↑ ↑	
Traffic Volume (vph)	194	1311	123	318	1435	209	109	548	316	270	356	
Future Volume (vph)	194	1311	123	318	1435	209	109	548	316	270	356	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	31.2	9.6	9.6	33.2	9.6	9.6	39.2	39.2	9.6	37.2	
Total Split (s)	15.7	42.0	14.4	20.0	46.3	18.0	14.4	40.0	40.0	18.0	43.6	
Total Split (%)	13.1%	35.0%	12.0%	16.7%	38.6%	15.0%	12.0%	33.3%	33.3%	15.0%	36.3%	
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	10.5	35.9	50.5	14.9	40.3	59.6	8.3	28.1	28.1	13.0	32.8	
Actuated g/C Ratio	0.09	0.32	0.44	0.13	0.35	0.52	0.07	0.25	0.25	0.11	0.29	
v/c Ratio	0.76	0.90	0.18	0.88	0.88	0.27	0.54	0.69	0.62	0.85	0.50	
Control Delay	69.6	46.7	8.6	72.8	42.0	11.8	61.5	43.3	18.1	73.7	33.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	69.6	46.7	8.6	72.8	42.0	11.8	61.5	43.3	18.1	73.7	33.2	
LOS	Е	D	Α	Е	D	В	Е	D	В	Е	С	
Approach Delay		46.6			43.7			37.2			48.2	
Approach LOS		D			D			D			D	

Cycle Length: 120

Actuated Cycle Length: 113.6

Natural Cycle: 105

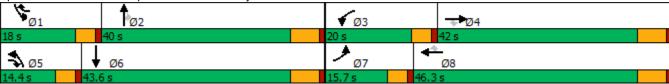
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 44.0 Intersection LOS: D
Intersection Capacity Utilization 80.6% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Hesperia Rd. & Bear Valley Rd.



	۶	→	•	•	←	•	1	†	~	/	+	✓
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	ተተተ	7	75	ተተተ	7	ሻሻ	^	7	ሻሻ	ħβ	
Traffic Volume (veh/h)	194	1311	123	318	1435	209	109	548	316	270	356	102
Future Volume (veh/h)	194	1311	123	318	1435	209	109	548	316	270	356	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	206	1395	131	338	1527	222	116	583	336	287	379	109
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	255	1521	556	385	1737	712	163	886	395	334	833	237
Arrive On Green	0.09	0.31	0.31	0.13	0.35	0.35	0.06	0.26	0.26	0.11	0.32	0.32
Sat Flow, veh/h	2956	4914	1525	2956	4914	1525	2956	3420	1525	2956	2629	747
Grp Volume(v), veh/h	206	1395	131	338	1527	222	116	583	336	287	245	243
Grp Sat Flow(s),veh/h/ln	1478	1638	1525	1478	1638	1525	1478	1710	1525	1478	1710	1666
Q Serve(g_s), s	7.8	31.4	6.8	12.9	33.4	10.4	4.4	17.5	24.0	10.9	13.1	13.4
Cycle Q Clear(g_c), s	7.8	31.4	6.8	12.9	33.4	10.4	4.4	17.5	24.0	10.9	13.1	13.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	255	1521	556	385	1737	712	163	886	395	334	542	528
V/C Ratio(X)	0.81	0.92	0.24	0.88	0.88	0.31	0.71	0.66	0.85	0.86	0.45	0.46
Avail Cap(c_a), veh/h	286	1535	560	397	1737	712	253	1009	450	346	558	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	38.2	25.3	49.0	34.8	19.1	53.3	37.9	40.4	49.9	31.2	31.3
Incr Delay (d2), s/veh	12.6	9.1	0.2	18.4	5.6	0.2	2.2	1.3	13.1	17.6	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 7.4	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln Unsig. Movement Delay, s/veh	ა.ა	13.7	2.5	5.7	14.0	3.7	1.7	7.4	10.4	4.8	5.5	5.5
<u> </u>	64.1	47.2	25.5	67.4	40.3	19.3	55.4	39.3	53.5	67.6	31.8	31.9
LnGrp Delay(d),s/veh LnGrp LOS	64.1 E	47.2 D	25.5 C	67.4 E	40.3 D	19.3 B	55.4 E	აყ.ა D	55.5 D	67.0 E	31.0 C	31.9 C
			U			D	<u> </u>		U			
Approach Vol, veh/h		1732			2087 42.5			1035 45.7			775 45.1	
Approach LOS		47.6									_	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.6	35.9	19.5	41.7	10.9	42.5	14.5	46.7				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	13.4	33.8	15.4	35.8	9.8	37.4	11.1	40.1				
Max Q Clear Time (g_c+l1), s	12.9	26.0	14.9	33.4	6.4	15.4	9.8	35.4				
Green Ext Time (p_c), s	0.0	3.7	0.0	2.1	0.0	4.3	0.0	4.1				
Intersection Summary												
HCM 6th Ctrl Delay			45.0									
HCM 6th LOS			D									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	77	^	7	77	ተተተ	7	77	^	7	16.56	^	7
Traffic Volume (vph)	148	974	145	374	1528	728	140	335	418	894	671	427
Future Volume (vph)	148	974	145	374	1528	728	140	335	418	894	671	427
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	27.8	27.8	9.5	27.8	27.8	9.5	10.8		9.5	27.8	27.8
Total Split (s)	12.0	43.0	43.0	20.0	51.0	51.0	11.8	19.0		38.0	45.2	45.2
Total Split (%)	10.0%	35.8%	35.8%	16.7%	42.5%	42.5%	9.8%	15.8%		31.7%	37.7%	37.7%
Yellow Time (s)	3.5	4.8	4.8	3.5	4.8	4.8	3.5	4.8		3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	4.5	5.8	5.8	4.5	5.8		4.5	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	Max
Act Effct Green (s)	7.5	36.7	36.7	15.5	44.7	44.7	7.3	13.2	119.5	33.5	39.4	39.4
Actuated g/C Ratio	0.06	0.31	0.31	0.13	0.37	0.37	0.06	0.11	1.00	0.28	0.33	0.33
v/c Ratio	0.79	0.90	0.25	0.97	0.77	0.76	0.78	0.86	0.28	1.07	0.58	0.72
Control Delay	83.4	51.7	2.7	90.6	36.1	10.4	82.5	73.5	0.5	92.8	35.6	29.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.4	51.7	2.7	90.6	36.1	10.4	82.5	73.5	0.5	92.8	35.6	29.7
LOS	F	D	Α	F	D	В	F	Е	Α	F	D	С
Approach Delay		49.8			36.7			40.7			60.0	
Approach LOS		D			D			D			E	

Cycle Length: 120

Actuated Cycle Length: 119.5

Natural Cycle: 110

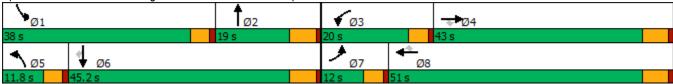
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 46.5 Intersection LOS: D
Intersection Capacity Utilization 98.3% ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Armargosa Rd. & La Mesa Rd./Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	^	7	ሻሻ	^	7	ሻሻ	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	148	974	145	374	1528	728	140	335	418	894	671	427
Future Volume (veh/h)	148	974	145	374	1528	728	140	335	418	894	671	427
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	151	994	117	382	1559	513	143	342	0	912	685	308
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	1096	464	397	2007	567	187	399		858	1192	505
Arrive On Green	0.06	0.30	0.30	0.13	0.37	0.37	0.06	0.11	0.00	0.28	0.33	0.33
Sat Flow, veh/h	3048	3600	1525	3048	5400	1525	3048	3600	1525	3048	3600	1525
Grp Volume(v), veh/h	151	994	117	382	1559	513	143	342	0	912	685	308
Grp Sat Flow(s),veh/h/ln	1524	1800	1525	1524	1800	1525	1524	1800	1525	1524	1800	1525
Q Serve(g_s), s	5.8	31.6	6.9	14.8	30.4	37.9	5.5	11.1	0.0	33.5	18.7	20.1
Cycle Q Clear(g_c), s	5.8	31.6	6.9	14.8	30.4	37.9	5.5	11.1	0.0	33.5	18.7	20.1
Prop In Lane	1.00	00	1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	192	1096	464	397	2007	567	187	399		858	1192	505
V/C Ratio(X)	0.79	0.91	0.25	0.96	0.78	0.90	0.77	0.86		1.06	0.57	0.61
Avail Cap(c_a), veh/h	192	1125	477	397	2050	579	187	399		858	1192	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	39.8	31.2	51.5	33.0	35.4	55.0	52.0	0.0	42.8	32.9	33.4
Incr Delay (d2), s/veh	17.7	10.5	0.3	35.2	1.9	17.6	15.5	20.5	0.0	49.0	2.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	14.9	2.5	7.4	12.9	16.1	2.5	6.0	0.0	17.9	8.2	7.9
Unsig. Movement Delay, s/veh		1 1.0	2.0	• • • •	12.0	10.1	2.0	0.0	0.0	11.0	0.2	7.0
LnGrp Delay(d),s/veh	72.7	50.3	31.5	86.7	35.0	53.0	70.6	72.5	0.0	91.8	34.9	38.8
LnGrp LOS	Ε	D	C	F	C	D	F	F E	0.0	F	C	D
Approach Vol, veh/h		1262		•	2454			485	Α	'	1905	
Approach Delay, s/veh		51.2			46.8			71.9	Λ		62.8	
Approach LOS		J1.2			40.0 D			7 1.3 E			02.0 E	
Approach 200		U			D			_			_	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	38.0	19.0	20.0	42.0	11.8	45.2	12.0	50.0				
Change Period (Y+Rc), s	4.5	5.8	4.5	5.8	4.5	5.8	4.5	5.8				
Max Green Setting (Gmax), s	33.5	13.2	15.5	37.2	7.3	39.4	7.5	45.2				
Max Q Clear Time (g_c+l1), s	35.5	13.1	16.8	33.6	7.5	22.1	7.8	39.9				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.1	0.0	5.0	0.0	4.3				
Intersection Summary												
HCM 6th Ctrl Delay			54.7									
HCM 6th LOS			D									
Notes												

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻሻ	7	^	7	*	^
Traffic Volume (vph)	1037	49	831	377	174	983
Future Volume (vph)	1037	49	831	377	174	983
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.7	9.7	10.8	10.8	9.5	10.8
Total Split (s)	37.0	37.0	34.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	37.8%	21.1%	58.9%
Yellow Time (s)	3.7	3.7	4.8	4.8	3.5	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	5.8	5.8	4.5	5.8
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	31.3	31.3	30.6	30.6	13.1	48.2
Actuated g/C Ratio	0.35	0.35	0.34	0.34	0.15	0.54
v/c Ratio	0.94	0.09	0.74	0.50	0.73	0.56
Control Delay	43.3	6.1	31.6	4.9	53.3	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	6.1	31.6	4.9	53.3	15.5
LOS	D	Α	С	Α	D	В
Approach Delay	41.7		23.3			21.2
Approach LOS	D		С			С
Intersection Summary						
Cycle Length: 90						
Actuated Cycle Length: 90						

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 28.4 Intersection LOS: C
Intersection Capacity Utilization 74.7% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 2: Armargosa Rd. & I-15 SB Ramps



	•	4	†	/	/	+		
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations	ሻሻ	7	^	7	ሻ	^		
Traffic Volume (veh/h)	1037	49	831	377	174	983		
Future Volume (veh/h)	1037	49	831	377	174	983		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No		No			No		
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900		
Adj Flow Rate, veh/h	1140	54	913	414	191	1080		
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91		
Percent Heavy Veh, %	0	0	0	0	0	0		
Cap, veh/h	1211	556	1308	583	228	1943		
Arrive On Green	0.35	0.35	0.36	0.36	0.13	0.54		
Sat Flow, veh/h	3510	1610	3705	1610	1810	3705		
Grp Volume(v), veh/h	1140	54	913	414	191	1080		
Grp Sat Flow(s),veh/h/ln	1755	1610	1805	1610	1810	1805		
Q Serve(g_s), s	28.3	2.0	19.4	19.9	9.3	17.7		
Cycle Q Clear(g_c), s	28.3	2.0	19.4	19.9	9.3	17.7		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	1211	556	1308	583	228	1943		
V/C Ratio(X)	0.94	0.10	0.70	0.71	0.84	0.56		
Avail Cap(c_a), veh/h	1260	578	1308	583	292	1943		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.51	0.51	1.00	1.00		
Uniform Delay (d), s/veh	28.6	20.0	24.5	24.6	38.4	13.7		
Incr Delay (d2), s/veh	13.1	0.0	1.6	3.7	15.5	1.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	12.6	0.7	7.8	7.5	4.9	6.5		
Unsig. Movement Delay, s/veh	1							
LnGrp Delay(d),s/veh	41.7	20.0	26.1	28.4	53.9	14.8		
LnGrp LOS	D	В	С	С	D	В		
Approach Vol, veh/h	1194		1327			1271		
Approach Delay, s/veh	40.7		26.8			20.7		
Approach LOS	D		С			С		
Timer - Assigned Phs	1	2				6	8	
Phs Duration (G+Y+Rc), s	15.8	38.4				54.2	35.8	
Change Period (Y+Rc), s	4.5	5.8				5.8	4.7	
Max Green Setting (Gmax), s	14.5	28.2				47.2	32.3	
Max Q Clear Time (g_c+l1), s	11.3	21.9				19.7	30.3	
Green Ext Time (p_c), s	0.1	3.7				8.0	0.7	
* '								
Intersection Summary			20.4					
HCM 6th Ctrl Delay			29.1					
HCM 6th LOS			С					

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Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	44	ተተተ	ተተተ	7	ሻ	4	7
Traffic Volume (vph)	304	1976	2107	442	519	Ö	481
Future Volume (vph)	304	1976	2107	442	519	0	481
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	7	4	8			2	
Permitted Phases				8	2		2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	10.8	22.8	22.8	11.5	11.5	11.5
Total Split (s)	14.0	60.0	46.0	46.0	30.0	30.0	30.0
Total Split (%)	15.6%	66.7%	51.1%	51.1%	33.3%	33.3%	33.3%
Yellow Time (s)	3.5	4.8	4.8	4.8	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	5.8	6.5	6.5	6.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	9.5	54.2	40.2	40.2	23.5	23.5	23.5
Actuated g/C Ratio	0.11	0.60	0.45	0.45	0.26	0.26	0.26
v/c Ratio	0.84	0.65	0.93	0.46	0.59	0.59	1.01
Control Delay	60.9	12.9	32.1	3.3	35.5	35.5	72.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	12.9	32.1	3.3	35.5	35.5	72.6
LOS	Е	В	С	Α	D	D	Е
Approach Delay		19.3	27.1			53.3	
Approach LOS		В	С			D	
Intersection Summary							
Cycle Length: 90							

Cycle Length: 90 Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 80

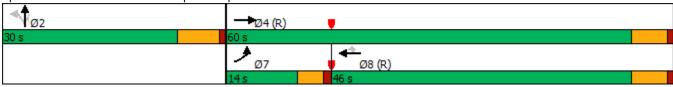
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 28.6 Intersection LOS: C
Intersection Capacity Utilization 78.2% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: I-15 NB Ramps & Nisqualli Rd.



	•	→	•	•	-	•	1	†	<i>></i>	/	ţ	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	ተተተ			ተተተ	7	ሻ	4	7			
Traffic Volume (veh/h)	304	1976	0	0	2107	442	519	0	481	0	0	0
Future Volume (veh/h)	304	1976	0	0	2107	442	519	0	481	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	310	2016	0	0	2150	451	530	0	491			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	371	3124	0	0	2317	719	945	0	420			
Arrive On Green	0.11	0.60	0.00	0.00	0.45	0.45	0.26	0.00	0.26			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	310	2016	0	0	2150	451	530	0	491			
Grp Sat Flow(s), veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	7.8	22.8	0.0	0.0	35.3	19.4	11.4	0.0	23.5			
Cycle Q Clear(g_c), s	7.8	22.8	0.0	0.0	35.3	19.4	11.4	0.0	23.5			
Prop In Lane	1.00	22.0	0.00	0.00	00.0	1.00	1.00	0.0	1.00			
Lane Grp Cap(c), veh/h	371	3124	0.00	0.00	2317	719	945	0	420			
V/C Ratio(X)	0.84	0.65	0.00	0.00	0.93	0.63	0.56	0.00	1.17			
Avail Cap(c_a), veh/h	371	3124	0.00	0.00	2317	719	945	0.00	420			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.41	0.41	0.00	0.00	0.30	0.30	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.5	11.6	0.0	0.00	23.5	19.1	28.8	0.00	33.3			
Incr Delay (d2), s/veh	6.5	0.4	0.0	0.0	2.8	1.3	0.8	0.0	98.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.5	7.1	0.0	0.0	13.1	6.7	4.6	0.0	19.7			
Unsig. Movement Delay, s/veh		7.1	0.0	0.0	10.1	0.7	4.0	0.0	13.7			
LnGrp Delay(d),s/veh	46.0	12.1	0.0	0.0	26.3	20.4	29.5	0.0	131.6			
LnGrp LOS	40.0 D	12.1 B	Α	Α	20.5 C	20.4 C	29.5 C	Α	131.0 F			
	<u> </u>	2326						1021	ı			
Approach Vol, veh/h					2601							
Approach LOS		16.6			25.3			78.6				
Approach LOS		В			С			Е				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		30.0		60.0			14.0	46.0				
Change Period (Y+Rc), s		6.5		5.8			4.5	5.8				
Max Green Setting (Gmax), s		23.5		54.2			9.5	40.2				
Max Q Clear Time (g_c+l1), s		25.5		24.8			9.8	37.3				
Green Ext Time (p_c), s		0.0		18.1			0.0	2.8				
Intersection Summary												
HCM 6th Ctrl Delay			31.0									
HCM 6th LOS			С									
Notes												

User approved volume balancing among the lanes for turning movement.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	77	^	7	77	ተተተ	7	44	^	7	77	^	7
Traffic Volume (vph)	153	1801	520	136	1929	144	478	316	186	188	316	109
Future Volume (vph)	153	1801	520	136	1929	144	478	316	186	188	316	109
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	32.8	32.8	9.6	33.8	33.8	9.6	40.2	40.2	9.6	16.2	16.2
Total Split (s)	12.0	52.7	52.7	12.3	53.0	53.0	24.0	41.0	41.0	14.0	31.0	31.0
Total Split (%)	10.0%	43.9%	43.9%	10.3%	44.2%	44.2%	20.0%	34.2%	34.2%	11.7%	25.8%	25.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	7.4	47.2	47.2	7.5	47.2	47.2	19.4	25.9	25.9	9.2	15.7	15.7
Actuated g/C Ratio	0.07	0.43	0.43	0.07	0.43	0.43	0.17	0.23	0.23	0.08	0.14	0.14
v/c Ratio	0.79	0.87	0.61	0.69	0.93	0.20	0.94	0.40	0.41	0.78	0.66	0.32
Control Delay	79.1	35.3	10.4	69.5	40.1	3.6	72.9	37.5	14.3	72.1	51.9	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.1	35.3	10.4	69.5	40.1	3.6	72.9	37.5	14.3	72.1	51.9	4.9
LOS	E	D	В	Е	D	Α	Е	D	В	Е	D	Α
Approach Delay		32.8			39.6			50.4			49.8	
Approach LOS		С			D			D			D	

Cycle Length: 120 Actuated Cycle Length: 111

Natural Cycle: 115

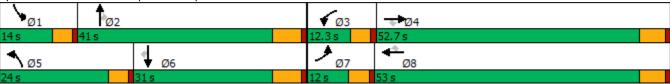
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.94 Intersection Signal Delay: 39.6 Intersection Capacity Utilization 87.6%

Intersection LOS: D
ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 4: Mariposa & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	16.5%	^	7	ሻሻ	ተተተ	7	ሻሻ	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	153	1801	520	136	1929	144	478	316	186	188	316	109
Future Volume (veh/h)	153	1801	520	136	1929	144	478	316	186	188	316	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	155	1819	525	137	1948	145	483	319	188	190	319	110
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	203	2146	666	187	2119	658	529	760	339	241	426	190
Arrive On Green	0.07	0.44	0.44	0.06	0.43	0.43	0.18	0.22	0.22	0.08	0.12	0.12
Sat Flow, veh/h	2956	4914	1525	2956	4914	1525	2956	3420	1525	2956	3420	1525
Grp Volume(v), veh/h	155	1819	525	137	1948	145	483	319	188	190	319	110
Grp Sat Flow(s),veh/h/ln	1478	1638	1525	1478	1638	1525	1478	1710	1525	1478	1710	1525
Q Serve(g_s), s	5.6	35.7	31.9	4.9	40.3	6.4	17.3	8.6	11.8	6.8	9.7	7.3
Cycle Q Clear(g_c), s	5.6	35.7	31.9	4.9	40.3	6.4	17.3	8.6	11.8	6.8	9.7	7.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	203	2146	666	187	2119	658	529	760	339	241	426	190
V/C Ratio(X)	0.76	0.85	0.79	0.73	0.92	0.22	0.91	0.42	0.55	0.79	0.75	0.58
Avail Cap(c_a), veh/h	203	2146	666	211	2150	668	532	1103	492	258	786	351
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	27.2	26.1	49.6	28.9	19.3	43.4	36.0	37.2	48.6	45.6	44.5
Incr Delay (d2), s/veh	14.4	3.4	6.3	8.8	6.9	0.2	19.7	0.4	1.4	12.7	2.7	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	13.5	11.8	2.0	15.9	2.2	7.5	3.5	4.4	2.8	4.1	2.8
Unsig. Movement Delay, s/veh	63.7	30.6	32.4	E0 /	35.8	10.4	63.1	36.4	38.6	61.2	48.2	47.3
LnGrp Delay(d),s/veh	63. <i>1</i>	30.6 C	32.4 C	58.4 E	ან.0 D	19.4 B	63.1 E	30.4 D	30.0 D	61.3 E	46.2 D	47.3 D
LnGrp LOS			U			D	<u> </u>		U			
Approach Vol, veh/h		2499			2230			990			619	
Approach Delay, s/veh		33.0			36.2			49.9			52.1	
Approach LOS		С			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	30.2	11.4	52.9	23.9	19.6	12.0	52.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	9.4	34.8	7.7	46.9	19.4	24.8	7.4	47.2				
Max Q Clear Time (g_c+l1), s	8.8	13.8	6.9	37.7	19.3	11.7	7.6	42.3				
Green Ext Time (p_c), s	0.0	2.4	0.0	7.6	0.0	1.7	0.0	4.2				
Intersection Summary												
HCM 6th Ctrl Delay			38.6									
HCM 6th LOS			D									

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	Ť	∱ }	ሻ	ħβ	7	†	7	7	†	7	
Traffic Volume (vph)	105	929	36	1164	230	263	46	49	322	88	
Future Volume (vph)	105	929	36	1164	230	263	46	49	322	88	
Turn Type	Prot	NA	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	
Protected Phases	7	4	3	8	5	2	3	1	6		
Permitted Phases							2			6	
Detector Phase	7	4	3	8	5	2	3	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	30.8	9.6	30.8	9.6	25.8	9.6	9.6	15.8	15.8	
Total Split (s)	14.0	54.2	9.8	50.0	15.0	41.9	9.8	14.1	41.0	41.0	
Total Split (%)	11.7%	45.2%	8.2%	41.7%	12.5%	34.9%	8.2%	11.8%	34.2%	34.2%	
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	4.8	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	5.8	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Min	None	None	Min	Min	
Act Effct Green (s)	9.3	50.6	5.2	44.3	10.4	30.6	41.6	7.6	25.6	25.6	
Actuated g/C Ratio	0.08	0.46	0.05	0.40	0.09	0.28	0.38	0.07	0.23	0.23	
v/c Ratio	0.82	0.77	0.51	0.96	1.59	0.56	0.08	0.47	0.81	0.21	
Control Delay	92.3	30.6	76.9	49.8	330.0	40.0	3.2	65.2	55.9	5.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	92.3	30.6	76.9	49.8	330.0	40.0	3.2	65.2	55.9	5.5	
LOS	F	С	Е	D	F	D	Α	Е	Е	Α	
Approach Delay		35.9		50.6		160.7			47.2		
Approach LOS		D		D		F			D		

Cycle Length: 120

Actuated Cycle Length: 110.6

Natural Cycle: 110

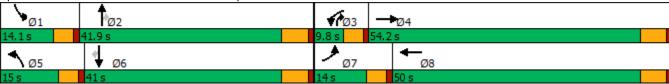
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.59
Intersection Signal Delay: 61.9
Intersection Capacity Utilization 92.5%

Intersection LOS: E ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 5: 7th/Arrowhead Dr & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	ተ ኈ		ሻ	∱ ∱		ሻ	↑	7	ሻ	↑	7
Traffic Volume (veh/h)	105	929	195	36	1164	78	230	263	46	49	322	88
Future Volume (veh/h)	105	929	195	36	1164	78	230	263	46	49	322	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No		.=	No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	111	978	205	38	1225	82	242	277	48	52	339	93
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	135	1284	269	51	1317	88	159	496	469	65	390	331
Arrive On Green	0.08	0.46	0.46	0.03	0.40	0.40	0.10	0.28	0.28	0.04	0.22	0.22
Sat Flow, veh/h	1619	2815	589	1619	3253	217	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	111	593	590	38	643	664	242	277	48	52	339	93
Grp Sat Flow(s), veh/h/ln	1619	1710	1694	1619	1710	1761	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	7.1	30.6	30.7	2.5	37.9	38.1	10.4	13.9	2.4	3.4	19.2	5.4
Cycle Q Clear(g_c), s	7.1	30.6	30.7	2.5	37.9	38.1	10.4	13.9	2.4	3.4	19.2	5.4
Prop In Lane	1.00		0.35	1.00	202	0.12	1.00	400	1.00	1.00		1.00
Lane Grp Cap(c), veh/h	135	780	773	51	692	713	159	496	469	65	390	331
V/C Ratio(X)	0.82	0.76	0.76	0.74	0.93	0.93	1.52	0.56	0.10	0.81	0.87	0.28
Avail Cap(c_a), veh/h	144	783	776	80	715	736	159	615	569	146	599	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	23.9	24.0	50.7	30.0	30.0	47.6	32.8	26.2	50.3	39.9	34.5
Incr Delay (d2), s/veh	27.1	4.4	4.5	7.4	18.2	18.2	263.0	1.0	0.1	8.5	8.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	12.2	12.2	1.1	17.9	18.5	15.7	6.0	0.8	1.5	8.9	2.0
Unsig. Movement Delay, s/veh		00.2	00 E	E0 0	40.0	40.2	240.6	22.0	06.0	E0 0	10.1	25.0
LnGrp Delay(d),s/veh	74.8 E	28.3 C	28.5 C	58.2 E	48.2 D	48.3 D	310.6 F	33.8 C	26.3 C	58.8 E	48.4 D	35.0
LnGrp LOS			U			U			U	<u> </u>		<u>C</u>
Approach Vol, veh/h		1294			1345			567			484	
Approach LOC		32.4			48.5			151.3			47.0	
Approach LOS		С			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	34.9	8.0	54.0	15.0	28.7	13.4	48.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	9.5	36.1	5.2	48.4	10.4	35.2	9.4	44.2				
Max Q Clear Time (g_c+l1), s	5.4	15.9	4.5	32.7	12.4	21.2	9.1	40.1				
Green Ext Time (p_c), s	0.0	1.5	0.0	6.6	0.0	1.7	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			58.4									
HCM 6th LOS			Е									

	•	•	4	†	↓		
Lane Group	EBL	EBR	NBL	NBT	SBT		
Lane Configurations	ሻ	77	ሻሻ	^	↑ ↑		
Traffic Volume (vph)	140	546	522	1125	1101		
Future Volume (vph)	140	546	522	1125	1101		
Turn Type	Prot	pm+ov	Prot	NA	NA		
Protected Phases	4	5	5	2	6		
Permitted Phases		4					
Detector Phase	4	5	5	2	6		
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0		
Minimum Split (s)	26.6	15.8	15.8	16.2	28.2		
Total Split (s)	26.6	36.0	36.0	93.4	57.4		
Total Split (%)	22.2%	30.0%	30.0%	77.8%	47.8%		
Yellow Time (s)	3.6	4.8	4.8	5.2	5.2		
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	4.6	5.8	5.8	6.2	6.2		
_ead/Lag		Lead	Lead		Lag		
_ead-Lag Optimize?		Yes	Yes		Yes		
Recall Mode	None	None	None	Min	Min		
Act Effct Green (s)	14.3	44.3	25.3	76.0	44.7		
Actuated g/C Ratio	0.14	0.44	0.25	0.75	0.44		
v/c Ratio	0.67	0.49	0.76	0.47	0.79		
Control Delay	58.6	20.6	44.5	5.9	29.7		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	58.6	20.6	44.5	5.9	29.7		
LOS	E	С	D	A	C		
Approach Delay	28.4			18.1	29.7		
Approach LOS	С			В	С		
ntersection Summary							
Cycle Length: 120							
Actuated Cycle Length: 1	101.4						
Natural Cycle: 90							
Control Type: Actuated-L		j					
Maximum v/c Ratio: 0.79							
Intersection Signal Delay		,			ntersection		
Intersection Capacity Util)		[(CU Level c	of Service C	
Analysis Period (min) 15							
Splits and Phases: 6: I	Hesperia Rd.	& Green	Tree Bl.				
↑ Ø2	•						
93.4s							

OYC NP (PCE) - PM Peak Hour Urban Crossroads, Inc.

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Synchro 11 Report Page 11

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	ሻ	77	ሻሻ	^	∱ Ъ	
Traffic Volume (veh/h)	140	546	522	1125	1101	0
Future Volume (veh/h)	140	546	522	1125	1101	0
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1700	1800	1600	1800	1800	1800
Adj Flow Rate, veh/h	151	587	561	1210	1184	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	309	1094	640	2404	1469	0
Arrive On Green	0.19	0.19	0.22	0.70	0.43	0.00
Sat Flow, veh/h	1619	2685	2956	3510	3600	0
Grp Volume(v), veh/h	151	587	561	1210	1184	0
Grp Sat Flow(s),veh/h/ln	1619	1342	1478	1710	1710	0
Q Serve(g_s), s	8.5	16.9	18.7	16.6	30.8	0.0
Cycle Q Clear(g_c), s	8.5	16.9	18.7	16.6	30.8	0.0
Prop In Lane	1.00	1.00	1.00			0.00
Lane Grp Cap(c), veh/h	309	1094	640	2404	1469	0
V/C Ratio(X)	0.49	0.54	0.88	0.50	0.81	0.00
Avail Cap(c_a), veh/h	350	1161	876	2928	1719	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.8	22.9	38.6	7.0	25.4	0.0
Incr Delay (d2), s/veh	0.4	0.2	7.6	0.2	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	13.2	7.4	5.2	12.5	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.2	23.0	46.2	7.1	27.9	0.0
LnGrp LOS	D	С	D	Α	С	Α
Approach Vol, veh/h	738			1771	1184	
Approach Delay, s/veh	25.9			19.5	27.9	
Approach LOS	С			В	С	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		77.8		24.1	27.9	49.9
Change Period (Y+Rc), s		6.2		4.6	5.8	6.2
Max Green Setting (Gmax), s		87.2		22.0	30.2	51.2
Max Q Clear Time (g_c+l1), s		18.6		18.9	20.7	32.8
Green Ext Time (p_c), s		20.6		0.6	1.4	11.0
Intersection Summary						
HCM 6th Ctrl Delay			23.5			
HCM 6th LOS			C			
			•			

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4			ħβ			ħβ	
Traffic Vol, veh/h	6	0	16	1	0	15	30	1671	0	7	1690	4
Future Vol, veh/h	6	0	16	1	0	15	30	1671	0	7	1690	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	_	-	None	-	-	None
Storage Length	_	_	-	-	_	-	100	-	-	100	-	-
Veh in Median Storage	.# -	2	-	_	2	-	_	0	-	-	0	-
Grade, %	-	0	_	-	0	-	_	0	_	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mymt Flow	6	0	17	1	0	16	32	1797	0	8	1817	4
												•
Major/Minor N	Minor2		ı	Minor1			Major1		Λ	/lajor2		
Conflicting Flow All	2798	3696	911	2786	3698	899	1821	0	0	1797	0	0
Stage 1	1835	1835	-	1861	1861	-	-	-	-	-	-	-
Stage 2	963	1861	_	925	1837	_	_	_	_	_	_	_
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	_	_	4.1	_	_
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	0.5	-	_	<u>-</u>	T. I	_	_
Critical Hdwy Stg 2	6.5	5.5	_	6.5	5.5	_			_	_	_	
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	_	_	2.2	_	
Pot Cap-1 Maneuver	9	5	281	9	5	286	341		_	348	_	
Stage 1	80	128	201	77	124	200	J 4 I	_	_	J40 -	_	
Stage 2	278	124	-	294	128	_	<u>-</u>	-	-		_	
Platoon blocked, %	210	124	_	234	120	-	-	_	_	_	_	_
Mov Cap-1 Maneuver	8	4	281	8	4	286	341		-	348		-
Mov Cap-1 Maneuver	65	73	201	63	65	200	341	_	-	340	_	_
Stage 1	72	125	-	70	112	_	-	-	-	-	-	-
	238	1125	-	270	125	_	-	-		-	-	-
Stage 2	230	112	_	210	123	_	_	-	-	-	-	_
Approach	EB			WB			NB			SB		
HCM Control Delay, s	34.1			21.6			0.3			0.1		
HCM LOS	D			С								
Minor Long /Maior N4		NDI	NDT	NDD	CDL 41	MDL 4	CDI	CDT	CDD			
Minor Lane/Major Mvm	IL	NBL	NBT	NRK	EBLn1V		SBL	SBT	SBR			
Capacity (veh/h)		341	-	_	147	234	348	-	-			
HCM Lane V/C Ratio		0.095	-			0.074		-	-			
HCM Control Delay (s)		16.7	-	-	34.1	21.6	15.6	-	-			
HCM Lane LOS		С	-	-	D	С	С	-	-			
HCM 95th %tile Q(veh))	0.3	-	-	0.6	0.2	0.1	-	-			

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	44	†	77	ሻ	↑ ↑	44	∱ ∱	ሻ	↑ ↑
Traffic Volume (vph)	150	60	424	97	65	465	1420	19	1618
Future Volume (vph)	150	60	424	97	65	465	1420	19	1618
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	32.8	9.6	9.6	30.8	9.6	27.2	9.6	33.2
Total Split (s)	11.6	32.8	20.0	9.6	30.8	20.0	68.0	9.6	57.6
Total Split (%)	9.7%	27.3%	16.7%	8.0%	25.7%	16.7%	56.7%	8.0%	48.0%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	7.0	11.6	29.7	8.6	10.0	15.4	67.5	5.0	51.4
Actuated g/C Ratio	0.07	0.11	0.28	0.08	0.10	0.15	0.64	0.05	0.49
v/c Ratio	0.79	0.31	0.57	0.76	0.34	1.11	0.72	0.26	1.08
Control Delay	76.2	47.4	34.8	86.5	28.6	118.5	15.6	57.1	73.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.2	47.4	34.8	86.5	28.6	118.5	15.6	57.1	73.1
LOS	E	D	С	F	С	F	В	Е	Е
Approach Delay		45.8			54.9		39.7		72.9
Approach LOS		D			D		D		Е

Cycle Length: 120 Actuated Cycle Length: 105

Natural Cycle: 130

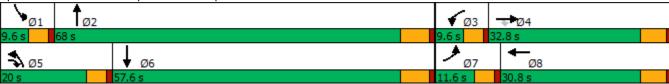
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.11
Intersection Signal Delay: 54.0
Intersection Capacity Utilization 93.4%

Intersection LOS: D
ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 8: Hesperia Rd. & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	†	77	Ť	∱ ∱		44	ħβ		7	∱ ∱	
Traffic Volume (veh/h)	150	60	424	97	65	51	465	1420	98	19	1618	116
Future Volume (veh/h)	150	60	424	97	65	51	465	1420	98	19	1618	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1700	1800	1800	1600	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	155	62	334	100	67	53	479	1464	101	20	1668	120
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	193	241	744	75	219	157	424	1952	134	34	1550	111
Arrive On Green	0.07	0.13	0.13	0.05	0.12	0.12	0.14	0.60	0.60	0.02	0.48	0.48
Sat Flow, veh/h	2956	1800	2685	1619	1902	1363	2956	3247	223	1619	3238	231
Grp Volume(v), veh/h	155	62	334	100	60	60	479	768	797	20	874	914
Grp Sat Flow(s),veh/h/ln	1478	1800	1342	1619	1710	1555	1478	1710	1760	1619	1710	1758
Q Serve(g_s), s	5.6	3.3	11.0	5.0	3.4	3.8	15.4	34.9	35.4	1.3	51.4	51.4
Cycle Q Clear(g_c), s	5.6	3.3	11.0	5.0	3.4	3.8	15.4	34.9	35.4	1.3	51.4	51.4
Prop In Lane	1.00		1.00	1.00		0.88	1.00		0.13	1.00		0.13
Lane Grp Cap(c), veh/h	193	241	744	75	197	179	424	1028	1058	34	819	842
V/C Ratio(X)	0.80	0.26	0.45	1.33	0.30	0.34	1.13	0.75	0.75	0.59	1.07	1.09
Avail Cap(c_a), veh/h	193	453	1060	75	398	362	424	1028	1058	75	819	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.5	41.7	32.0	51.2	43.5	43.7	46.0	15.5	15.6	52.1	28.0	28.0
Incr Delay (d2), s/veh	20.0	0.6	0.4	213.6	0.9	1.1	84.1	3.0	3.1	6.0	51.2	56.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	1.5	3.5	6.4	1.5	1.5	10.3	12.2	12.7	0.6	30.1	32.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.5	42.3	32.4	264.8	44.4	44.8	130.1	18.5	18.7	58.1	79.2	84.9
LnGrp LOS	E	D	С	F	D	D	F	В	В	<u>E</u>	F	F
Approach Vol, veh/h		551			220			2044			1808	
Approach Delay, s/veh		44.0			144.7			44.7			81.8	
Approach LOS		D			F			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	70.8	9.6	20.2	20.0	57.6	11.6	18.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.0	61.8	5.0	27.0	15.4	51.4	7.0	25.0				
Max Q Clear Time (g_c+l1), s	3.3	37.4	7.0	13.0	17.4	53.4	7.6	5.8				
Green Ext Time (p_c), s	0.0	11.3	0.0	1.3	0.0	0.0	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			63.9									
HCM 6th LOS			Е									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Configurations	77	ተተተ	7	1,1	ተተተ	7	ሻሻ	^	7	77	↑ ↑	
Traffic Volume (vph)	147	1742	111	327	1522	177	221	492	360	431	665	
Future Volume (vph)	147	1742	111	327	1522	177	221	492	360	431	665	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	31.2	9.6	9.6	33.2	9.6	9.6	39.2	39.2	9.6	37.2	
Total Split (s)	11.0	44.0	13.0	16.0	49.0	18.0	13.0	42.0	42.0	18.0	47.0	
Total Split (%)	9.2%	36.7%	10.8%	13.3%	40.8%	15.0%	10.8%	35.0%	35.0%	15.0%	39.2%	
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	6.4	37.9	52.5	11.4	42.9	62.5	8.4	30.5	30.5	13.4	35.6	
Actuated g/C Ratio	0.06	0.33	0.46	0.10	0.37	0.54	0.07	0.27	0.27	0.12	0.31	
v/c Ratio	0.91	1.10	0.14	1.14	0.85	0.21	1.05	0.55	0.67	1.28	0.80	
Control Delay	105.8	91.3	1.5	142.9	39.0	7.1	126.6	38.5	23.1	187.3	41.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	105.8	91.3	1.5	142.9	39.0	7.1	126.6	38.5	23.1	187.3	41.9	
LOS	F	F	Α	F	D	Α	F	D	С	F	D	
Approach Delay		87.4			53.0			51.5			91.8	
Approach LOS		F			D			D			F	

Cycle Length: 120

Actuated Cycle Length: 114.9

Natural Cycle: 125

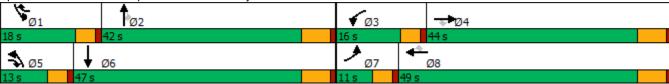
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.28 Intersection Signal Delay: 71.3 Intersection Capacity Utilization 96.9%

Intersection LOS: E ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 9: Hesperia Rd. & Bear Valley Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	^	7	1,1	^	7	ሻሻ	^	7	44	∱ ⊅	
Traffic Volume (veh/h)	147	1742	111	327	1522	177	221	492	360	431	665	159
Future Volume (veh/h)	147	1742	111	327	1522	177	221	492	360	431	665	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	4000	No	1000	1000	No	1000	4000	No	4000	4000	No	1000
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	150	1778	113	334	1553	181	226	502	367	440	679	162
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	163	1601	607	290	1813	739	214	938	418	341	869	207
Arrive On Green	0.06	0.33	0.33	0.10	0.37	0.37	0.07	0.27	0.27	0.12	0.32	0.32
Sat Flow, veh/h	2956	4914	1525	2956	4914	1525	2956	3420	1525	2956	2739	653
Grp Volume(v), veh/h	150	1778	113	334	1553	181	226	502	367	440	424	417
Grp Sat Flow(s), veh/h/ln	1478	1638	1525	1478	1638	1525	1478	1710	1525	1478	1710	1682
Q Serve(g_s), s	5.9	37.8	5.6	11.4	33.8	8.1	8.4	14.5	26.7	13.4	26.1	26.1
Cycle Q Clear(g_c), s	5.9	37.8	5.6	11.4	33.8	8.1	8.4	14.5	26.7	13.4	26.1	26.1
Prop In Lane	1.00	1001	1.00	1.00	1010	1.00	1.00	000	1.00	1.00	E 40	0.39
Lane Grp Cap(c), veh/h	163	1601	607	290	1813	739	214	938	418	341	543	534
V/C Ratio(X)	0.92	1.11	0.19	1.15	0.86	0.24	1.06	0.54	0.88	1.29	0.78	0.78
Avail Cap(c_a), veh/h	163	1601	607	290	1813	739	214	1055	471	341	601	592
HCM Platoon Ratio	1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I) Uniform Delay (d), s/veh	54.6	39.1	22.7	52.3	33.8	17.5	1.00 53.8	35.8	1.00 40.2	51.3	35.9	1.00 35.9
Incr Delay (d2), s/veh	46.9	59.1	0.1	99.6	4.3	0.2	77.0	0.5	15.7	150.3	6.0	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	23.7	2.0	8.2	13.9	2.9	5.4	6.1	11.7	12.1	11.7	11.5
Unsig. Movement Delay, s/veh		25.1	2.0	0.2	10.3	2.3	J. 4	0.1	11.7	12.1	11.7	11.5
LnGrp Delay(d),s/veh	101.5	98.4	22.8	151.9	38.1	17.7	130.9	36.3	55.9	201.6	41.9	42.1
LnGrp LOS	F	50. 4	C	131.3 F	D	В	F	50.5 D	55.5 E	201.0 F	T1.3	72.1 D
Approach Vol, veh/h		2041		·	2068	<u> </u>	<u>'</u>	1095	<u> </u>		1281	
Approach Delay, s/veh		94.4			54.7			62.4			96.8	
Approach LOS		94.4 F			54.7 D			02.4 E			90.0 F	
											Г	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	38.0	16.0	44.0	13.0	43.0	11.0	49.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	13.4	35.8	11.4	37.8	8.4	40.8	6.4	42.8				
Max Q Clear Time (g_c+l1), s	15.4	28.7	13.4	39.8	10.4	28.1	7.9	35.8				
Green Ext Time (p_c), s	0.0	3.1	0.0	0.0	0.0	5.9	0.0	6.0				
Intersection Summary												
HCM 6th Ctrl Delay			76.8									
HCM 6th LOS			Ε									

APPENDIX 5.2:

OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS INTERSECTION
OPERATIONS ANALYSIS WORKSHEETS



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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	† †	7	1,1	ተተተ	7	77	† †	7	ሻሻ	^	7
Traffic Volume (vph)	188	855	74	110	491	668	24	116	81	428	214	114
Future Volume (vph)	188	855	74	110	491	668	24	116	81	428	214	114
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	27.8	27.8	9.5	27.8	27.8	9.5	10.8		9.5	27.8	27.8
Total Split (s)	17.0	62.9	62.9	14.0	59.9	59.9	9.6	13.1		30.0	33.5	33.5
Total Split (%)	14.2%	52.4%	52.4%	11.7%	49.9%	49.9%	8.0%	10.9%		25.0%	27.9%	27.9%
Yellow Time (s)	3.5	4.8	4.8	3.5	4.8	4.8	3.5	4.8		3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	4.5	5.8	5.8	4.5	5.8		4.5	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	Max
Act Effct Green (s)	10.1	31.1	31.1	7.8	28.7	28.7	5.2	10.0	87.6	17.6	28.9	28.9
Actuated g/C Ratio	0.12	0.36	0.36	0.09	0.33	0.33	0.06	0.11	1.00	0.20	0.33	0.33
v/c Ratio	0.58	0.73	0.13	0.45	0.30	0.78	0.14	0.31	0.06	0.76	0.20	0.21
Control Delay	46.6	28.2	0.4	47.0	22.3	10.5	47.5	42.9	0.1	43.1	25.2	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.6	28.2	0.4	47.0	22.3	10.5	47.5	42.9	0.1	43.1	25.2	6.9
LOS	D	С	Α	D	С	В	D	D	Α	D	С	Α
Approach Delay		29.4			18.3			27.7			32.5	
Approach LOS		С			В			С			С	

Cycle Length: 120

Actuated Cycle Length: 87.6

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

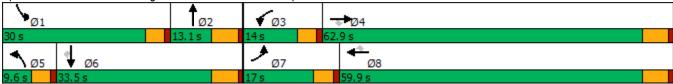
Maximum v/c Ratio: 0.78

Intersection Signal Delay: 25.8 Intersection Capacity Utilization 67.6% Intersection LOS: C

ICU Level of Service C

Analysis Period (min) 15

1: Armargosa Rd. & La Mesa Rd./Nisqualli Rd. Splits and Phases:



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	^	7	14.54	ተተተ	7	ሻሻ	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	188	855	74	110	491	668	24	116	81	428	214	114
Future Volume (veh/h)	188	855	74	110	491	668	24	116	81	428	214	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	204	929	80	120	534	726	26	126	0	465	233	124
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	256	1799	762	169	2544	719	75	340		522	868	368
Arrive On Green	0.08	0.50	0.50	0.06	0.47	0.47	0.02	0.09	0.00	0.17	0.24	0.24
Sat Flow, veh/h	3048	3600	1525	3048	5400	1525	3048	3600	1525	3048	3600	1525
Grp Volume(v), veh/h	204	929	80	120	534	726	26	126	0	465	233	124
Grp Sat Flow(s),veh/h/ln	1524	1800	1525	1524	1800	1525	1524	1800	1525	1524	1800	1525
Q Serve(g_s), s	7.5	20.0	3.2	4.4	6.7	54.1	1.0	3.8	0.0	17.1	6.0	7.7
Cycle Q Clear(g_c), s	7.5	20.0	3.2	4.4	6.7	54.1	1.0	3.8	0.0	17.1	6.0	7.7
Prop In Lane	1.00		1.00	1.00	•	1.00	1.00	0.0	1.00	1.00	0.0	1.00
Lane Grp Cap(c), veh/h	256	1799	762	169	2544	719	75	340		522	868	368
V/C Ratio(X)	0.80	0.52	0.10	0.71	0.21	1.01	0.35	0.37		0.89	0.27	0.34
Avail Cap(c_a), veh/h	332	1799	762	252	2544	719	135	340		677	868	368
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	19.4	15.2	53.4	17.8	30.4	55.1	48.8	0.0	46.5	35.4	36.0
Incr Delay (d2), s/veh	7.5	0.3	0.1	2.1	0.0	36.2	1.0	3.1	0.0	9.9	0.8	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	7.8	1.1	1.7	2.6	25.3	0.4	1.8	0.0	7.0	2.7	3.0
Unsig. Movement Delay, s/veh		1.0			2.0	20.0	0.1	1.0	0.0	7.0	,	0.0
LnGrp Delay(d),s/veh	59.2	19.6	15.2	55.4	17.9	66.5	56.1	51.9	0.0	56.5	36.1	38.5
LnGrp LOS	E	В	В	E	В	F	E	D	0.0	E	D	D
Approach Vol, veh/h		1213			1380	<u>'</u>		152	Α		822	
Approach Delay, s/veh		26.0			46.7			52.6			48.0	
Approach LOS		20.0 C			40.7 D			J2.0			40.0 D	
Approach 200		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.2	16.6	10.9	63.2	7.3	33.5	14.1	59.9				
Change Period (Y+Rc), s	4.5	5.8	4.5	5.8	4.5	5.8	4.5	5.8				
Max Green Setting (Gmax), s	25.5	7.3	9.5	57.1	5.1	27.7	12.5	54.1				
Max Q Clear Time (g_c+l1), s	19.1	5.8	6.4	22.0	3.0	9.7	9.5	56.1				
Green Ext Time (p_c), s	0.5	0.1	0.0	7.3	0.0	1.6	0.1	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			40.2									
HCM 6th LOS			D									
Notes												

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

	•	•	†	/	>	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	1/1/	7	^	7	ሻ	^
Traffic Volume (vph)	850	39	679	360	145	795
Future Volume (vph)	850	39	679	360	145	795
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.7	9.7	10.8	10.8	9.5	10.8
Total Split (s)	36.0	36.0	34.0	34.0	20.0	54.0
Total Split (%)	40.0%	40.0%	37.8%	37.8%	22.2%	60.0%
Yellow Time (s)	3.7	3.7	4.8	4.8	3.5	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	5.8	5.8	4.5	5.8
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	27.5	27.5	34.9	34.9	12.6	52.0
Actuated g/C Ratio	0.31	0.31	0.39	0.39	0.14	0.58
v/c Ratio	0.86	0.08	0.53	0.45	0.63	0.41
Control Delay	38.5	7.0	24.3	4.4	47.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	7.0	24.3	4.4	47.3	11.8
LOS	D	Α.	C C	A	D	В
Approach Delay	37.1		17.4			17.3
Approach LOS	D		В			В
Intersection Summary						
Cycle Length: 90						
Actuated Cycle Length: 90						
Offset: 0 (0%), Referenced	to phase 2:	NBT and	6:SBT, S	Start of G	reen	
Natural Cycle: 55						
Control Type: Actuated-Co	ordinated					
Maximum v/c Ratio: 0.86						
Intersection Signal Delay: 2						n LOS: C
Intersection Capacity Utiliz	ation 63.6%			10	CU Level	of Service
Analysis Period (min) 15						
Splits and Phases: 2: Ar	margosa Ro	I & I-15 9	SR Ramn	s		
L 277	Ĭ A		<u> </u>			T
Ø1		2 (R)				
20 s	34 s					

OYC WP (PCE) - AM Peak Hour Urban Crossroads, Inc.

₩ Ø6 (R)

Synchro 11 Report Page 3

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Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	44	7	^	7	J.	^	
Traffic Volume (veh/h)	850	39	679	360	145	795	
Future Volume (veh/h)	850	39	679	360	145	795	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Nork Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	924	42	738	391	158	864	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	1018	467	1573	702	194	2142	
Arrive On Green	0.29	0.29	0.44	0.44	0.11	0.59	
Sat Flow, veh/h	3510	1610	3705	1610	1810	3705	
Grp Volume(v), veh/h	924	42	738	391	158	864	
Grp Sat Flow(s),veh/h/ln	1755	1610	1805	1610	1810	1805	
Q Serve(g_s), s	22.8	1.7	13.0	16.3	7.7	11.5	
Cycle Q Clear(g_c), s	22.8	1.7	13.0	16.3	7.7	11.5	
Prop In Lane	1.00	1.00		1.00	1.00		
_ane Grp Cap(c), veh/h	1018	467	1573	702	194	2142	
//C Ratio(X)	0.91	0.09	0.47	0.56	0.81	0.40	
Avail Cap(c_a), veh/h	1221	560	1573	702	312	2142	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Jpstream Filter(I)	1.00	1.00	0.67	0.67	1.00	1.00	
Uniform Delay (d), s/veh	30.8	23.3	18.0	18.9	39.3	9.8	
ncr Delay (d2), s/veh	8.0	0.0	0.7	2.1	8.3	0.6	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	9.7	0.6	5.0	5.8	3.7	3.9	
Unsig. Movement Delay, s/veh							
_nGrp Delay(d),s/veh	38.8	23.3	18.7	21.1	47.6	10.4	
_nGrp LOS	D	С	В	С	D	В	
Approach Vol, veh/h	966		1129			1022	
Approach Delay, s/veh	38.1		19.5			16.1	
Approach LOS	D		В			В	
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	14.2	45.0				59.2	30.8
Change Period (Y+Rc), s	4.5	5.8				5.8	4.7
Max Green Setting (Gmax), s	15.5	28.2				48.2	31.3
Max Q Clear Time (g_c+l1), s	9.7	18.3				13.5	24.8
Green Ext Time (p_c), s	0.2	4.3				6.3	1.3
Intersection Summary							
•			24.2				
HCM 6th Ctrl Delay			24.2				
HCM 6th LOS			С				

Lane Group EBL EBT WBT WBR NBL NBT NBR
Lane Configurations \\ \dagger
Traffic Volume (vph) 207 1288 1091 351 188 1 319
Future Volume (vph) 207 1288 1091 351 188 1 319
Turn Type Prot NA NA Perm Perm NA Perm
Protected Phases 7 4 8 2
Permitted Phases 8 2 2
Detector Phase 7 4 8 8 2 2 2
Switch Phase
Minimum Initial (s) 5.0 5.0 5.0 5.0 5.0 5.0
Minimum Split (s) 9.5 10.8 22.8 22.8 11.5 11.5 11.5
Total Split (s) 17.0 57.0 40.0 40.0 33.0 33.0 33.0
Total Split (%) 18.9% 63.3% 44.4% 44.4% 36.7% 36.7% 36.7%
Yellow Time (s) 3.5 4.8 4.8 4.8 5.5 5.5 5.5
All-Red Time (s) 1.0 1.0 1.0 1.0 1.0 1.0
Lost Time Adjust (s) 0.0 0.0 0.0 0.0 0.0 0.0
Total Lost Time (s) 4.5 5.8 5.8 5.8 6.5 6.5 6.5
Lead/Lag Lag Lag
Lead-Lag Optimize? Yes Yes Yes
Recall Mode None C-Max C-Max C-Max None None None
Act Effct Green (s) 10.1 57.2 42.6 42.6 20.5 20.5 20.5
Actuated g/C Ratio 0.11 0.64 0.47 0.47 0.23 0.23 0.23
v/c Ratio 0.59 0.44 0.50 0.41 0.27 0.27 0.82
Control Delay 44.1 9.5 18.6 3.5 28.5 28.6 39.9
Queue Delay 0.0 0.0 0.0 0.0 0.0 0.0 0.0
Total Delay 44.1 9.5 18.6 3.5 28.5 28.6 39.9
LOS D A B A C C D
Approach Delay 14.3 14.9 35.7
Approach LOS B B D
Intersection Summary

Cycle Length: 90 Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 50

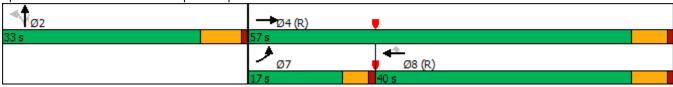
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 17.7 Intersection LOS: B
Intersection Capacity Utilization 54.9% ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: I-15 NB Ramps & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	ተተተ			ተተተ	7	J.	र्स	7			
Traffic Volume (veh/h)	207	1288	0	0	1091	351	188	1	319	0	0	0
Future Volume (veh/h)	207	1288	0	0	1091	351	188	1	319	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	233	1447	0	0	1226	394	212	0	358			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	311	3191	0	0	2472	767	898	0	400			
Arrive On Green	0.09	0.62	0.00	0.00	0.48	0.48	0.25	0.00	0.25			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	233	1447	0	0	1226	394	212	0	358			
Grp Sat Flow(s), veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	5.8	13.4	0.0	0.0	14.6	15.3	4.2	0.0	19.3			
Cycle Q Clear(g_c), s	5.8	13.4	0.0	0.0	14.6	15.3	4.2	0.0	19.3			
Prop In Lane	1.00	10.4	0.00	0.00	17.0	1.00	1.00	0.0	1.00			
Lane Grp Cap(c), veh/h	311	3191	0.00	0.00	2472	767	898	0	400			
V/C Ratio(X)	0.75	0.45	0.00	0.00	0.50	0.51	0.24	0.00	0.90			
Avail Cap(c_a), veh/h	488	3191	0.00	0.00	2472	767	1066	0.00	474			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.65	0.65	0.00	0.00	0.81	0.81	1.00	0.00	1.00			
	40.0	9.2	0.00	0.00	16.1	16.3	27.0	0.00	32.7			
Uniform Delay (d), s/veh	0.9	0.3	0.0	0.0	0.6		0.1	0.0	17.4			
Incr Delay (d2), s/veh						2.0			0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	2.4	4.1	0.0	0.0	5.2	5.4	1.7	0.0	8.7			
Unsig. Movement Delay, s/vel		٥٦	0.0	0.0	40.7	40.0	07.0	0.0	FO 4			
LnGrp Delay(d),s/veh	40.9	9.5	0.0	0.0	16.7	18.3	27.2	0.0	50.1			
LnGrp LOS	D	Α	Α	A	В	В	С	A	D			
Approach Vol, veh/h		1680			1620			570				
Approach Delay, s/veh		13.9			17.1			41.6				
Approach LOS		В			В			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		28.8		61.2			12.5	48.7				
Change Period (Y+Rc), s		6.5		5.8			4.5	5.8				
Max Green Setting (Gmax), s		26.5		51.2			12.5	34.2				
Max Q Clear Time (g_c+l1), s		21.3		15.4			7.8	17.3				
Green Ext Time (p_c), s		1.0		12.6			0.2	8.8				
Intersection Summary												
HCM 6th Ctrl Delay			19.3									
HCM 6th LOS			В									
Notes												

User approved volume balancing among the lanes for turning movement.

	•	→	•	•	←	•	4	†	/	-	ţ	4
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	^	7	1,1	ተተተ	7	44	^	7	1,4	^	7
Traffic Volume (vph)	51	1268	285	94	1141	89	235	141	82	62	93	66
Future Volume (vph)	51	1268	285	94	1141	89	235	141	82	62	93	66
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	32.8	32.8	9.6	33.8	33.8	9.6	40.2	40.2	9.6	16.2	16.2
Total Split (s)	11.0	49.0	49.0	14.0	52.0	52.0	22.0	45.0	45.0	12.0	35.0	35.0
Total Split (%)	9.2%	40.8%	40.8%	11.7%	43.3%	43.3%	18.3%	37.5%	37.5%	10.0%	29.2%	29.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	6.0	35.8	35.8	7.5	37.3	37.3	12.3	19.0	19.0	6.5	10.4	10.4
Actuated g/C Ratio	0.07	0.42	0.42	0.09	0.44	0.44	0.14	0.22	0.22	0.08	0.12	0.12
v/c Ratio	0.27	0.66	0.38	0.39	0.57	0.13	0.60	0.20	0.21	0.30	0.24	0.22
Control Delay	45.9	22.1	4.7	45.4	19.5	0.9	42.5	32.8	5.9	45.5	40.5	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.9	22.1	4.7	45.4	19.5	0.9	42.5	32.8	5.9	45.5	40.5	1.6
LOS	D	С	Α	D	В	Α	D	С	Α	D	D	Α
Approach Delay		19.8			20.0			33.0			30.3	
Approach LOS		В			С			С			С	

Cycle Length: 120

Actuated Cycle Length: 85.2

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

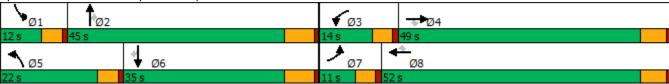
Maximum v/c Ratio: 0.66

Intersection Signal Delay: 22.2
Intersection Capacity Utilization 64.0%

Intersection LOS: C
ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 4: Mariposa & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.14	ተተተ	7	ሻሻ	ተተተ	7	ሻሻ	^	7	14.14	^	7
Traffic Volume (veh/h)	51	1268	285	94	1141	89	235	141	82	62	93	66
Future Volume (veh/h)	51	1268	285	94	1141	89	235	141	82	62	93	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	55	1363	306	101	1227	96	253	152	88	67	100	71
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	135	2004	622	174	2069	642	335	676	301	149	460	205
Arrive On Green	0.05	0.41	0.41	0.06	0.42	0.42	0.11	0.20	0.20	0.05	0.13	0.13
Sat Flow, veh/h	2956	4914	1525	2956	4914	1525	2956	3420	1525	2956	3420	1525
Grp Volume(v), veh/h	55	1363	306	101	1227	96	253	152	88	67	100	71
Grp Sat Flow(s),veh/h/ln	1478	1638	1525	1478	1638	1525	1478	1710	1525	1478	1710	1525
Q Serve(g_s), s	1.3	16.9	11.0	2.5	14.3	2.9	6.2	2.8	3.7	1.6	1.9	3.1
Cycle Q Clear(g_c), s	1.3	16.9	11.0	2.5	14.3	2.9	6.2	2.8	3.7	1.6	1.9	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	135	2004	622	174	2069	642	335	676	301	149	460	205
V/C Ratio(X)	0.41	0.68	0.49	0.58	0.59	0.15	0.75	0.23	0.29	0.45	0.22	0.35
Avail Cap(c_a), veh/h	255	2857	887	374	3055	948	692	1786	797	294	1326	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	18.0	16.3	34.1	16.6	13.3	31.9	25.0	25.4	34.3	28.7	29.2
Incr Delay (d2), s/veh	0.7	0.4	0.6	1.1	0.3	0.1	1.3	0.2	0.5	0.8	0.2	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	5.5	3.4	0.9	4.6	0.9	2.1	1.0	1.3	0.6	0.7	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	18.4	16.9	35.2	16.9	13.4	33.3	25.2	25.9	35.1	28.9	30.2
LnGrp LOS	D	В	В	D	В	В	С	С	С	D	С	С
Approach Vol, veh/h		1724			1424			493			238	
Approach Delay, s/veh		18.7			17.9			29.5			31.0	
Approach LOS		В			В			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	20.9	9.0	36.1	13.0	16.2	8.0	37.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	7.4	38.8	9.4	43.2	17.4	28.8	6.4	46.2				
Max Q Clear Time (g_c+l1), s	3.6	5.7	4.5	18.9	8.2	5.1	3.3	16.3				
Green Ext Time (p_c), s	0.0	1.1	0.1	11.4	0.3	0.7	0.0	9.9				
Intersection Summary												
HCM 6th Ctrl Delay			20.5									
HCM 6th LOS			С									

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	Ť	∱ ∱	7	∱ ⊅	7	†	7	7	+	7	
Traffic Volume (vph)	28	858	25	533	102	244	23	42	183	51	
Future Volume (vph)	28	858	25	533	102	244	23	42	183	51	
Turn Type	Prot	NA	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	
Protected Phases	7	4	3	8	5	2	3	1	6		
Permitted Phases							2			6	
Detector Phase	7	4	3	8	5	2	3	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	30.8	9.6	30.8	9.6	25.8	9.6	9.6	15.8	15.8	
Total Split (s)	12.0	54.0	12.0	54.0	22.0	39.0	12.0	15.0	32.0	32.0	
Total Split (%)	10.0%	45.0%	10.0%	45.0%	18.3%	32.5%	10.0%	12.5%	26.7%	26.7%	
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	4.8	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	5.8	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Min	None	None	Min	Min	
Act Effct Green (s)	6.6	38.1	6.5	38.0	11.8	24.9	37.8	7.7	17.6	17.6	
Actuated g/C Ratio	0.07	0.42	0.07	0.42	0.13	0.27	0.42	0.08	0.19	0.19	
v/c Ratio	0.28	0.80	0.25	0.48	0.57	0.58	0.04	0.36	0.62	0.14	
Control Delay	55.6	29.6	55.1	21.9	54.7	39.0	0.1	54.9	46.0	0.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	55.6	29.6	55.1	21.9	54.7	39.0	0.1	54.9	46.0	0.7	
LOS	Е	С	E	С	D	D	Α	D	D	Α	
Approach Delay		30.3		23.2		40.9			39.0		
Approach LOS		С		С		D			D		
1.1											

Cycle Length: 120
Actuated Cycle Length: 91
Natural Cycle: 80

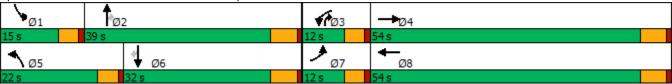
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.80
Intersection Signal Delay: 31.2
Intersection Capacity Utilization 59.8%

Intersection LOS: C
ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: 7th/Arrowhead Dr & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	∱ ∱		ሻ	∱ ∱		7	↑	7	ሻ	↑	7
Traffic Volume (veh/h)	28	858	104	25	533	46	102	244	23	42	183	51
Future Volume (veh/h)	28	858	104	25	533	46	102	244	23	42	183	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	33	1009	122	29	627	54	120	287	27	49	215	60
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	55	1294	156	50	1332	115	150	372	362	71	284	241
Arrive On Green	0.03	0.42	0.42	0.03	0.42	0.42	0.09	0.21	0.21	0.04	0.16	0.16
Sat Flow, veh/h	1619	3072	371	1619	3187	274	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	33	561	570	29	336	345	120	287	27	49	215	60
Grp Sat Flow(s),veh/h/ln	1619	1710	1733	1619	1710	1751	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	1.4	19.8	19.8	1.2	9.9	10.0	5.1	10.5	1.0	2.1	8.0	2.4
Cycle Q Clear(g_c), s	1.4	19.8	19.8	1.2	9.9	10.0	5.1	10.5	1.0	2.1	8.0	2.4
Prop In Lane	1.00		0.21	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	55	720	730	50	715	732	150	372	362	71	284	241
V/C Ratio(X)	0.60	0.78	0.78	0.58	0.47	0.47	0.80	0.77	0.07	0.69	0.76	0.25
Avail Cap(c_a), veh/h	171	1179	1195	171	1179	1207	403	855	772	241	675	572
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	17.4	17.4	33.4	14.7	14.7	31.1	26.2	20.7	32.9	28.1	25.8
Incr Delay (d2), s/veh	3.9	1.9	1.9	3.9	0.5	0.5	3.7	3.4	0.1	4.4	4.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	6.8	6.9	0.5	3.3	3.4	2.0	4.5	0.3	0.8	3.4	0.8
Unsig. Movement Delay, s/veh		10.0	40.0	07.4	45.0	45.0	040	00.0	00.0	07.0	00.0	00.0
LnGrp Delay(d),s/veh	37.2	19.3	19.3	37.4	15.2	15.2	34.8	29.6	20.8	37.3	32.2	26.3
LnGrp LOS	D	В	В	D	В	В	С	С	С	D	С	<u>C</u>
Approach Vol, veh/h		1164			710			434			324	
Approach Delay, s/veh		19.8			16.1			30.5			31.9	
Approach LOS		В			В			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	20.2	6.8	35.2	11.1	16.8	7.0	35.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	10.4	33.2	7.4	48.2	17.4	26.2	7.4	48.2				
Max Q Clear Time (g_c+l1), s	4.1	12.5	3.2	21.8	7.1	10.0	3.4	12.0				
Green Ext Time (p_c), s	0.0	1.5	0.0	7.6	0.1	1.1	0.0	4.1				
Intersection Summary												
HCM 6th Ctrl Delay			22.1									
HCM 6th LOS			С									

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Lane Group	EBL	EBR	NBL	NBT	SBT			
_ane Configurations	7	77	1,1	^	↑ ↑			
Fraffic Volume (vph)	136	290	335	784	950			
Future Volume (vph)	136	290	335	784	950			
Turn Type	Prot	pm+ov	Prot	NA	NA			
Protected Phases	4	5	5	2	6			
Permitted Phases		4						
Detector Phase	4	5	5	2	6			
Switch Phase								
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0			
Minimum Split (s)	26.6	15.8	15.8	16.2	28.2			
Total Split (s)	29.0	29.0	29.0	91.0	62.0			
Total Split (%)	24.2%	24.2%	24.2%	75.8%	51.7%			
Yellow Time (s)	3.6	4.8	4.8	5.2	5.2			
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.6	5.8	5.8	6.2	6.2			
Lead/Lag		Lead	Lead		Lag			
Lead-Lag Optimize?		Yes	Yes		Yes			
Recall Mode	None	None	None	Min	Min			
Act Effct Green (s)	13.2	35.0	17.0	65.5	42.4			
Actuated g/C Ratio	0.15	0.39	0.19	0.73	0.47			
v/c Ratio	0.62	0.28	0.65	0.34	0.72			
Control Delay	51.2	14.0	42.2	5.0	22.6			
Queue Delay	0.0	0.0	0.0	0.0	0.0			
Total Delay	51.2	14.0	42.2	5.0	22.6			
LOS	D	В	D	Α	С			
Approach Delay	25.9			16.1	22.6			
Approach LOS	С			В	С			
Intersection Summary								
Cycle Length: 120								
Actuated Cycle Length: 90.1								
Natural Cycle: 80								
Control Type: Actuated-Unco	ordinated	d						
Maximum v/c Ratio: 0.72								
Intersection Signal Delay: 20	.3			lı	ntersection	LOS: C		
ntersection Capacity Utilizati))		10	CU Level o	Service C		
Analysis Period (min) 15								
Splits and Phases: 6: Hesp	noria Rd	& Green	Troe RI					
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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		77	ሻሻ	^	† \$	
Traffic Volume (veh/h)	136	290	335	784	950	121
Future Volume (veh/h)	136	290	335	784	950	121
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1700	1800	1600	1800	1800	1800
Adj Flow Rate, veh/h	146	312	360	843	1022	130
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	211	771	463	2468	1482	188
Arrive On Green	0.13	0.13	0.16	0.72	0.49	0.49
Sat Flow, veh/h	1619	2685	2956	3510	3142	388
Grp Volume(v), veh/h	146	312	360	843	572	580
Grp Sat Flow(s),veh/h/ln	1619	1342	1478	1710	1710	1730
Q Serve(g_s), s	6.3	6.8	8.5	6.6	18.9	18.9
Cycle Q Clear(g_c), s	6.3	6.8	8.5	6.6	18.9	18.9
Prop In Lane	1.00	1.00	1.00			0.22
Lane Grp Cap(c), veh/h	211	771	463	2468	830	840
V/C Ratio(X)	0.69	0.40	0.78	0.34	0.69	0.69
Avail Cap(c_a), veh/h	541	1318	939	3972	1307	1322
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.3	21.0	29.6	3.8	14.5	14.5
Incr Delay (d2), s/veh	1.5	0.1	2.8	0.1	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	3.1	1.6	6.7	6.8
Unsig. Movement Delay, s/veh		0.0	J. I	1.0	0.7	0.0
LnGrp Delay(d),s/veh	31.8	21.1	32.4	3.8	15.6	15.6
LnGrp LOS	31.6 C	Z1.1	32.4 C	3.6 A	15.0 B	15.0 B
		U	U			D
Approach Vol, veh/h	458			1203	1152	
Approach Delay, s/veh	24.5			12.4	15.6	
Approach LOS	С			В	В	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		58.9		14.1	17.2	41.6
Change Period (Y+Rc), s		6.2		4.6	5.8	6.2
Max Green Setting (Gmax), s		84.8		24.4	23.2	55.8
Max Q Clear Time (g_c+l1), s		8.6		8.8	10.5	20.9
Green Ext Time (p_c), s		11.6		0.7	0.9	14.5
Intersection Summary						
			15.7			
HCM 6th Ctrl Delay			15.7			
HCM 6th LOS			В			

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		4	7	£	7	^	7	*	ħβ
Traffic Volume (vph)	5	4	27	1	11	1122	95	33	1206
Future Volume (vph)	5	4	27	1	11	1122	95	33	1206
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	26.6	26.6	9.6	23.2	23.2	9.6	23.2
Total Split (s)	27.0	27.0	27.0	27.0	13.0	80.0	80.0	13.0	80.0
Total Split (%)	22.5%	22.5%	22.5%	22.5%	10.8%	66.7%	66.7%	10.8%	66.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6	4.6	4.6	4.6	6.2	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		11.2	11.2	11.2	5.9	41.2	41.2	6.7	45.3
Actuated g/C Ratio		0.20	0.20	0.20	0.10	0.72	0.72	0.12	0.79
v/c Ratio		0.07	0.11	0.05	0.08	0.52	0.10	0.20	0.50
Control Delay		22.3	28.9	16.2	32.7	9.7	4.3	32.6	6.3
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		22.3	28.9	16.2	32.7	9.7	4.3	32.6	6.3
LOS		С	С	В	С	Α	Α	С	Α
Approach Delay		22.3		24.8		9.5			7.0
Approach LOS		С		С		Α			Α
Intersection Summary									

Cycle Length: 120

Actuated Cycle Length: 57.1

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

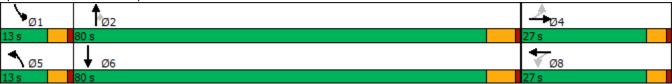
Maximum v/c Ratio: 0.52

Intersection Signal Delay: 8.6
Intersection Capacity Utilization 52.6%

Intersection LOS: A ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 7: Hesperia Rd. & Ottawa St.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4		ሻ	₽		ሻ	^	7	ሻ	∱ ∱	
Traffic Volume (veh/h)	5	4	8	27	1	12	11	1122	95	33	1206	1
Future Volume (veh/h)	5	4	8	27	1	12	11	1122	95	33	1206	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	6	5	9	31	1	14	12	1275	108	38	1370	1
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	118	78	86	311	12	170	25	1857	828	66	1993	1
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.02	0.54	0.54	0.04	0.57	0.57
Sat Flow, veh/h	230	655	724	1422	103	1438	1619	3420	1525	1619	3507	3
Grp Volume(v), veh/h	20	0	0	31	0	15	12	1275	108	38	668	703
Grp Sat Flow(s),veh/h/ln	1608	0	0	1422	0	1541	1619	1710	1525	1619	1710	1800
Q Serve(g_s), s	0.0	0.0	0.0	0.3	0.0	0.4	0.4	14.0	1.8	1.2	14.3	14.3
Cycle Q Clear(g_c), s	0.6	0.0	0.0	0.9	0.0	0.4	0.4	14.0	1.8	1.2	14.3	14.3
Prop In Lane	0.30	_	0.45	1.00		0.93	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	281	0	0	311	0	183	25	1857	828	66	972	1023
V/C Ratio(X)	0.07	0.00	0.00	0.10	0.00	0.08	0.48	0.69	0.13	0.58	0.69	0.69
Avail Cap(c_a), veh/h	769	0	0	759	0	668	263	4882	2178	263	2441	2569
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	0.0	20.5	0.0	20.3	25.2	8.6	5.8	24.4	7.9	7.9
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.1	0.0	0.2	5.3	0.5	0.1	2.9	0.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.3	0.0	0.2	0.2	3.0	0.3	0.4	2.9	3.0
Unsig. Movement Delay, s/veh		0.0	0.0	00.0	0.0	00.5	20.0	0.4	F 0	07.0	0.0	0.7
LnGrp Delay(d),s/veh	20.4	0.0	0.0	20.6	0.0	20.5	30.6	9.1	5.9	27.3	8.8	8.7
LnGrp LOS	С	A	A	С	A	С	С	A	A	С	A 4400	A
Approach Vol, veh/h		20			46			1395			1409	
Approach Delay, s/veh		20.4			20.6			9.0			9.3	
Approach LOS		С			С			Α			Α	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	34.3		10.7	5.4	35.6		10.7				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	8.4	73.8		22.4	8.4	73.8		22.4				
Max Q Clear Time (g_c+l1), s	3.2	16.0		2.6	2.4	16.3		2.9				
Green Ext Time (p_c), s	0.0	12.0		0.0	0.0	11.3		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			Α									

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Configurations	ሻሻ	1	77	ሻ	∱ }	44	∱ }	ሻ	↑ ↑	
Traffic Volume (vph)	207	73	409	83	72	272	1167	16	1110	
Future Volume (vph)	207	73	409	83	72	272	1167	16	1110	
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA	
Protected Phases	7	4	5	3	8	5	2	1	6	
Permitted Phases			4							
Detector Phase	7	4	5	3	8	5	2	1	6	
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	32.8	9.6	9.6	30.8	9.6	27.2	9.6	33.2	
Total Split (s)	13.2	33.0	20.2	11.0	30.8	20.2	66.2	9.8	55.8	
Total Split (%)	11.0%	27.5%	16.8%	9.2%	25.7%	16.8%	55.2%	8.2%	46.5%	
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Min	None	Min	
Act Effct Green (s)	8.6	12.1	29.5	10.4	10.3	15.1	62.4	5.1	46.5	
Actuated g/C Ratio	0.08	0.12	0.29	0.10	0.10	0.15	0.61	0.05	0.46	
v/c Ratio	0.91	0.38	0.59	0.57	0.35	0.68	0.68	0.22	0.86	
Control Delay	84.6	48.1	33.8	63.7	30.7	50.4	15.9	55.1	31.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	84.6	48.1	33.8	63.7	30.7	50.4	15.9	55.1	31.4	
LOS	F	D	С	Е	С	D	В	Е	С	
Approach Delay		50.6			44.6		22.1		31.7	
Approach LOS		D			D		С		С	
Intersection Summary										

Cycle Length: 120

Actuated Cycle Length: 101.8

Natural Cycle: 110

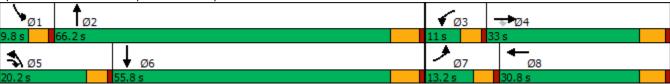
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 31.9 Intersection LOS: C
Intersection Capacity Utilization 71.7% ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 8: Hesperia Rd. & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	†	77	7	∱ ∱		ሻሻ	ħβ		7	∱ β	
Traffic Volume (veh/h)	207	73	409	83	72	43	272	1167	96	16	1110	77
Future Volume (veh/h)	207	73	409	83	72	43	272	1167	96	16	1110	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1700	1800	1800	1600	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	233	82	460	93	81	48	306	1311	108	18	1247	87
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	254	325	806	101	339	186	365	1702	140	32	1401	98
Arrive On Green	0.08	0.18	0.18	0.06	0.16	0.16	0.12	0.53	0.53	0.02	0.43	0.43
Sat Flow, veh/h	3048	1800	2685	1619	2128	1172	3048	3200	263	1619	3243	226
Grp Volume(v), veh/h	233	82	460	93	64	65	306	699	720	18	656	678
Grp Sat Flow(s),veh/h/ln	1524	1800	1342	1619	1710	1589	1524	1710	1753	1619	1710	1759
Q Serve(g_s), s	7.8	4.0	14.9	5.9	3.4	3.7	10.1	33.3	33.6	1.1	36.5	36.6
Cycle Q Clear(g_c), s	7.8	4.0	14.9	5.9	3.4	3.7	10.1	33.3	33.6	1.1	36.5	36.6
Prop In Lane	1.00		1.00	1.00		0.74	1.00		0.15	1.00		0.13
Lane Grp Cap(c), veh/h	254	325	806	101	272	253	365	910	932	32	738	760
V/C Ratio(X)	0.92	0.25	0.57	0.92	0.23	0.26	0.84	0.77	0.77	0.57	0.89	0.89
Avail Cap(c_a), veh/h	254	475	1030	101	415	386	462	996	1021	82	823	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	36.2	30.4	48.1	37.8	38.0	44.4	19.1	19.2	50.1	27.0	27.0
Incr Delay (d2), s/veh	34.1	0.4	0.6	64.8	0.4	0.5	8.7	3.4	3.4	5.9	10.9	10.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	1.7	4.6	4.1	1.4	1.4	4.1	12.2	12.7	0.5	15.6	16.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.0	36.6	31.1	112.9	38.3	38.5	53.1	22.5	22.6	55.9	37.9	38.0
LnGrp LOS	F	D	С	F	D	D	D	С	С	E	D	<u>D</u>
Approach Vol, veh/h		775			222			1725			1352	
Approach Delay, s/veh		46.7			69.6			27.9			38.2	
Approach LOS		D			E			С			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	61.0	11.0	24.4	16.9	50.7	13.2	22.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.2	60.0	6.4	27.2	15.6	49.6	8.6	25.0				
Max Q Clear Time (g_c+l1), s	3.1	35.6	7.9	16.9	12.1	38.6	9.8	5.7				
Green Ext Time (p_c), s	0.0	9.8	0.0	1.7	0.2	5.8	0.0	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			37.2									
HCM 6th LOS			D									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Configurations	44	ተተተ	7	1,1	ተተተ	7	ሻሻ	^	7	44	∱ ∱	
Traffic Volume (vph)	198	1311	123	318	1435	213	109	548	316	271	357	
Future Volume (vph)	198	1311	123	318	1435	213	109	548	316	271	357	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	31.2	9.6	9.6	33.2	9.6	9.6	39.2	39.2	9.6	37.2	
Total Split (s)	15.7	42.0	14.4	20.0	46.3	18.0	14.4	40.0	40.0	18.0	43.6	
Total Split (%)	13.1%	35.0%	12.0%	16.7%	38.6%	15.0%	12.0%	33.3%	33.3%	15.0%	36.3%	
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	10.6	35.9	50.5	14.9	40.3	59.5	8.3	28.1	28.1	13.0	32.8	
Actuated g/C Ratio	0.09	0.32	0.44	0.13	0.35	0.52	0.07	0.25	0.25	0.11	0.29	
v/c Ratio	0.77	0.90	0.18	0.88	0.88	0.27	0.54	0.69	0.62	0.85	0.50	
Control Delay	70.4	46.8	8.6	72.8	42.1	11.9	61.5	43.3	18.1	73.9	33.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	70.4	46.8	8.6	72.8	42.1	11.9	61.5	43.3	18.1	73.9	33.2	
LOS	Е	D	Α	Е	D	В	Е	D	В	Е	С	
Approach Delay		46.8			43.8			37.2			48.3	
Approach LOS		D			D			D			D	

Cycle Length: 120

Actuated Cycle Length: 113.6

Natural Cycle: 105

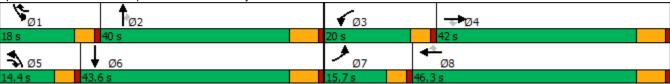
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 44.1 Intersection LOS: D
Intersection Capacity Utilization 80.7% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 9: Hesperia Rd. & Bear Valley Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	ተተተ	7	1,1	^	7	ሻሻ	^	7	ሻሻ	ተ ኈ	
Traffic Volume (veh/h)	198	1311	123	318	1435	213	109	548	316	271	357	103
Future Volume (veh/h)	198	1311	123	318	1435	213	109	548	316	271	357	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	4000	No	4000	1000	No	4000	1000	No	4000	1000	No	4000
Adj Sat Flow, veh/h/ln	1600 211	1800	1800 131	1600 338	1800 1527	1800 227	1600	1800 583	1800	1600 288	1800 380	1800
Adj Flow Rate, veh/h Peak Hour Factor	0.94	1395 0.94	0.94	0.94	0.94	0.94	116 0.94	0.94	336 0.94	0.94	0.94	110 0.94
Percent Heavy Veh, %	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Cap, veh/h	259	1520	556	385	1728	709	163	885	395	335	833	238
Arrive On Green	0.09	0.31	0.31	0.13	0.35	0.35	0.06	0.26	0.26	0.11	0.32	0.32
Sat Flow, veh/h	2956	4914	1525	2956	4914	1525	2956	3420	1525	2956	2624	751
Grp Volume(v), veh/h	211	1395	131	338	1527	227	116	583	336	288	246	244
Grp Sat Flow(s), veh/h/ln	1478	1638	1525	1478	1638	1525	1478	1710	1525	1478	1710	1665
Q Serve(g_s), s	8.0	31.4	6.8	12.9	33.5	10.7	4.4	17.5	24.0	11.0	13.2	13.4
Cycle Q Clear(g_c), s	8.0	31.4	6.8	12.9	33.5	10.7	4.4	17.5	24.0	11.0	13.2	13.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	259	1520	556	385	1728	709	163	885	395	335	542	528
V/C Ratio(X)	0.81	0.92	0.24	0.88	0.88	0.32	0.71	0.66	0.85	0.86	0.45	0.46
Avail Cap(c_a), veh/h	286	1534	560	397	1728	709	253	1008	450	345	558	543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	38.2	25.3	49.0	35.0	19.3	53.3	38.0	40.4	49.9	31.2	31.3
Incr Delay (d2), s/veh	13.5	9.1	0.2	18.5	5.8	0.3	2.2	1.3	13.1	17.8	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	13.7	2.5	5.7	14.1	3.8	1.7	7.4	10.4	4.9	5.5	5.5
Unsig. Movement Delay, s/veh		47.0	05.0	07.4	40.0	40.5		00.0	50 F	07.7	04.0	00.0
LnGrp Delay(d),s/veh	64.8	47.3	25.6	67.4	40.8	19.5	55.5	39.3	53.5	67.7	31.8	32.0
LnGrp LOS	E	D	С	E	D	В	E	D	D	E	C	<u>C</u>
Approach Vol, veh/h		1737			2092			1035			778	
Approach LOS		47.8			42.8			45.7			45.2	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.6	35.9	19.5	41.7	10.9	42.6	14.7	46.5				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	13.4	33.8	15.4	35.8	9.8	37.4	11.1	40.1				
Max Q Clear Time (g_c+l1), s	13.0	26.0	14.9	33.4	6.4	15.4	10.0	35.5				
Green Ext Time (p_c), s	0.0	3.7	0.0	2.1	0.0	4.3	0.0	4.0				
Intersection Summary												
HCM 6th Ctrl Delay			45.2									
HCM 6th LOS			D									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	† †	7	1,1	ተተተ	7	14.44	† †	7	1,4	^	7
Traffic Volume (vph)	148	978	145	374	1538	777	140	335	418	902	671	427
Future Volume (vph)	148	978	145	374	1538	777	140	335	418	902	671	427
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	27.8	27.8	9.5	27.8	27.8	9.5	10.8		9.5	27.8	27.8
Total Split (s)	11.2	41.4	41.4	19.6	49.8	49.8	12.8	18.0		41.0	46.2	46.2
Total Split (%)	9.3%	34.5%	34.5%	16.3%	41.5%	41.5%	10.7%	15.0%		34.2%	38.5%	38.5%
Yellow Time (s)	3.5	4.8	4.8	3.5	4.8	4.8	3.5	4.8		3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	4.5	5.8	5.8	4.5	5.8		4.5	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	Max
Act Effct Green (s)	6.7	35.6	35.6	15.1	44.0	44.0	8.0	12.2	120.0	36.5	40.7	40.7
Actuated g/C Ratio	0.06	0.30	0.30	0.13	0.37	0.37	0.07	0.10	1.00	0.30	0.34	0.34
v/c Ratio	0.89	0.93	0.25	1.00	0.79	0.79	0.70	0.93	0.28	1.00	0.56	0.71
Control Delay	102.3	57.1	2.9	98.7	37.6	11.5	73.7	86.8	0.5	70.5	34.6	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	102.3	57.1	2.9	98.7	37.6	11.5	73.7	86.8	0.5	70.5	34.6	29.6
LOS	F	Е	Α	F	D	В	Е	F	Α	Е	С	С
Approach Delay		56.2			38.5			44.3			49.7	
Approach LOS		Е			D			D			D	

Cycle Length: 120 Actuated Cycle Length: 120

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

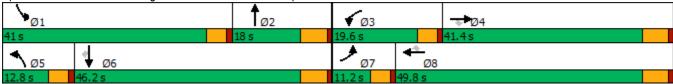
Maximum v/c Ratio: 1.00

Intersection Signal Delay: 45.8
Intersection Capacity Utilization 98.7%

Intersection LOS: D
ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 1: Armargosa Rd. & La Mesa Rd./Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	^	7	14.54	^	7	77	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	148	978	145	374	1538	777	140	335	418	902	671	427
Future Volume (veh/h)	148	978	145	374	1538	777	140	335	418	902	671	427
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	151	998	97	382	1569	523	143	342	0	920	685	324
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	171	1061	450	384	1971	557	190	367		929	1240	525
Arrive On Green	0.06	0.29	0.29	0.13	0.37	0.37	0.06	0.10	0.00	0.30	0.34	0.34
Sat Flow, veh/h	3048	3600	1525	3048	5400	1525	3048	3600	1525	3048	3600	1525
Grp Volume(v), veh/h	151	998	97	382	1569	523	143	342	0	920	685	324
Grp Sat Flow(s),veh/h/ln	1524	1800	1525	1524	1800	1525	1524	1800	1525	1524	1800	1525
Q Serve(g_s), s	5.9	32.4	5.7	15.0	31.1	39.7	5.5	11.3	0.0	36.0	18.4	21.2
Cycle Q Clear(g_c), s	5.9	32.4	5.7	15.0	31.1	39.7	5.5	11.3	0.0	36.0	18.4	21.2
Prop In Lane	1.00	V=	1.00	1.00	•	1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	1061	450	384	1971	557	190	367		929	1240	525
V/C Ratio(X)	0.89	0.94	0.22	0.99	0.80	0.94	0.75	0.93		0.99	0.55	0.62
Avail Cap(c_a), veh/h	171	1071	454	384	1985	561	211	367		929	1240	525
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	41.2	31.8	52.2	34.0	36.7	55.2	53.3	0.0	41.4	31.8	32.7
Incr Delay (d2), s/veh	37.3	15.2	0.2	44.0	2.3	23.9	10.6	32.6	0.0	26.9	1.8	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	16.0	2.1	7.9	13.4	17.7	2.4	6.6	0.0	16.4	8.0	8.3
Unsig. Movement Delay, s/veh		10.0		1.0	10.1			0.0	0.0	10.1	0.0	0.0
LnGrp Delay(d),s/veh	93.4	56.4	32.0	96.3	36.3	60.6	65.8	85.9	0.0	68.3	33.5	38.0
LnGrp LOS	F	E	C	F	D	E	E	F	0.0	E	C	D
Approach Vol, veh/h	•	1246		•	2474			485	Α		1929	
Approach Delay, s/veh		59.0			50.7			80.0	Λ		50.9	
Approach LOS		59.0 E			50.7 D			60.0 E			50.9 D	
Approach LOS					D						U	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	41.0	18.0	19.6	41.1	12.0	47.0	11.2	49.5				
Change Period (Y+Rc), s	4.5	5.8	4.5	5.8	4.5	5.8	4.5	5.8				
Max Green Setting (Gmax), s	36.5	12.2	15.1	35.6	8.3	40.4	6.7	44.0				
Max Q Clear Time (g_c+l1), s	38.0	13.3	17.0	34.4	7.5	23.2	7.9	41.7				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	5.1	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			54.8									
HCM 6th LOS			D									
Notes												

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	1,4	7	^	7	7	^
Traffic Volume (vph)	1045	49	831	426	174	983
Future Volume (vph)	1045	49	831	426	174	983
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.7	9.7	10.8	10.8	9.5	10.8
Total Split (s)	37.0	37.0	34.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	37.8%	21.1%	58.9%
Yellow Time (s)	3.7	3.7	4.8	4.8	3.5	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	5.8	5.8	4.5	5.8
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	31.5	31.5	30.4	30.4	13.1	48.0
Actuated g/C Ratio	0.35	0.35	0.34	0.34	0.15	0.53
v/c Ratio	0.94	0.09	0.75	0.55	0.73	0.56
Control Delay	43.6	6.1	31.8	5.1	53.3	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	6.1	31.8	5.1	53.3	15.6
LOS	D	A	C	A	D	В
Approach Delay	41.9	- 71	22.7	, (21.2
Approach LOS	T1.5		C			C C
• •			0			0
Intersection Summary						
Cycle Length: 90						
Actuated Cycle Length: 90						
Offset: 0 (0%), Referenced	to phase 2	:NBT and	6:SBT, S	Start of G	reen	
Natural Cycle: 70						
Control Type: Actuated-Co	ordinated					
Maximum v/c Ratio: 0.94						
Intersection Signal Delay:						n LOS: C
Intersection Capacity Utiliz	ation 74.9%)		10	CU Level	of Service
Analysis Period (min) 15						
Splits and Phases: 2: Ar	margosa Ro	Ι Ω Ι 1Ε 0	SD Dama	c		
Splits and Friases. 2. Al	Illaryosa IN	J. & 1-13 C	JD ITAIIIP	<u> </u>		
Ø1	Fø₂	(R)				
19 s	34 s					

OYC WP (PCE) - PM Peak Hour Urban Crossroads, Inc.

₩ Ø6 (R)

Synchro 11 Report Page 3

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Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	ሻሻ	7	^	7	ሻ	^	
Traffic Volume (veh/h)	1045	49	831	426	174	983	
Future Volume (veh/h)	1045	49	831	426	174	983	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	1148	54	913	468	191	1080	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	1217	558	1302	581	228	1937	
Arrive On Green	0.35	0.35	0.36	0.36	0.13	0.54	
Sat Flow, veh/h	3510	1610	3705	1610	1810	3705	
Grp Volume(v), veh/h	1148	54	913	468	191	1080	
Grp Sat Flow(s),veh/h/ln	1755	1610	1805	1610	1810	1805	
Q Serve(g_s), s	28.6	2.0	19.5	23.6	9.3	17.8	
Cycle Q Clear(g_c), s	28.6	2.0	19.5	23.6	9.3	17.8	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1217	558	1302	581	228	1937	
V/C Ratio(X)	0.94	0.10	0.70	0.81	0.84	0.56	
Avail Cap(c_a), veh/h	1260	578	1302	581	292	1937	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	0.42	0.42	1.00	1.00	
Uniform Delay (d), s/veh	28.5	19.9	24.6	25.9	38.4	13.8	
Incr Delay (d2), s/veh	13.4	0.0	1.4	5.1	15.5	1.2	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	12.8	0.7	7.8	9.0	4.9	6.5	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	41.9	19.9	26.0	31.0	53.9	15.0	
LnGrp LOS	D	В	С	С	D	В	
Approach Vol, veh/h	1202		1381			1271	
Approach Delay, s/veh	41.0		27.7			20.8	
Approach LOS	D		С			С	
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	15.8	38.3				54.1	35.9
Change Period (Y+Rc), s	4.5	5.8				5.8	4.7
Max Green Setting (Gmax), s	14.5	28.2				47.2	32.3
Max Q Clear Time (g_c+l1), s	11.3	25.6				19.8	30.6
Green Ext Time (p_c), s	0.1	1.8				8.0	0.6
Intersection Summary							
HCM 6th Ctrl Delay			29.6				
HCM 6th LOS			С				

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Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	1/1/	ተተተ	ተተተ	7	ሻ	ર્ન	7
Traffic Volume (vph)	304	1987	2165	462	519	0	500
Future Volume (vph)	304	1987	2165	462	519	0	500
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	7	4	8			2	
Permitted Phases				8	2		2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	10.8	22.8	22.8	11.5	11.5	11.5
Total Split (s)	14.0	60.0	46.0	46.0	30.0	30.0	30.0
Total Split (%)	15.6%	66.7%	51.1%	51.1%	33.3%	33.3%	33.3%
Yellow Time (s)	3.5	4.8	4.8	4.8	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	5.8	6.5	6.5	6.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	9.5	54.2	40.2	40.2	23.5	23.5	23.5
Actuated g/C Ratio	0.11	0.60	0.45	0.45	0.26	0.26	0.26
v/c Ratio	0.84	0.65	0.95	0.48	0.59	0.59	1.05
Control Delay	60.9	12.9	35.3	3.5	35.5	35.5	83.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	12.9	35.3	3.5	35.5	35.5	83.3
LOS	Е	В	D	Α	D	D	F
Approach Delay		19.3	29.7			58.9	
Approach LOS		В	С			Е	
Intersection Summary							
Cycle Length: 90							

Cycle Length: 90 Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 90

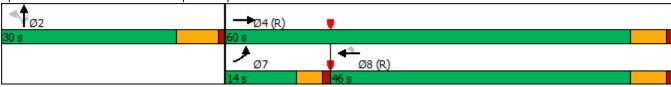
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 30.7 Intersection LOS: C
Intersection Capacity Utilization 79.6% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: I-15 NB Ramps & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1/1	ተተተ			ተተተ	7	J.	4	7			
Traffic Volume (veh/h)	304	1987	0	0	2165	462	519	0	500	0	0	0
Future Volume (veh/h)	304	1987	0	0	2165	462	519	0	500	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	310	2028	0	0	2209	471	530	0	510			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	371	3124	0	0	2317	719	945	0	420			
Arrive On Green	0.11	0.60	0.00	0.00	0.45	0.45	0.26	0.00	0.26			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	310	2028	0	0	2209	471	530	0	510			
Grp Sat Flow(s), veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	7.8	23.0	0.0	0.0	36.9	20.6	11.4	0.0	23.5			
Cycle Q Clear(g_c), s	7.8	23.0	0.0	0.0	36.9	20.6	11.4	0.0	23.5			
Prop In Lane	1.00	20.0	0.00	0.00	00.5	1.00	1.00	0.0	1.00			
Lane Grp Cap(c), veh/h	371	3124	0.00	0.00	2317	719	945	0	420			
V/C Ratio(X)	0.84	0.65	0.00	0.00	0.95	0.65	0.56	0.00	1.21			
Avail Cap(c_a), veh/h	371	3124	0.00	0.00	2317	719	945	0.00	420			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.43	0.43	0.00	0.00	0.24	0.24	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.5	11.7	0.0	0.00	24.0	19.5	28.8	0.00	33.3			
Incr Delay (d2), s/veh	6.8	0.5	0.0	0.0	3.3	1.1	0.8	0.0	116.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.5	7.2	0.0	0.0	13.9	7.1	4.6	0.0	21.8			
Unsig. Movement Delay, s/ver		1.2	0.0	0.0	13.3	1.1	4.0	0.0	21.0			
LnGrp Delay(d),s/veh	46.3	12.1	0.0	0.0	27.3	20.6	29.5	0.0	149.3			
LnGrp LOS	40.3 D	12.1 B	0.0 A	0.0 A	27.3 C	20.0 C	29.5 C	0.0 A	149.5 F			
	U		<u> </u>	A		U	U		Г			
Approach Vol, veh/h		2338			2680			1040				
Approach Delay, s/veh		16.7			26.1			88.2				
Approach LOS		В			С			F				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		30.0		60.0			14.0	46.0				
Change Period (Y+Rc), s		6.5		5.8			4.5	5.8				
Max Green Setting (Gmax), s		23.5		54.2			9.5	40.2				
Max Q Clear Time (g_c+l1), s		25.5		25.0			9.8	38.9				
Green Ext Time (p_c), s		0.0		18.1			0.0	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			33.1									
HCM 6th LOS			С									
Notes												

User approved volume balancing among the lanes for turning movement.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	77	ተተተ	7	1,1	^	7	14.44	^	7	14.54	^	7
Traffic Volume (vph)	153	1831	520	136	2007	144	478	316	186	188	316	109
Future Volume (vph)	153	1831	520	136	2007	144	478	316	186	188	316	109
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	32.8	32.8	9.6	33.8	33.8	9.6	40.2	40.2	9.6	16.2	16.2
Total Split (s)	12.0	52.7	52.7	12.3	53.0	53.0	30.0	41.0	41.0	14.0	25.0	25.0
Total Split (%)	10.0%	43.9%	43.9%	10.3%	44.2%	44.2%	25.0%	34.2%	34.2%	11.7%	20.8%	20.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	7.4	47.3	47.3	7.5	47.3	47.3	21.8	28.1	28.1	9.2	15.4	15.4
Actuated g/C Ratio	0.07	0.42	0.42	0.07	0.42	0.42	0.19	0.25	0.25	0.08	0.14	0.14
v/c Ratio	0.80	0.90	0.62	0.70	0.99	0.20	0.85	0.38	0.39	0.79	0.68	0.32
Control Delay	82.8	39.1	11.5	72.7	50.7	3.8	59.4	36.3	13.5	75.9	55.1	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.8	39.1	11.5	72.7	50.7	3.8	59.4	36.3	13.5	75.9	55.1	5.2
LOS	F	D	В	Е	D	Α	Е	D	В	Е	Е	Α
Approach Delay		36.0			49.1			43.3			52.6	
Approach LOS		D			D			D			D	

Cycle Length: 120

Actuated Cycle Length: 113.3

Natural Cycle: 115

Control Type: Actuated-Uncoordinated

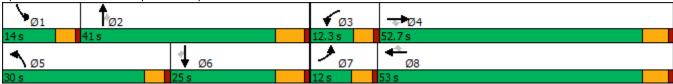
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 43.4

Intersection LOS: D
ICU Level of Service E

Intersection Capacity Utilization 89.2%

Analysis Period (min) 15

Splits and Phases: 4: Mariposa & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	^ ^	7	ሻሻ	^	7	ሻሻ	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	153	1831	520	136	2007	144	478	316	186	188	316	109
Future Volume (veh/h)	153	1831	520	136	2007	144	478	316	186	188	316	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	155	1849	525	137	2027	145	483	319	188	190	319	110
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	202	2154	669	186	2129	661	541	758	338	241	411	183
Arrive On Green	0.07	0.44	0.44	0.06	0.43	0.43	0.18	0.22	0.22	0.08	0.12	0.12
Sat Flow, veh/h	2956	4914	1525	2956	4914	1525	2956	3420	1525	2956	3420	1525
Grp Volume(v), veh/h	155	1849	525	137	2027	145	483	319	188	190	319	110
Grp Sat Flow(s),veh/h/ln	1478	1638	1525	1478	1638	1525	1478	1710	1525	1478	1710	1525
Q Serve(g_s), s	5.6	36.8	32.0	4.9	43.2	6.5	17.3	8.7	11.9	6.8	9.8	7.4
Cycle Q Clear(g_c), s	5.6	36.8	32.0	4.9	43.2	6.5	17.3	8.7	11.9	6.8	9.8	7.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	2154	669	186	2129	661	541	758	338	241	411	183
V/C Ratio(X)	0.77	0.86	0.79	0.73	0.95	0.22	0.89	0.42	0.56	0.79	0.78	0.60
Avail Cap(c_a), veh/h	202	2154	669	210	2137	664	692	1097	489	256	593	264
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.7	27.4	26.1	49.9	29.7	19.3	43.3	36.2	37.5	48.9	46.3	45.3
Incr Delay (d2), s/veh	14.9	3.7	6.1	9.0	10.4	0.2	10.1	0.4	1.4	12.9	4.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	13.9	11.8	2.0	17.6	2.2	6.8	3.5	4.4	2.9	4.2	0.2
Unsig. Movement Delay, s/veh		0.1.0			40.4	10.1	-0.4			010		10.1
LnGrp Delay(d),s/veh	64.6	31.2	32.2	58.9	40.1	19.4	53.4	36.6	38.9	61.9	50.4	48.4
LnGrp LOS	E	С	С	E	D	В	D	D	D	E	D	D
Approach Vol, veh/h		2529			2309			990			619	
Approach Delay, s/veh		33.4			39.9			45.3			53.6	
Approach LOS		С			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	30.3	11.4	53.4	24.5	19.2	12.0	52.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	9.4	34.8	7.7	46.9	25.4	18.8	7.4	47.2				
Max Q Clear Time (g_c+l1), s	8.8	13.9	6.9	38.8	19.3	11.8	7.6	45.2				
Green Ext Time (p_c), s	0.0	2.4	0.0	6.9	0.6	1.2	0.0	1.8				
Intersection Summary												
HCM 6th Ctrl Delay			39.5									
HCM 6th LOS			D									

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	7	∱ ∱	7	∱ }	7	†	7	Ţ	†	7	
Traffic Volume (vph)	105	959	41	1242	230	263	48	49	322	88	
Future Volume (vph)	105	959	41	1242	230	263	48	49	322	88	
Turn Type	Prot	NA	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	
Protected Phases	7	4	3	8	5	2	3	1	6		
Permitted Phases							2			6	
Detector Phase	7	4	3	8	5	2	3	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	30.8	9.6	30.8	9.6	25.8	9.6	9.6	15.8	15.8	
Total Split (s)	19.0	54.2	14.8	50.0	24.0	36.9	14.8	14.1	27.0	27.0	
Total Split (%)	15.8%	45.2%	12.3%	41.7%	20.0%	30.8%	12.3%	11.8%	22.5%	22.5%	
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	4.8	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	5.8	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Min	None	None	Min	Min	
Act Effct Green (s)	11.6	50.4	7.5	44.3	18.9	34.5	47.8	7.7	21.2	21.2	
Actuated g/C Ratio	0.10	0.43	0.06	0.38	0.16	0.30	0.41	0.07	0.18	0.18	
v/c Ratio	0.69	0.84	0.41	1.08	0.93	0.52	0.08	0.49	1.04	0.23	
Control Delay	73.4	36.3	65.0	84.6	88.8	40.5	3.7	68.8	107.1	2.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	73.4	36.3	65.0	84.6	88.8	40.5	3.7	68.8	107.1	2.2	
LOS	Е	D	Е	F	F	D	Α	Е	F	Α	
Approach Delay		39.4		84.0		57.7			82.8		
Approach LOS		D		F		Е			F		

Cycle Length: 120

Actuated Cycle Length: 116.8

Natural Cycle: 120

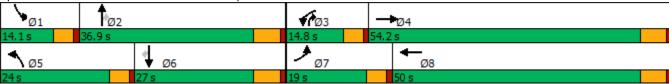
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.08 Intersection Signal Delay: 64.4 Intersection Capacity Utilization 94.8%

Intersection LOS: E ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 5: 7th/Arrowhead Dr & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	∱ β		ሻ	ተ ኈ		7	↑	7	ሻ	↑	7
Traffic Volume (veh/h)	105	959	195	41	1242	78	230	263	48	49	322	88
Future Volume (veh/h)	105	959	195	41	1242	78	230	263	48	49	322	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	111	1009	147	43	1307	56	242	277	30	52	339	77
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	134	1306	190	53	1290	55	266	557	522	65	333	282
Arrive On Green	0.08	0.44	0.44	0.03	0.39	0.39	0.16	0.31	0.31	0.04	0.19	0.19
Sat Flow, veh/h	1619	2995	436	1619	3341	143	1619	1800	1525	1619	1800	1525
Grp Volume(v), veh/h	111	576	580	43	668	695	242	277	30	52	339	77
Grp Sat Flow(s),veh/h/ln	1619	1710	1722	1619	1710	1774	1619	1800	1525	1619	1800	1525
Q Serve(g_s), s	7.7	32.8	32.8	3.0	44.2	44.2	16.8	14.4	1.5	3.6	21.2	5.0
Cycle Q Clear(g_c), s	7.7	32.8	32.8	3.0	44.2	44.2	16.8	14.4	1.5	3.6	21.2	5.0
Prop In Lane	1.00		0.25	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	746	751	53	660	685	266	557	522	65	333	282
V/C Ratio(X)	0.83	0.77	0.77	0.81	1.01	1.01	0.91	0.50	0.06	0.80	1.02	0.27
Avail Cap(c_a), veh/h	204	746	751	144	660	685	274	557	522	134	333	282
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	27.5	27.5	55.0	35.2	35.2	47.0	32.3	25.3	54.5	46.7	40.0
Incr Delay (d2), s/veh	9.4	5.0	5.0	10.4	38.1	38.1	30.4	0.7	0.0	8.3	53.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	13.5	13.6	1.4	24.2	25.1	8.9	6.2	0.5	1.6	14.0	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.1	32.5	32.5	65.4	73.3	73.3	77.4	32.9	25.3	62.9	100.5	40.6
LnGrp LOS	E	С	С	E	F	F	E	С	С	E	F	D
Approach Vol, veh/h		1267			1406			549			468	
Approach Delay, s/veh		35.0			73.0			52.1			86.4	
Approach LOS		С			Е			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	41.3	8.4	55.7	23.4	27.0	14.1	50.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	9.5	31.1	10.2	48.4	19.4	21.2	14.4	44.2				
Max Q Clear Time (g_c+l1), s	5.6	16.4	5.0	34.8	18.8	23.2	9.7	46.2				
Green Ext Time (p_c), s	0.0	1.3	0.0	5.9	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			58.6									
HCM 6th LOS			Е									

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Lane Group	EBL	EBR	NBL	NBT	SBT			
Lane Configurations	ሻ	77	ሻሻ	^	† 1>			
Traffic Volume (vph)	145	555	537	1184	1158			
Future Volume (vph)	145	555	537	1184	1158			
Turn Type	Prot	pm+ov	Prot	NA	NA			
Protected Phases	4	5	5	2	6			
Permitted Phases		4						
Detector Phase	4	5	5	2	6			
Switch Phase								
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0			
Minimum Split (s)	26.6	15.8	15.8	16.2	28.2			
Total Split (s)	26.6	36.0	36.0	93.4	57.4			
Total Split (%)	22.2%	30.0%	30.0%	77.8%	47.8%			
Yellow Time (s)	3.6	4.8	4.8	5.2	5.2			
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0			
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	4.6	5.8	5.8	6.2	6.2			
Lead/Lag		Lead	Lead		Lag			
Lead-Lag Optimize?		Yes	Yes		Yes			
Recall Mode	None	None	None	Min	Min			
Act Effct Green (s)	14.1	43.2	24.4	80.7	50.5			
Actuated g/C Ratio	0.13	0.41	0.23	0.76	0.48			
v/c Ratio	0.68	0.53	0.76	0.49	0.87			
Control Delay	60.3	23.7	45.4	5.8	33.1			
Queue Delay	0.0	0.0	0.0	0.0	0.0			
Total Delay	60.3	23.7	45.4	5.8	33.1			
LOS	Е	С	D	Α	С			
Approach Delay	31.2			18.2	33.1			
Approach LOS	С			В	С			
Intersection Summary								
Cycle Length: 120								
Actuated Cycle Length: 10	5.8							
Natural Cycle: 90								
Control Type: Actuated-Un	ncoordinated	d .						
Maximum v/c Ratio: 0.87								
Intersection Signal Delay:					ntersection L			
Intersection Capacity Utiliz	cation 77.1%)		10	CU Level of	Service D		
Analysis Period (min) 15								
Splits and Phases: 6: He	esperia Rd.	& Green	Tree Bl.					
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OYC WP (PCE) - PM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	*	77	ሻሻ	^	^	
Traffic Volume (veh/h)	145	555	537	1184	1158	145
Future Volume (veh/h)	145	555	537	1184	1158	145
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1800	1800	1800
Adj Flow Rate, veh/h	156	597	577	1273	1245	156
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	333	1057	664	2417	1389	173
Arrive On Green	0.19	0.19	0.20	0.71	0.45	0.45
Sat Flow, veh/h	1714	2685	3326	3510	3150	382
Grp Volume(v), veh/h	156	597	577	1273	694	707
Grp Sat Flow(s), veh/h/ln	1714	1342	1663	1710	1710	1731
Q Serve(g_s), s	8.8	18.9	18.3	18.9	40.6	41.1
Cycle Q Clear(g_c), s	8.8	18.9	18.3	18.9	40.6	41.1
Prop In Lane	1.00	1.00	1.00	10.0	10.0	0.22
Lane Grp Cap(c), veh/h	333	1057	664	2417	776	786
V/C Ratio(X)	0.47	0.56	0.87	0.53	0.89	0.90
Avail Cap(c_a), veh/h	346	1078	922	2737	803	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	25.8	42.2	7.5	27.3	27.5
	0.4	0.4	6.7	0.2	12.2	12.8
Incr Delay (d2), s/veh	0.4	0.4	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh						
%ile BackOfQ(50%),veh/ln	3.7	14.6	8.1	6.1	18.5	19.1
Unsig. Movement Delay, s/veh		00.0	40.0	7.0	20.5	40.0
LnGrp Delay(d),s/veh	39.3	26.2	48.9	7.6	39.5	40.2
LnGrp LOS	D	С	D	Α	D	D
Approach Vol, veh/h	753			1850	1401	
Approach Delay, s/veh	28.9			20.5	39.9	
Approach LOS	С			С	D	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		83.2		25.7	27.5	55.7
Change Period (Y+Rc), s		6.2		4.6	5.8	6.2
Max Green Setting (Gmax), s		87.2		22.0	30.2	51.2
Max Q Clear Time (g_c+l1), s		20.9		20.9	20.3	43.1
Green Ext Time (p_c), s		22.4		0.3	1.4	6.4
** /		LL.T		0.0	1.7	0.7
Intersection Summary						
HCM 6th Ctrl Delay			28.9			
HCM 6th LOS			С			

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Configurations		4	¥	f)	¥	^	7	J.	∱ }	
Traffic Volume (vph)	6	2	103	5	30	1671	39	18	1690	
Future Volume (vph)	6	2	103	5	30	1671	39	18	1690	
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA	
Protected Phases		4		8	5	2		1	6	
Permitted Phases	4		8				2			
Detector Phase	4	4	8	8	5	2	2	1	6	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	26.6	26.6	26.6	26.6	9.6	23.2	23.2	9.6	23.2	
Total Split (s)	26.6	26.6	26.6	26.6	12.0	83.4	83.4	10.0	81.4	
Total Split (%)	22.2%	22.2%	22.2%	22.2%	10.0%	69.5%	69.5%	8.3%	67.8%	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.6	4.6	4.6	4.6	6.2	6.2	4.6	6.2	
Lead/Lag					Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Min	Min	None	Min	
Act Effct Green (s)		15.0	15.0	15.0	6.5	63.9	63.9	5.6	61.1	
Actuated g/C Ratio		0.16	0.16	0.16	0.07	0.68	0.68	0.06	0.65	
v/c Ratio		0.10	0.55	0.18	0.29	0.77	0.04	0.20	0.82	
Control Delay		24.0	52.0	15.7	56.9	13.9	1.4	57.6	17.3	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		24.0	52.0	15.7	56.9	13.9	1.4	57.6	17.3	
LOS		С	D	В	Е	В	Α	Е	В	
Approach Delay		24.0		40.4		14.4			17.8	
Approach LOS		С		D		В			В	

Cycle Length: 120

Actuated Cycle Length: 93.6

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

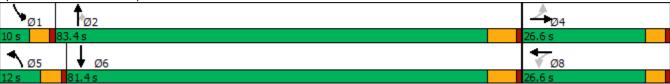
Maximum v/c Ratio: 0.82

Intersection Signal Delay: 17.1
Intersection Capacity Utilization 71.5%

Intersection LOS: B
ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 7: Hesperia Rd. & Ottawa St.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4		ሻ	₽		ሻ	^↑	7	ሻ	∱ ∱	
Traffic Volume (veh/h)	6	2	16	103	5	44	30	1671	39	18	1690	4
Future Volume (veh/h)	6	2	16	103	5	44	30	1671	39	18	1690	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	6	2	17	111	5	47	32	1797	42	19	1817	4
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	80	38	131	262	19	174	52	2253	1005	35	2270	5
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.03	0.66	0.66	0.02	0.65	0.65
Sat Flow, veh/h	189	308	1055	1337	149	1399	1619	3420	1525	1619	3501	8
Grp Volume(v), veh/h	25	0	0	111	0	52	32	1797	42	19	887	934
Grp Sat Flow(s),veh/h/ln	1552	0	0	1337	0	1548	1619	1710	1525	1619	1710	1799
Q Serve(g_s), s	0.0	0.0	0.0	4.9	0.0	2.4	1.5	29.8	0.8	0.9	29.9	30.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	6.0	0.0	2.4	1.5	29.8	0.8	0.9	29.9	30.0
Prop In Lane	0.24		0.68	1.00		0.90	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	250	0	0	262	0	193	52	2253	1005	35	1109	1166
V/C Ratio(X)	0.10	0.00	0.00	0.42	0.00	0.27	0.62	0.80	0.04	0.54	0.80	0.80
Avail Cap(c_a), veh/h	482	0	0	468	0	431	152	3345	1492	111	1629	1713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	0.0	0.0	32.8	0.0	31.3	37.7	9.7	4.7	38.2	10.1	10.2
Incr Delay (d2), s/veh	0.2	0.0	0.0	1.1	0.0	0.7	4.4	0.9	0.0	4.8	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	2.0	0.0	0.9	0.6	7.3	0.2	0.4	7.8	8.2
Unsig. Movement Delay, s/veh		0.0	0.0	22.0	0.0	22.0	40.0	10 E	17	42.0	10.0	11.0
LnGrp Delay(d),s/veh	30.9 C	0.0	0.0 A	33.9 C	0.0 A	32.0 C	42.2 D	10.5	4.7 A	43.0	12.0 B	11.9
LnGrp LOS	U	A	A	U		U	U	B	A	D		B
Approach Vol, veh/h		25			163			1871			1840	
Approach LOC		30.9			33.3			11.0			12.3	
Approach LOS		С			С			В			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.3	58.2		14.4	7.1	57.4		14.4				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.4	77.2		22.0	7.4	75.2		22.0				
Max Q Clear Time (g_c+l1), s	2.9	31.8		3.1	3.5	32.0		8.0				
Green Ext Time (p_c), s	0.0	20.2		0.1	0.0	18.6		0.5				
Intersection Summary												
HCM 6th Ctrl Delay			12.6									
HCM 6th LOS			В									

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	1/1	†	77	ሻ	∱ ∱	44	∱ }	ሻ	∱ }
Traffic Volume (vph)	182	60	424	97	65	465	1427	19	1637
Future Volume (vph)	182	60	424	97	65	465	1427	19	1637
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	32.8	9.6	9.6	30.8	9.6	27.2	9.6	33.2
Total Split (s)	14.0	34.3	17.0	10.5	30.8	17.0	65.6	9.6	58.2
Total Split (%)	11.7%	28.6%	14.2%	8.8%	25.7%	14.2%	54.7%	8.0%	48.5%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.1	12.8	27.8	9.5	10.0	12.4	65.1	5.0	52.0
Actuated g/C Ratio	0.09	0.12	0.27	0.09	0.10	0.12	0.62	0.05	0.50
v/c Ratio	0.71	0.28	0.61	0.68	0.34	1.33	0.75	0.26	1.13
Control Delay	62.1	45.1	36.9	74.4	28.6	204.7	17.7	57.1	92.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.1	45.1	36.9	74.4	28.6	204.7	17.7	57.1	92.9
LOS	Е	D	D	Е	С	F	В	Е	F
Approach Delay		44.5			49.4		61.4		92.5
Approach LOS		D			D		Е		F
Intersection Summary									

Cycle Length: 120

Actuated Cycle Length: 104.7

Natural Cycle: 130

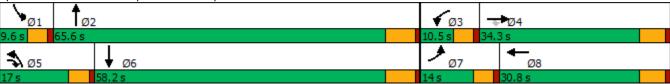
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.33
Intersection Signal Delay: 70.7
Intersection Capacity Utilization 96.9%

Intersection LOS: E ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 8: Hesperia Rd. & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	↑	77	ሻ	∱ ∱		ሻሻ	ħβ		ሻ	∱ ∱	
Traffic Volume (veh/h)	182	60	424	97	65	51	465	1427	98	19	1637	199
Future Volume (veh/h)	182	60	424	97	65	51	465	1427	98	19	1637	199
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1700	1800	1800	1600	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	188	62	308	100	67	38	479	1471	80	20	1688	148
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	242	233	664	91	229	121	360	1953	106	34	1576	137
Arrive On Green	0.08	0.13	0.13	0.06	0.11	0.11	0.12	0.59	0.59	0.02	0.49	0.49
Sat Flow, veh/h	3048	1800	2685	1619	2165	1140	3048	3299	179	1619	3184	276
Grp Volume(v), veh/h	188	62	308	100	52	53	479	760	791	20	897	939
Grp Sat Flow(s),veh/h/ln	1524	1800	1342	1619	1710	1595	1524	1710	1768	1619	1710	1750
Q Serve(g_s), s	6.4	3.3	10.3	5.9	2.9	3.2	12.4	34.3	34.7	1.3	52.0	52.0
Cycle Q Clear(g_c), s	6.4	3.3	10.3	5.9	2.9	3.2	12.4	34.3	34.7	1.3	52.0	52.0
Prop In Lane	1.00		1.00	1.00		0.71	1.00		0.10	1.00		0.16
Lane Grp Cap(c), veh/h	242	233	664	91	181	169	360	1012	1046	34	846	866
V/C Ratio(X)	0.78	0.27	0.46	1.10	0.29	0.32	1.33	0.75	0.76	0.59	1.06	1.08
Avail Cap(c_a), veh/h	273	488	1045	91	407	379	360	1012	1046	77	846	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	41.3	33.6	49.6	43.3	43.5	46.3	15.8	15.8	51.0	26.5	26.5
Incr Delay (d2), s/veh	10.0	0.6	0.5	124.0	0.9	1.1	167.3	3.2	3.2	5.8	48.2	55.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	1.4	3.2	5.4	1.2	1.3	12.8	12.0	12.5	0.6	29.7	32.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.4	41.9	34.1	173.6	44.2	44.5	213.6	18.9	19.0	56.8	74.7	82.4
LnGrp LOS	E	D	С	F	D	D	F	В	В	E	F	F
Approach Vol, veh/h		558			205			2030			1856	
Approach Delay, s/veh		42.8			107.4			64.9			78.4	
Approach LOS		D			F			Е			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	68.4	10.5	19.4	17.0	58.2	13.0	16.9				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.0	59.4	5.9	28.5	12.4	52.0	9.4	25.0				
Max Q Clear Time (g_c+l1), s	3.3	36.7	7.9	12.3	14.4	54.0	8.4	5.2				
Green Ext Time (p_c), s	0.0	10.8	0.0	1.3	0.0	0.0	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			69.5									
HCM 6th LOS			Е									

	•	→	•	•	←	•	4	†	<i>></i>	>	ļ	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Configurations	77	ተተተ	7	ሻሻ	ተተተ	7	ሻሻ	^	7	75	∱ ∱	
Traffic Volume (vph)	149	1742	111	327	1522	179	221	494	360	436	670	
Future Volume (vph)	149	1742	111	327	1522	179	221	494	360	436	670	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	31.2	9.6	9.6	33.2	9.6	9.6	39.2	39.2	9.6	37.2	
Total Split (s)	11.0	44.0	13.0	16.0	49.0	18.0	13.0	42.0	42.0	18.0	47.0	
Total Split (%)	9.2%	36.7%	10.8%	13.3%	40.8%	15.0%	10.8%	35.0%	35.0%	15.0%	39.2%	
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	6.4	37.9	52.5	11.4	42.9	62.5	8.4	30.8	30.8	13.4	35.8	
Actuated g/C Ratio	0.06	0.33	0.46	0.10	0.37	0.54	0.07	0.27	0.27	0.12	0.31	
v/c Ratio	0.93	1.10	0.14	1.14	0.85	0.21	1.05	0.55	0.66	1.30	0.81	
Control Delay	108.6	92.3	1.5	143.7	39.2	7.2	127.4	38.5	23.0	194.1	42.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	108.6	92.3	1.5	143.7	39.2	7.2	127.4	38.5	23.0	194.1	42.1	
LOS	F	F	Α	F	D	Α	F	D	С	F	D	
Approach Delay		88.5			53.3			51.6			94.3	
Approach LOS		F			D			D			F	

Cycle Length: 120

Actuated Cycle Length: 115.2

Natural Cycle: 125

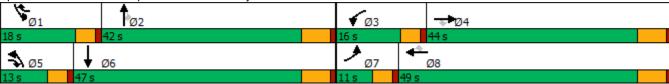
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.30
Intersection Signal Delay: 72.2
Intersection Capacity Utilization 97.2%

Intersection LOS: E ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 9: Hesperia Rd. & Bear Valley Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	ተተተ	7	1,1	^	7	ሻሻ	^	7	ሻሻ	∱ ∱	
Traffic Volume (veh/h)	149	1742	111	327	1522	179	221	494	360	436	670	164
Future Volume (veh/h)	149	1742	111	327	1522	179	221	494	360	436	670	164
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	4000	No	1000	1000	No	1000	4000	No	1000	4000	No	1000
Adj Sat Flow, veh/h/ln	1600	1800	1800	1600	1800	1800	1600	1800	1800	1600	1800	1800
Adj Flow Rate, veh/h	152	1778	113	334	1553	183	226	504	367	445	684	167
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	163	1601	607	290	1813	739	214	938	418	341	865	211
Arrive On Green	0.06	0.33	0.33	0.10	0.37	0.37	0.07	0.27	0.27	0.12	0.32	0.32
Sat Flow, veh/h	2956	4914	1525	2956	4914	1525	2956	3420	1525	2956	2725	665
Grp Volume(v), veh/h	152	1778	113	334	1553	183	226	504	367	445	429	422
Grp Sat Flow(s),veh/h/ln	1478	1638	1525	1478	1638	1525	1478	1710	1525	1478	1710	1680
Q Serve(g_s), s	5.9	37.8	5.6	11.4	33.8	8.2	8.4	14.6	26.7	13.4	26.5	26.6
Cycle Q Clear(g_c), s	5.9	37.8	5.6	11.4	33.8	8.2	8.4	14.6	26.7	13.4	26.5	26.6
Prop In Lane	1.00	4004	1.00	1.00	4040	1.00	1.00	000	1.00	1.00	E 40	0.40
Lane Grp Cap(c), veh/h	163	1601	607	290	1813	739	214	938	418	341	543	533
V/C Ratio(X)	0.93 163	1.11 1601	0.19 607	1.15 290	0.86 1813	0.25 739	1.06 214	0.54 1055	0.88 471	1.30 341	0.79 601	0.79 591
Avail Cap(c_a), veh/h HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	39.1	22.7	52.3	33.8	17.5	53.8	35.8	40.2	51.3	36.1	36.1
Incr Delay (d2), s/veh	50.2	59.3	0.1	99.7	4.3	0.2	77.1	0.5	15.7	156.3	6.4	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	23.7	2.0	8.2	13.9	2.9	5.4	6.1	11.7	12.4	11.9	11.7
Unsig. Movement Delay, s/veh		20.1	2.0	0.2	10.5	2.5	J. T	0.1	11.7	12.7	11.5	11.7
LnGrp Delay(d),s/veh	104.8	98.4	22.8	152.0	38.1	17.7	130.9	36.3	55.9	207.7	42.5	42.7
LnGrp LOS	F	50.4 F	C	F	D	В	F	D	E	F	72.0 D	D
Approach Vol, veh/h	<u>'</u>	2043		<u>'</u>	2070		<u>'</u>	1097		<u>'</u>	1296	
Approach Delay, s/veh		94.7			54.7			62.3			99.3	
Approach LOS		54. <i>1</i>			D D			62.5 E			55.5 F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	38.0	16.0	44.0	13.0	43.0	11.0	49.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	13.4	35.8	11.4	37.8	8.4	40.8	6.4	42.8				
Max Q Clear Time (g_c+l1), s	15.4	28.7	13.4	39.8	10.4	28.6	7.9	35.8				
Green Ext Time (p_c), s	0.0	3.2	0.0	0.0	0.0	5.8	0.0	5.9				
Intersection Summary												
HCM 6th Ctrl Delay			77.4									
HCM 6th LOS			Е									

APPENDIX 5.3:

OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS





Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

Traffic Conditions = Opening Year Cumulative (2024) Without Project Conditions - Weekday PM Peak Hou

Major Street Name = Hesperia Road Total of Both Approaches (VPH) = 3403

Number of Approach Lanes Major Street = 2

Minor Street Name = Ottawa Street High Volume Approach (VPH) = 22

Number of Approach Lanes Minor Street = 1

SIGNAL WARRANT NOT SATISFIED 500 Minor Street - Higher-Volume Approach (VPH) 400 200 0 300 400 500 600 700 800 900 1200 1300 1000 1100 Major Street - Total of Both Approaches (VPH) 1 Lane (Major) & 1 Lane (Minor) ■ 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor) 2+ Lanes (Major) & 2+ Lanes (Minor) Major Street Approaches

*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane

■ ■ • Minor Street Approaches



5.3-1

APPENDIX 5.4:

OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS





Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 64 km/h OR ABOVE 40 mph ON MAJOR STREET)

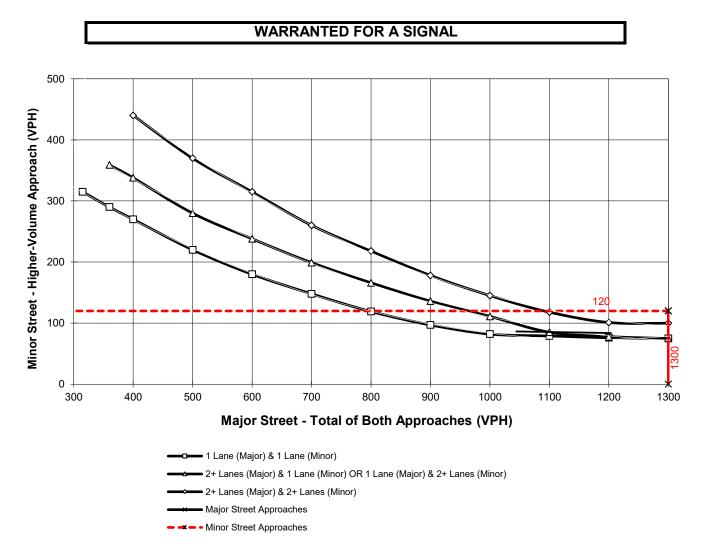
Traffic Conditions = Opening Year Cumulative (2024) With Project Conditions - Weekday PM Peak Hour

Major Street Name = Hesperia Road Total of Both Approaches (VPH) = 3352

Number of Approach Lanes Major Street = 2

Minor Street Name = Ottawa Street High Volume Approach (VPH) = 120

Number of Approach Lanes Minor Street = 1



*Note: 100 vph applies as the lower threshold for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold for a minor-street approach with one lane



5.3-1

APPENDIX 5.5:

OPENING YEAR CUMULATIVE (2024) WITHOUT PROJECT CONDITIONS QUEUING
ANALYSIS WORKSHEETS





2: Armargosa Rd. & I-15 SB Ramps

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	902	42	738	377	158	864
v/c Ratio	0.86	0.08	0.52	0.44	0.63	0.41
Control Delay	38.3	7.1	24.0	4.3	47.3	11.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	7.1	24.0	4.3	47.3	11.6
Queue Length 50th (ft)	245	0	168	0	85	133
Queue Length 95th (ft)	300	21	251	61	145	194
Internal Link Dist (ft)	1021		670			1219
Turn Bay Length (ft)	465	570			300	
Base Capacity (vph)	1217	589	1416	862	310	2101
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.07	0.52	0.44	0.51	0.41
Intersection Summary						

3: I-15 NB Ramps & Nisqualli Rd.

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Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	233	1416	1209	388	105	107	310
v/c Ratio	0.59	0.41	0.47	0.39	0.30	0.30	0.78
Control Delay	44.1	8.5	17.1	3.3	30.5	30.6	36.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	8.5	17.1	3.3	30.5	30.6	36.5
Queue Length 50th (ft)	65	121	157	0	53	54	121
Queue Length 95th (ft)	98	194	242	53	89	90	188
Internal Link Dist (ft)		731	593			1882	
Turn Bay Length (ft)	250				645		915
Base Capacity (vph)	486	3415	2572	996	504	506	537
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.41	0.47	0.39	0.21	0.21	0.58
Intersection Summary							

Intersection												
Int Delay, s/veh	0.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	↑ ⊅		ኝ	† 1>	
Traffic Vol, veh/h	5	0	8	0	0	5	11	1107	6	10	1206	1
Future Vol, veh/h	5	0	8	0	0	5	11	1107	6	10	1206	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	_	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage	, # -	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	0	9	0	0	6	13	1258	7	11	1370	1
Major/Minor N	Minor2		I	Minor1		N	/lajor1		N	Major2		
Conflicting Flow All	2048	2684	686	1995	2681	633	1371	0	0	1265	0	0
Stage 1	1393	1393	-	1288	1288	-	-	-	-	-	-	-
Stage 2	655	1291	-	707	1393	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-		-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	33	22	395	37	22	427	507	-	-	556	-	-
Stage 1	152	211	-	176	237	-	-	-	-	-	-	-
Stage 2	426	236	-	397	211	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	31	21	395	35	21	427	507	-	-	556	-	-
Mov Cap-2 Maneuver	133	141	-	149	140	-	-	-	-	-	-	-
Stage 1	148	207	-	171	231	-	-	-	-	-	-	-
Stage 2	410	230	-	380	207	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	22.1			13.5			0.1			0.1		
HCM LOS	С			В								
Minor Lane/Major Mvm	nt	NBL	NBT	NBR I	EBLn1V	VBLn1	SBL	SBT	SBR			
Capacity (veh/h)		507	-	-		427	556					
HCM Lane V/C Ratio		0.025	_		0.066		0.02	_	_			
HCM Control Delay (s)		12.3	_	_		13.5	11.6	_	_			
HCM Lane LOS		В	_	-	C	В	В	_	_			
HCM 95th %tile Q(veh))	0.1	_	_	0.2	0	0.1	_	_			

	•	•	†	/	-	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1140	54	913	414	191	1080
v/c Ratio	0.94	0.09	0.74	0.50	0.73	0.56
Control Delay	43.3	6.1	31.6	4.9	53.3	15.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	6.1	31.6	4.9	53.3	15.5
Queue Length 50th (ft)	312	0	249	0	103	207
Queue Length 95th (ft)	#439	24	324	64	#187	266
Internal Link Dist (ft)	1021		670			1219
Turn Bay Length (ft)	465	570			300	
Base Capacity (vph)	1256	614	1226	822	290	1932
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.09	0.74	0.50	0.66	0.56
Intersection Summary						

^{# 95}th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

	•	-	←	•	•	†	~
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	310	2016	2150	451	265	265	491
v/c Ratio	0.84	0.65	0.93	0.46	0.59	0.59	1.01
Control Delay	60.9	12.9	32.1	3.3	35.5	35.5	72.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	12.9	32.1	3.3	35.5	35.5	72.6
Queue Length 50th (ft)	90	250	409	0	138	138	~242
Queue Length 95th (ft)	#159	298	#506	52	224	224	#450
Internal Link Dist (ft)		731	593			1882	
Turn Bay Length (ft)	250				645		915
Base Capacity (vph)	369	3123	2317	970	447	447	486
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.65	0.93	0.46	0.59	0.59	1.01

Intersection Summary

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

^{# 95}th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ች	∱ }		*	† }	
Traffic Vol, veh/h	6	0	16	1	0	15	30	1671	0	7	1690	4
Future Vol, veh/h	6	0	16	1	0	15	30	1671	0	7	1690	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	_	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage	,# -	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	6	0	17	1	0	16	32	1797	0	8	1817	4
Major/Minor N	Minor2			Minor1			Major1		<u> </u>	Major2		
Conflicting Flow All	2798	3696	911	2786	3698	899	1821	0	0	1797	0	0
Stage 1	1835	1835	-	1861	1861	-	-	-	-	-	-	-
Stage 2	963	1861	-	925	1837	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	9	5	281	9	5	286	341	-	-	348	-	-
Stage 1	80	128	-	77	124	-	-	-	-	-	-	-
Stage 2	278	124	-	294	128	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	8	4	281	8	4	286	341	-	-	348	-	-
Mov Cap-2 Maneuver	65	73	-	63	65	-	-	-	-	-	-	-
Stage 1	72	125	-	70	112	-	-	-	-	-	-	-
Stage 2	238	112	-	270	125	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	34.1			21.6			0.3			0.1		
HCM LOS	D			С								
Minor Lane/Major Mvm	t	NBL	NBT	NBR I	EBLn1V	VBLn1	SBL	SBT	SBR			
Capacity (veh/h)		341	-	_		234	348	-	_			
HCM Lane V/C Ratio		0.095	_	_		0.074		_	_			
HCM Control Delay (s)		16.7	_	_		21.6	15.6	_	_			
HCM Lane LOS		С	-	-	D	С	С	-	_			
HCM 95th %tile Q(veh)		0.3	-	-	0.6	0.2	0.1	-	-			

APPENDIX 5.6:

OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS QUEUING
ANALYSIS WORKSHEETS



2: Armargosa Rd. & I-15 SB Ramps

	•	•	†	~	-	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	924	42	738	391	158	864
v/c Ratio	0.86	0.08	0.53	0.45	0.63	0.41
Control Delay	38.5	7.0	24.3	4.4	47.3	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.5	7.0	24.3	4.4	47.3	11.8
Queue Length 50th (ft)	251	0	170	0	85	135
Queue Length 95th (ft)	308	21	251	62	145	194
Internal Link Dist (ft)	1021		670			1219
Turn Bay Length (ft)	465	570			300	
Base Capacity (vph)	1217	589	1399	865	310	2084
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.07	0.53	0.45	0.51	0.41
Intersection Summary						

3: I-15 NB Ramps & Nisqualli Rd.

	•	→	•	•	•	†	~
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	233	1447	1226	394	105	107	358
v/c Ratio	0.59	0.44	0.50	0.41	0.27	0.27	0.82
Control Delay	44.1	9.5	18.6	3.5	28.5	28.6	39.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	9.5	18.6	3.5	28.5	28.6	39.9
Queue Length 50th (ft)	65	139	172	0	51	52	147
Queue Length 95th (ft)	98	200	246	53	89	90	228
Internal Link Dist (ft)		731	593			1882	
Turn Bay Length (ft)	250				645		915
Base Capacity (vph)	486	3295	2453	971	504	506	537
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.44	0.50	0.41	0.21	0.21	0.67
Intersection Summary							

7: Hesperia Rd. & Ottawa St.

	-	•	←	4	†	~	-	↓
Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	20	31	15	13	1275	108	38	1371
v/c Ratio	0.07	0.11	0.05	0.08	0.52	0.10	0.20	0.50
Control Delay	22.3	28.9	16.2	32.7	9.7	4.3	32.6	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.3	28.9	16.2	32.7	9.7	4.3	32.6	6.3
Queue Length 50th (ft)	4	11	0	5	190	8	14	124
Queue Length 95th (ft)	24	38	17	23	263	28	45	276
Internal Link Dist (ft)	1012		2164		2695			918
Turn Bay Length (ft)				100		100	100	
Base Capacity (vph)	666	643	686	265	3371	1509	265	3371
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.05	0.02	0.05	0.38	0.07	0.14	0.41
Intersection Summary								

2: Armargosa Rd. & I-15 SB Ramps

	•	•	†	_	-	ţ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1148	54	913	468	191	1080
v/c Ratio	0.94	0.09	0.75	0.55	0.73	0.56
Control Delay	43.6	6.1	31.8	5.1	53.3	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.6	6.1	31.8	5.1	53.3	15.6
Queue Length 50th (ft)	316	0	249	0	103	207
Queue Length 95th (ft)	#445	24	324	67	#187	266
Internal Link Dist (ft)	1021		670			1219
Turn Bay Length (ft)	465	570			300	
Base Capacity (vph)	1256	614	1221	856	290	1927
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.09	0.75	0.55	0.66	0.56
Intersection Summary						

^{# 95}th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

	•	-	←	•	•	†	~
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	310	2028	2209	471	265	265	510
v/c Ratio	0.84	0.65	0.95	0.48	0.59	0.59	1.05
Control Delay	60.9	12.9	35.3	3.5	35.5	35.5	83.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.9	12.9	35.3	3.5	35.5	35.5	83.3
Queue Length 50th (ft)	90	252	428	2	138	138	~279
Queue Length 95th (ft)	#159	301	#555	56	224	224	#476
Internal Link Dist (ft)		731	593			1882	
Turn Bay Length (ft)	250				645		915
Base Capacity (vph)	369	3123	2317	977	447	447	486
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.65	0.95	0.48	0.59	0.59	1.05

Intersection Summary

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

^{# 95}th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

7: Hesperia Rd. & Ottawa St.

	-	•	←	4	†	/	>	ļ
Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	25	111	52	32	1797	42	19	1821
v/c Ratio	0.10	0.55	0.18	0.29	0.77	0.04	0.20	0.82
Control Delay	24.0	52.0	15.7	56.9	13.9	1.4	57.6	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	52.0	15.7	56.9	13.9	1.4	57.6	17.3
Queue Length 50th (ft)	4	67	3	20	271	0	12	436
Queue Length 95th (ft)	30	139	38	58	618	9	41	671
Internal Link Dist (ft)	1012		2164		2695			918
Turn Bay Length (ft)				100		100	100	
Base Capacity (vph)	402	317	426	136	2793	1260	99	2756
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.35	0.12	0.24	0.64	0.03	0.19	0.66
Intersection Summary								

APPENDIX 5.7:

OPENING YEAR CUMULATIVE (2024) WITH PROJECT CONDITIONS INTERSECTION
OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS



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	ၨ	→	•	•	←	•	†	>	ļ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Configurations	ሻሻ	†	77	*	∱ ∱	ሻሻ	∱ β	7	^	7	
Traffic Volume (vph)	207	73	409	83	72	272	1167	16	1110	77	
Future Volume (vph)	207	73	409	83	72	272	1167	16	1110	77	
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4	5	3	8	5	2	1	6		
Permitted Phases			4							6	
Detector Phase	7	4	5	3	8	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	32.8	9.6	9.6	30.8	9.6	27.2	9.6	33.2	33.2	
Total Split (s)	16.0	32.8	19.0	14.0	30.8	19.0	63.6	9.6	54.2	54.2	
Total Split (%)	13.3%	27.3%	15.8%	11.7%	25.7%	15.8%	53.0%	8.0%	45.2%	45.2%	
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	
Act Effct Green (s)	10.9	12.0	28.6	12.9	10.4	14.4	58.8	5.0	43.4	43.4	
Actuated g/C Ratio	0.11	0.12	0.28	0.13	0.10	0.14	0.59	0.05	0.43	0.43	
v/c Ratio	0.71	0.38	0.60	0.45	0.34	0.71	0.72	0.23	0.84	0.12	
Control Delay	57.0	48.0	34.3	53.4	30.6	52.0	18.2	55.4	31.7	0.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.0	48.0	34.3	53.4	30.6	52.0	18.2	55.4	31.7	0.5	
LOS	Е	D	С	D	С	D	В	Е	С	Α	
Approach Delay		42.5			40.1		24.2		30.0		
Approach LOS		D			D		С		С		

Cycle Length: 120

Actuated Cycle Length: 100.4

Natural Cycle: 100

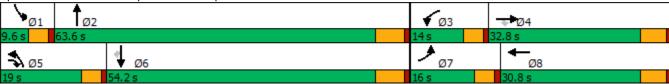
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.84 Intersection Signal Delay: 30.5 Intersection Capacity Utilization 69.1%

Intersection LOS: C
ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 8: Hesperia Rd. & Nisqualli Rd.



	۶	→	•	•	←	4	1	†	~	/	†	1
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	↑	77	ሻ	∱ }		ሻሻ	ተ ኈ		7	^↑	7
Traffic Volume (veh/h)	207	73	409	83	72	43	272	1167	96	16	1110	77
Future Volume (veh/h)	207	73	409	83	72	43	272	1167	96	16	1110	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1700	1800	1800	1600	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	233	82	460	93	81	48	306	1311	108	18	1247	87
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	291	326	808	115	334	184	364	1658	136	32	1430	638
Arrive On Green	0.10	0.18	0.18	0.07	0.16	0.16	0.12	0.52	0.52	0.02	0.42	0.42
Sat Flow, veh/h	3048	1800	2685	1619	2128	1172	3048	3200	263	1619	3420	1525
Grp Volume(v), veh/h	233	82	460	93	64	65	306	699	720	18	1247	87
Grp Sat Flow(s),veh/h/ln	1524	1800	1342	1619	1710	1589	1524	1710	1753	1619	1710	1525
Q Serve(g_s), s	7.6	3.9	14.6	5.7	3.3	3.6	9.9	33.6	33.9	1.1	33.7	3.6
Cycle Q Clear(g_c), s	7.6	3.9	14.6	5.7	3.3	3.6	9.9	33.6	33.9	1.1	33.7	3.6
Prop In Lane	1.00		1.00	1.00		0.74	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	291	326	808	115	268	249	364	886	908	32	1430	638
V/C Ratio(X)	0.80	0.25	0.57	0.81	0.24	0.26	0.84	0.79	0.79	0.57	0.87	0.14
Avail Cap(c_a), veh/h	344	482	1040	151	424	394	435	973	997	80	1627	726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	35.4	29.8	46.2	37.3	37.4	43.5	19.8	19.9	49.0	26.9	18.1
Incr Delay (d2), s/veh	9.2	0.4	0.6	16.5	0.5	0.6	10.3	4.1	4.1	5.8	5.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.7	4.5	2.7	1.4	1.4	4.1	12.5	12.9	0.5	13.3	1.2
Unsig. Movement Delay, s/veh		25.0	20.4	60.7	27.7	27.0	E2 7	02 O	24.0	E 4 0	24.0	10.0
LnGrp Delay(d),s/veh	53.9 D	35.8 D	30.4 C	62.7 E	37.7	37.9 D	53.7 D	23.9 C	24.0 C	54.8 D	31.9 C	18.2 B
LnGrp LOS	U		U		D	U	U		U	U		<u>D</u>
Approach Vol, veh/h		775			222			1725			1352	
Approach Delay, s/veh		38.0			48.2			29.2			31.3	
Approach LOS		D			D			С			С	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	58.5	11.8	24.1	16.7	48.4	14.2	21.6				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.0	57.4	9.4	27.0	14.4	48.0	11.4	25.0				
Max Q Clear Time (g_c+l1), s	3.1	35.9	7.7	16.6	11.9	35.7	9.6	5.6				
Green Ext Time (p_c), s	0.0	9.3	0.0	1.7	0.2	6.5	0.1	0.5				
Intersection Summary												
HCM 6th Ctrl Delay			32.6									
HCM 6th LOS			С									

	ၨ	→	•	•	←	4	†	\	ļ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Configurations	1,1	†	77	7	↑ ↑	44	∱ ∱	7	^	7	
Traffic Volume (vph)	182	60	424	97	65	465	1427	19	1637	199	
Future Volume (vph)	182	60	424	97	65	465	1427	19	1637	199	
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4	5	3	8	5	2	1	6		
Permitted Phases			4							6	
Detector Phase	7	4	5	3	8	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	32.8	9.6	9.6	30.8	9.6	27.2	9.6	33.2	33.2	
Total Split (s)	13.0	32.8	20.0	11.0	30.8	20.0	66.5	9.7	56.2	56.2	
Total Split (%)	10.8%	27.3%	16.7%	9.2%	25.7%	16.7%	55.4%	8.1%	46.8%	46.8%	
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	
Act Effct Green (s)	8.4	11.6	29.7	10.0	10.0	15.4	66.1	5.1	50.0	50.0	
Actuated g/C Ratio	0.08	0.11	0.28	0.10	0.10	0.15	0.63	0.05	0.48	0.48	
v/c Ratio	0.77	0.31	0.57	0.65	0.34	1.08	0.74	0.26	1.04	0.25	
Control Delay	69.2	47.4	34.8	70.5	28.6	107.9	16.9	56.7	60.6	5.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	69.2	47.4	34.8	70.5	28.6	107.9	16.9	56.7	60.6	5.7	
LOS	Е	D	С	Е	С	F	В	Е	Е	Α	
Approach Delay		45.4			47.6		38.2		54.7		
Approach LOS		D			D		D		D		

Cycle Length: 120 Actuated Cycle Length: 105

Natural Cycle: 130

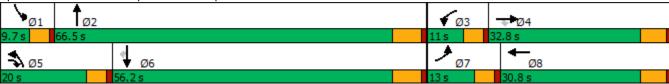
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.08 Intersection Signal Delay: 46.1 Intersection Capacity Utilization 90.2%

Intersection LOS: D
ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 8: Hesperia Rd. & Nisqualli Rd.



	۶	→	•	•	←	•	1	†	~	/	+	✓
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	†	77	ሻ	∱ β		ሻሻ	∱ β		ሻ	^	7
Traffic Volume (veh/h)	182	60	424	97	65	51	465	1427	98	19	1637	199
Future Volume (veh/h)	182	60	424	97	65	51	465	1427	98	19	1637	199
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1600	1800	1800	1700	1800	1800	1600	1800	1800	1700	1800	1800
Adj Flow Rate, veh/h	188	62	308	100	67	38	479	1471	80	20	1688	148
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	241	226	726	97	231	122	441	1960	106	34	1608	717
Arrive On Green	0.08	0.13	0.13	0.06	0.11	0.11	0.14	0.59	0.59	0.02	0.47	0.47
Sat Flow, veh/h	3048	1800	2685	1619	2165	1140	3048	3299	179	1619	3420	1525
Grp Volume(v), veh/h	188	62	308	100	52	53	479	760	791	20	1688	148
Grp Sat Flow(s),veh/h/ln	1524	1800	1342	1619	1710	1595	1524	1710	1768	1619	1710	1525
Q Serve(g_s), s	6.4	3.3	10.1	6.4	3.0	3.3	15.4	34.5	34.9	1.3	50.0	6.1
Cycle Q Clear(g_c), s	6.4	3.3	10.1	6.4	3.0	3.3	15.4	34.5	34.9	1.3	50.0	6.1
Prop In Lane	1.00		1.00	1.00		0.71	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	241	226	726	97	182	170	441	1016	1050	34	1608	717
V/C Ratio(X)	0.78	0.27	0.42	1.03	0.28	0.31	1.09	0.75	0.75	0.59	1.05	0.21
Avail Cap(c_a), veh/h	241	457	1070	97	402	375	441	1016	1050	78	1608	717
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	42.1	32.0	50.0	43.8	43.9	45.5	15.8	15.9	51.6	28.2	16.5
Incr Delay (d2), s/veh	13.9	0.7	0.4	98.5	0.8	1.0	67.8	3.1	3.1	5.9	36.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	1.5	3.2	5.2	1.3	1.3	9.7	12.1	12.6	0.6	26.2	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	42.8	32.4	148.4	44.6	44.9	113.2	18.9	19.0	57.5	64.9	16.7
LnGrp LOS	E	D	С	F	D	D	F	В	В	<u>E</u>	F	<u>B</u>
Approach Vol, veh/h		558			205			2030			1856	
Approach Delay, s/veh		43.5			95.3			41.2			61.0	
Approach LOS		D			F			D			Е	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	69.4	11.0	19.1	20.0	56.2	13.0	17.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.1	60.3	6.4	27.0	15.4	50.0	8.4	25.0				
Max Q Clear Time (g_c+l1), s	3.3	36.9	8.4	12.1	17.4	52.0	8.4	5.3				
Green Ext Time (p_c), s	0.0	10.9	0.0	1.3	0.0	0.0	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			51.8									
HCM 6th LOS			D									

APPENDIX 6.1:

FUTURE YEAR (2034) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS

ANALYSIS WORKSHEETS



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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	† †	7	1,1	ተተተ	7	1,1	† †	7	14.14	^	7
Traffic Volume (vph)	230	1032	90	135	596	790	29	142	99	492	260	139
Future Volume (vph)	230	1032	90	135	596	790	29	142	99	492	260	139
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	27.8	27.8	9.5	27.8	27.8	9.5	10.8		9.5	27.8	27.8
Total Split (s)	18.6	61.3	61.3	14.0	56.7	56.7	9.6	14.2		30.5	35.1	35.1
Total Split (%)	15.5%	51.1%	51.1%	11.7%	47.3%	47.3%	8.0%	11.8%		25.4%	29.3%	29.3%
Yellow Time (s)	3.5	4.8	4.8	3.5	4.8	4.8	3.5	4.8		3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	4.5	5.8	5.8	4.5	5.8		4.5	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	Max
Act Effct Green (s)	11.6	40.5	40.5	8.3	37.2	37.2	5.2	10.5	101.0	20.4	30.4	30.4
Actuated g/C Ratio	0.11	0.40	0.40	0.08	0.37	0.37	0.05	0.10	1.00	0.20	0.30	0.30
v/c Ratio	0.67	0.74	0.13	0.55	0.31	0.87	0.19	0.39	0.07	0.82	0.25	0.26
Control Delay	55.2	28.6	1.1	56.6	22.9	18.8	55.5	50.5	0.1	51.3	31.3	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.2	28.6	1.1	56.6	22.9	18.8	55.5	50.5	0.1	51.3	31.3	7.1
LOS	Е	С	Α	Е	С	В	Е	D	Α	D	С	Α
Approach Delay		31.3			23.7			32.5			38.5	_
Approach LOS		С			С			С			D	

Cycle Length: 120

Actuated Cycle Length: 101

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 30.1
Intersection Capacity Utilization 73.8%

Intersection LOS: C
ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Armargosa Rd. & La Mesa Rd./Nisqualli Rd.



2034 NP - AM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.14	^	7	14.54	^	7	ሻሻ	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	230	1032	90	135	596	790	29	142	99	492	260	139
Future Volume (veh/h)	230	1032	90	135	596	790	29	142	99	492	260	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	250	1122	98	147	648	620	32	154	0	535	283	151
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	309	1724	730	203	2399	678	92	420		600	1016	431
Arrive On Green	0.10	0.45	0.45	0.06	0.42	0.42	0.03	0.11	0.00	0.19	0.27	0.27
Sat Flow, veh/h	3238	3800	1610	3238	5700	1610	3238	3800	1610	3238	3800	1610
Grp Volume(v), veh/h	250	1122	98	147	648	620	32	154	0	535	283	151
Grp Sat Flow(s),veh/h/ln	1619	1900	1610	1619	1900	1610	1619	1900	1610	1619	1900	1610
Q Serve(g_s), s	8.3	25.1	3.9	4.9	8.1	39.7	1.1	4.1	0.0	17.7	6.5	8.3
Cycle Q Clear(g_c), s	8.3	25.1	3.9	4.9	8.1	39.7	1.1	4.1	0.0	17.7	6.5	8.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	309	1724	730	203	2399	678	92	420		600	1016	431
V/C Ratio(X)	0.81	0.65	0.13	0.73	0.27	0.92	0.35	0.37		0.89	0.28	0.35
Avail Cap(c_a), veh/h	417	1925	816	281	2648	748	151	420		768	1016	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	23.2	17.4	50.4	20.7	29.9	52.2	45.2	0.0	43.6	31.8	32.4
Incr Delay (d2), s/veh	6.1	0.7	0.1	2.8	0.1	15.0	0.8	2.5	0.0	9.1	0.7	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	10.6	1.4	2.0	3.4	17.0	0.4	2.0	0.0	7.6	3.0	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.7	23.9	17.5	53.3	20.8	44.9	53.1	47.7	0.0	52.7	32.5	34.7
LnGrp LOS	D	С	В	D	С	D	D	D		D	С	С
Approach Vol, veh/h		1470			1415			186	А		969	
Approach Delay, s/veh		28.7			34.7			48.6	• •		44.0	
Approach LOS		C			C			D			D	
							_					
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.8	17.9	11.4	55.5	7.6	35.1	15.0	51.9				
Change Period (Y+Rc), s	4.5	5.8	4.5	5.8	4.5	5.8	4.5	5.8				
Max Green Setting (Gmax), s	26.0	8.4	9.5	55.5	5.1	29.3	14.1	50.9				
Max Q Clear Time (g_c+l1), s	19.7	6.1	6.9	27.1	3.1	10.3	10.3	41.7				
Green Ext Time (p_c), s	0.6	0.1	0.1	9.0	0.0	2.0	0.2	4.4				
Intersection Summary												
HCM 6th Ctrl Delay			35.4									
HCM 6th LOS			D									
Notes												

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

2034 NP - AM Peak Hour Urban Crossroads, Inc.

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻሻ	7	^	7	ሻ	^
Traffic Volume (vph)	1006	47	828	414	177	970
Future Volume (vph)	1006	47	828	414	177	970
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.7	9.7	10.8	10.8	9.5	10.8
Total Split (s)	36.0	36.0	34.0	34.0	20.0	54.0
Total Split (%)	40.0%	40.0%	37.8%	37.8%	22.2%	60.0%
Yellow Time (s)	3.7	3.7	4.8	4.8	3.5	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	5.8	5.8	4.5	5.8
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	30.2	30.2	31.3	31.3	13.5	49.3
Actuated g/C Ratio	0.34	0.34	0.35	0.35	0.15	0.55
v/c Ratio	0.93	0.09	0.72	0.53	0.71	0.53
Control Delay	43.5	6.5	30.3	4.9	51.0	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	6.5	30.3	4.9	51.0	14.5
LOS	D	A	С	Α	D	В
Approach Delay	41.8		21.9		_	20.1
Approach LOS	D		C			C
Intersection Summary						
Cycle Length: 90						
Actuated Cycle Length: 90						
Offset: 0 (0%), Referenced	to phase 2	:NBT and	16:SBT. S	Start of G	reen	
Natural Cycle: 70	to pridoo 2	D. and	0.021,	otant or or	0011	
Control Type: Actuated-Coo	ordinated					
Maximum v/c Ratio: 0.93	or annatoa					
Intersection Signal Delay: 2	7 4			lr	ntersectio	n LOS: C
Intersection Capacity Utiliza						of Service
Analysis Period (min) 15	ZUOII 13.370)		10	O Level	OI SEIVICE
Allalysis i ellou (Illill) 13						
Splits and Phases: 2: Arr	margosa Ro	d. & I-15 S	SB Ramp	s		
\	1	- (-)				
Ø1		2 (R)				
20 s	34 s					
₩ Ø6 (R)						
▼ 20 (K)	_					

2034 NP - AM Peak Hour Urban Crossroads, Inc.

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Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	ሻሻ	7	^	7	ሻ	^	
Traffic Volume (veh/h)	1006	47	828	414	177	970	
Future Volume (veh/h)	1006	47	828	414	177	970	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	1093	51	900	450	192	1054	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	1166	535	1351	603	230	1990	
Arrive On Green	0.33	0.33	0.37	0.37	0.13	0.55	
Sat Flow, veh/h	3510	1610	3705	1610	1810	3705	
Grp Volume(v), veh/h	1093	51	900	450	192	1054	
Grp Sat Flow(s),veh/h/ln	1755	1610	1805	1610	1810	1805	
Q Serve(g_s), s	27.2	2.0	18.7	21.8	9.3	16.7	
Cycle Q Clear(g_c), s	27.2	2.0	18.7	21.8	9.3	16.7	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1166	535	1351	603	230	1990	
V/C Ratio(X)	0.94	0.10	0.67	0.75	0.84	0.53	
Avail Cap(c_a), veh/h	1221	560	1351	603	312	1990	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	0.54	0.54	1.00	1.00	
Uniform Delay (d), s/veh	29.1	20.7	23.5	24.5	38.4	12.8	
Incr Delay (d2), s/veh	12.8	0.0	1.4	4.6	13.5	1.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	12.2	0.7	7.5	8.3	4.8	6.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	41.9	20.8	24.9	29.0	51.9	13.8	
LnGrp LOS	D	С	С	С	D	В	
Approach Vol, veh/h	1144		1350			1246	
Approach Delay, s/veh	41.0		26.3			19.7	
Approach LOS	D		C			В	
	4	^					0
Timer - Assigned Phs	15.0	2				6	8
Phs Duration (G+Y+Rc), s	15.9	39.5				55.4	34.6
Change Period (Y+Rc), s	4.5	5.8				5.8	4.7
Max Green Setting (Gmax), s	15.5	28.2				48.2	31.3
Max Q Clear Time (g_c+I1), s	11.3	23.8				18.7	29.2
Green Ext Time (p_c), s	0.2	2.7				7.9	0.7
Intersection Summary							
HCM 6th Ctrl Delay			28.6				
HCM 6th LOS			С				

	•	→	+	•	•	†	~
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	ሻሻ	ተተተ	ተተተ	7	ች	ર્ન	7
Traffic Volume (vph)	252	1530	1303	412	230	1	331
Future Volume (vph)	252	1530	1303	412	230	1	331
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	7	4	8			2	
Permitted Phases				8	2		2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	10.8	22.8	22.8	11.5	11.5	11.5
Total Split (s)	17.0	57.0	40.0	40.0	33.0	33.0	33.0
Total Split (%)	18.9%	63.3%	44.4%	44.4%	36.7%	36.7%	36.7%
Yellow Time (s)	3.5	4.8	4.8	4.8	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	5.8	6.5	6.5	6.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	11.1	56.4	40.8	40.8	21.3	21.3	21.3
Actuated g/C Ratio	0.12	0.63	0.45	0.45	0.24	0.24	0.24
v/c Ratio	0.66	0.53	0.62	0.47	0.32	0.32	0.83
Control Delay	45.1	10.9	21.5	3.7	29.0	29.1	40.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.1	10.9	21.5	3.7	29.0	29.1	40.2
LOS	D	В	С	Α	С	С	D
Approach Delay		15.7	17.2			35.6	
Approach LOS		В	В			D	
Intersection Summary							
Cycle Length: 90							

Cycle Length: 90 Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 50

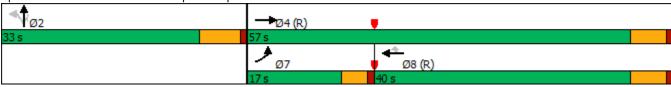
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 19.1 Intersection LOS: B
Intersection Capacity Utilization 60.3% ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: I-15 NB Ramps & Nisqualli Rd.



2034 NP - AM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,4	ተተተ			ተተተ	7	J.	र्स	7			
Traffic Volume (veh/h)	252	1530	0	0	1303	412	230	1	331	0	0	0
Future Volume (veh/h)	252	1530	0	0	1303	412	230	1	331	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	283	1719	0	0	1464	463	259	0	372			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	361	3147	0	0	2354	731	929	0	413			
Arrive On Green	0.10	0.61	0.00	0.00	0.45	0.45	0.26	0.00	0.26			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	283	1719	0	0	1464	463	259	0	372			
Grp Sat Flow(s),veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	7.1	17.5	0.0	0.0	19.3	19.8	5.2	0.0	20.1			
Cycle Q Clear(g_c), s	7.1	17.5	0.0	0.0	19.3	19.8	5.2	0.0	20.1			
Prop In Lane	1.00	17.0	0.00	0.00	10.0	1.00	1.00	0.0	1.00			
Lane Grp Cap(c), veh/h	361	3147	0.00	0.00	2354	731	929	0	413			
V/C Ratio(X)	0.78	0.55	0.00	0.00	0.62	0.63	0.28	0.00	0.90			
Avail Cap(c_a), veh/h	488	3147	0.00	0.00	2354	731	1066	0.00	474			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.62	0.62	0.00	0.00	0.78	0.78	1.00	0.00	1.00			
Uniform Delay (d), s/veh	39.4	10.4	0.0	0.0	18.7	18.8	26.8	0.00	32.3			
Incr Delay (d2), s/veh	2.5	0.4	0.0	0.0	1.0	3.3	0.2	0.0	18.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.0	5.5	0.0	0.0	7.1	7.2	2.1	0.0	9.2			
Unsig. Movement Delay, s/vel		5.5	0.0	0.0	7.1	1.2	۷.۱	0.0	5.2			
LnGrp Delay(d),s/veh	41.9	10.8	0.0	0.0	19.7	22.1	26.9	0.0	50.8			
LnGrp LOS	41.3 D	В	Α	Α	1 <i>3.1</i>	C	20.9 C	Α	50.0 D			
	U							631	U			
Approach Vol, veh/h		2002			1927							
Approach LOS		15.2			20.3			41.0				
Approach LOS		В			С			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		29.6		60.4			13.8	46.7				
Change Period (Y+Rc), s		6.5		5.8			4.5	5.8				
Max Green Setting (Gmax), s		26.5		51.2			12.5	34.2				
Max Q Clear Time (g_c+I1), s		22.1		19.5			9.1	21.8				
Green Ext Time (p_c), s		1.0		15.3			0.2	8.4				
Intersection Summary												
HCM 6th Ctrl Delay			20.9									
HCM 6th LOS			С									
Notes												

User approved volume balancing among the lanes for turning movement.

2034 NP - AM Peak Hour Urban Crossroads, Inc.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	ተተተ	7	77	ተተተ	7	14.54	44	7	ሻሻ	^	7
Traffic Volume (vph)	62	1456	340	115	1352	109	281	160	100	75	113	80
Future Volume (vph)	62	1456	340	115	1352	109	281	160	100	75	113	80
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	32.8	32.8	9.6	33.8	33.8	9.6	40.2	40.2	9.6	16.2	16.2
Total Split (s)	11.0	49.0	49.0	14.0	52.0	52.0	22.0	45.0	45.0	12.0	35.0	35.0
Total Split (%)	9.2%	40.8%	40.8%	11.7%	43.3%	43.3%	18.3%	37.5%	37.5%	10.0%	29.2%	29.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	6.0	39.6	39.6	7.9	43.9	43.9	13.4	19.4	19.4	6.5	10.3	10.3
Actuated g/C Ratio	0.06	0.43	0.43	0.09	0.47	0.47	0.14	0.21	0.21	0.07	0.11	0.11
v/c Ratio	0.33	0.71	0.43	0.46	0.59	0.14	0.67	0.23	0.25	0.37	0.30	0.27
Control Delay	48.9	24.1	6.3	48.1	19.8	1.6	46.2	34.0	8.6	48.5	42.5	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.9	24.1	6.3	48.1	19.8	1.6	46.2	34.0	8.6	48.5	42.5	2.8
LOS	D	C	Α	D	В	Α	D	С	Α	D	D	Α
Approach Delay		21.7			20.6			35.6			32.4	
Approach LOS		С			С			D			С	

Cycle Length: 120

Actuated Cycle Length: 92.6

Natural Cycle: 95

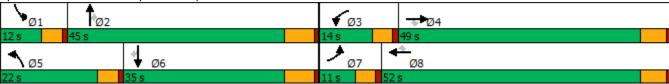
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 23.7 Intersection Capacity Utilization 67.3% Intersection LOS: C ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Mariposa & Nisqualli Rd.



2034 NP - AM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	ተተተ	7	1,4	ተተተ	7	ሻሻ	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	62	1456	340	115	1352	109	281	160	100	75	113	80
Future Volume (veh/h)	62	1456	340	115	1352	109	281	160	100	75	113	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1700	No	1000	1700	No	1000	1700	No	1000	1700	No	1000
Adj Sat Flow, veh/h/ln	1700 67	1900 1566	1900 366	1700 124	1900 1454	1900 117	1700 302	1900 172	1900 108	1700 81	1900 122	1900 86
Adj Flow Rate, veh/h Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Cap, veh/h	152	2222	690	189	2285	709	385	704	314	164	450	201
Arrive On Green	0.05	0.43	0.43	0.06	0.44	0.44	0.12	0.20	0.20	0.05	0.12	0.12
Sat Flow, veh/h	3141	5187	1610	3141	5187	1610	3141	3610	1610	3141	3610	1610
Grp Volume(v), veh/h	67	1566	366	124	1454	117	302	172	108	81	122	86
Grp Sat Flow(s), veh/h/ln	1570	1729	1610	1570	1729	1610	1570	1805	1610	1570	1805	1610
Q Serve(g_s), s	1.7	19.8	13.5	3.1	17.5	3.5	7.5	3.2	4.6	2.0	2.5	4.0
Cycle Q Clear(g_c), s	1.7	19.8	13.5	3.1	17.5	3.5	7.5	3.2	4.6	2.0	2.5	4.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	2222	690	189	2285	709	385	704	314	164	450	201
V/C Ratio(X)	0.44	0.70	0.53	0.65	0.64	0.16	0.78	0.24	0.34	0.50	0.27	0.43
Avail Cap(c_a), veh/h	250	2792	867	368	2986	927	681	1745	778	290	1295	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	18.8	17.0	36.9	17.5	13.5	34.2	27.3	27.9	37.0	31.8	32.5
Incr Delay (d2), s/veh	0.8	0.6	0.6	1.4	0.3	0.1	1.4	0.2	0.6	0.9	0.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.0	4.5	1.2	6.1	1.1	2.7	1.3	1.7	0.7	1.0	1.5
Unsig. Movement Delay, s/veh		40.4	47.0	20.2	47.0	40.7	25.5	07.5	00.5	07.0	20.4	22.0
LnGrp Delay(d),s/veh	37.9	19.4	17.6	38.3	17.8	13.7	35.5	27.5	28.5	37.9	32.1	33.9
LnGrp LOS	D	B	В	D	B	В	D	С	С	D	С	<u>C</u>
Approach Vol, veh/h		1999			1695			582			289	
Approach LOS		19.7			19.0 B			31.9 C			34.3 C	
Approach LOS		В			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	21.9	9.4	40.2	14.4	16.2	8.5	41.1				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	7.4	38.8	9.4	43.2	17.4	28.8	6.4	46.2				
Max Q Clear Time (g_c+l1), s	4.0	6.6	5.1	21.8	9.5	6.0	3.7	19.5				
Green Ext Time (p_c), s	0.0	1.3	0.1	12.5	0.4	0.8	0.0	11.9				
Intersection Summary												
HCM 6th Ctrl Delay			21.9									
HCM 6th LOS			С									

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	7	∱ }	*	∱ î≽	7	†	7	7	†	7	
Traffic Volume (vph)	35	960	29	624	124	286	24	51	222	63	
Future Volume (vph)	35	960	29	624	124	286	24	51	222	63	
Turn Type	Prot	NA	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	
Protected Phases	7	4	3	8	5	2	3	1	6		
Permitted Phases							2			6	
Detector Phase	7	4	3	8	5	2	3	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	30.8	9.6	30.8	9.6	25.8	9.6	9.6	15.8	15.8	
Total Split (s)	12.0	54.0	12.0	54.0	22.0	39.0	12.0	15.0	32.0	32.0	
Total Split (%)	10.0%	45.0%	10.0%	45.0%	18.3%	32.5%	10.0%	12.5%	26.7%	26.7%	
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	4.8	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	5.8	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Min	None	None	Min	Min	
Act Effct Green (s)	6.7	42.0	6.5	44.1	12.9	27.4	40.2	8.1	19.4	19.4	
Actuated g/C Ratio	0.07	0.42	0.07	0.44	0.13	0.27	0.40	0.08	0.19	0.19	
v/c Ratio	0.36	0.85	0.30	0.51	0.66	0.64	0.04	0.44	0.71	0.17	
Control Delay	60.7	34.0	59.1	23.0	60.6	42.5	0.1	60.1	51.8	8.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	60.7	34.0	59.1	23.0	60.6	42.5	0.1	60.1	51.8	8.0	
LOS	E	С	Е	С	Е	D	Α	E	D	Α	
Approach Delay		34.8		24.5		45.3			43.5		
Approach LOS		С		С		D			D		
1.1											

Cycle Length: 120

Actuated Cycle Length: 99.9

Natural Cycle: 80

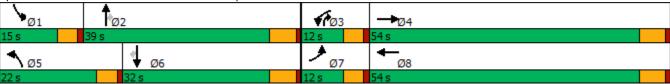
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.85 Intersection Signal Delay: 34.9 Intersection Capacity Utilization 63.4%

Intersection LOS: C
ICU Level of Service B

Analysis Period (min) 15

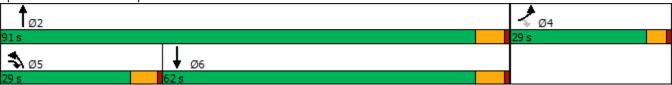
Splits and Phases: 5: 7th/Arrowhead Dr & Nisqualli Rd.



2034 NP - AM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	∱ ∱		ሻ	∱ ∱		ሻ	↑	7	7	↑	7
Traffic Volume (veh/h)	35	960	127	29	624	57	124	286	24	51	222	63
Future Volume (veh/h)	35	960	127	29	624	57	124	286	24	51	222	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	4000	No	1000	4000	No	1000	4000	No	4000	4000	No	4000
Adj Sat Flow, veh/h/ln	1800 41	1900 1129	1900 149	1800 34	1900 734	1900 67	1800	1900 336	1900 28	1800 60	1900 261	1900
Adj Flow Rate, veh/h Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	146 0.85	0.85	0.85	0.85	0.85	74 0.85
Percent Heavy Veh, %	0.03	0.65	0.65	0.65	0.65	0.65	0.00	0.00	0.65	0.65	0.65	0.03
Cap, veh/h	64	1394	184	56	1441	131	180	439	425	78	326	276
Arrive On Green	0.04	0.43	0.43	0.03	0.43	0.43	0.11	0.23	0.23	0.05	0.17	0.17
Sat Flow, veh/h	1714	3207	422	1714	3345	305	1714	1900	1610	1714	1900	1610
Grp Volume(v), veh/h	41	634	644	34	396	405	146	336	28	60	261	74
Grp Sat Flow(s), veh/h/ln	1714	1805	1824	1714	1805	1845	1714	1900	1610	1714	1900	1610
Q Serve(g_s), s	1.9	24.9	25.1	1.6	13.0	13.0	6.8	13.5	1.1	2.8	10.7	3.2
Cycle Q Clear(g_c), s	1.9	24.9	25.1	1.6	13.0	13.0	6.8	13.5	1.1	2.8	10.7	3.2
Prop In Lane	1.00		0.23	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	64	785	793	56	777	795	180	439	425	78	326	276
V/C Ratio(X)	0.64	0.81	0.81	0.60	0.51	0.51	0.81	0.76	0.07	0.77	0.80	0.27
Avail Cap(c_a), veh/h	156	1068	1079	156	1068	1092	366	775	709	219	611	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	20.1	20.1	38.9	16.9	16.9	35.6	29.2	22.4	38.4	32.4	29.3
Incr Delay (d2), s/veh	4.0	3.4	3.4	3.8	0.5	0.5	3.3	2.8	0.1	5.8	4.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	9.8	9.9	0.7	4.8	4.9	2.9	6.1	0.4	1.2	4.9	1.2
Unsig. Movement Delay, s/veh		00.4	00.5	40.0	47.4	47.4	00.0	00.0	00.5	440	00.0	00.0
LnGrp Delay(d),s/veh	42.7	23.4	23.5	42.6	17.4	17.4	38.9	32.0	22.5	44.2	36.9	29.8
LnGrp LOS	D	C	С	D	В	В	D	C	С	D	D	<u>C</u>
Approach Vol, veh/h		1319			835			510			395	
Approach Delay, s/veh		24.1			18.4			33.5			36.7	
Approach LOS		С			В			С			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	24.6	7.3	41.2	13.2	19.8	7.6	40.9				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	10.4	33.2	7.4	48.2	17.4	26.2	7.4	48.2				
Max Q Clear Time (g_c+l1), s	4.8	15.5	3.6	27.1	8.8	12.7	3.9	15.0				
Green Ext Time (p_c), s	0.0	1.8	0.0	8.3	0.1	1.2	0.0	5.0				
Intersection Summary												
HCM 6th Ctrl Delay			25.7									
HCM 6th LOS			С									

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Lane Group	EBL	EBR	NBL	NBT	SBT	
Lane Configurations	ሻ	77	1,1	^	∱ ∱	
Traffic Volume (vph)	166	344	405	952	1137	
Future Volume (vph)	166	344	405	952	1137	
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	26.6	15.8	15.8	16.2	28.2	
Total Split (s)	29.0	29.0	29.0	91.0	62.0	
Total Split (%)	24.2%	24.2%	24.2%	75.8%	51.7%	
Yellow Time (s)	3.6	4.8	4.8	5.2	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	5.8	6.2	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	15.4	39.6	19.4	75.6	50.2	
Actuated g/C Ratio	0.15	0.39	0.19	0.74	0.49	
v/c Ratio	0.69	0.33	0.73	0.38	0.79	
Control Delay	57.6	19.6	48.4	5.6	26.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.6	19.6	48.4	5.6	26.2	
LOS	Е	В	D	Α	С	
Approach Delay	31.9			18.3	26.2	
Approach LOS	С			В	С	
••						
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 102	2.1					
Natural Cycle: 90						
Control Type: Actuated-Unc	coordinated	<u> </u>				
Maximum v/c Ratio: 0.79						100.6
Intersection Signal Delay: 2					ntersection	
Intersection Capacity Utiliza	ition 72.6%)		10	CU Level	of Service C
Analysis Period (min) 15						
Outro and Discourse		0.0	T DI			
Splits and Phases: 6: Hes	speria Rd.	& Green	ree Bl.			



2034 NP - AM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		77	ሻሻ	^	^	
Traffic Volume (veh/h)	166	344	405	952	1137	148
Future Volume (veh/h)	166	344	405	952	1137	148
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1800	1900	1700	1900	1900	1900
Adj Flow Rate, veh/h	178	370	435	1024	1223	159
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	234	861	527	2677	1633	212
Arrive On Green	0.14	0.14	0.17	0.74	0.51	0.51
Sat Flow, veh/h	1714	2834	3141	3705	3309	416
Grp Volume(v), veh/h	178	370	435	1024	685	697
Grp Sat Flow(s),veh/h/ln	1714	1417	1570	1805	1805	1825
Q Serve(g_s), s	8.8	9.2	11.8	9.0	26.6	26.9
Cycle Q Clear(g_c), s	8.8	9.2	11.8	9.0	26.6	26.9
Prop In Lane	1.00	1.00	1.00			0.23
Lane Grp Cap(c), veh/h	234	861	527	2677	917	928
V/C Ratio(X)	0.76	0.43	0.83	0.38	0.75	0.75
Avail Cap(c_a), veh/h	473	1257	824	3463	1139	1152
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	24.6	35.5	4.1	17.2	17.3
Incr Delay (d2), s/veh	1.9	0.1	4.0	0.1	2.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	7.7	4.7	2.5	10.7	10.9
Unsig. Movement Delay, s/veh		1.1	7.1	2.0	10.1	10.0
LnGrp Delay(d),s/veh	38.7	24.8	39.5	4.2	19.3	19.5
LnGrp LOS	30.7 D	24.0 C	39.3 D	4.2 A	19.5 B	19.5 B
Approach Vol, veh/h	548	<u> </u>	<u> </u>	1459	1382	U
Approach Vol, ven/n Approach Delay, s/veh	29.3			1459	19.4	
	29.3 C					
Approach LOS	U			В	В	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		71.8		16.6	20.6	51.1
Change Period (Y+Rc), s		6.2		4.6	5.8	6.2
Max Green Setting (Gmax), s		84.8		24.4	23.2	55.8
Max Q Clear Time (g_c+l1), s		11.0		11.2	13.8	28.9
Green Ext Time (p_c), s		15.7		0.8	1.0	16.1
Intersection Summary						
HCM 6th Ctrl Delay			19.0			
HCM 6th LOS			19.0 B			
I IOIVI ULII LUS			D			

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		*	∱ }		*	† }	
Traffic Vol, veh/h	6	0	10	0	0	6	13	1346	7	12	1468	1
Future Vol, veh/h	6	0	10	0	0	6	13	1346	7	12	1468	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage	, # -	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	0	11	0	0	7	15	1530	8	14	1668	1
Major/Minor N	Minor2		ı	Minor1			Major1		N	Major2		
Conflicting Flow All	2492	3265	835	2426	3261	769	1669	0	0	1538	0	0
Stage 1	1697	1697	-	1564	1564	-	-	-	-	-	-	-
Stage 2	795	1568	-	862	1697	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	15	9	315	17	9	348	390	-	-	438	-	-
Stage 1	98	150	-	119	174	-	-	-	-	-	-	-
Stage 2	351	173	-	320	150	-	-	-		-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	14	8	315	16	8	348	390	-		438	-	-
Mov Cap-2 Maneuver	85	96	-	100	94	-	-	-	-	-	-	-
Stage 1	94	145	-	114	167	-	-	-	-	-	-	-
Stage 2	331	166	-	299	145	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	31.1			15.6			0.1			0.1		
HCM LOS	D			С								
Minor Lane/Major Mvm	nt	NBL	NBT	NBR I	EBLn1V	VBLn1	SBL	SBT	SBR			
Capacity (veh/h)		390	-	-	156	348	438	-	-			
HCM Lane V/C Ratio		0.038	-	-	0.117		0.031	-	_			
HCM Control Delay (s)		14.6	-	-		15.6	13.5	-	-			
HCM Lane LOS		В	-	-	D	С	В	_	_			
HCM 95th %tile Q(veh))	0.1	-	-	0.4	0.1	0.1	-	-			

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Configurations	44	†	77	7	↑ ↑	14.54	ħβ	¥	↑ ↑	
Traffic Volume (vph)	162	90	499	101	88	331	1434	20	1344	
Future Volume (vph)	162	90	499	101	88	331	1434	20	1344	
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA	
Protected Phases	7	4	5	3	8	5	2	1	6	
Permitted Phases			4							
Detector Phase	7	4	5	3	8	5	2	1	6	
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	32.8	9.6	9.6	30.8	9.6	27.2	9.6	33.2	
Total Split (s)	13.2	33.0	20.2	11.0	30.8	20.2	66.2	9.8	55.8	
Total Split (%)	11.0%	27.5%	16.8%	9.2%	25.7%	16.8%	55.2%	8.2%	46.5%	
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Min	None	Min	
Act Effct Green (s)	8.4	12.5	33.3	6.4	10.5	15.1	65.4	5.1	49.6	
Actuated g/C Ratio	0.08	0.12	0.32	0.06	0.10	0.14	0.62	0.05	0.47	
v/c Ratio	0.70	0.43	0.60	1.06	0.39	0.80	0.76	0.27	0.90	
Control Delay	63.0	49.4	33.3	153.0	30.7	58.0	17.8	56.9	34.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	63.0	49.4	33.3	153.0	30.7	58.0	17.8	56.9	34.4	
LOS	E	D	С	F	С	E	В	Е	С	
Approach Delay		41.6			81.8		24.9		34.7	
Approach LOS		D			F		С		С	
Internation Comment										

Cycle Length: 120

Actuated Cycle Length: 104.8

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.06
Intersection Signal Delay: 34.3
Intersection Capacity Utilization 81.7%

Intersection LOS: C
ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 8: Hesperia Rd. & Nisqualli Rd.



2034 NP - AM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	+	77	ሻ	∱ ∱		ሻሻ	∱ ⊅		ሻ	ተኈ	
Traffic Volume (veh/h)	162	90	499	101	88	52	331	1434	117	20	1344	67
Future Volume (veh/h)	162	90	499	101	88	52	331	1434	117	20	1344	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	4700	No	1000	4000	No	1000	4700	No	4000	4000	No	1000
Adj Sat Flow, veh/h/ln	1700	1900	1900	1800	1900	1900	1700	1900	1900	1800 22	1900	1900
Adj Flow Rate, veh/h Peak Hour Factor	176 0.92	98 0.92	542 0.92	110 0.92	96 0.92	57 0.92	360 0.92	1559 0.92	127 0.92	0.92	1461 0.92	73 0.92
Percent Heavy Veh, %	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Cap, veh/h	228	365	915	97	394	218	411	1836	148	38	1519	76
Arrive On Green	0.07	0.19	0.19	0.06	0.18	0.18	0.13	0.54	0.54	0.02	0.43	0.43
Sat Flow, veh/h	3141	1900	2834	1714	2241	1241	3141	3382	273	1714	3499	174
Grp Volume(v), veh/h	176	98	542	110	76	77	360	827	859	22	752	782
Grp Sat Flow(s), veh/h/ln	1570	1900	1417	1714	1805	1677	1570	1805	1851	1714	1805	1869
Q Serve(g_s), s	6.3	5.0	18.2	6.4	4.1	4.5	12.8	43.9	45.0	1.4	45.9	46.3
Cycle Q Clear(g_c), s	6.3	5.0	18.2	6.4	4.1	4.5	12.8	43.9	45.0	1.4	45.9	46.3
Prop In Lane	1.00		1.00	1.00		0.74	1.00		0.15	1.00		0.09
Lane Grp Cap(c), veh/h	228	365	915	97	318	295	411	980	1005	38	784	811
V/C Ratio(X)	0.77	0.27	0.59	1.14	0.24	0.26	0.88	0.84	0.86	0.58	0.96	0.96
Avail Cap(c_a), veh/h	238	455	1049	97	397	369	431	980	1005	78	788	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.8	39.1	32.2	53.6	40.3	40.4	48.5	21.9	22.2	55.0	31.2	31.3
Incr Delay (d2), s/veh	12.5	0.4	0.7	134.0	0.4	0.5	16.7	6.8	7.4	5.2	22.5	23.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	2.3	6.1	6.3	1.8	1.8	5.8	18.1	19.1	0.7	23.0	24.1
Unsig. Movement Delay, s/veh		00.5	00.0	407.0	40.7	40.0	05.0	00.7	00.5	00.0	50.7	E 4 .4
LnGrp Delay(d),s/veh	64.3	39.5	32.9	187.6	40.7	40.9	65.2	28.7	29.5	60.2	53.7	54.4
LnGrp LOS	E	D	С	F	D 000	D	E	C	С	E	D	D
Approach Vol, veh/h		816			263			2046			1556	
Approach LOS		40.5			102.2			35.5			54.1	
Approach LOS		D			F			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	67.9	11.0	27.6	19.5	55.5	12.8	25.8				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.2	60.0	6.4	27.2	15.6	49.6	8.6	25.0				
Max Q Clear Time (g_c+I1), s	3.4	47.0	8.4	20.2	14.8	48.3	8.3	6.5				
Green Ext Time (p_c), s	0.0	8.4	0.0	1.6	0.1	1.0	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			46.3									
HCM 6th LOS			D									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Configurations	75	ተተተ	7	ሻሻ	ተተተ	7	ሻሻ	^	7	ሻሻ	∱ ⊅	
Traffic Volume (vph)	235	1592	150	388	1733	254	133	668	385	329	434	
Future Volume (vph)	235	1592	150	388	1733	254	133	668	385	329	434	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	31.2	9.6	9.6	33.2	9.6	9.6	39.2	39.2	9.6	37.2	
Total Split (s)	15.7	42.0	14.4	20.0	46.3	18.0	14.4	40.0	40.0	18.0	43.6	
Total Split (%)	13.1%	35.0%	12.0%	16.7%	38.6%	15.0%	12.0%	33.3%	33.3%	15.0%	36.3%	
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	10.9	35.8	50.9	15.4	40.3	59.9	8.8	31.3	31.3	13.4	35.9	
Actuated g/C Ratio	0.09	0.30	0.43	0.13	0.34	0.51	0.07	0.27	0.27	0.11	0.31	
v/c Ratio	0.86	1.07	0.21	1.01	1.04	0.32	0.60	0.74	0.70	0.98	0.54	
Control Delay	80.2	84.4	10.7	97.6	70.2	13.7	64.2	44.6	24.6	95.9	34.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	80.2	84.4	10.7	97.6	70.2	13.7	64.2	44.6	24.6	95.9	34.3	
LOS	F	F	В	F	Е	В	Е	D	С	F	С	
Approach Delay		78.3			68.6			40.3			57.2	
Approach LOS		Е			Е			D			Е	

Cycle Length: 120

Actuated Cycle Length: 117.6

Natural Cycle: 125

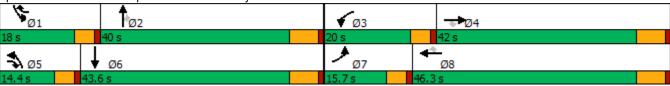
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.07 Intersection Signal Delay: 64.8 Intersection Capacity Utilization 90.1%

Intersection LOS: E ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 9: Hesperia Rd. & Bear Valley Rd.



2034 NP - AM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	^	7	ሻሻ	ተተተ	7	ሻሻ	^	7	ሻሻ	∱ ∱	
Traffic Volume (veh/h)	235	1592	150	388	1733	254	133	668	385	329	434	123
Future Volume (veh/h)	235	1592	150	388	1733	254	133	668	385	329	434	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	250	1694	160	413	1844	270	141	711	410	350	462	131
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	292	1558	581	406	1745	723	191	1000	446	353	914	257
Arrive On Green	0.09	0.30	0.30	0.13	0.34	0.34	0.06	0.28	0.28	0.11	0.33	0.33
Sat Flow, veh/h	3141	5187	1610	3141	5187	1610	3141	3610	1610	3141	2781	783
Grp Volume(v), veh/h	250	1694	160	413	1844	270	141	711	410	350	299	294
Grp Sat Flow(s),veh/h/ln	1570	1729	1610	1570	1729	1610	1570	1805	1610	1570	1805	1759
Q Serve(g_s), s	9.4	35.8	8.4	15.4	40.1	13.2	5.3	21.1	29.4	13.3	15.9	16.1
Cycle Q Clear(g_c), s	9.4	35.8	8.4	15.4	40.1	13.2	5.3	21.1	29.4	13.3	15.9	16.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.45
Lane Grp Cap(c), veh/h	292	1558	581	406	1745	723	191	1000	446	353	593	578
V/C Ratio(X)	0.85	1.09	0.28	1.02	1.06	0.37	0.74	0.71	0.92	0.99	0.50	0.51
Avail Cap(c_a), veh/h	292	1558	581	406	1745	723	258	1023	456	353	593	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.3	41.7	27.0	51.9	39.6	21.8	55.1	38.8	41.8	52.9	32.2	32.3
Incr Delay (d2), s/veh	20.3	50.6	0.3	49.3	38.4	0.3	4.3	2.3	23.5	45.4	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	22.4	3.3	8.8	22.9	5.0	2.2	9.6	14.5	7.4	7.0	7.0
Unsig. Movement Delay, s/veh		00.0	07.0	101.0	70.0	00.4	50.0	44.4	05.0	00.0	00.0	00.0
LnGrp Delay(d),s/veh	73.6	92.3	27.3	101.2	78.0	22.1	59.3	41.1	65.3	98.3	32.9	33.0
LnGrp LOS	<u>E</u>	F	С	F	F	С	E	D	E	F	C	<u>C</u>
Approach Vol, veh/h		2104			2527			1262			943	
Approach Delay, s/veh		85.1			75.8			51.0			57.2	
Approach LOS		F			Е			D			Е	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	39.2	20.0	42.0	11.8	45.4	15.7	46.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	13.4	33.8	15.4	35.8	9.8	37.4	11.1	40.1				
Max Q Clear Time (g_c+l1), s	15.3	31.4	17.4	37.8	7.3	18.1	11.4	42.1				
Green Ext Time (p_c), s	0.0	1.6	0.0	0.0	0.0	5.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			71.5									
HCM 6th LOS			Е									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	† †	7	1,1	ተተተ	7	1,1	† †	7	14.54	^	7
Traffic Volume (vph)	181	1187	176	456	1863	880	170	408	509	1079	818	520
Future Volume (vph)	181	1187	176	456	1863	880	170	408	509	1079	818	520
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	27.8	27.8	9.5	27.8	27.8	9.5	10.8		9.5	27.8	27.8
Total Split (s)	12.0	43.0	43.0	20.0	51.0	51.0	11.8	19.0		38.0	45.2	45.2
Total Split (%)	10.0%	35.8%	35.8%	16.7%	42.5%	42.5%	9.8%	15.8%		31.7%	37.7%	37.7%
Yellow Time (s)	3.5	4.8	4.8	3.5	4.8	4.8	3.5	4.8		3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	4.5	5.8	5.8	4.5	5.8		4.5	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	None
Act Effct Green (s)	7.5	37.2	37.2	15.5	45.2	45.2	7.3	13.2	120.0	33.5	39.4	39.4
Actuated g/C Ratio	0.06	0.31	0.31	0.13	0.38	0.38	0.06	0.11	1.00	0.28	0.33	0.33
v/c Ratio	0.92	1.03	0.29	1.12	0.89	0.89	0.88	1.00	0.32	1.22	0.67	0.84
Control Delay	101.8	74.6	5.0	126.8	41.1	22.1	95.7	96.4	0.5	147.7	37.9	40.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	101.8	74.6	5.0	126.8	41.1	22.1	95.7	96.4	0.5	147.7	37.9	40.0
LOS	F	Е	Α	F	D	С	F	F	Α	F	D	D
Approach Delay		69.8			48.1			51.4			87.4	
Approach LOS		E			D			D			F	

Cycle Length: 120

Actuated Cycle Length: 120 Natural Cycle: 130

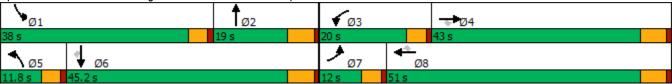
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.22 Intersection Signal Delay: 64.1 Intersection Capacity Utilization 110.2%

Intersection LOS: E ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 1: Armargosa Rd. & La Mesa Rd./Nisqualli Rd.



2034 NP - PM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,4	^	7	1,1	^ ^	7	44	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	181	1187	176	456	1863	880	170	408	509	1079	818	520
Future Volume (veh/h)	181	1187	176	456	1863	880	170	408	509	1079	818	520
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	185	1211	134	465	1901	561	173	416	0	1101	835	317
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	202	1178	499	418	2147	606	197	418		904	1248	529
Arrive On Green	0.06	0.31	0.31	0.13	0.38	0.38	0.06	0.11	0.00	0.28	0.33	0.33
Sat Flow, veh/h	3238	3800	1610	3238	5700	1610	3238	3800	1610	3238	3800	1610
Grp Volume(v), veh/h	185	1211	134	465	1901	561	173	416	0	1101	835	317
Grp Sat Flow(s),veh/h/ln	1619	1900	1610	1619	1900	1610	1619	1900	1610	1619	1900	1610
Q Serve(g_s), s	6.8	37.2	7.5	15.5	37.4	40.0	6.4	13.1	0.0	33.5	22.7	19.8
Cycle Q Clear(g_c), s	6.8	37.2	7.5	15.5	37.4	40.0	6.4	13.1	0.0	33.5	22.7	19.8
Prop In Lane	1.00	V	1.00	1.00	• • • • • • • • • • • • • • • • • • • •	1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	202	1178	499	418	2147	606	197	418		904	1248	529
V/C Ratio(X)	0.91	1.03	0.27	1.11	0.89	0.92	0.88	1.00		1.22	0.67	0.60
Avail Cap(c_a), veh/h	202	1178	499	418	2147	606	197	418		904	1248	529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	41.4	31.2	52.2	35.0	35.8	55.9	53.4	0.0	43.2	34.7	33.7
Incr Delay (d2), s/veh	39.4	33.6	0.3	77.9	4.9	20.2	32.2	42.7	0.0	108.2	1.4	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	22.1	2.9	10.6	17.3	18.2	3.4	8.6	0.0	26.4	10.3	7.7
Unsig. Movement Delay, s/veh		22.1	2.0	10.0	17.0	10.2	0.4	0.0	0.0	20.4	10.0	1.1
LnGrp Delay(d),s/veh	95.4	75.0	31.4	130.2	39.8	56.0	88.1	96.1	0.0	151.4	36.1	35.6
LnGrp LOS	55.4 F	7 5.0 F	C	F	D	50.0 E	F	50.1 F	0.0	101.4 F	D	D
Approach Vol, veh/h	<u> </u>	1530		<u> </u>	2927	<u> </u>	<u> </u>	589	Α	<u>'</u>	2253	
		73.7			57.3			93.7	А		92.4	
Approach LOS											92.4 F	
Approach LOS		Е			Е			F			Г	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	38.0	19.0	20.0	43.0	11.8	45.2	12.0	51.0				
Change Period (Y+Rc), s	4.5	5.8	4.5	5.8	4.5	5.8	4.5	5.8				
Max Green Setting (Gmax), s	33.5	13.2	15.5	37.2	7.3	39.4	7.5	45.2				
Max Q Clear Time (g_c+l1), s	35.5	15.1	17.5	39.2	8.4	24.7	8.8	42.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	5.6	0.0	2.9				
Intersection Summary												
HCM 6th Ctrl Delay			74.5									
HCM 6th LOS			74.5 E									
Notes			_									

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

2034 NP - PM Peak Hour Urban Crossroads, Inc.

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻሻ	7	^	7	ሻ	^
Traffic Volume (vph)	1254	60	1013	452	212	1199
Future Volume (vph)	1254	60	1013	452	212	1199
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.7	9.7	10.8	10.8	9.5	10.8
Total Split (s)	37.0	37.0	34.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	37.8%	21.1%	58.9%
Yellow Time (s)	3.7	3.7	4.8	4.8	3.5	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	5.8	5.8	4.5	5.8
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	32.3	32.3	28.8	28.8	13.9	47.2
Actuated g/C Ratio	0.36	0.36	0.32	0.32	0.15	0.52
v/c Ratio	1.09	0.10	0.95	0.58	0.83	0.69
Control Delay	81.2	5.8	48.7	5.4	61.8	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.2	5.8	48.7	5.4	61.8	18.3
LOS	F	Α	D	Α	Е	В
Approach Delay	77.7		35.3			24.8
Approach LOS	Е		D			С
Intersection Summary						
Cycle Length: 90						
Actuated Cycle Length: 90						
Offset: 0 (0%), Referenced		·NDT and	I G∙CDT C	Start of Cu	roon	
Natural Cycle: 90	to priase z	ווסו מווט.	10.3D1, 3	olail oi Gi	een	
,	ordinated					
Control Type: Actuated-Co Maximum v/c Ratio: 1.09	ordinated					
	1 E 1			I.		- I OC. D
Intersection Signal Delay:					ntersectio	
Intersection Capacity Utiliz	ation 88.0%			[(JU Level	of Service
Analysis Period (min) 15						
Splits and Phases: 2: Ar	margosa Ro	d. & I-15 S	SB Ramp	S		
	1 ♠.		-			
Ø1	9 1 92	(R)				
19 s	34 s					
▼ Ø6 (R)						Ι,
▼ 20 (K)						27

2034 NP - PM Peak Hour Urban Crossroads, Inc.

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Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	ሻሻ	7	^	7	ሻ	^	
Traffic Volume (veh/h)	1254	60	1013	452	212	1199	
Future Volume (veh/h)	1254	60	1013	452	212	1199	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	1363	65	1101	491	230	1303	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	1260	578	1182	527	266	1893	
Arrive On Green	0.36	0.36	0.33	0.33	0.15	0.52	
Sat Flow, veh/h	3510	1610	3705	1610	1810	3705	
Grp Volume(v), veh/h	1363	65	1101	491	230	1303	
Grp Sat Flow(s),veh/h/ln	1755	1610	1805	1610	1810	1805	
Q Serve(g_s), s	32.3	2.4	26.6	26.6	11.2	24.2	
Cycle Q Clear(g_c), s	32.3	2.4	26.6	26.6	11.2	24.2	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1260	578	1182	527	266	1893	
V/C Ratio(X)	1.08	0.11	0.93	0.93	0.87	0.69	
Avail Cap(c_a), veh/h	1260	578	1182	527	292	1893	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	0.26	0.26	1.00	1.00	
Uniform Delay (d), s/veh	28.8	19.3	29.3	29.3	37.5	15.9	
Incr Delay (d2), s/veh	50.6	0.0	4.7	9.2	21.5	2.1	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	20.6	0.8	11.3	10.7	6.3	9.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	79.4	19.3	33.9	38.5	59.0	18.0	
LnGrp LOS	F	В	С	D	E	В	
Approach Vol, veh/h	1428		1592			1533	
Approach Delay, s/veh	76.7		35.4			24.1	
Approach LOS	Е		D			С	
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	17.7	35.3				53.0	37.0
Change Period (Y+Rc), s	4.5	5.8				5.8	4.7
Max Green Setting (Gmax), s	14.5	28.2				47.2	32.3
Max Q Clear Time (g_c+l1), s	13.2	28.6				26.2	34.3
Green Ext Time (p_c), s	0.1	0.0				9.2	0.0
Intersection Summary							
HCM 6th Ctrl Delay			44.5				
HCM 6th LOS			D				

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Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	14.14	ተተተ	ተተተ	7	¥	4	7
Traffic Volume (vph)	371	2399	2561	531	632	0	576
Future Volume (vph)	371	2399	2561	531	632	0	576
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	7	4	8			2	
Permitted Phases				8	2		2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	10.8	22.8	22.8	11.5	11.5	11.5
Total Split (s)	14.0	60.0	46.0	46.0	30.0	30.0	30.0
Total Split (%)	15.6%	66.7%	51.1%	51.1%	33.3%	33.3%	33.3%
Yellow Time (s)	3.5	4.8	4.8	4.8	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	5.8	6.5	6.5	6.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	9.5	54.2	40.2	40.2	23.5	23.5	23.5
Actuated g/C Ratio	0.11	0.60	0.45	0.45	0.26	0.26	0.26
v/c Ratio	1.03	0.78	1.13	0.56	0.72	0.72	1.21
Control Delay	95.4	15.8	89.6	5.8	40.9	41.0	140.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.4	15.8	89.6	5.8	40.9	41.0	140.1
LOS	F	В	F	Α	D	D	F
Approach Delay		26.5	75.2			88.2	
Approach LOS		С	Е			F	

Cycle Length: 90 Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 110

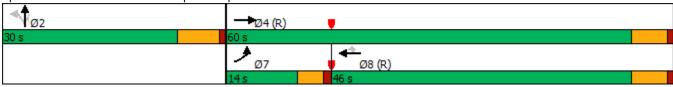
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.21

Intersection Signal Delay: 58.3 Intersection LOS: E
Intersection Capacity Utilization 92.3% ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 3: I-15 NB Ramps & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	ተተተ			ተተተ	7	J.	4	7			
Traffic Volume (veh/h)	371	2399	0	0	2561	531	632	0	576	0	0	0
Future Volume (veh/h)	371	2399	0	0	2561	531	632	0	576	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	379	2448	0	0	2613	404	645	0	440			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	371	3124	0	0	2317	719	945	0	420			
Arrive On Green	0.11	0.60	0.00	0.00	0.45	0.45	0.26	0.00	0.26			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	379	2448	0	0	2613	404	645	0	440			
Grp Sat Flow(s),veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	9.5	32.0	0.0	0.0	40.2	16.7	14.4	0.0	23.5			
Cycle Q Clear(g_c), s	9.5	32.0	0.0	0.0	40.2	16.7	14.4	0.0	23.5			
Prop In Lane	1.00	02.0	0.00	0.00	10.2	1.00	1.00	0.0	1.00			
Lane Grp Cap(c), veh/h	371	3124	0.00	0.00	2317	719	945	0	420			
V/C Ratio(X)	1.02	0.78	0.00	0.00	1.13	0.56	0.68	0.00	1.05			
Avail Cap(c_a), veh/h	371	3124	0.00	0.00	2317	719	945	0.00	420			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.15	0.15	0.00	0.00	0.09	0.09	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.3	13.5	0.0	0.0	24.9	18.4	29.9	0.00	33.3			
Incr Delay (d2), s/veh	24.1	0.3	0.0	0.0	58.1	0.3	2.0	0.0	56.6			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.1	10.0	0.0	0.0	26.8	5.6	5.9	0.0	14.8			
Unsig. Movement Delay, s/vel		10.0	0.0	0.0	20.0	3.0	5.5	0.0	14.0			
LnGrp Delay(d),s/veh	64.4	13.8	0.0	0.0	83.0	18.7	31.9	0.0	89.8			
LnGrp LOS	04.4 F	13.0 B	0.0 A	0.0 A	63.0 F	10.7 B	31.9 C	0.0 A	09.0 F			
	Г		A	A		D	U		Г			
Approach Vol, veh/h		2827			3017			1085				
Approach Delay, s/veh		20.6			74.4			55.4				
Approach LOS		С			E			Е				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		30.0		60.0			14.0	46.0				
Change Period (Y+Rc), s		6.5		5.8			4.5	5.8				
Max Green Setting (Gmax), s		23.5		54.2			9.5	40.2				
Max Q Clear Time (g_c+I1), s		25.5		34.0			11.5	42.2				
Green Ext Time (p_c), s		0.0		16.5			0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			49.5									
HCM 6th LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	ተተተ	7	1,1	ተተተ	7	ሻሻ	^	7	44	^	7
Traffic Volume (vph)	186	2183	626	166	2343	176	575	385	226	229	386	133
Future Volume (vph)	186	2183	626	166	2343	176	575	385	226	229	386	133
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	32.8	32.8	9.6	33.8	33.8	9.6	40.2	40.2	9.6	16.2	16.2
Total Split (s)	12.0	52.7	52.7	12.3	53.0	53.0	24.0	41.0	41.0	14.0	31.0	31.0
Total Split (%)	10.0%	43.9%	43.9%	10.3%	44.2%	44.2%	20.0%	34.2%	34.2%	11.7%	25.8%	25.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	7.4	46.9	46.9	7.7	47.2	47.2	19.4	27.7	27.7	9.4	17.7	17.7
Actuated g/C Ratio	0.07	0.42	0.42	0.07	0.42	0.42	0.17	0.25	0.25	0.08	0.16	0.16
v/c Ratio	0.92	1.02	0.71	0.79	1.09	0.23	1.08	0.44	0.46	0.89	0.69	0.35
Control Delay	98.2	58.9	16.2	77.9	81.8	5.8	106.8	37.6	18.4	85.4	51.7	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.2	58.9	16.2	77.9	81.8	5.8	106.8	37.6	18.4	85.4	51.7	7.5
LOS	F	Е	В	Е	F	Α	F	D	В	F	D	Α
Approach Delay		52.4			76.6			67.5			54.2	
Approach LOS		D			Е			Е			D	

Cycle Length: 120

Actuated Cycle Length: 113 Natural Cycle: 125

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.09 Intersection Signal Delay: 63.5

Intersection LOS: E ICU Level of Service F

Intersection Capacity Utilization 97.9%

Analysis Period (min) 15

Splits and Phases: 4: Mariposa & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	ተተተ	7	ሻሻ	ተተተ	7	ሻሻ	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	186	2183	626	166	2343	176	575	385	226	229	386	133
Future Volume (veh/h)	186	2183	626	166	2343	176	575	385	226	229	386	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	188	2205	632	168	2367	178	581	389	228	231	390	134
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	210	2196	682	218	2211	686	550	833	372	267	507	226
Arrive On Green	0.07	0.42	0.42	0.07	0.43	0.43	0.18	0.23	0.23	0.08	0.14	0.14
Sat Flow, veh/h	3141	5187	1610	3141	5187	1610	3141	3610	1610	3141	3610	1610
Grp Volume(v), veh/h	188	2205	632	168	2367	178	581	389	228	231	390	134
Grp Sat Flow(s),veh/h/ln	1570	1729	1610	1570	1729	1610	1570	1805	1610	1570	1805	1610
Q Serve(g_s), s	6.6	46.9	41.3	5.8	47.2	7.9	19.4	10.3	14.1	8.0	11.5	8.6
Cycle Q Clear(g_c), s	6.6	46.9	41.3	5.8	47.2	7.9	19.4	10.3	14.1	8.0	11.5	8.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	2196	682	218	2211	686	550	833	372	267	507	226
V/C Ratio(X)	0.90	1.00	0.93	0.77	1.07	0.26	1.06	0.47	0.61	0.87	0.77	0.59
Avail Cap(c_a), veh/h	210	2196	682	218	2211	686	550	1134	506	267	808	361
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	31.9	30.3	50.7	31.8	20.5	45.7	36.7	38.2	50.1	45.9	44.6
Incr Delay (d2), s/veh	34.4	20.1	18.8	14.0	41.3	0.2	54.0	0.4	1.6	23.7	2.5	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	22.1	18.3	2.6	26.6	2.9	11.4	4.4	5.5	3.9	5.1	3.5
Unsig. Movement Delay, s/veh		50.4	10.1	040	70.4	00.7	00.7	07.4	20.0	70.0	10.1	47.4
LnGrp Delay(d),s/veh	85.7	52.1	49.1	64.6	73.1	20.7	99.7	37.1	39.8	73.8	48.4	47.1
LnGrp LOS	F	F	D	E	F	С	F	D	D	E	D	<u>D</u>
Approach Vol, veh/h		3025			2713			1198			755	
Approach Delay, s/veh		53.5			69.2			68.0			55.9	
Approach LOS		D			Е			Е			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	31.8	12.3	52.7	24.0	21.8	12.0	53.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	9.4	34.8	7.7	46.9	19.4	24.8	7.4	47.2				
Max Q Clear Time (g_c+l1), s	10.0	16.1	7.8	48.9	21.4	13.5	8.6	49.2				
Green Ext Time (p_c), s	0.0	2.9	0.0	0.0	0.0	2.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			61.5									
HCM 6th LOS			E									

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	Ť	↑ ↑	7	↑ 1>	7	<u></u>	7	*	+	7	
Traffic Volume (vph)	128	1132	44	1419	280	319	55	60	391	107	
Future Volume (vph)	128	1132	44	1419	280	319	55	60	391	107	
Turn Type	Prot	NA	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	
Protected Phases	7	4	3	8	5	2	3	1	6		
Permitted Phases							2			6	
Detector Phase	7	4	3	8	5	2	3	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	30.8	9.6	30.8	9.6	25.8	9.6	9.6	15.8	15.8	
Total Split (s)	14.0	54.2	9.8	50.0	15.0	41.9	9.8	14.1	41.0	41.0	
Total Split (%)	11.7%	45.2%	8.2%	41.7%	12.5%	34.9%	8.2%	11.8%	34.2%	34.2%	
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	4.8	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	5.8	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Min	None	None	Min	Min	
Act Effct Green (s)	9.4	50.7	5.2	44.3	10.4	33.4	44.4	7.8	28.8	28.8	
Actuated g/C Ratio	0.08	0.45	0.05	0.39	0.09	0.29	0.39	0.07	0.25	0.25	
v/c Ratio	0.96	0.91	0.60	1.14	1.89	0.60	0.09	0.54	0.86	0.23	
Control Delay	119.0	40.7	85.6	106.0	451.4	40.5	4.8	69.3	58.3	7.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	119.0	40.7	85.6	106.0	451.4	40.5	4.8	69.3	58.3	7.7	
LOS	F	D	F	F	F	D	Α	Е	Е	Α	
Approach Delay		47.4		105.4		213.4			49.8		
Approach LOS		D		F		F			D		

Cycle Length: 120

Actuated Cycle Length: 113.8

Natural Cycle: 130

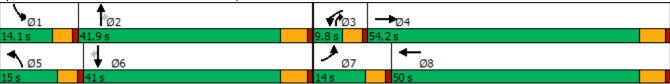
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.89
Intersection Signal Delay: 94.3
Intersection Capacity Utilization 104.0%

Intersection LOS: F
ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 5: 7th/Arrowhead Dr & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	∱ β		ሻ	∱ ∱		7	•	7	7	•	7
Traffic Volume (veh/h)	128	1132	238	44	1419	95	280	319	55	60	391	107
Future Volume (veh/h)	128	1132	238	44	1419	95	280	319	55	60	391	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	135	1192	251	46	1494	100	295	336	58	63	412	113
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	144	1320	276	58	1354	90	159	550	521	80	463	392
Arrive On Green	0.08	0.44	0.44	0.03	0.39	0.39	0.09	0.29	0.29	0.05	0.24	0.24
Sat Flow, veh/h	1714	2973	621	1714	3435	229	1714	1900	1610	1714	1900	1610
Grp Volume(v), veh/h	135	720	723	46	782	812	295	336	58	63	412	113
Grp Sat Flow(s),veh/h/ln	1714	1805	1788	1714	1805	1859	1714	1900	1610	1714	1900	1610
Q Serve(g_s), s	8.8	41.3	42.3	3.0	44.2	44.2	10.4	17.1	2.8	4.1	23.5	6.4
Cycle Q Clear(g_c), s	8.8	41.3	42.3	3.0	44.2	44.2	10.4	17.1	2.8	4.1	23.5	6.4
Prop In Lane	1.00		0.35	1.00		0.12	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	802	794	58	712	733	159	550	521	80	463	392
V/C Ratio(X)	0.94	0.90	0.91	0.79	1.10	1.11	1.85	0.61	0.11	0.79	0.89	0.29
Avail Cap(c_a), veh/h	144	802	794	80	712	733	159	612	573	145	597	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	28.8	29.1	53.7	33.9	33.9	50.8	34.4	26.6	52.9	41.0	34.5
Incr Delay (d2), s/veh	56.2	12.9	14.5	21.3	63.9	67.0	407.8	1.5	0.1	6.3	12.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	19.4	19.9	1.6	30.6	32.1	22.4	7.9	1.1	1.8	12.1	2.5
Unsig. Movement Delay, s/veh		44.7	40.0	75.4	07.0	400.0	450.7	05.0	00.7	50. 4	50.0	040
LnGrp Delay(d),s/veh	107.3	41.7	43.6	75.1	97.8	100.9	458.7	35.9	26.7	59.1	53.9	34.9
LnGrp LOS	F	D	D	E	F	F	F	D	С	E	D	<u>C</u>
Approach Vol, veh/h		1578			1640			689			588	
Approach Delay, s/veh		48.2			98.7			216.1			50.8	
Approach LOS		D			F			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	38.3	8.4	55.6	15.0	33.1	14.0	50.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	9.5	36.1	5.2	48.4	10.4	35.2	9.4	44.2				
Max Q Clear Time (g_c+l1), s	6.1	19.1	5.0	44.3	12.4	25.5	10.8	46.2				
Green Ext Time (p_c), s	0.0	1.8	0.0	2.9	0.0	1.8	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			92.7									
HCM 6th LOS			F									

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Lane Group	EBL	EBR	NBL	NBT	SBT		
Lane Configurations	ሻ	77	ሻሻ	^	† Ъ		
Traffic Volume (vph)	176	671	643	1417	1400		
Future Volume (vph)	176	671	643	1417	1400		
Turn Type	Prot	pm+ov	Prot	NA	NA		
Protected Phases	4	5	5	2	6		
Permitted Phases		4					
Detector Phase	4	5	5	2	6		
Switch Phase							
/linimum Initial (s)	5.0	10.0	10.0	10.0	10.0		
/linimum Split (s)	26.6	15.8	15.8	16.2	28.2		
otal Split (s)	26.6	36.0	36.0	93.4	57.4		
otal Split (%)	22.2%	30.0%	30.0%	77.8%	47.8%		
'ellow Time (s)	3.6	4.8	4.8	5.2	5.2		
II-Red Time (s)	1.0	1.0	1.0	1.0	1.0		
ost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
otal Lost Time (s)	4.6	5.8	5.8	6.2	6.2		
ead/Lag		Lead	Lead		Lag		
ead-Lag Optimize?		Yes	Yes		Yes		
ecall Mode	None	None	None	Min	Min		
ct Effct Green (s)	16.3	49.5	28.5	85.1	50.8		
ctuated g/C Ratio	0.15	0.44	0.25	0.76	0.45		
c Ratio	0.76	0.57	0.87	0.56	0.92		
ontrol Delay	66.3	24.8	53.5	7.1	40.6		
ueue Delay	0.0	0.0	0.0	0.0	0.0		
otal Delay	66.3	24.8	53.5	7.1	40.6		
os ,	Е	С	D	Α	D		
pproach Delay	33.4			21.5	40.6		
proach LOS	С			С	D		
tersection Summary							
ycle Length: 120							
ycle Length: 120 ctuated Cycle Length: 112.	2						
atural Cycle: 110	J						
atural Cycle. TT0 ontrol Type: Actuated-Unco	ordinator	4					
aximum v/c Ratio: 0.92	Jorumalet	J					
tersection Signal Delay: 30) 1			l.	ntersection LOS: C		
tersection Capacity Utilizat		<u>'</u>			CU Level of Service	F	
nalysis Period (min) 15		0		10	OO LEVEL OF ORIVICE		
, ,							
Splits and Phases: 6: Hes	peria Rd.	& Green	Tree Bl.				
↑ ø2							₹ Ø4
93.4s							26.6 s
\$ as		1	ac .				
3 Ø5		57.4	Ø6				

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		77	ሻሻ	^	∱ Ъ	
Traffic Volume (veh/h)	176	671	643	1417	1400	2
Future Volume (veh/h)	176	671	643	1417	1400	2
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1800	1900	1700	1900	1900	1900
Adj Flow Rate, veh/h	189	722	691	1524	1505	2
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	322	1209	749	2599	1597	2
Arrive On Green	0.19	0.19	0.24	0.72	0.43	0.43
Sat Flow, veh/h	1714	2834	3141	3705	3794	5
Grp Volume(v), veh/h	189	722	691	1524	734	773
Grp Sat Flow(s),veh/h/ln	1714	1417	1570	1805	1805	1899
Q Serve(g_s), s	11.8	22.0	25.2	24.0	45.6	45.6
Cycle Q Clear(g_c), s	11.8	22.0	25.2	24.0	45.6	45.6
Prop In Lane	1.00	1.00	1.00			0.00
Lane Grp Cap(c), veh/h	322	1209	749	2599	779	820
V/C Ratio(X)	0.59	0.60	0.92	0.59	0.94	0.94
Avail Cap(c_a), veh/h	322	1209	810	2688	789	830
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.4	25.8	43.5	7.9	31.9	31.9
Incr Delay (d2), s/veh	1.9	0.6	15.2	0.3	19.3	18.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.1	10.9	7.1	22.4	23.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.3	26.4	58.8	8.3	51.1	50.5
LnGrp LOS	D	С	E	Α	D	D
Approach Vol, veh/h	911			2215	1507	
Approach Delay, s/veh	30.3			24.0	50.8	
Approach LOS	C			C C	D	
		2				6
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		90.5		26.6	33.7	56.8
Change Period (Y+Rc), s		6.2		4.6	5.8	6.2
Max Green Setting (Gmax), s		87.2		22.0	30.2	51.2
Max Q Clear Time (g_c+l1), s		26.0		24.0	27.2	47.6
Green Ext Time (p_c), s		23.6		0.0	8.0	2.9
Intersection Summary						
HCM 6th Ctrl Delay			34.0			
HCM 6th LOS			С			
110.01 0.11 2.00			J			

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		ሻ	ħβ		ሻ	↑ ↑	
Traffic Vol, veh/h	7	0	20	2	0	18	36	2035	0	9	2057	5
Future Vol, veh/h	7	0	20	2	0	18	36	2035	0	9	2057	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	_	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage	e,# -	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	0	22	2	0	19	39	2188	0	10	2212	5
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	3407	4501	1109	3392	4503	1094	2217	0	0	2188	0	0
Stage 1	2235	2235	-	2266	2266	-	-	-	-	-	-	-
Stage 2	1172	2266	-	1126	2237	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 3	1	207	3	1	212	239	-	-	246	-	-
Stage 1	45	80	-	43	77	-	-	-	-	-	-	-
Stage 2	208	77	-	222	80	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 2	1	207	~ 2	1	212	239	-	-	246	-	-
Mov Cap-2 Maneuver	34	40	-	33	30	-	-	-	-	-	-	-
Stage 1	38	77	-	36	64	-	-	-	-	-	-	-
Stage 2	158	64	-	191	77	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	63.9			36.1			0.4			0.1		
HCM LOS	F			Е								
Minor Lane/Major Mvm	nt	NBL	NBT	NBR I	EBLn1\	VBLn1	SBL	SBT	SBR			
Capacity (veh/h)		239	-	-	89	137	246	-	_			
HCM Lane V/C Ratio		0.162	-	-	0.326	0.157	0.039	-	-			
HCM Control Delay (s)		23	-	-	63.9	36.1	20.2	-	-			
HCM Lane LOS		С	-	-	F	Е	С	-	-			
HCM 95th %tile Q(veh)	0.6	-	-	1.2	0.5	0.1	-	-			
Notes												
~: Volume exceeds ca	pacity	\$: De	elay exc	ceeds 3	00s	+: Com	putation	n Not D	efined	*: All	major	volume
	•											

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Configurations	44		77	ř	↑ ↑	44	∱ }	ň	↑ ↑	
Traffic Volume (vph)	183	74	517	119	79	567	1728	23	1970	
Future Volume (vph)	183	74	517	119	79	567	1728	23	1970	
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA	
Protected Phases	7	4	5	3	8	5	2	1	6	
Permitted Phases			4							
Detector Phase	7	4	5	3	8	5	2	1	6	
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	32.8	9.6	9.6	30.8	9.6	27.2	9.6	33.2	
Total Split (s)	11.6	32.8	20.0	9.6	30.8	20.0	68.0	9.6	57.6	
Total Split (%)	9.7%	27.3%	16.7%	8.0%	25.7%	16.7%	56.7%	8.0%	48.0%	
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Min	None	Min	
Act Effct Green (s)	7.0	11.8	29.8	8.6	10.2	15.4	67.6	5.0	51.4	
Actuated g/C Ratio	0.07	0.11	0.28	0.08	0.10	0.15	0.64	0.05	0.49	
v/c Ratio	0.91	0.36	0.66	0.88	0.38	1.28	0.83	0.30	1.24	
Control Delay	92.5	48.1	36.9	103.7	28.2	178.4	19.5	58.3	141.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	92.5	48.1	36.9	103.7	28.2	178.4	19.5	58.3	141.3	
LOS	F	D	D	F	С	F	В	Е	F	
Approach Delay		51.1			62.9		56.9		140.4	
Approach LOS		D			Е		Е		F	

Cycle Length: 120

Actuated Cycle Length: 105.2

Natural Cycle: 130

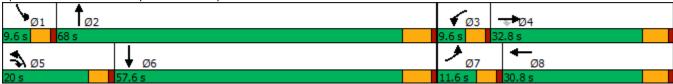
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.28
Intersection Signal Delay: 88.3
Intersection Capacity Utilization 110.0%

Intersection LOS: F
ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 8: Hesperia Rd. & Nisqualli Rd.



2034 NP - PM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	+	77	ሻ	∱ ∱		ሻሻ	∱ ⊅		ሻ	∱ ∱	
Traffic Volume (veh/h)	183	74	517	119	79	62	567	1728	119	23	1970	141
Future Volume (veh/h)	183	74	517	119	79	62	567	1728	119	23	1970	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	1700	No	1000	1000	No	1000	1700	No 1900	1000	1000	No	1000
Adj Sat Flow, veh/h/ln Adj Flow Rate, veh/h	1700 189	1900 76	1900 533	1800 123	1900 81	1900 64	1700 585	1781	1900 123	1800 24	1900 2031	1900 145
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Cap, veh/h	192	357	914	75	342	246	422	1920	131	40	1535	108
Arrive On Green	0.06	0.19	0.19	0.04	0.17	0.17	0.13	0.56	0.56	0.02	0.45	0.45
Sat Flow, veh/h	3141	1900	2834	1714	2004	1442	3141	3429	234	1714	3420	241
Grp Volume(v), veh/h	189	76	533	123	72	73	585	928	976	24	1060	1116
Grp Sat Flow(s), veh/h/ln	1570	1900	1417	1714	1805	1640	1570	1805	1858	1714	1805	1857
Q Serve(g_s), s	6.9	3.9	18.0	5.0	4.0	4.4	15.4	53.4	55.7	1.6	51.4	51.4
Cycle Q Clear(g_c), s	6.9	3.9	18.0	5.0	4.0	4.4	15.4	53.4	55.7	1.6	51.4	51.4
Prop In Lane	1.00		1.00	1.00		0.88	1.00		0.13	1.00		0.13
Lane Grp Cap(c), veh/h	192	357	914	75	308	280	422	1011	1040	40	810	833
V/C Ratio(X)	0.98	0.21	0.58	1.64	0.23	0.26	1.39	0.92	0.94	0.60	1.31	1.34
Avail Cap(c_a), veh/h	192	448	1049	75	394	358	422	1011	1040	75	810	833
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.7	39.3	32.4	54.8	41.0	41.2	49.6	22.8	23.3	55.4	31.6	31.6
Incr Delay (d2), s/veh	60.1	0.3	0.6	341.6	0.4	0.5	187.5	13.0	15.2	5.3	147.7	160.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	1.8	6.0	9.2	1.7	1.8	16.8	23.1	25.3	0.7	53.5	58.0
Unsig. Movement Delay, s/veh		00.0	00.0	000.4	44.4	44.7	007.0	05.0	00.0	00 7	470.0	100.0
LnGrp Delay(d),s/veh	113.8	39.6	33.0	396.4	41.4	41.7	237.0	35.8	38.6	60.7	179.3	192.3
LnGrp LOS	F	D	С	F	D	D	F	D	D	E	F	F
Approach Vol, veh/h		798			268			2489			2200	
Approach LOS		52.8			204.4			84.2			184.6	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	70.3	9.6	27.3	20.0	57.6	11.6	25.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.0	61.8	5.0	27.0	15.4	51.4	7.0	25.0				
Max Q Clear Time (g_c+l1), s	3.6	57.7	7.0	20.0	17.4	53.4	8.9	6.4				
Green Ext Time (p_c), s	0.0	3.5	0.0	1.6	0.0	0.0	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			123.8									
HCM 6th LOS			F									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Configurations	1,1	ተተተ	7	77	ተተተ	7	77	^	7	14.54	∱ ∱	
Traffic Volume (vph)	177	2108	136	399	1844	214	269	600	439	524	811	
Future Volume (vph)	177	2108	136	399	1844	214	269	600	439	524	811	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	31.2	9.6	9.6	33.2	9.6	9.6	39.2	39.2	9.6	37.2	
Total Split (s)	11.0	44.0	13.0	16.0	49.0	18.0	13.0	42.0	42.0	18.0	47.0	
Total Split (%)	9.2%	36.7%	10.8%	13.3%	40.8%	15.0%	10.8%	35.0%	35.0%	15.0%	39.2%	
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	6.4	37.9	52.5	11.4	42.9	62.5	8.4	33.4	33.4	13.4	38.4	
Actuated g/C Ratio	0.05	0.32	0.45	0.10	0.36	0.53	0.07	0.28	0.28	0.11	0.33	
v/c Ratio	1.06	1.29	0.17	1.34	1.00	0.24	1.22	0.60	0.75	1.50	0.88	
Control Delay	139.6	169.5	2.9	215.6	57.8	11.0	180.1	39.0	29.6	275.8	46.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	139.6	169.5	2.9	215.6	57.8	11.0	180.1	39.0	29.6	275.8	46.6	
LOS	F	F	Α	F	Е	В	F	D	С	F	D	
Approach Delay		158.0			79.3			64.8			125.2	
Approach LOS		F			Е			Е			F	

Cycle Length: 120
Actuated Cycle Length: 117.7

Natural Cycle: 125

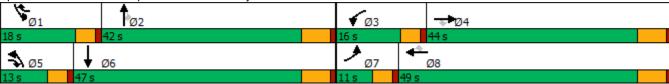
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.50

Intersection Signal Delay: 110.6 Intersection LOS: F
Intersection Capacity Utilization 108.6% ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 9: Hesperia Rd. & Bear Valley Rd.



2034 NP - PM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	^	7	44	^	7	ሻሻ	^	7	ሻሻ	ħβ	
Traffic Volume (veh/h)	177	2108	136	399	1844	214	269	600	439	524	811	192
Future Volume (veh/h)	177	2108	136	399	1844	214	269	600	439	524	811	192
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	181	2151	139	407	1882	218	274	612	448	535	828	196
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	168	1641	623	300	1858	757	221	1066	475	352	976	231
Arrive On Green	0.05	0.32	0.32	0.10	0.36	0.36	0.07	0.30	0.30	0.11	0.34	0.34
Sat Flow, veh/h	3141	5187	1610	3141	5187	1610	3141	3610	1610	3141	2896	685
Grp Volume(v), veh/h	181	2151	139	407	1882	218	274	612	448	535	516	508
Grp Sat Flow(s),veh/h/ln	1570	1729	1610	1570	1729	1610	1570	1805	1610	1570	1805	1777
Q Serve(g_s), s	6.4	37.8	6.9	11.4	42.8	9.9	8.4	17.2	32.5	13.4	31.7	31.7
Cycle Q Clear(g_c), s	6.4	37.8	6.9	11.4	42.8	9.9	8.4	17.2	32.5	13.4	31.7	31.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	168	1641	623	300	1858	757	221	1066	475	352	608	599
V/C Ratio(X)	1.08	1.31	0.22	1.36	1.01	0.29	1.24	0.57	0.94	1.52	0.85	0.85
Avail Cap(c_a), veh/h	168	1641	623	300	1858	757	221	1082	482	352	616	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	40.8	24.6	54.0	38.3	19.4	55.5	35.7	41.1	53.0	36.8	36.8
Incr Delay (d2), s/veh	91.0	144.3	0.2	181.3	24.1	0.2	140.7	0.7	27.0	247.5	10.6	10.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	37.8	2.7	12.0	21.9	3.7	7.5	7.3	16.3	17.2	14.9	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	147.5	185.1	24.8	235.4	62.4	19.6	196.2	36.5	68.1	300.5	47.4	47.6
LnGrp LOS	F	F	С	F	F	В	F	D	E	F	D	<u>D</u>
Approach Vol, veh/h		2471			2507			1334			1559	
Approach Delay, s/veh		173.4			86.8			79.9			134.3	
Approach LOS		F			F			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	41.5	16.0	44.0	13.0	46.5	11.0	49.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	13.4	35.8	11.4	37.8	8.4	40.8	6.4	42.8				
Max Q Clear Time (g_c+l1), s	15.4	34.5	13.4	39.8	10.4	33.7	8.4	44.8				
Green Ext Time (p_c), s	0.0	0.8	0.0	0.0	0.0	4.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			122.2									
HCM 6th LOS			F									

APPENDIX 6.2:

FUTURE YEAR (2034) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS

ANALYSIS WORKSHEETS

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	^	7	1/1	ተተተ	7	ሻሻ	^	7	77	^	7
Traffic Volume (vph)	230	1040	90	135	598	803	29	142	99	512	260	139
Future Volume (vph)	230	1040	90	135	598	803	29	142	99	512	260	139
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	27.8	27.8	9.5	27.8	27.8	9.5	10.8		9.5	27.8	27.8
Total Split (s)	14.0	40.6	40.6	12.1	38.7	38.7	9.5	14.2		23.1	27.8	27.8
Total Split (%)	15.6%	45.1%	45.1%	13.4%	43.0%	43.0%	10.6%	15.8%		25.7%	30.9%	30.9%
Yellow Time (s)	3.5	4.8	4.8	3.5	4.8	4.8	3.5	4.8		3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	4.5	5.8	5.8	4.5	5.8		4.5	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	Max		None	Max	Max
Act Effct Green (s)	9.2	35.2	35.2	7.2	33.2	33.2	5.0	9.2	90.0	17.8	25.8	25.8
Actuated g/C Ratio	0.10	0.39	0.39	0.08	0.37	0.37	0.06	0.10	1.00	0.20	0.29	0.29
v/c Ratio	0.76	0.76	0.13	0.57	0.31	0.92	0.18	0.40	0.07	0.87	0.26	0.26
Control Delay	55.1	28.0	0.4	56.9	15.2	31.1	43.0	41.6	0.1	51.2	25.2	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	28.0	0.4	56.9	15.2	31.1	43.0	41.6	0.1	51.2	25.2	6.4
LOS	Е	С	Α	Е	В	С	D	D	Α	D	С	Α
Approach Delay		30.7			27.2			26.5			36.9	
Approach LOS		С			С			С			D	

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 90

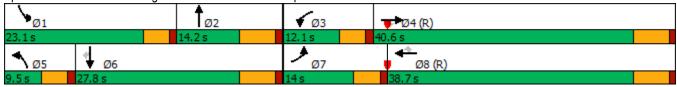
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 30.5 Intersection LOS: C
Intersection Capacity Utilization 74.6% ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Armargosa Rd. & La Mesa Rd./Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,4	^	7	1,1	^	7	ሻሻ	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	230	1040	90	135	598	803	29	142	99	512	260	139
Future Volume (veh/h)	230	1040	90	135	598	803	29	142	99	512	260	139
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	250	1130	98	147	650	656	32	154	0	557	283	151
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	317	1593	675	214	2208	624	99	355		624	970	411
Arrive On Green	0.10	0.42	0.42	0.02	0.13	0.13	0.03	0.09	0.00	0.19	0.26	0.26
Sat Flow, veh/h	3238	3800	1610	3238	5700	1610	3238	3800	1610	3238	3800	1610
Grp Volume(v), veh/h	250	1130	98	147	650	656	32	154	0	557	283	151
Grp Sat Flow(s),veh/h/ln	1619	1900	1610	1619	1900	1610	1619	1900	1610	1619	1900	1610
Q Serve(g_s), s	6.8	22.1	3.4	4.1	9.3	34.9	0.9	3.4	0.0	15.1	5.4	6.9
Cycle Q Clear(g_c), s	6.8	22.1	3.4	4.1	9.3	34.9	0.9	3.4	0.0	15.1	5.4	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	317	1593	675	214	2208	624	99	355		624	970	411
V/C Ratio(X)	0.79	0.71	0.15	0.69	0.29	1.05	0.32	0.43		0.89	0.29	0.37
Avail Cap(c_a), veh/h	342	1593	675	273	2208	624	180	355		669	970	411
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	0.00	0.59	0.59	0.59
Uniform Delay (d), s/veh	39.7	21.6	16.2	43.1	28.1	39.2	42.7	38.6	0.0	35.4	27.0	27.5
Incr Delay (d2), s/veh	9.7	2.7	0.5	2.1	0.3	46.2	0.7	3.8	0.0	8.4	0.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	9.4	1.2	1.7	4.4	22.7	0.3	1.7	0.0	6.3	2.4	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	24.3	16.6	45.2	28.4	85.4	43.4	42.4	0.0	43.8	27.4	29.0
LnGrp LOS	D	C	В	D	С	F	D	D		D	С	С
Approach Vol, veh/h		1478			1453			186	А		991	
Approach Delay, s/veh		28.0			55.8			42.6	, ,		36.9	
Approach LOS		C			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.8	14.2	10.4	43.5	7.3	28.8	13.3	40.7				
Change Period (Y+Rc), s	4.5	5.8	4.5	5.8	4.5	5.8	4.5	5.8				
Max Green Setting (Gmax), s	18.6	8.4	7.6	34.8	5.0	22.0	9.5	32.9				
Max Q Clear Time (g_c+l1), s	17.1	5.4	6.1	24.1	2.9	8.9	8.8	36.9				
Green Ext Time (p_c), s	0.2	0.2	0.0	5.5	0.0	1.7	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			40.7									
HCM 6th LOS			D									
Notes												

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

2034 WP - AM Peak Hour Urban Crossroads, Inc.

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	ሻሻ	7	^	7	*	† †
Traffic Volume (vph)	1026	47	828	427	177	970
Future Volume (vph)	1026	47	828	427	177	970
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.7	9.7	10.8	10.8	9.5	10.8
Total Split (s)	36.0	36.0	34.0	34.0	20.0	54.0
Total Split (%)	40.0%	40.0%	37.8%	37.8%	22.2%	60.0%
Yellow Time (s)	3.7	3.7	4.8	4.8	3.5	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	5.8	5.8	4.5	5.8
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	30.5	30.5	31.0	31.0	13.5	49.0
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.15	0.54
v/c Ratio	0.94	0.09	0.72	0.54	0.71	0.54
Control Delay	44.5	6.5	26.3	3.6	51.0	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	6.5	26.3	3.6	51.0	14.7
LOS	D	Α	C	Α	D	В
Approach Delay	42.9	A	18.6	А	D	20.3
Approach LOS	72.3 D		В			20.5 C
	D		Б			U
Intersection Summary						
Cycle Length: 90						
Actuated Cycle Length: 90						
Offset: 0 (0%), Referenced	to phase 2	:NBT and	l 6:SBT, S	Start of G	reen	
Natural Cycle: 70						
Control Type: Actuated-Coo	ordinated					
Maximum v/c Ratio: 0.94						
Intersection Signal Delay: 2					ntersectio	
Intersection Capacity Utiliza	ation 74.5%)		[(CU Level	of Service
Analysis Period (min) 15						
Splits and Phases: 2: Arr	nargosa Ro	1 0 1 1 5 0	CD Domn	•		
Spills and Friases. 2. An	liaigusa Ku	J. & I-13 (36 Kallip	<u> </u>		
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▼ Ø6 (R)	•					

2034 WP - AM Peak Hour Urban Crossroads, Inc.

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Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations	7676	7	^	7	ሻ	^	
Traffic Volume (veh/h)	1026	47	828	427	177	970	
Future Volume (veh/h)	1026	47	828	427	177	970	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	
Adj Flow Rate, veh/h	1115	51	900	464	192	1054	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	0	0	0	0	0	0	
Cap, veh/h	1183	543	1334	595	230	1972	
Arrive On Green	0.34	0.34	0.12	0.12	0.13	0.55	
Sat Flow, veh/h	3510	1610	3705	1610	1810	3705	
Grp Volume(v), veh/h	1115	51	900	464	192	1054	
Grp Sat Flow(s),veh/h/ln	1755	1610	1805	1610	1810	1805	
Q Serve(g_s), s	27.8	2.0	21.5	25.2	9.3	16.8	
Cycle Q Clear(g_c), s	27.8	2.0	21.5	25.2	9.3	16.8	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1183	543	1334	595	230	1972	
V/C Ratio(X)	0.94	0.09	0.67	0.78	0.84	0.53	
Avail Cap(c_a), veh/h	1221	560	1334	595	312	1972	
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00	
Upstream Filter(I)	1.00	1.00	0.45	0.45	1.00	1.00	
Uniform Delay (d), s/veh	29.0	20.4	34.3	36.0	38.4	13.1	
Incr Delay (d2), s/veh	13.7	0.0	1.2	4.6	13.5	1.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	12.5	0.7	10.4	11.4	4.8	6.1	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	42.7	20.5	35.6	40.6	51.9	14.1	
LnGrp LOS	D	С	D	D	D	В	
Approach Vol, veh/h	1166		1364			1246	
Approach Delay, s/veh	41.7		37.3			19.9	
Approach LOS	D		D			В	
Timer - Assigned Phs	1	2				6	8
	15.9					55.0	35.0
Phs Duration (G+Y+Rc), s		39.0					4.7
Change Period (Y+Rc), s	4.5	5.8				5.8	
Max Green Setting (Gmax), s	15.5	28.2				48.2	31.3 29.8
Max Q Clear Time (g_c+l1), s		27.2				18.8	
Green Ext Time (p_c), s	0.2	0.7				7.9	0.6
Intersection Summary							
HCM 6th Ctrl Delay			32.9				
HCM 6th LOS			С				

	•	→	←	•	1	†	/
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	44	ተተተ	ተተተ	7	¥	4	7
Traffic Volume (vph)	252	1558	1318	418	230	1	374
Future Volume (vph)	252	1558	1318	418	230	1	374
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	7	4	8			2	
Permitted Phases				8	2		2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	10.8	22.8	22.8	11.5	11.5	11.5
Total Split (s)	17.0	57.0	40.0	40.0	33.0	33.0	33.0
Total Split (%)	18.9%	63.3%	44.4%	44.4%	36.7%	36.7%	36.7%
Yellow Time (s)	3.5	4.8	4.8	4.8	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	5.8	6.5	6.5	6.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	10.9	55.0	39.6	39.6	22.7	22.7	22.7
Actuated g/C Ratio	0.12	0.61	0.44	0.44	0.25	0.25	0.25
v/c Ratio	0.65	0.53	0.63	0.47	0.29	0.29	0.86
Control Delay	43.8	10.9	22.2	3.8	27.7	27.7	43.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	10.9	22.2	3.8	27.7	27.7	43.2
LOS	D	В	С	Α	С	С	D
Approach Delay		15.5	17.7			37.3	
Approach LOS		В	В			D	
Intersection Summary							
Ovela Langth, 00							

Cycle Length: 90 Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 50

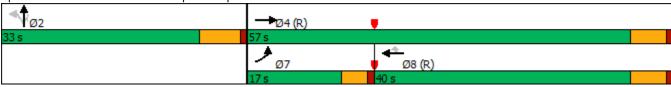
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 19.6 Intersection LOS: B
Intersection Capacity Utilization 63.5% ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 3: I-15 NB Ramps & Nisqualli Rd.



2034 WP - AM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	ተተተ			ተተተ	7	ሻ	4	7			
Traffic Volume (veh/h)	252	1558	0	0	1318	418	230	1	374	0	0	0
Future Volume (veh/h)	252	1558	0	0	1318	418	230	1	374	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	274	1693	0	0	1433	454	251	0	407			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	350	3053	0	0	2276	707	994	0	442			
Arrive On Green	0.13	0.78	0.00	0.00	0.44	0.44	0.27	0.00	0.27			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	274	1693	0	0	1433	454	251	0	407			
Grp Sat Flow(s),veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	6.8	11.3	0.0	0.0	19.3	19.8	4.9	0.0	22.1			
Cycle Q Clear(g_c), s	6.8	11.3	0.0	0.0	19.3	19.8	4.9	0.0	22.1			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	350	3053	0	0	2276	707	994	0	442			
V/C Ratio(X)	0.78	0.55	0.00	0.00	0.63	0.64	0.25	0.00	0.92			
Avail Cap(c_a), veh/h	488	3053	0	0	2276	707	1066	0	474			
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.57	0.57	0.00	0.00	0.78	0.78	1.00	0.00	1.00			
Uniform Delay (d), s/veh	38.1	5.2	0.0	0.0	19.6	19.7	25.4	0.0	31.7			
Incr Delay (d2), s/veh	2.0	0.4	0.0	0.0	1.0	3.5	0.1	0.0	22.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.8	2.5	0.0	0.0	7.1	7.3	1.9	0.0	10.4			
Unsig. Movement Delay, s/veh			0.0	0.0				0.0				
LnGrp Delay(d),s/veh	40.1	5.7	0.0	0.0	20.6	23.2	25.6	0.0	54.1			
LnGrp LOS	D	A	A	A	C	C	C	A	D			
Approach Vol, veh/h		1967			1887			658				
Approach Delay, s/veh		10.5			21.2			43.2				
Approach LOS		В			C C			TO.2				
Timer - Assigned Phs		2		4			7	8				
							•					
Phs Duration (G+Y+Rc), s		31.2		58.8			13.5	45.3				
Change Period (Y+Rc), s		6.5		5.8			4.5	5.8				
Max Green Setting (Gmax), s		26.5		51.2			12.5	34.2				
Max Q Clear Time (g_c+l1), s		24.1		13.3			8.8	21.8				
Green Ext Time (p_c), s		0.7		16.2			0.2	8.3				
Intersection Summary			40.7									
HCM 6th Ctrl Delay			19.7									
HCM 6th LOS			В									
Notes												

User approved volume balancing among the lanes for turning movement.

2034 WP - AM Peak Hour Urban Crossroads, Inc.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	ተተተ	7	1,1	ተተተ	7	1,4	^	7	1,4	† †	7
Traffic Volume (vph)	62	1526	340	115	1373	109	281	160	100	75	113	80
Future Volume (vph)	62	1526	340	115	1373	109	281	160	100	75	113	80
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	32.8	32.8	9.6	33.8	33.8	9.6	40.2	40.2	9.6	16.2	16.2
Total Split (s)	11.0	49.0	49.0	14.0	52.0	52.0	22.0	45.0	45.0	12.0	35.0	35.0
Total Split (%)	9.2%	40.8%	40.8%	11.7%	43.3%	43.3%	18.3%	37.5%	37.5%	10.0%	29.2%	29.2%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	6.0	40.8	40.8	8.0	45.1	45.1	13.4	19.4	19.4	6.5	10.2	10.2
Actuated g/C Ratio	0.06	0.43	0.43	0.09	0.48	0.48	0.14	0.21	0.21	0.07	0.11	0.11
v/c Ratio	0.34	0.73	0.43	0.47	0.59	0.14	0.67	0.23	0.26	0.37	0.31	0.28
Control Delay	49.2	24.5	6.8	48.5	19.8	1.5	46.8	34.3	8.6	48.8	42.9	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	24.5	6.8	48.5	19.8	1.5	46.8	34.3	8.6	48.8	42.9	2.8
LOS	D	С	Α	D	В	Α	D	С	Α	D	D	Α
Approach Delay		22.2			20.6			36.0			32.6	
Approach LOS		С			С			D			С	

Cycle Length: 120

Actuated Cycle Length: 93.8

Natural Cycle: 95

Control Type: Actuated-Uncoordinated

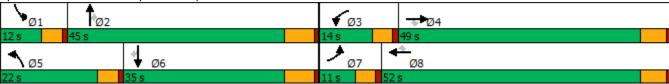
Maximum v/c Ratio: 0.73

Intersection Signal Delay: 24.0 Intersection Capacity Utilization 68.6% Intersection LOS: C

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 4: Mariposa & Nisqualli Rd.



2034 WP - AM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	ተተተ	7	ሻሻ	^	7	ሻሻ	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	62	1526	340	115	1373	109	281	160	100	75	113	80
Future Volume (veh/h)	62	1526	340	115	1373	109	281	160	100	75	113	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	4700	No	1000	4700	No	1000	4700	No	1000	4700	No	4000
Adj Sat Flow, veh/h/ln	1700 67	1900	1900 366	1700 124	1900	1900 117	1700 302	1900 172	1900 108	1700 81	1900 122	1900
Adj Flow Rate, veh/h Peak Hour Factor	0.93	1641 0.93	0.93	0.93	1476 0.93	0.93	0.93	0.93	0.93	0.93	0.93	86 0.93
Percent Heavy Veh, %	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Cap, veh/h	150	2269	704	189	2332	724	383	695	310	161	440	196
Arrive On Green	0.05	0.44	0.44	0.06	0.45	0.45	0.12	0.19	0.19	0.05	0.12	0.12
Sat Flow, veh/h	3141	5187	1610	3141	5187	1610	3141	3610	1610	3141	3610	1610
Grp Volume(v), veh/h	67	1641	366	124	1476	117	302	172	108	81	122	86
Grp Sat Flow(s), veh/h/ln	1570	1729	1610	1570	1729	1610	1570	1805	1610	1570	1805	1610
Q Serve(g_s), s	1.7	21.3	13.6	3.2	17.9	3.5	7.7	3.3	4.8	2.1	2.5	4.1
Cycle Q Clear(g_c), s	1.7	21.3	13.6	3.2	17.9	3.5	7.7	3.3	4.8	2.1	2.5	4.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	2269	704	189	2332	724	383	695	310	161	440	196
V/C Ratio(X)	0.45	0.72	0.52	0.66	0.63	0.16	0.79	0.25	0.35	0.50	0.28	0.44
Avail Cap(c_a), veh/h	245	2734	849	360	2924	908	667	1709	762	284	1269	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	19.0	16.8	37.7	17.3	13.4	35.0	28.1	28.6	37.9	32.7	33.4
Incr Delay (d2), s/veh	8.0	8.0	0.6	1.5	0.3	0.1	1.4	0.2	0.7	0.9	0.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.6	4.5	1.2	6.2	1.1	2.8	1.4	1.8	0.8	1.0	1.6
Unsig. Movement Delay, s/veh		40.7	47.4	00.0	47.0	10.5	00.0	00.0	00.0	00.0	00.0	24.0
LnGrp Delay(d),s/veh	38.7	19.7	17.4	39.2	17.6	13.5	36.3	28.2	29.3	38.8	33.0	34.9
LnGrp LOS	D	B	В	D	B	В	D	C	С	D	С	<u>C</u>
Approach Vol, veh/h		2074			1717			582			289	
Approach LOS		19.9			18.9			32.6			35.2	
Approach LOS		В			В			С			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	22.0	9.5	41.6	14.6	16.2	8.5	42.7				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	7.4	38.8	9.4	43.2	17.4	28.8	6.4	46.2				
Max Q Clear Time (g_c+l1), s	4.1	6.8	5.2	23.3	9.7	6.1	3.7	19.9				
Green Ext Time (p_c), s	0.0	1.3	0.1	12.5	0.3	0.8	0.0	12.0				
Intersection Summary												
HCM 6th Ctrl Delay			22.1									
HCM 6th LOS			С									

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	7	∱ ∱	7	∱ ∱	7	†	7	Ţ	†	7	
Traffic Volume (vph)	35	1030	30	645	124	286	28	51	222	63	
Future Volume (vph)	35	1030	30	645	124	286	28	51	222	63	
Turn Type	Prot	NA	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	
Protected Phases	7	4	3	8	5	2	3	1	6		
Permitted Phases							2			6	
Detector Phase	7	4	3	8	5	2	3	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	30.8	9.6	30.8	9.6	25.8	9.6	9.6	15.8	15.8	
Total Split (s)	12.0	54.0	12.0	54.0	10.0	39.0	12.0	15.0	44.0	44.0	
Total Split (%)	10.0%	45.0%	10.0%	45.0%	8.3%	32.5%	10.0%	12.5%	36.7%	36.7%	
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	4.8	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	5.8	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Min	None	None	Min	Min	
Act Effct Green (s)	6.7	40.2	6.6	42.3	5.8	24.7	37.5	7.8	23.4	23.4	
Actuated g/C Ratio	0.07	0.42	0.07	0.44	0.06	0.26	0.39	0.08	0.25	0.25	
v/c Ratio	0.32	0.83	0.28	0.48	1.30	0.63	0.04	0.39	0.52	0.14	
Control Delay	57.3	31.6	56.2	21.3	228.0	42.0	0.1	56.5	36.6	2.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.3	31.6	56.2	21.3	228.0	42.0	0.1	56.5	36.6	2.1	
LOS	Е	С	Е	С	F	D	Α	Е	D	Α	
Approach Delay		32.3		22.8		92.2			33.2		
Approach LOS		С		С		F			С		

Cycle Length: 120

Actuated Cycle Length: 95.1

Natural Cycle: 80

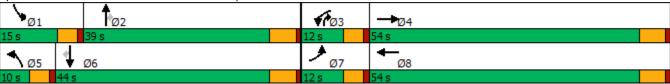
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.30 Intersection Signal Delay: 39.6 Intersection Capacity Utilization 65.2%

Intersection LOS: D
ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: 7th/Arrowhead Dr & Nisqualli Rd.



2034 WP - AM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	∱ β		7	ħβ		ሻ	•	7	ሻ		7
Traffic Volume (veh/h)	35	1030	127	30	645	57	124	286	28	51	222	63
Future Volume (veh/h)	35	1030	127	30	645	57	124	286	28	51	222	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach Adj Sat Flow, veh/h/ln	1800	No 1900	1900	1800	No 1900	1900	1800	No 1900	1900	1800	No 1900	1900
Adj Flow Rate, veh/h	38	1120	138	33	701	62	135	311	30	55	241	1900
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0.92	0.32	0.92	0.92	0.92	0.32	0.92	0.32	0.92	0.92	0.92	0.92
Cap, veh/h	63	1420	175	57	1461	129	124	389	383	78	339	287
Arrive On Green	0.04	0.44	0.44	0.03	0.44	0.44	0.07	0.20	0.20	0.05	0.18	0.18
Sat Flow, veh/h	1714	3235	398	1714	3355	297	1714	1900	1610	1714	1900	1610
Grp Volume(v), veh/h	38	624	634	33	377	386	135	311	30	55	241	68
Grp Sat Flow(s), veh/h/ln	1714	1805	1828	1714	1805	1847	1714	1900	1610	1714	1900	1610
Q Serve(g_s), s	1.6	22.2	22.3	1.4	11.2	11.2	5.4	11.7	1.1	2.4	8.9	2.7
Cycle Q Clear(g_c), s	1.6	22.2	22.3	1.4	11.2	11.2	5.4	11.7	1.1	2.4	8.9	2.7
Prop In Lane	1.00		0.22	1.00		0.16	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	63	792	802	57	786	804	124	389	383	78	339	287
V/C Ratio(X)	0.61	0.79	0.79	0.58	0.48	0.48	1.09	0.80	0.08	0.71	0.71	0.24
Avail Cap(c_a), veh/h	169	1161	1177	169	1161	1188	124	842	767	238	969	821
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	18.0	18.1	35.7	15.1	15.1	34.8	28.3	22.2	35.3	29.0	26.4
Incr Delay (d2), s/veh	3.5	2.3	2.3	3.5	0.5	0.4	107.9	3.8	0.1	4.3	2.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	8.2	8.4	0.6	4.0	4.1	5.8	5.3	0.4	1.0	3.9	1.0
Unsig. Movement Delay, s/veh		00.0	00.0	20.0	45.5	45.5	440.7	20.4	00.0	20.5	04.0	00.0
LnGrp Delay(d),s/veh	39.1	20.3	20.3	39.2	15.5	15.5	142.7 F	32.1	22.3	39.5	31.8	26.8
LnGrp LOS	D	C 4000	С	D	B 700	В	г	C 47C	С	D	C	<u>C</u>
Approach Vol, veh/h		1296			796			476 62.9			364	
Approach LOS		20.9 C			16.5 B						32.0 C	
Approach LOS					Б			Е			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	21.1	7.1	38.7	10.0	19.1	7.3	38.4				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	10.4	33.2	7.4	48.2	5.4	38.2	7.4	48.2				
Max Q Clear Time (g_c+l1), s	4.4	13.7	3.4	24.3	7.4	10.9	3.6	13.2				
Green Ext Time (p_c), s	0.0	1.7	0.0	8.6	0.0	1.4	0.0	4.7				
Intersection Summary												
HCM 6th Ctrl Delay			27.9									
HCM 6th LOS			С									

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Lane Group	EBL	EBR	NBL	NBT	SBT	
Lane Configurations	7	77	1,1	^	↑ ↑	
Traffic Volume (vph)	166	352	407	957	1152	
Future Volume (vph)	166	352	407	957	1152	
Turn Type	Prot	pm+ov	Prot	NA	NA	
Protected Phases	4	5	5	2	6	
Permitted Phases		4				
Detector Phase	4	5	5	2	6	
Switch Phase						
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	26.6	15.8	15.8	16.2	28.2	
Total Split (s)	29.0	29.0	29.0	91.0	62.0	
Total Split (%)	24.2%	24.2%	24.2%	75.8%	51.7%	
Yellow Time (s)	3.6	4.8	4.8	5.2	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	5.8	6.2	6.2	
Lead/Lag		Lead	Lead		Lag	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	15.4	39.6	19.5	75.9	50.4	
Actuated g/C Ratio	0.15	0.39	0.19	0.74	0.49	
v/c Ratio	0.70	0.33	0.73	0.38	0.80	
Control Delay	57.8	20.0	48.6	5.6	26.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	57.8	20.0	48.6	5.6	26.6	
LOS	Е	В	D	Α	С	
Approach Delay	32.1			18.4	26.6	
Approach LOS	С			В	С	
Intersection Summary						
Cycle Length: 120						
Actuated Cycle Length: 102	2.4					
Natural Cycle: 90						
Control Type: Actuated-Un	coordinated	1				
Maximum v/c Ratio: 0.80						
Intersection Signal Delay: 2	24.0			lr	ntersection	n LOS: C
Intersection Capacity Utiliza	ation 73.1%)		10	CU Level c	of Service D
Analysis Period (min) 15						
Splits and Phases: 6: He	esperia Rd.	& Green	Tree RI			
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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	ሻ	77	ሻሻ	^	∱ }	
Traffic Volume (veh/h)	166	352	407	957	1152	148
Future Volume (veh/h)	166	352	407	957	1152	148
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1800	1900	1700	1900	1900	1900
Adj Flow Rate, veh/h	178	378	438	1029	1239	159
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	237	868	528	2677	1638	209
Arrive On Green	0.14	0.14	0.17	0.74	0.51	0.51
Sat Flow, veh/h	1714	2834	3141	3705	3315	411
Grp Volume(v), veh/h	178	378	438	1029	692	706
Grp Sat Flow(s),veh/h/ln	1714	1417	1570	1805	1805	1826
Q Serve(g_s), s	9.0	9.6	12.1	9.3	27.4	27.8
Cycle Q Clear(g_c), s	9.0	9.6	12.1	9.3	27.4	27.8
Prop In Lane	1.00	1.00	1.00			0.23
Lane Grp Cap(c), veh/h	237	868	528	2677	919	929
V/C Ratio(X)	0.75	0.44	0.83	0.38	0.75	0.76
Avail Cap(c_a), veh/h	466	1246	812	3409	1122	1135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	24.9	36.1	4.2	17.6	17.7
Incr Delay (d2), s/veh	1.8	0.1	4.4	0.1	2.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	8.0	4.9	2.6	11.1	11.4
Unsig. Movement Delay, s/veh		3.0	1.0			
LnGrp Delay(d),s/veh	39.0	25.1	40.5	4.3	19.9	20.1
LnGrp LOS	D	C	чо.о D	Α.	В	C
Approach Vol, veh/h	556			1467	1398	
Approach Delay, s/veh	29.5			15.1	20.0	
Approach LOS	29.5 C			15.1 B	20.0 C	
	U			D		
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		72.8		17.0	20.9	51.9
Change Period (Y+Rc), s		6.2		4.6	5.8	6.2
Max Green Setting (Gmax), s		84.8		24.4	23.2	55.8
Max Q Clear Time (g_c+l1), s		11.3		11.6	14.1	29.8
Green Ext Time (p_c), s		15.8		0.8	1.0	15.9
Intersection Summary						
HCM 6th Ctrl Delay			19.4			
HCM 6th LOS			13.4 B			
I IOWI OUI LOS			D			

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Configurations		4	ሻ	f)	ሻ	^	7	ሻ	ħβ
Traffic Volume (vph)	6	4	27	1	13	1346	96	35	1468
Future Volume (vph)	6	4	27	1	13	1346	96	35	1468
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA
Protected Phases		4		8	5	2		1	6
Permitted Phases	4		8				2		
Detector Phase	4	4	8	8	5	2	2	1	6
Switch Phase									
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	26.6	26.6	26.6	26.6	9.6	23.2	23.2	9.6	23.2
Total Split (s)	27.0	27.0	27.0	27.0	13.0	80.0	80.0	13.0	80.0
Total Split (%)	22.5%	22.5%	22.5%	22.5%	10.8%	66.7%	66.7%	10.8%	66.7%
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.6	4.6	4.6	4.6	6.2	6.2	4.6	6.2
Lead/Lag					Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	Min	Min	None	Min
Act Effct Green (s)		11.4	11.4	11.4	6.0	46.6	46.6	6.8	50.8
Actuated g/C Ratio		0.18	0.18	0.18	0.10	0.75	0.75	0.11	0.81
v/c Ratio		0.07	0.11	0.05	0.08	0.54	0.09	0.21	0.54
Control Delay		24.2	33.0	18.1	36.8	9.3	4.1	36.6	6.3
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		24.2	33.0	18.1	36.8	9.3	4.1	36.6	6.3
LOS		С	С	В	D	Α	Α	D	Α
Approach Delay		24.2		27.9		9.2			7.0
Approach LOS		С		С		Α			Α
Intersection Summary									

Cycle Length: 120

Actuated Cycle Length: 62.5

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

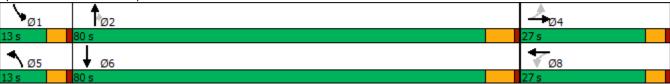
Maximum v/c Ratio: 0.54

Intersection Signal Delay: 8.5
Intersection Capacity Utilization 57.9%

Intersection LOS: A ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 7: Hesperia Rd. & Ottawa St.



2034 WP - AM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4		7	1•		ሻ	^	7	ሻ	ተኈ	
Traffic Volume (veh/h)	6	4	10	27	1	13	13	1346	96	35	1468	1
Future Volume (veh/h)	6	4	10	27	1	13	13	1346	96	35	1468	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	4000	No	4000	4000	No	4000	4000	No	4000	4000	No	4000
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	7	4	11	29	1	14	14	1463	104	38	1596	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0 12	0 172	0 30	0	0	0 68	0	0
Cap, veh/h Arrive On Green	113 0.11	64 0.11	95 0.11	288 0.11	0.11	0.11	0.02	2099 0.58	936 0.58	0.04	2234 0.60	0.60
Sat Flow, veh/h	274	564	838	1421	108	1518	1714	3610	1610	1714	3702	0.60
·												
Grp Volume(v), veh/h	22	0	0	29 1421	0	15 1627	14	1463	104	38	778	819
Grp Sat Flow(s), veh/h/ln	1676 0.0	0.0	0.0	0.3	0.0	0.5	1714 0.5	1805 16.5	1610	1714 1.3	1805 17.4	1900 17.4
Q Serve(g_s), s	0.0	0.0	0.0	0.5	0.0	0.5	0.5	16.5	1.7 1.7	1.3	17.4	17.4
Cycle Q Clear(g_c), s Prop In Lane	0.7	0.0	0.50	1.00	0.0	0.93	1.00	10.5	1.00	1.00	17.4	0.00
Lane Grp Cap(c), veh/h	271	0	0.50	288	0	184	30	2099	936	68	1089	1146
V/C Ratio(X)	0.08	0.00	0.00	0.10	0.00	0.08	0.47	0.70	0.11	0.56	0.71	0.71
Avail Cap(c_a), veh/h	715	0.00	0.00	678	0.00	630	249	4603	2053	249	2302	2422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	0.0	23.2	0.0	23.0	28.2	8.5	5.4	27.3	8.0	8.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.0	0.2	4.2	0.4	0.1	2.7	0.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.3	0.0	0.2	0.2	3.7	0.3	0.5	3.8	4.0
Unsig. Movement Delay, s/veh						• • •	•	• • • • • • • • • • • • • • • • • • • •				
LnGrp Delay(d),s/veh	23.2	0.0	0.0	23.3	0.0	23.2	32.4	8.9	5.5	30.0	8.9	8.8
LnGrp LOS	С	Α	Α	С	Α	С	С	Α	Α	С	Α	Α
Approach Vol, veh/h		22			44			1581			1635	
Approach Delay, s/veh		23.2			23.3			8.9			9.4	
Approach LOS		С			С			Α			Α	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.9	39.8		11.1	5.6	41.1		11.1				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	8.4	73.8		22.4	8.4	73.8		22.4				
Max Q Clear Time (g_c+l1), s	3.3	18.5		2.7	2.5	19.4		2.9				
Green Ext Time (p_c), s	0.0	15.1		0.0	0.0	15.1		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			Α									

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	44	1	77	ሻ	↑ ↑	14.54	∱ 1≽	ሻ	∱ }
Traffic Volume (vph)	236	90	499	101	88	331	1449	20	1349
Future Volume (vph)	236	90	499	101	88	331	1449	20	1349
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	32.8	9.6	9.6	30.8	9.6	27.2	9.6	33.2
Total Split (s)	13.0	33.0	20.2	11.0	31.0	20.2	66.2	9.8	55.8
Total Split (%)	10.8%	27.5%	16.8%	9.2%	25.8%	16.8%	55.2%	8.2%	46.5%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	8.4	12.6	33.2	6.4	10.6	14.8	65.2	5.1	49.6
Actuated g/C Ratio	80.0	0.12	0.32	0.06	0.10	0.14	0.62	0.05	0.47
v/c Ratio	0.99	0.43	0.60	1.06	0.39	0.79	0.76	0.27	0.92
Control Delay	103.5	49.3	33.3	152.9	30.5	56.8	18.1	56.8	35.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	103.5	49.3	33.3	152.9	30.5	56.8	18.1	56.8	35.9
LOS	F	D	С	F	С	Е	В	Е	D
Approach Delay		55.2			81.7		24.9		36.2
Approach LOS		Е			F		С		D

Cycle Length: 120

Actuated Cycle Length: 104.6

Natural Cycle: 130

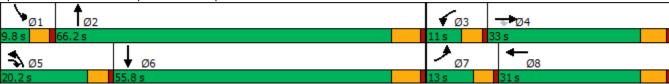
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.06
Intersection Signal Delay: 37.4
Intersection Capacity Utilization 84.2%

Intersection LOS: D
ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 8: Hesperia Rd. & Nisqualli Rd.



2034 WP - AM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	†	77	ሻ	∱ ∱		ሻሻ	ተ ኈ		ሻ	∱ ∱	
Traffic Volume (veh/h)	236	90	499	101	88	52	331	1449	117	20	1349	89
Future Volume (veh/h)	236	90	499	101	88	52	331	1449	117	20	1349	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	4.00	1.00	1.00	4.00	1.00	1.00	4.00	1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	4700	No	4000	4000	No	4000	4700	No	4000	4000	No	4000
Adj Sat Flow, veh/h/ln	1700	1900	1900	1800	1900	1900	1700	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	257 0.92	98 0.92	542 0.92	110 0.92	96 0.92	57 0.92	360 0.92	1575 0.92	127 0.92	22 0.92	1466 0.92	97
Peak Hour Factor Percent Heavy Veh, %	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Cap, veh/h	239	366	908	97	392	217	413	1836	147	38	1501	99
Arrive On Green	0.07	0.19	0.19	0.06	0.18	0.18	0.13	0.54	0.54	0.02	0.44	0.44
Sat Flow, veh/h	3238	1900	2834	1714	2241	1241	3238	3385	271	1714	3438	227
Grp Volume(v), veh/h	257	98	542	110	76	77	360	834	868	22	767	796
Grp Sat Flow(s), veh/h/ln	1619	1900	1417	1714	1805	1677	1619	1805	1851	1714	1805	1859
Q Serve(g_s), s	8.4	5.0	18.3	6.4	4.1	4.5	12.4	44.7	45.9	1.4	47.3	47.9
Cycle Q Clear(g_c), s	8.4	5.0	18.3	6.4	4.1	4.5	12.4	44.7	45.9	1.4	47.3	47.9
Prop In Lane	1.00	0.0	1.00	1.00		0.74	1.00		0.15	1.00		0.12
Lane Grp Cap(c), veh/h	239	366	908	97	316	294	413	979	1004	38	788	812
V/C Ratio(X)	1.07	0.27	0.60	1.14	0.24	0.26	0.87	0.85	0.86	0.58	0.97	0.98
Avail Cap(c_a), veh/h	239	455	1040	97	400	372	445	979	1004	78	788	812
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	39.0	32.4	53.6	40.3	40.5	48.6	22.1	22.4	55.0	31.3	31.5
Incr Delay (d2), s/veh	79.0	0.4	0.7	133.8	0.4	0.5	15.2	7.3	8.0	5.2	25.4	26.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	2.3	6.1	6.3	1.8	1.9	5.7	18.5	19.6	0.7	24.2	25.5
Unsig. Movement Delay, s/veh		/										
LnGrp Delay(d),s/veh	131.5	39.4	33.2	187.4	40.7	41.0	63.8	29.5	30.4	60.2	56.8	58.3
LnGrp LOS	F	D	С	F	D	D	<u>E</u>	С	С	E	E	E
Approach Vol, veh/h		897			263			2062			1585	
Approach Delay, s/veh		62.0			102.2			35.8			57.6	
Approach LOS		Е			F			D			Е	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	67.8	11.0	27.7	19.1	55.8	13.0	25.7				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.2	60.0	6.4	27.2	15.6	49.6	8.4	25.2				
Max Q Clear Time (g_c+l1), s	3.4	47.9	8.4	20.3	14.4	49.9	10.4	6.5				
Green Ext Time (p_c), s	0.0	8.1	0.0	1.6	0.1	0.0	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			51.5									
HCM 6th LOS			D									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Configurations	ሻሻ	ተተተ	7	1,1	ተተተ	7	77	^	7	44	∱ ∱	
Traffic Volume (vph)	239	1592	150	388	1733	258	133	672	385	330	435	
Future Volume (vph)	239	1592	150	388	1733	258	133	672	385	330	435	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	31.2	9.6	9.6	33.2	9.6	9.6	39.2	39.2	9.6	37.2	
Total Split (s)	15.7	42.0	14.4	20.0	46.3	18.0	14.4	40.0	40.0	18.0	43.6	
Total Split (%)	13.1%	35.0%	12.0%	16.7%	38.6%	15.0%	12.0%	33.3%	33.3%	15.0%	36.3%	
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	11.0	35.8	50.9	15.4	40.3	59.9	8.8	31.4	31.4	13.4	36.0	
Actuated g/C Ratio	0.09	0.30	0.43	0.13	0.34	0.51	0.07	0.27	0.27	0.11	0.31	
v/c Ratio	0.87	1.07	0.21	1.01	1.04	0.32	0.60	0.74	0.70	0.99	0.55	
Control Delay	81.6	84.6	10.7	97.7	70.7	13.9	64.2	44.7	24.5	96.9	34.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	81.6	84.6	10.7	97.7	70.7	13.9	64.2	44.7	24.5	96.9	34.3	
LOS	F	F	В	F	Е	В	Е	D	С	F	С	
Approach Delay		78.7			69.0			40.3			57.5	
Approach LOS		E			E			D			Е	

Cycle Length: 120
Actuated Cycle Length: 117.7

Natural Cycle: 125

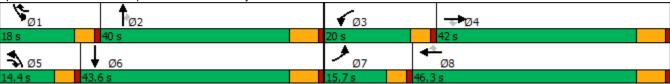
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.07 Intersection Signal Delay: 65.1 Intersection Capacity Utilization 90.2%

Intersection LOS: E ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 9: Hesperia Rd. & Bear Valley Rd.



2034 WP - AM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	^	7	ሻሻ	ተተተ	7	ሻሻ	^	7	ሻሻ	∱ ∱	
Traffic Volume (veh/h)	239	1592	150	388	1733	258	133	672	385	330	435	124
Future Volume (veh/h)	239	1592	150	388	1733	258	133	672	385	330	435	124
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No		.=	No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	254	1694	160	413	1844	274	141	715	410	351	463	132
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	292	1557	581	406	1745	723	191	1000	446	353	913	258
Arrive On Green	0.09	0.30	0.30	0.13	0.34	0.34	0.06	0.28	0.28	0.11	0.33	0.33
Sat Flow, veh/h	3141	5187	1610	3141	5187	1610	3141	3610	1610	3141	2777	786
Grp Volume(v), veh/h	254	1694	160	413	1844	274	141	715	410	351	300	295
Grp Sat Flow(s),veh/h/ln	1570	1729	1610	1570	1729	1610	1570	1805	1610	1570	1805	1759
Q Serve(g_s), s	9.5	35.8	8.4	15.4	40.1	13.5	5.3	21.3	29.4	13.3	15.9	16.2
Cycle Q Clear(g_c), s	9.5	35.8	8.4	15.4	40.1	13.5	5.3	21.3	29.4	13.3	15.9	16.2
Prop In Lane	1.00	4557	1.00	1.00	4745	1.00	1.00	1000	1.00	1.00	500	0.45
Lane Grp Cap(c), veh/h	292	1557	581	406	1745	723	191	1000	446	353	593	578
V/C Ratio(X)	0.87	1.09	0.28	1.02	1.06	0.38	0.74	0.71	0.92	0.99	0.51	0.51
Avail Cap(c_a), veh/h	292	1557	581	406	1745	723	258	1023	456	353	593	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00 41.7	1.00	1.00 51.9	1.00 39.6	1.00 21.8	1.00 55.1	1.00	1.00 41.8	1.00	1.00 32.2	1.00
Uniform Delay (d), s/veh	53.3 22.4	50.6	27.0 0.3	49.3	38.4	0.3	4.3	38.9 2.3	23.4	52.9 46.3	0.7	32.3 0.8
Incr Delay (d2), s/veh Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	22.4	3.3	8.8	22.9	5.1	2.2	9.7	14.5	7.5	7.1	7.0
Unsig. Movement Delay, s/veh		22.4	3.3	0.0	22.9	5.1	۷.۷	9.1	14.5	7.5	7.1	7.0
LnGrp Delay(d),s/veh	75.7	92.3	27.3	101.2	78.0	22.2	59.3	41.2	65.3	99.1	32.9	33.0
LnGrp LOS	73.7 E	92.5 F	27.3 C	101.Z F	70.0 F	22.2 C	59.5 E	41.2 D	03.3 E	55.1 F	32.9 C	33.0 C
Approach Vol, veh/h	<u> </u>	2108		<u> </u>	2531			1266		<u>'</u>	946	
Approach Delay, s/veh		85.4			75.7			51.0			57.5	
Approach LOS		65.4 F			73.7 E			D D			57.5 E	
•												
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	39.2	20.0	42.0	11.8	45.4	15.7	46.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	13.4	33.8	15.4	35.8	9.8	37.4	11.1	40.1				
Max Q Clear Time (g_c+I1), s	15.3	31.4	17.4	37.8	7.3	18.2	11.5	42.1				
Green Ext Time (p_c), s	0.0	1.6	0.0	0.0	0.0	5.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			71.6									
HCM 6th LOS			Е									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	16	^	7	77	ተተተ	7	44	^	7	14.54	^	7
Traffic Volume (vph)	181	1191	176	456	1873	929	170	408	509	1087	818	520
Future Volume (vph)	181	1191	176	456	1873	929	170	408	509	1087	818	520
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Free	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			Free			6
Detector Phase	7	4	4	3	8	8	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	9.5	27.8	27.8	9.5	27.8	27.8	9.5	10.8		9.5	27.8	27.8
Total Split (s)	11.6	41.4	41.4	20.0	49.8	49.8	12.8	17.6		41.0	45.8	45.8
Total Split (%)	9.7%	34.5%	34.5%	16.7%	41.5%	41.5%	10.7%	14.7%		34.2%	38.2%	38.2%
Yellow Time (s)	3.5	4.8	4.8	3.5	4.8	4.8	3.5	4.8		3.5	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	4.5	5.8	5.8	4.5	5.8		4.5	5.8	5.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None		None	None	None
Act Effct Green (s)	7.1	35.6	35.6	15.5	44.0	44.0	8.2	11.8	120.0	36.5	40.1	40.1
Actuated g/C Ratio	0.06	0.30	0.30	0.13	0.37	0.37	0.07	0.10	1.00	0.30	0.33	0.33
v/c Ratio	0.97	1.08	0.29	1.12	0.91	0.92	0.79	1.12	0.32	1.13	0.66	0.83
Control Delay	114.0	90.9	5.2	126.8	44.2	25.0	79.3	130.7	0.5	110.1	37.1	39.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	114.0	90.9	5.2	126.8	44.2	25.0	79.3	130.7	0.5	110.1	37.1	39.0
LOS	F	F	Α	F	D	С	Е	F	Α	F	D	D
Approach Delay		83.8			50.3			61.7			70.2	
Approach LOS		F			D			Е			Е	

Cycle Length: 120

Actuated Cycle Length: 120

Natural Cycle: 130

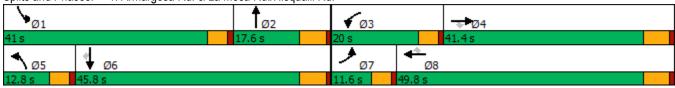
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.13
Intersection Signal Delay: 63.8

Intersection Signal Delay: 63.8 Intersection LOS: E
Intersection Capacity Utilization 110.6% ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 1: Armargosa Rd. & La Mesa Rd./Nisqualli Rd.



2034 WP - PM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	^	7	14.54	^	7	ሻሻ	^	7	ሻሻ	^↑	7
Traffic Volume (veh/h)	181	1191	176	456	1873	929	170	408	509	1087	818	520
Future Volume (veh/h)	181	1191	176	456	1873	929	170	408	509	1087	818	520
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	185	1215	134	465	1911	611	173	416	0	1109	835	317
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	1127	478	418	2090	590	223	374		985	1267	537
Arrive On Green	0.06	0.30	0.30	0.13	0.37	0.37	0.07	0.10	0.00	0.30	0.33	0.33
Sat Flow, veh/h	3238	3800	1610	3238	5700	1610	3238	3800	1610	3238	3800	1610
Grp Volume(v), veh/h	185	1215	134	465	1911	611	173	416	0	1109	835	317
Grp Sat Flow(s), veh/h/ln	1619	1900	1610	1619	1900	1610	1619	1900	1610	1619	1900	1610
Q Serve(g_s), s	6.8	35.6	7.7	15.5	38.3	44.0	6.3	11.8	0.0	36.5	22.5	19.6
Cycle Q Clear(g_c), s	6.8	35.6	7.7	15.5	38.3	44.0	6.3	11.8	0.0	36.5	22.5	19.6
Prop In Lane	1.00	55.0	1.00	1.00	50.5	1.00	1.00	11.0	1.00	1.00	22.0	1.00
Lane Grp Cap(c), veh/h	192	1127	478	418	2090	590	223	374	1.00	985	1267	537
V/C Ratio(X)	0.97	1.08	0.28	1.11	0.91	1.03	0.77	1.11		1.13	0.66	0.59
. ,	192	1127	478	418	2090	590	224	374		985	1267	537
Avail Cap(c_a), veh/h									1.00			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	42.2	32.4	52.2	36.2	38.0	54.9	54.1	0.0	41.7	34.2	33.2
Incr Delay (d2), s/veh	54.6	50.4	0.3	77.9	6.8	46.3	14.1	80.8	0.0	69.9	1.3	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	23.8	0.0	10.6	18.1	24.0	2.9	9.7	0.0	23.5	10.2	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.9	92.6	32.7	130.2	43.0	84.3	69.1	134.9	0.0	111.7	35.4	34.9
LnGrp LOS	F	F	С	F	D	F	E	F		F	D	C
Approach Vol, veh/h		1534			2987			589	Α		2261	
Approach Delay, s/veh		89.6			65.0			115.6			72.8	
Approach LOS		F			Е			F			Е	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	41.0	17.6	20.0	41.4	12.8	45.8	11.6	49.8				
Change Period (Y+Rc), s	4.5	5.8	4.5	5.8	4.5	5.8	4.5	5.8				
Max Green Setting (Gmax), s	36.5	11.8	15.5	35.6	8.3	40.0	7.1	44.0				
Max Q Clear Time (g_c+l1), s	38.5	13.8	17.5	37.6	8.3	24.5	8.8	46.0				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	5.8	0.0	0.0				
.,	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0				
Intersection Summary			70.5									
HCM 6th Ctrl Delay			76.5									
HCM 6th LOS			Е									
Notes												

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

2034 WP - PM Peak Hour Urban Crossroads, Inc.

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	77	7	^	7	ሻ	^
Traffic Volume (vph)	1262	60	1013	501	212	1199
Future Volume (vph)	1262	60	1013	501	212	1199
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.7	9.7	10.8	10.8	9.5	10.8
Total Split (s)	37.0	37.0	34.0	34.0	19.0	53.0
Total Split (%)	41.1%	41.1%	37.8%	37.8%	21.1%	58.9%
Yellow Time (s)	3.7	3.7	4.8	4.8	3.5	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.7	4.7	5.8	5.8	4.5	5.8
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	C-Max	C-Max	None	C-Max
Act Effct Green (s)	32.3	32.3	28.8	28.8	13.9	47.2
Actuated g/C Ratio	0.36	0.36	0.32	0.32	0.15	0.52
v/c Ratio	1.09	0.10	0.95	0.61	0.83	0.69
Control Delay	83.8	5.8	48.7	5.6	61.8	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.8	5.8	48.7	5.6	61.8	18.3
LOS	F	Α	D	Α	Е	В
Approach Delay	80.2		34.4			24.8
Approach LOS	F		С			С
Intersection Summary						
Cycle Length: 90						
Actuated Cycle Length: 90						
Offset: 0 (0%), Referenced		NBT and	6:SBT. S	Start of G	reen	
Natural Cycle: 100			, ,			
Control Type: Actuated-Co	ordinated					
Maximum v/c Ratio: 1.09						
Intersection Signal Delay: 4	45.5			lı	ntersectio	n LOS: D
Intersection Capacity Utiliza						of Service
Analysis Period (min) 15						
Splits and Phases: 2: Arr	margosa Ro	d. & I-15 S	SB Ramp	S		
	→	(D)				
Ø1	1 Ø2	(R)				
19 s	34 S					_
▼ Ø6 (R)						_ ·
· 20 (t)	•					27

2034 WP - PM Peak Hour Urban Crossroads, Inc.

	•	•	ı		*	+	
t V	WBL	WBR	NBT	NBR	SBL	SBT	
figurations	ሻሻ	7	^	7	7	^	
	1262	60	1013	501	212	1199	
lume (veh/h) 12	1262	60	1013	501	212	1199	
Qb), veh	0	0	0	0	0	0	
Adj(A_pbT) 1	1.00	1.00		1.00	1.00		
us, Adj 1	1.00	1.00	1.00	1.00	1.00	1.00	
	No		No			No	
	1900	1900	1900	1900	1900	1900	
•	1372	65	1101	545	230	1303	
r Factor 0	0.92	0.92	0.92	0.92	0.92	0.92	
leavy Veh, %	0	0	0	0	0	0	
	1260	578	1182	527	266	1893	
	0.36	0.36	0.33	0.33	0.15	0.52	
	3510	1610	3705	1610	1810	3705	
\ /·	1372	65	1101	545	230	1303	
low(s),veh/h/ln 17	1755	1610	1805	1610	1810	1805	
g_s), s 3	32.3	2.4	26.6	29.5	11.2	24.2	
	32.3	2.4	26.6	29.5	11.2	24.2	
ane 1	1.00	1.00		1.00	1.00		
Cap(c), veh/h 12	1260	578	1182	527	266	1893	
(X) 1	1.09	0.11	0.93	1.03	0.87	0.69	
(c_a), veh/h 12	1260	578	1182	527	292	1893	
oon Ratio 1	1.00	1.00	1.00	1.00	1.00	1.00	
Filter(I) 1	1.00	1.00	0.14	0.14	1.00	1.00	
elay (d), s/veh 2	28.8	19.3	29.3	30.3	37.5	15.9	
/ (d2), s/veh 5	53.2	0.0	2.7	24.2	21.5	2.1	
elay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
OfQ(50%),veh/ln 2	21.1	8.0	10.9	14.0	6.3	9.0	
vement Delay, s/veh							
lay(d),s/veh 8	82.1	19.3	31.9	54.5	59.0	18.0	
S	F	В	С	F	Е	В	
Vol, veh/h 14	1437		1646			1533	
Delay, s/veh 7	79.2		39.4			24.1	
LOS	Е		D			С	
ssigned Phs	1	2				6	8
	17.7	35.3				53.0	37.0
	4.5	5.8				5.8	4.7
	14.5	28.2				47.2	32.3
	13.2	31.5				26.2	34.3
	0.1	0.0				9.2	0.0
on Summary							
Ctrl Delay			46.7				
LOS			D				
g_s), s 3 Clear(g_c), s 4 Clear(g_c), veh/h 12 Clear(g, veh/h 12 Clear(g, veh/h 12 Clear(g, veh/h 12 Clear(g, s/veh 12 Clear(g, s/veh 12 Clear(g, s/veh 12 Clear(g, s/veh 13 Clear(g, s/veh 14 Clear(g, s/veh 14 Clear(g, s/veh 14 Clear(g, s/veh 14 Clear(g, s/veh 15 Clear(g, s/veh 15 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh 16 Clear(g, s/veh/h 16 Clear(g, s/veh 16 Clear(g, s/veh/h 16 Clear(g, s/veh 16 Clear(g, s/veh/h 16 Clear(g, s/veh h 16 Clear(g, s/veh 16 Clear(g, s/veh/h	32.3 32.3 1.00 1260 1.09 1260 1.00 28.8 53.2 0.0 21.1 82.1 F 1437 79.2 E 17.7 4.5 14.5 13.2	2.4 2.4 1.00 578 0.11 578 1.00 1.00 19.3 0.0 0.0 0.8 19.3 B	26.6 26.6 1182 0.93 1182 1.00 0.14 29.3 2.7 0.0 10.9 31.9 C	29.5 29.5 1.00 527 1.03 527 1.00 0.14 30.3 24.2 0.0 14.0	11.2 11.2 1.00 266 0.87 292 1.00 1.00 37.5 21.5 0.0 6.3	24.2 24.2 1893 0.69 1893 1.00 1.00 15.9 2.1 0.0 9.0 18.0 B 1533 24.1 C 6 53.0 5.8 47.2 26.2	37.0 4.7 32.3 34.3

	•	→	←	•	1	†	/
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Configurations	44	ተተተ	ተተተ	7	7	4	7
Traffic Volume (vph)	371	2410	2619	551	632	0	595
Future Volume (vph)	371	2410	2619	551	632	0	595
Turn Type	Prot	NA	NA	Perm	Perm	NA	Perm
Protected Phases	7	4	8			2	
Permitted Phases				8	2		2
Detector Phase	7	4	8	8	2	2	2
Switch Phase							
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	10.8	22.8	22.8	11.5	11.5	11.5
Total Split (s)	14.0	60.0	46.0	46.0	30.0	30.0	30.0
Total Split (%)	15.6%	66.7%	51.1%	51.1%	33.3%	33.3%	33.3%
Yellow Time (s)	3.5	4.8	4.8	4.8	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	5.8	5.8	5.8	6.5	6.5	6.5
Lead/Lag	Lead		Lag	Lag			
Lead-Lag Optimize?	Yes		Yes	Yes			
Recall Mode	None	C-Max	C-Max	C-Max	None	None	None
Act Effct Green (s)	9.5	54.2	40.2	40.2	23.5	23.5	23.5
Actuated g/C Ratio	0.11	0.60	0.45	0.45	0.26	0.26	0.26
v/c Ratio	1.03	0.79	1.15	0.58	0.72	0.72	1.25
Control Delay	95.4	15.9	100.3	6.2	40.9	41.0	155.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.4	15.9	100.3	6.2	40.9	41.0	155.7
LOS	F	В	F	Α	D	D	F
Approach Delay		26.5	83.9			96.6	
Approach LOS		С	F			F	
Intersection Summary							

Cycle Length: 90 Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green

Natural Cycle: 110

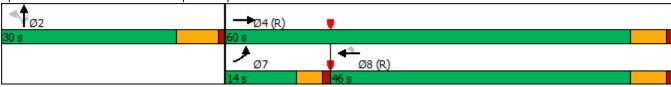
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.25

Intersection Signal Delay: 63.8 Intersection LOS: E
Intersection Capacity Utilization 93.7% ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 3: I-15 NB Ramps & Nisqualli Rd.



2034 WP - PM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	44	ተተተ			ተተተ	7	J.	र्स	7			
Traffic Volume (veh/h)	371	2410	0	0	2619	551	632	0	595	0	0	0
Future Volume (veh/h)	371	2410	0	0	2619	551	632	0	595	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1900	1900	0	0	1900	1900	1900	1900	1900			
Adj Flow Rate, veh/h	379	2459	0	0	2672	424	645	0	408			
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98			
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0			
Cap, veh/h	371	3124	0	0	2317	719	945	0	420			
Arrive On Green	0.11	0.60	0.00	0.00	0.45	0.45	0.26	0.00	0.26			
Sat Flow, veh/h	3510	5358	0	0	5358	1610	3619	0	1610			
Grp Volume(v), veh/h	379	2459	0	0	2672	424	645	0	408			
Grp Sat Flow(s), veh/h/ln	1755	1729	0	0	1729	1610	1810	0	1610			
Q Serve(g_s), s	9.5	32.3	0.0	0.0	40.2	17.8	14.4	0.0	22.6			
Cycle Q Clear(g_c), s	9.5	32.3	0.0	0.0	40.2	17.8	14.4	0.0	22.6			
Prop In Lane	1.00	02.0	0.00	0.00	10.2	1.00	1.00	0.0	1.00			
Lane Grp Cap(c), veh/h	371	3124	0.00	0.00	2317	719	945	0	420			
V/C Ratio(X)	1.02	0.79	0.00	0.00	1.15	0.59	0.68	0.00	0.97			
Avail Cap(c_a), veh/h	371	3124	0.00	0.00	2317	719	945	0.00	420			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.18	0.18	0.00	0.00	0.09	0.09	1.00	0.00	1.00			
Uniform Delay (d), s/veh	40.3	13.5	0.0	0.0	24.9	18.7	29.9	0.00	32.9			
Incr Delay (d2), s/veh	25.8	0.4	0.0	0.0	69.5	0.3	2.0	0.0	36.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.2	10.1	0.0	0.0	29.2	6.0	5.9	0.0	12.1			
Unsig. Movement Delay, s/vel		10.1	0.0	0.0	29.2	0.0	5.9	0.0	12.1			
LnGrp Delay(d),s/veh	66.1	13.9	0.0	0.0	94.4	19.0	31.9	0.0	69.0			
	60.1 F	13.9 B		0.0 A	94.4 F	19.0 B	31.9 C	0.0 A	09.0 E			
LnGrp LOS			A	A		<u>D</u>						
Approach Vol, veh/h		2838			3096			1053				
Approach Delay, s/veh		20.9			84.1			46.3				
Approach LOS		С			F			D				
Timer - Assigned Phs		2		4			7	8				
Phs Duration (G+Y+Rc), s		30.0		60.0			14.0	46.0				
Change Period (Y+Rc), s		6.5		5.8			4.5	5.8				
Max Green Setting (Gmax), s		23.5		54.2			9.5	40.2				
Max Q Clear Time (g_c+l1), s		24.6		34.3			11.5	42.2				
Green Ext Time (p_c), s		0.0		16.4			0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			52.7									
HCM 6th LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

2034 WP - PM Peak Hour Urban Crossroads, Inc.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	^	7	ሻሻ	ተተተ	7	44	^	7	77	^	7
Traffic Volume (vph)	186	2213	626	166	2421	176	575	385	226	229	386	133
Future Volume (vph)	186	2213	626	166	2421	176	575	385	226	229	386	133
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	9.6	32.8	32.8	9.6	33.8	33.8	9.6	40.2	40.2	9.6	16.2	16.2
Total Split (s)	10.0	53.6	53.6	10.4	54.0	54.0	24.0	43.0	43.0	13.0	32.0	32.0
Total Split (%)	8.3%	44.7%	44.7%	8.7%	45.0%	45.0%	20.0%	35.8%	35.8%	10.8%	26.7%	26.7%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.6	5.2	5.2	3.6	5.2	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.6	6.2	6.2	4.6	6.2	6.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Act Effct Green (s)	5.4	47.9	47.9	5.8	48.3	48.3	19.4	28.6	28.6	8.4	17.6	17.6
Actuated g/C Ratio	0.05	0.43	0.43	0.05	0.43	0.43	0.17	0.26	0.26	0.08	0.16	0.16
v/c Ratio	1.25	1.01	0.70	1.04	1.09	0.23	1.07	0.42	0.46	0.98	0.69	0.35
Control Delay	198.0	53.5	15.4	133.6	81.3	5.5	103.0	36.1	20.8	107.0	51.1	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	198.0	53.5	15.4	133.6	81.3	5.5	103.0	36.1	20.8	107.0	51.1	7.4
LOS	F	D	В	F	F	Α	F	D	С	F	D	Α
Approach Delay		54.5			79.6			65.6			60.5	
Approach LOS		D			Е			Е			Е	

Cycle Length: 120

Actuated Cycle Length: 111.9

Natural Cycle: 125

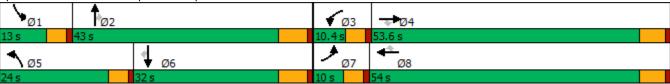
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.25
Intersection Signal Delay: 65.8
Intersection Capacity Utilization 99.4%

Intersection LOS: E ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 4: Mariposa & Nisqualli Rd.



2034 WP - PM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻሻ	^	7	ሻሻ	ተተተ	7	ሻሻ	^	7	ሻሻ	^	7
Traffic Volume (veh/h)	186	2213	626	166	2421	176	575	385	226	229	386	133
Future Volume (veh/h)	186	2213	626	166	2421	176	575	385	226	229	386	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No		.=	No		.=	No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	188	2235	506	168	2445	178	581	389	228	231	390	134
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	155	2260	701	166	2278	707	555	873	389	240	511	228
Arrive On Green	0.05	0.44	0.44	0.05	0.44	0.44	0.18	0.24	0.24	0.08	0.14	0.14
Sat Flow, veh/h	3141	5187	1610	3141	5187	1610	3141	3610	1610	3141	3610	1610
Grp Volume(v), veh/h	188	2235	506	168	2445	178	581	389	228	231	390	134
Grp Sat Flow(s),veh/h/ln	1570	1729	1610	1570	1729	1610	1570	1805	1610	1570	1805	1610
Q Serve(g_s), s	5.4	46.9	28.4	5.8	48.2	7.6	19.4	10.0	13.7	8.0	11.4	8.6
Cycle Q Clear(g_c), s	5.4	46.9	28.4	5.8	48.2	7.6	19.4	10.0	13.7	8.0	11.4	8.6
Prop In Lane	1.00	2000	1.00	1.00	0070	1.00	1.00	072	1.00	1.00	E11	1.00
Lane Grp Cap(c), veh/h	155 1.22	2260 0.99	701 0.72	166 1.01	2278 1.07	707 0.25	555 1.05	873 0.45	389 0.59	240 0.96	511 0.76	228 0.59
V/C Ratio(X) Avail Cap(c_a), veh/h	1.22	2260	701	166	2278	707	555	1211	540	240	849	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.2	30.7	25.5	52.0	30.8	19.4	45.2	35.4	36.7	50.5	45.3	44.1
Incr Delay (d2), s/veh	142.2	16.4	3.6	73.0	42.0	0.2	50.8	0.4	1.4	46.7	2.4	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	21.3	10.8	3.9	27.2	2.7	11.2	4.3	5.3	4.6	5.1	3.5
Unsig. Movement Delay, s/veh		21.0	10.0	0.0	21.2	۷.1	11.2	7.0	0.0	4.0	0.1	0.0
LnGrp Delay(d),s/veh	194.3	47.1	29.1	125.0	72.7	19.6	96.0	35.7	38.1	97.2	47.7	46.5
LnGrp LOS	F	D	C	F	F	В	F	D	D	F	D	D
Approach Vol, veh/h		2929		<u> </u>	2791			1198		<u> </u>	755	
Approach Delay, s/veh		53.4			72.5			65.4			62.6	
Approach LOS		D			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	32.7	10.4	53.6	24.0	21.7	10.0	54.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	8.4	36.8	5.8	47.8	19.4	25.8	5.4	48.2				
Max Q Clear Time (g_c+l1), s	10.0	15.7	7.8	48.9	21.4	13.4	7.4	50.2				
Green Ext Time (p_c), s	0.0	3.0	0.0	0.0	0.0	2.1	0.0	0.0				
,	3.0	0.0	0.0	0.0	0.0	۷.۱	0.0	0.0				
Intersection Summary			00.4									
HCM 6th Ctrl Delay			63.1									
HCM 6th LOS			Е									

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	*	∱ ∱	7	∱ }	7	†	7	7	†	7	
Traffic Volume (vph)	128	1162	49	1497	280	319	57	60	391	107	
Future Volume (vph)	128	1162	49	1497	280	319	57	60	391	107	
Turn Type	Prot	NA	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	
Protected Phases	7	4	3	8	5	2	3	1	6		
Permitted Phases							2			6	
Detector Phase	7	4	3	8	5	2	3	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	30.8	9.6	30.8	9.6	25.8	9.6	9.6	15.8	15.8	
Total Split (s)	13.0	55.3	9.7	52.0	22.0	42.7	9.7	12.3	33.0	33.0	
Total Split (%)	10.8%	46.1%	8.1%	43.3%	18.3%	35.6%	8.1%	10.3%	27.5%	27.5%	
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	4.8	3.6	3.6	4.8	4.8	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	5.8	4.6	4.6	5.8	5.8	
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	8.4	51.5	5.1	46.2	17.4	39.3	50.2	7.1	27.1	27.1	
Actuated g/C Ratio	0.07	0.43	0.04	0.39	0.15	0.33	0.42	0.06	0.23	0.23	
v/c Ratio	1.13	0.97	0.72	1.21	1.19	0.54	0.08	0.62	0.96	0.23	
Control Delay	172.4	50.4	104.2	136.1	163.6	37.8	4.8	81.0	81.2	3.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	172.4	50.4	104.2	136.1	163.6	37.8	4.8	81.0	81.2	3.6	
LOS	F	D	F	F	F	D	Α	F	F	Α	
Approach Delay		60.7		135.1		88.6			66.2		
Approach LOS		Е		F		F			E		

Cycle Length: 120

Actuated Cycle Length: 119.9

Natural Cycle: 130

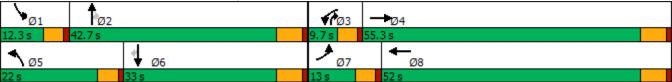
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.21
Intersection Signal Delay: 93.4
Intersection Capacity Utilization 106.2%

Intersection LOS: F
ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 5: 7th/Arrowhead Dr & Nisqualli Rd.

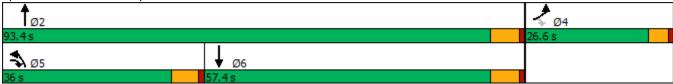


2034 WP - PM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	ሻ	∱ ⊅		ሻ	∱ ∱		ሻ	↑	7	ሻ	•	7
Traffic Volume (veh/h)	128	1162	238	49	1497	95	280	319	57	60	391	107
Future Volume (veh/h)	128	1162	238	49	1497	95	280	319	57	60	391	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	135	1223	193	52	1576	79	295	336	49	63	412	92
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	120	1302	204	66	1347	67	249	618	585	80	431	365
Arrive On Green	0.07	0.42	0.42	0.04	0.38	0.38	0.14	0.33	0.33	0.05	0.23	0.23
Sat Flow, veh/h	1714	3126	491	1714	3499	175	1714	1900	1610	1714	1900	1610
Grp Volume(v), veh/h	135	703	713	52	810	845	295	336	49	63	412	92
Grp Sat Flow(s),veh/h/ln	1714	1805	1812	1714	1805	1869	1714	1900	1610	1714	1900	1610
Q Serve(g_s), s	8.4	44.7	45.4	3.6	46.2	46.2	17.4	17.4	2.4	4.4	25.7	5.6
Cycle Q Clear(g_c), s	8.4	44.7	45.4	3.6	46.2	46.2	17.4	17.4	2.4	4.4	25.7	5.6
Prop In Lane	1.00		0.27	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	752	755	66	695	719	249	618	585	80	431	365
V/C Ratio(X)	1.12	0.94	0.94	0.79	1.17	1.17	1.19	0.54	0.08	0.79	0.96	0.25
Avail Cap(c_a), veh/h	120	752	755	73	695	719	249	618	585	110	431	365
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	33.5	33.7	57.2	36.9	36.9	51.3	33.2	25.1	56.6	45.8	38.1
Incr Delay (d2), s/veh	119.7	18.9	20.4	35.1	89.6	92.9	117.1	1.0	0.1	15.5	32.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	22.3	23.0	2.2	36.4	38.4	15.4	8.0	0.9	2.2	15.4	2.2
Unsig. Movement Delay, s/veh		EO 4	54.1	00.2	100 E	100.0	160.4	24.0	OE 4	70.4	70.0	38.4
LnGrp Delay(d),s/veh	175.5 F	52.4 D	54.1 D	92.3 F	126.5 F	129.8 F	168.4 F	34.2 C	25.1 C	72.1 E	78.2 E	
LnGrp LOS			U	Г					U			<u>D</u>
Approach Vol, veh/h		1551			1707			680			567	
Approach LOS		63.9			127.1			91.8			71.0	
Approach LOS		Е			F			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	44.8	9.2	55.8	22.0	33.0	13.0	52.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	5.8	4.6	5.8	4.6	5.8				
Max Green Setting (Gmax), s	7.7	36.9	5.1	49.5	17.4	27.2	8.4	46.2				
Max Q Clear Time (g_c+l1), s	6.4	19.4	5.6	47.4	19.4	27.7	10.4	48.2				
Green Ext Time (p_c), s	0.0	1.8	0.0	1.6	0.0	0.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			92.9									
HCM 6th LOS			F									

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Lane Group	EBL	EBR	NBL	NBT	SBT		
Lane Configurations	ች	77	ሻሻ	^	↑ ↑		
Traffic Volume (vph)	176	675	653	1436	1407		
Future Volume (vph)	176	675	653	1436	1407		
Turn Type	Prot	pm+ov	Prot	NA	NA		
Protected Phases	4	5	5	2	6		
Permitted Phases		4					
Detector Phase	4	5	5	2	6		
Switch Phase							
Minimum Initial (s)	5.0	10.0	10.0	10.0	10.0		
Minimum Split (s)	26.6	15.8	15.8	16.2	28.2		
Total Split (s)	26.6	36.0	36.0	93.4	57.4		
Total Split (%)	22.2%	30.0%	30.0%	77.8%	47.8%		
Yellow Time (s)	3.6	4.8	4.8	5.2	5.2		
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	4.6	5.8	5.8	6.2	6.2		
Lead/Lag		Lead	Lead		Lag		
Lead-Lag Optimize?		Yes	Yes		Yes		
Recall Mode	None	None	None	Min	Min		
Act Effct Green (s)	16.4	49.8	28.8	86.0	51.4		
Actuated g/C Ratio	0.14	0.44	0.25	0.76	0.45		
v/c Ratio	0.77	0.58	0.88	0.56	1.05		
Control Delay	67.0	25.1	54.8	7.1	68.6		
Queue Delay	0.0	0.0	0.0	0.0	0.0		
Total Delay	67.0	25.1	54.8	7.1	68.6		
LOS	Е	С	D	Α	Е		
Approach Delay	33.8			22.0	68.6		
Approach LOS	С			С	Е		
Intersection Summary							
Cycle Length: 120							
Actuated Cycle Length:	113.2						
Natural Cycle: 130							
Control Type: Actuated-l	Uncoordinated						
Maximum v/c Ratio: 1.05							
Intersection Signal Delay				lı	ntersection	LOS: D	
Intersection Capacity Uti		ı			CU Level o		
Analysis Period (min) 15							
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Splits and Phases: 6:	Hesperia Rd.	& Green	Tree Bl.				
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EBL	EBR	NBL	NBT	SBT	SBR
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176	675	653	1436	1407	176
176	675	653	1436	1407	176
0	0	0	0	0	0
1.00	1.00	1.00			1.00
1.00	1.00	1.00	1.00	1.00	1.00
No			No	No	
1800	1900	1700	1900	1900	1900
189	726	702	1544	1513	189
0.93	0.93	0.93	0.93	0.93	0.93
0	0	0	0	0	0
319	1210	757	2609	1400	173
0.19	0.19	0.24	0.72	0.43	0.43
1714	2834	3141	3705	3329	399
189	726	702	1544	836	866
1714	1417	1570	1805	1805	1828
11.9	22.0	25.8	24.5	51.2	51.2
11.9	22.0	25.8	24.5	51.2	51.2
1.00	1.00	1.00			0.22
319	1210	757	2609	781	791
0.59	0.60	0.93	0.59	1.07	1.09
319	1210	802	2661	781	791
1.00	1.00	1.00	1.00	1.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00
44.1	26.1	43.9	7.9	33.6	33.6
2.0	0.6	16.4	0.3	52.8	60.7
0.0	0.0	0.0	0.0	0.0	0.0
5.3	0.1	11.3	7.3	31.9	34.1
46.1	26.7	60.2	8.3	86.4	94.3
D	С	Е	Α	F	F
				F	
	2				6
					6 57.4
					57.4
					6.2
					51.2
					53.2
	24.1		0.0	0.7	0.0
		48.7			
	EBL 176 176 0 1.00 1.00 1.00 No 1800 189 0.93 0 319 0.19 1714 189 1714 11.9 1.00 319 0.59 319 1.00 1.00 44.1 2.0 0.0 5.3	EBL EBR 176 675 176 675 0 0 1.00 1.00 1.00 1.00 No 1800 1900 189 726 0.93 0.93 0 0 319 1210 0.19 0.19 1714 2834 189 726 1714 1417 11.9 22.0 11.00 1.00 319 1210 0.59 0.60 319 1210 0.59 0.60 319 1210 1.00 1.00 44.1 26.1 2.0 0.6 0.0 0.0 5.3 0.1	EBL EBR NBL 176 675 653 176 675 653 0 0 0 0 1.00 1.00 1.00 1.00 1.00 1.00 1800 1900 1700 189 726 702 0.93 0.93 0.93 0 0 0 319 1210 757 0.19 0.19 0.24 1714 2834 3141 189 726 702 1714 1417 1570 11.9 22.0 25.8 11.9 22.0 25.8 11.9 22.0 25.8 11.9 22.0 25.8 1.00 1.00 1.00 319 1210 757 0.59 0.60 0.93 319 1210 802 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.01 1.00 1.00 1.00 1.00 1.00 1.01 1.00 1.00 1.00 1.00 1.00 1.01 1.00 1.01 1.01 1.01 1.01 1.02 1.03 1.03 1.04 1.04 1.05 1.05 1.06 1.07 1.08 1.08 1.08 1.09 1.09 1.00 1.	EBL EBR NBL NBT 176 675 653 1436 176 675 653 1436 0 0 0 0 0 1.00 1.00 1.00 1.00 1.00 1.00	BBL BBR NBL NBT SBT

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	
Lane Configurations		4	ሻ	f)	ሻ	^	7	ሻ	∱ }	
Traffic Volume (vph)	7	2	104	5	36	2035	39	20	2057	
Future Volume (vph)	7	2	104	5	36	2035	39	20	2057	
Turn Type	Perm	NA	Perm	NA	Prot	NA	Perm	Prot	NA	
Protected Phases		4		8	5	2		1	6	
Permitted Phases	4		8				2			
Detector Phase	4	4	8	8	5	2	2	1	6	
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	26.6	26.6	26.6	26.6	9.6	23.2	23.2	9.6	23.2	
Total Split (s)	26.6	26.6	26.6	26.6	12.0	83.4	83.4	10.0	81.4	
Total Split (%)	22.2%	22.2%	22.2%	22.2%	10.0%	69.5%	69.5%	8.3%	67.8%	
Yellow Time (s)	3.6	3.6	3.6	3.6	3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.6	4.6	4.6	4.6	6.2	6.2	4.6	6.2	
Lead/Lag					Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	Min	Min	None	Min	
Act Effct Green (s)		14.4	14.4	14.4	6.5	76.8	76.8	5.3	73.9	
Actuated g/C Ratio		0.14	0.14	0.14	0.06	0.73	0.73	0.05	0.70	
v/c Ratio		0.13	0.59	0.21	0.38	0.83	0.04	0.26	0.88	
Control Delay		23.2	57.6	15.6	61.8	15.8	1.3	60.6	20.0	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		23.2	57.6	15.6	61.8	15.8	1.3	60.6	20.0	
LOS		С	Е	В	Е	В	Α	Е	В	
Approach Delay		23.2		43.6		16.3			20.4	
Approach LOS		С		D		В			С	
Intersection Cummery										

Cycle Length: 120

Actuated Cycle Length: 105.7

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

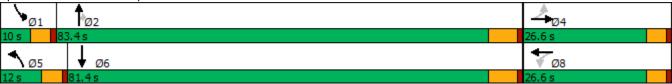
Maximum v/c Ratio: 0.88 Intersection Signal Delay: 19.3

Intersection LOS: B
ICU Level of Service D

Intersection Capacity Utilization 78.4%

Analysis Period (min) 15

Splits and Phases: 7: Hesperia Rd. & Ottawa St.



2034 WP - PM Peak Hour Urban Crossroads, Inc.

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4		7	1•		*	^	7	7	∱ ∱	
Traffic Volume (veh/h)	7	2	20	104	5	47	36	2035	39	20	2057	5
Future Volume (veh/h)	7	2	20	104	5	47	36	2035	39	20	2057	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1800	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	8	2	22	112	5	51	39	2188	42	22	2212	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	70	31	118	238	15	156	58	2561	1142	40	2582	6
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.03	0.71	0.71	0.02	0.70	0.70
Sat Flow, veh/h	214	296	1121	1487	146	1487	1714	3610	1610	1714	3695	8
Grp Volume(v), veh/h	32	0	0	112	0	56	39	2188	42	22	1080	1137
Grp Sat Flow(s),veh/h/ln	1631	0	0	1487	0	1632	1714	1805	1610	1714	1805	1898
Q Serve(g_s), s	0.0	0.0	0.0	4.9	0.0	3.0	2.1	42.4	0.7	1.2	42.6	42.6
Cycle Q Clear(g_c), s	1.6	0.0	0.0	6.5	0.0	3.0	2.1	42.4	0.7	1.2	42.6	42.6
Prop In Lane	0.25		0.69	1.00		0.91	1.00	0=04	1.00	1.00	1001	0.00
Lane Grp Cap(c), veh/h	219	0	0	238	0	171	58	2561	1142	40	1261	1327
V/C Ratio(X)	0.15	0.00	0.00	0.47	0.00	0.33	0.67	0.85	0.04	0.55	0.86	0.86
Avail Cap(c_a), veh/h	419	0	0	427	0	379	134	2939	1311	98	1431	1505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	0.0	0.0	40.8	0.0	39.3	45.3	10.2	4.1	45.8	10.7	10.7
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.5	0.0	1.1	4.9	2.4	0.0	4.4	4.9	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0 2.6	0.0	0.0	0.0	0.0	0.0	0.0 0.5	0.0	0.0
%ile BackOfQ(50%),veh/ln Unsig. Movement Delay, s/veh		0.0	0.0	2.0	0.0	1.3	0.9	11.6	0.2	0.5	12.9	13.5
J.		0.0	0.0	42.2	0.0	40.4	50.2	12.5	4.1	50.2	1E G	15 /
LnGrp Delay(d),s/veh	39.0 D	0.0	0.0 A	42.2 D	0.0 A	40.4 D	50.2 D	12.5 B	4.1 A	50.2 D	15.6 B	15.4
LnGrp LOS	U	A 20	A	U		U	U		A	U		B
Approach Vol, veh/h		32			168			2269			2239	
Approach LOS		39.0			41.6			13.0			15.8	
Approach LOS		D			D			В			В	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	73.5		14.5	7.8	72.5		14.5				
Change Period (Y+Rc), s	4.6	6.2		4.6	4.6	6.2		4.6				
Max Green Setting (Gmax), s	5.4	77.2		22.0	7.4	75.2		22.0				
Max Q Clear Time (g_c+l1), s	3.2	44.4		3.6	4.1	44.6		8.5				
Green Ext Time (p_c), s	0.0	22.7		0.1	0.0	21.6		0.5				
Intersection Summary												
HCM 6th Ctrl Delay			15.6									
HCM 6th LOS			В									

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	44	1	77	ሻ	↑ ↑	14.54	∱ }	ሻ	∱ }
Traffic Volume (vph)	215	74	517	119	79	567	1735	23	1989
Future Volume (vph)	215	74	517	119	79	567	1735	23	1989
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	32.8	9.6	9.6	30.8	9.6	27.2	9.6	33.2
Total Split (s)	14.0	34.3	17.0	10.5	30.8	17.0	65.6	9.6	58.2
Total Split (%)	11.7%	28.6%	14.2%	8.8%	25.7%	14.2%	54.7%	8.0%	48.5%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	9.4	12.9	28.0	9.7	10.1	12.4	65.2	5.0	52.0
Actuated g/C Ratio	0.09	0.12	0.27	0.09	0.10	0.12	0.62	0.05	0.49
v/c Ratio	0.77	0.33	0.71	0.78	0.38	1.54	0.86	0.30	1.29
Control Delay	65.6	45.8	39.7	82.3	28.3	287.4	22.6	58.2	162.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.6	45.8	39.7	82.3	28.3	287.4	22.6	58.2	162.2
LOS	Е	D	D	F	С	F	С	Е	F
Approach Delay		47.2			53.1		84.6		161.2
Approach LOS		D			D		F		F

Cycle Length: 120

Actuated Cycle Length: 105.1

Natural Cycle: 130

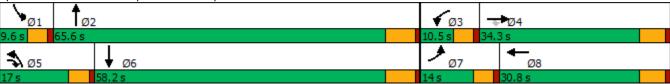
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.54 Intersection Signal Delay: 107.8 Intersection Capacity Utilization 113.2%

Intersection LOS: F
ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 8: Hesperia Rd. & Nisqualli Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	77	†	77	ሻ	∱ ∱		ሻሻ	∱ ∱		ሻ	ተ ኈ	
Traffic Volume (veh/h)	215	74	517	119	79	62	567	1735	119	23	1989	224
Future Volume (veh/h)	215	74	517	119	79	62	567	1735	119	23	1989	224
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	4700	No	4000	4000	No	4000	4700	No	4000	4000	No	4000
Adj Sat Flow, veh/h/ln	1700	1900	1900	1800	1900	1900	1700	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	222 0.97	76 0.97	533 0.97	123 0.97	81 0.97	64 0.97	585	1789 0.97	123 0.97	24 0.97	2051	231
Peak Hour Factor Percent Heavy Veh, %	0.97	0.97	0.97	0.97	0.97	0.97	0.97 0	0.97	0.97	0.97	0.97 0	0.97
Cap, veh/h	268	369	859	89	327	235	354	1865	127	40	1501	166
Arrive On Green	0.08	0.19	0.19	0.05	0.16	0.16	0.11	0.54	0.54	0.02	0.46	0.46
Sat Flow, veh/h	3238	1900	2834	1714	2004	1442	3238	3430	233	1714	3278	362
Grp Volume(v), veh/h	222	76	533	123	72	73	585	932	980	24	1112	1170
Grp Sat Flow(s), veh/h/ln	1619	1900	1417	1714	1805	1640	1619	1805	1858	1714	1805	1835
Q Serve(g_s), s	7.7	3.8	18.3	5.9	4.0	4.4	12.4	55.3	57.8	1.6	52.0	52.0
Cycle Q Clear(g_c), s	7.7	3.8	18.3	5.9	4.0	4.4	12.4	55.3	57.8	1.6	52.0	52.0
Prop In Lane	1.00	0.0	1.00	1.00		0.88	1.00	00.0	0.13	1.00	02.0	0.20
Lane Grp Cap(c), veh/h	268	369	859	89	295	268	354	982	1011	40	827	840
V/C Ratio(X)	0.83	0.21	0.62	1.38	0.25	0.27	1.65	0.95	0.97	0.60	1.34	1.39
Avail Cap(c_a), veh/h	268	477	1021	89	397	361	354	982	1011	76	827	840
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	38.4	33.9	53.8	41.4	41.6	50.6	24.4	25.0	54.9	30.8	30.8
Incr Delay (d2), s/veh	17.9	0.3	0.9	226.6	0.4	0.5	306.6	17.8	21.2	5.2	163.2	183.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	1.8	6.1	8.1	1.7	1.8	19.9	25.3	27.9	0.7	57.8	63.6
Unsig. Movement Delay, s/veh												=
LnGrp Delay(d),s/veh	69.2	38.7	34.8	280.4	41.8	42.1	357.2	42.2	46.2	60.1	193.9	214.7
LnGrp LOS	<u>E</u>	D	С	F	D	D	F	D	D	<u>E</u>	F	F
Approach Vol, veh/h		831			268			2497			2306	
Approach Delay, s/veh		44.3			151.4			117.6			203.1	
Approach LOS		D			F			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	67.9	10.5	27.8	17.0	58.2	14.0	24.3				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.0	59.4	5.9	28.5	12.4	52.0	9.4	25.0				
Max Q Clear Time (g_c+I1), s	3.6	59.8	7.9	20.3	14.4	54.0	9.7	6.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			142.2									
HCM 6th LOS			F									

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	
Lane Configurations	1,1	ተተተ	7	1,1	ተተተ	7	ሻሻ	^	7	1,4	↑ ↑	
Traffic Volume (vph)	179	2108	136	399	1844	216	269	602	439	529	816	
Future Volume (vph)	179	2108	136	399	1844	216	269	602	439	529	816	
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	31.2	9.6	9.6	33.2	9.6	9.6	39.2	39.2	9.6	37.2	
Total Split (s)	11.0	44.0	13.0	16.0	49.0	18.0	13.0	42.0	42.0	18.0	47.0	
Total Split (%)	9.2%	36.7%	10.8%	13.3%	40.8%	15.0%	10.8%	35.0%	35.0%	15.0%	39.2%	
Yellow Time (s)	3.6	5.2	3.6	3.6	5.2	3.6	3.6	5.2	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	6.2	4.6	4.6	6.2	4.6	4.6	6.2	6.2	4.6	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	None	Min	None	None	None	None	None	None	
Act Effct Green (s)	6.4	37.8	52.5	11.4	42.8	62.5	8.4	33.8	33.8	13.4	38.8	
Actuated g/C Ratio	0.05	0.32	0.44	0.10	0.36	0.53	0.07	0.29	0.29	0.11	0.33	
v/c Ratio	1.08	1.30	0.17	1.35	1.00	0.25	1.23	0.59	0.74	1.52	0.88	
Control Delay	143.9	171.7	2.9	217.4	58.8	11.1	181.8	38.9	29.3	284.2	46.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	143.9	171.7	2.9	217.4	58.8	11.1	181.8	38.9	29.3	284.2	46.6	
LOS	F	F	Α	F	Е	В	F	D	С	F	D	
Approach Delay		160.2			80.4			65.0			128.1	
Approach LOS		F			F			E			F	

Cycle Length: 120

Actuated Cycle Length: 118.1

Natural Cycle: 125

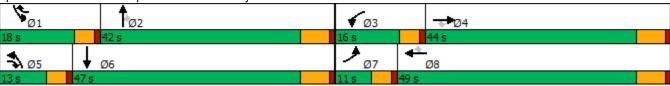
Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.52 Intersection Signal Delay: 112.3 Intersection Capacity Utilization 108.9%

Intersection LOS: F
ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 9: Hesperia Rd. & Bear Valley Rd.



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14	^	7	ሻሻ	ተተተ	7	ሻሻ	^	7	ሻሻ	∱ ∱	
Traffic Volume (veh/h)	179	2108	136	399	1844	216	269	602	439	529	816	197
Future Volume (veh/h)	179	2108	136	399	1844	216	269	602	439	529	816	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No		.=	No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1700	1900	1900	1700	1900	1900	1700	1900	1900
Adj Flow Rate, veh/h	183	2151	139	407	1882	220	274	614	448	540	833	201
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	168	1641	623	300	1858	757	221	1066	475	352	972	235
Arrive On Green	0.05	0.32	0.32	0.10	0.36	0.36	0.07	0.30	0.30	0.11	0.34	0.34
Sat Flow, veh/h	3141	5187	1610	3141	5187	1610	3141	3610	1610	3141	2884	696
Grp Volume(v), veh/h	183	2151	139	407	1882	220	274	614	448	540	521	513
Grp Sat Flow(s),veh/h/ln	1570	1729	1610	1570	1729	1610	1570	1805	1610	1570	1805	1775
Q Serve(g_s), s	6.4	37.8	6.9	11.4	42.8	10.0	8.4	17.3	32.5	13.4	32.2	32.2
Cycle Q Clear(g_c), s	6.4	37.8	6.9	11.4	42.8	10.0	8.4	17.3	32.5	13.4	32.2	32.2
Prop In Lane	1.00	1611	1.00	1.00	1050	1.00	1.00	1066	1.00	1.00	600	0.39
Lane Grp Cap(c), veh/h	168 1.09	1641 1.31	623 0.22	300 1.36	1858 1.01	757 0.29	221 1.24	1066 0.58	475 0.94	352 1.53	608 0.86	598 0.86
V/C Ratio(X) Avail Cap(c_a), veh/h	1.09	1641	623	300	1858	757	221	1082	482	352	616	606
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	40.8	24.6	54.0	38.3	19.4	55.5	35.8	41.1	53.0	36.9	36.9
Incr Delay (d2), s/veh	94.7	144.3	0.2	181.4	24.1	0.2	140.7	0.7	26.9	253.7	11.4	11.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	37.8	2.7	12.0	21.9	3.8	7.5	7.3	16.3	17.5	15.3	15.0
Unsig. Movement Delay, s/veh		07.0	,	12.0	21.0	0.0	1.0	1.0	10.0	11.0	10.0	10.0
LnGrp Delay(d),s/veh	151.3	185.2	24.8	235.4	62.4	19.6	196.2	36.5	68.1	306.7	48.3	48.5
LnGrp LOS	F	F	C	F	F	В	F	D	E	F	D	D
Approach Vol, veh/h		2473			2509			1336			1574	
Approach Delay, s/veh		173.6			86.7			79.8			137.0	
Approach LOS		F			F			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	41.5	16.0	44.0	13.0	46.5	11.0	49.0				
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2				
Max Green Setting (Gmax), s	13.4	35.8	11.4	37.8	8.4	40.8	6.4	42.8				
Max Q Clear Time (g_c+l1), s	15.4	34.5	13.4	39.8	10.4	34.2	8.4	44.8				
Green Ext Time (p_c), s	0.0	0.8	0.0	0.0	0.0	3.9	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			122.8									
HCM 6th LOS			F									

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Urban Crossroads, Inc.

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APPENDIX 6.3:

FUTURE YEAR (2034) WITHOUT PROJECT CONDITIONS QUEUING ANALYSIS
WORKSHEETS



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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1093	51	900	450	192	1054
v/c Ratio	0.93	0.09	0.72	0.53	0.71	0.53
Control Delay	43.5	6.5	30.3	4.9	51.0	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	6.5	30.3	4.9	51.0	14.5
Queue Length 50th (ft)	300	0	241	0	103	195
Queue Length 95th (ft)	#421	24	318	66	173	251
Internal Link Dist (ft)	1021		670			1219
Turn Bay Length (ft)	465	570			300	
Base Capacity (vph)	1217	594	1254	855	310	1976
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.09	0.72	0.53	0.62	0.53
Intersection Summary						

^{# 95}th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

	•	→	•	•	•	†	/
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	283	1719	1464	463	129	130	372
v/c Ratio	0.66	0.53	0.62	0.47	0.32	0.32	0.83
Control Delay	45.1	10.9	21.5	3.7	29.0	29.1	40.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.1	10.9	21.5	3.7	29.0	29.1	40.2
Queue Length 50th (ft)	79	190	234	0	62	63	152
Queue Length 95th (ft)	118	253	308	56	106	107	241
Internal Link Dist (ft)		731	593			1882	
Turn Bay Length (ft)	250				645		915
Base Capacity (vph)	489	3251	2353	985	504	506	537
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.53	0.62	0.47	0.26	0.26	0.69
Intersection Summary							

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Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			4		*	ħβ		ች	† ‡	
Traffic Vol, veh/h	6	0	10	0	0	6	13	1346	7	12	1468	1
Future Vol, veh/h	6	0	10	0	0	6	13	1346	7	12	1468	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage	e, # -	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	7	0	11	0	0	7	15	1530	8	14	1668	1
Major/Minor I	Minor2		1	Minor1		I	Major1		١	/lajor2		
Conflicting Flow All	2492	3265	835	2426	3261	769	1669	0	0	1538	0	0
Stage 1	1697	1697	-	1564	1564	-	-	-	-	-	_	-
Stage 2	795	1568	-	862	1697	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	15	9	315	17	9	348	390	-	-	438	-	-
Stage 1	98	150	-	119	174	-	-	-	-	-	-	-
Stage 2	351	173	-	320	150	-	-	-		-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	14	8	315	16	8	348	390	-	-	438	-	-
Mov Cap-2 Maneuver	85	96	-	100	94	-	-	-	-	-	-	-
Stage 1	94	145	-	114	167	-	-	-	-	-	-	-
Stage 2	331	166	-	299	145	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	31.1			15.6			0.1			0.1		
HCM LOS	D			С								
Minor Lane/Major Mvm	nt	NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR			
Capacity (veh/h)		390	-	-		348	438	-	-			
HCM Lane V/C Ratio		0.038	-	_	0.117		0.031	-	_			
HCM Control Delay (s)		14.6	-	-	31.1	15.6	13.5	-	-			
HCM Lane LOS		В	-	-	D	С	В	-	-			
HCM 95th %tile Q(veh))	0.1	-	-	0.4	0.1	0.1	-	-			

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2: Armargosa Rd. & I-15 SB Ramps

	•	•	†	~	-	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1363	65	1101	491	230	1303
v/c Ratio	1.09	0.10	0.95	0.58	0.83	0.69
Control Delay	81.2	5.8	48.7	5.4	61.8	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.2	5.8	48.7	5.4	61.8	18.3
Queue Length 50th (ft)	~452	0	323	0	127	274
Queue Length 95th (ft)	#581	26	#462	69	#243	350
Internal Link Dist (ft)	1021		670			1219
Turn Bay Length (ft)	465	570			300	
Base Capacity (vph)	1256	621	1155	850	290	1893
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.10	0.95	0.58	0.79	0.69

Intersection Summary

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

^{# 95}th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

	•	-	←	•	1	†	-
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	379	2448	2613	542	322	323	588
v/c Ratio	1.03	0.78	1.13	0.56	0.72	0.72	1.21
Control Delay	95.4	15.8	89.6	5.8	40.9	41.0	140.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.4	15.8	89.6	5.8	40.9	41.0	140.1
Queue Length 50th (ft)	~119	351	~636	30	175	175	~374
Queue Length 95th (ft)	#208	416	#732	105	#285	#295	#579
Internal Link Dist (ft)		731	593			1882	
Turn Bay Length (ft)	250				645		915
Base Capacity (vph)	369	3123	2316	970	447	447	486
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.78	1.13	0.56	0.72	0.72	1.21

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Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

^{# 95}th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Intersection													
Int Delay, s/veh	0.8												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4			4		ች	ħβ		ች	† ‡		
Traffic Vol, veh/h	7	0	20	2	0	18	36	2035	0	9	2057	5	
Future Vol, veh/h	7	0	20	2	0	18	36	2035	0	9	2057	5	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	_	-	None	_	_	None	_	_	None	_	_	None	
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-	
Veh in Median Storage	.# -	2	_	_	2	_	_	0	_	_	0	_	
Grade, %	, -	0	-	-	0	-	-	0	-	-	0	_	
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93	
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	
Nymt Flow	8	0	22	2	0	19	39	2188	0	10	2212	5	
				_				2100					
Major/Minor N	Minor2		ı	Minor1			Major1		ı	Major2			
Conflicting Flow All	3407	4501	1109	3392	4503	1094	2217	0	0	2188	0	0	
Stage 1	2235	2235	-	2266	2266	-	-	-	-	-	-	-	
Stage 2	1172	2266	_	1126	2237	_	_	_	_	_	_	_	
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	4.1	_	_	4.1	_	_	
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	0.5	7.1	_	_	7.1	_	_	
Critical Hdwy Stg 2	6.5	5.5	_	6.5	5.5	_	_	_	_	_	_	_	
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	_	_	2.2	_	_	
Pot Cap-1 Maneuver	~ 3	1	207	3	1	212	239	_	_	246	_	_	
Stage 1	45	80	201	43	77	-	200	_	<u>_</u>	240	_	_	
Stage 2	208	77	_	222	80	_	_	_	_	_	_	_	
Platoon blocked, %	200				00			_	_		_	_	
Mov Cap-1 Maneuver	~ 2	1	207	~ 2	1	212	239	_	_	246	_	_	
Mov Cap-1 Maneuver	34	40	-	33	30			_	_		_	<u>-</u>	
Stage 1	38	77	_	36	64	_	_	_	_	_	_	_	
Stage 2	158	64	_	191	77	_	_	_	_	_	_	_	
Olugo 2	100	07		101	11								
Approach	EB			WB			NB			SB			
HCM Control Delay, s	63.9			36.1			0.4			0.1			
HCM LOS	63.9 F			30.1 E			0.4			U. I			
IOW LOS	ı												
Minor Lane/Major Mvm	t	NBL	NBT	NRR	EBLn1V	VRI n1	SBL	SBT	SBR				
			INDT	ואטוו			246	ומט	אומט				
Capacity (veh/h)		239	-	-	89	137		-	-				
HCM Cantral Dalay (a)		0.162	-			0.157		-	-				
HCM Long LOS		23	-	-	63.9	36.1	20.2	-	-				
HCM Lane LOS		С	-	-	F	E	C	-	-				
HCM 95th %tile Q(veh)		0.6	-	-	1.2	0.5	0.1	-	-				
Notes													
: Volume exceeds cap	acity	\$: De	elay exc	eeds 3	00s	+: Com	putation	n Not D	efined	*: All	major v	volume i	in platoon

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APPENDIX 6.4:

FUTURE YEAR (2034) WITH PROJECT CONDITIONS QUEUING ANALYSIS
WORKSHEETS

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	•	•	†	~	-	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1115	51	900	464	192	1054
v/c Ratio	0.94	0.09	0.72	0.54	0.71	0.54
Control Delay	44.5	6.5	26.3	3.6	51.0	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	6.5	26.3	3.6	51.0	14.7
Queue Length 50th (ft)	308	0	244	9	103	195
Queue Length 95th (ft)	#435	24	m280	m13	173	251
Internal Link Dist (ft)	1021		670			1219
Turn Bay Length (ft)	465	570			300	
Base Capacity (vph)	1217	594	1242	859	310	1963
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.09	0.72	0.54	0.62	0.54

Intersection Summary

^{# 95}th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

	•	-	←	•	•	†	1
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	274	1693	1433	454	125	126	407
v/c Ratio	0.65	0.53	0.63	0.47	0.29	0.29	0.86
Control Delay	43.8	10.9	22.2	3.8	27.7	27.7	43.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	10.9	22.2	3.8	27.7	27.7	43.2
Queue Length 50th (ft)	86	163	237	0	57	58	170
Queue Length 95th (ft)	m113	230	305	59	104	105	#304
Internal Link Dist (ft)		731	593			1882	
Turn Bay Length (ft)	250				645		915
Base Capacity (vph)	486	3169	2283	965	504	506	537
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.53	0.63	0.47	0.25	0.25	0.76

Intersection Summary

^{# 95}th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

7: Hesperia Rd. & Ottawa St.

	-	•	•	4	†	/	>	ļ
Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	22	29	15	14	1463	104	38	1597
v/c Ratio	0.07	0.11	0.05	0.08	0.54	0.09	0.21	0.54
Control Delay	24.2	33.0	18.1	36.8	9.3	4.1	36.6	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.2	33.0	18.1	36.8	9.3	4.1	36.6	6.3
Queue Length 50th (ft)	4	11	0	6	229	9	15	155
Queue Length 95th (ft)	28	41	19	27	323	29	51	355
Internal Link Dist (ft)	1012		2164		2695			918
Turn Bay Length (ft)				100		100	100	
Base Capacity (vph)	643	595	670	259	3458	1549	259	3458
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.05	0.02	0.05	0.42	0.07	0.15	0.46
Intersection Summary								

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Urban Crossroads, Inc.
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	•	•	†	~	-	ļ
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1372	65	1101	545	230	1303
v/c Ratio	1.09	0.10	0.95	0.61	0.83	0.69
Control Delay	83.8	5.8	48.7	5.6	61.8	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.8	5.8	48.7	5.6	61.8	18.3
Queue Length 50th (ft)	~458	0	323	0	127	274
Queue Length 95th (ft)	#587	26	#462	73	#243	350
Internal Link Dist (ft)	1021		670			1219
Turn Bay Length (ft)	465	570			300	
Base Capacity (vph)	1256	621	1155	887	290	1893
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.10	0.95	0.61	0.79	0.69

Intersection Summary

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

^{# 95}th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

	•	-	•	•	•	†	-
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT	NBR
Lane Group Flow (vph)	379	2459	2672	562	322	323	607
v/c Ratio	1.03	0.79	1.15	0.58	0.72	0.72	1.25
Control Delay	95.4	15.9	100.3	6.2	40.9	41.0	155.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.4	15.9	100.3	6.2	40.9	41.0	155.7
Queue Length 50th (ft)	~119	354	~662	35	175	175	~397
Queue Length 95th (ft)	#208	420	#757	117	#285	#295	#605
Internal Link Dist (ft)		731	593			1882	
Turn Bay Length (ft)	250				645		915
Base Capacity (vph)	369	3123	2316	973	447	447	486
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.79	1.15	0.58	0.72	0.72	1.25

Intersection Summary

2034 WP - PM Peak Hour Urban Crossroads, Inc.

Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

^{# 95}th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

	-	•	←	4	†	~	-	↓
Lane Group	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	32	112	56	39	2188	42	22	2217
v/c Ratio	0.13	0.59	0.21	0.38	0.83	0.04	0.26	0.88
Control Delay	23.2	57.6	15.6	61.8	15.8	1.3	60.6	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	57.6	15.6	61.8	15.8	1.3	60.6	20.0
Queue Length 50th (ft)	6	78	3	27	386	0	16	643
Queue Length 95th (ft)	35	138	41	66	#886	9	45	#1040
Internal Link Dist (ft)	1012		2164		2695			918
Turn Bay Length (ft)				100		100	100	
Base Capacity (vph)	357	294	385	121	2731	1235	88	2600
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.38	0.15	0.32	0.80	0.03	0.25	0.85

Intersection Summary
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

APPENDIX 6.5:

FUTURE YEAR (2034) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS
ANALYSIS WORKSHEETS WITH IMPROVEMENTS



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	•	→	•	•	•	4	†	>	ļ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Configurations	1,1		77	7	↑ ↑	14.54	∱ }	J.	^	7	
Traffic Volume (vph)	236	90	499	101	88	331	1449	20	1349	89	
Future Volume (vph)	236	90	499	101	88	331	1449	20	1349	89	
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4	5	3	8	5	2	1	6		
Permitted Phases			4							6	
Detector Phase	7	4	5	3	8	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	32.8	9.6	9.6	30.8	9.6	27.2	9.6	33.2	33.2	
Total Split (s)	14.7	32.8	18.3	13.0	31.1	18.3	64.6	9.6	55.9	55.9	
Total Split (%)	12.3%	27.3%	15.3%	10.8%	25.9%	15.3%	53.8%	8.0%	46.6%	46.6%	
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2	6.2	
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lag	Lead	Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	
Act Effct Green (s)	10.1	12.4	31.9	8.4	10.7	13.7	63.6	5.0	49.1	49.1	
Actuated g/C Ratio	0.10	0.12	0.30	0.08	0.10	0.13	0.61	0.05	0.47	0.47	
v/c Ratio	0.83	0.44	0.63	0.80	0.38	0.85	0.78	0.27	0.87	0.12	
Control Delay	69.1	49.7	35.2	87.0	30.4	64.8	19.8	57.5	31.9	0.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	69.1	49.7	35.2	87.0	30.4	64.8	19.8	57.5	31.9	0.9	
LOS	E	D	D	F	С	Е	В	Е	С	Α	
Approach Delay		46.5			54.1		27.7		30.3		
Approach LOS		D			D		С		С		

Cycle Length: 120

Actuated Cycle Length: 104.8

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 33.5
Intersection Capacity Utilization 81.5%

Intersection LOS: C
ICU Level of Service D

Analysis Period (min) 15



	۶	→	•	•	←	4	1	†	~	/	†	✓
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1,1	†	77	ሻ	ተ ኈ		ሻሻ	ተ ኈ		ሻ	^↑	7
Traffic Volume (veh/h)	236	90	499	101	88	52	331	1449	117	20	1349	89
Future Volume (veh/h)	236	90	499	101	88	52	331	1449	117	20	1349	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1800	1900	1900	1700	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	257	98	542	110	96	57	360	1575	127	22	1466	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	286	368	887	126	400	222	388	1781	142	38	1546	690
Arrive On Green	0.09	0.19	0.19	0.07	0.18	0.18	0.12	0.53	0.53	0.02	0.43	0.43
Sat Flow, veh/h	3238	1900	2834	1714	2241	1241	3238	3385	271	1714	3610	1610
Grp Volume(v), veh/h	257	98	542	110	76	77	360	834	868	22	1466	97
Grp Sat Flow(s),veh/h/ln	1619	1900	1417	1714	1805	1677	1619	1805	1851	1714	1805	1610
Q Serve(g_s), s	9.0	5.0	18.6	7.3	4.1	4.5	12.6	46.6	47.9	1.5	44.8	4.2
Cycle Q Clear(g_c), s	9.0	5.0	18.6	7.3	4.1	4.5	12.6	46.6	47.9	1.5	44.8	4.2
Prop In Lane	1.00		1.00	1.00		0.74	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	286	368	887	126	322	299	388	949	974	38	1546	690
V/C Ratio(X)	0.90	0.27	0.61	0.87	0.24	0.26	0.93	0.88	0.89	0.58	0.95	0.14
Avail Cap(c_a), veh/h	286	448	1007	126	399	371	388	949	974	75	1567	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	39.3	33.4	52.5	40.3	40.5	49.9	23.9	24.2	55.5	31.5	19.9
Incr Delay (d2), s/veh	28.3	0.4	0.9	43.4	0.4	0.4	28.1	9.5	10.4	5.2	12.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	2.3	6.2	4.6	1.8	1.9	6.4	20.0	21.3	0.7	20.4	1.5
Unsig. Movement Delay, s/veh		20.0	242	05.0	40.7	40.0	70.0	22.4	24.0	CO 7	44.0	00.0
LnGrp Delay(d),s/veh	80.0	39.6	34.3 C	95.9	40.7	40.9	78.0	33.4	34.6	60.7	44.0 D	20.0
LnGrp LOS	<u>E</u>	D		F	D	D	<u>E</u>	С	С	<u>E</u>		В
Approach Vol, veh/h		897			263			2062			1585	
Approach Delay, s/veh		48.0			63.9			41.7			42.7	
Approach LOS		D			Е			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	66.4	13.0	27.9	18.3	55.2	14.7	26.2				
Change Period (Y+Rc), s	4.6	6.2	4.6	5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.0	58.4	8.4	27.0	13.7	49.7	10.1	25.3				
Max Q Clear Time (g_c+l1), s	3.5	49.9	9.3	20.6	14.6	46.8	11.0	6.5				
Green Ext Time (p_c), s	0.0	6.1	0.0	1.6	0.0	2.3	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			44.4									
HCM 6th LOS			D									

	۶	→	•	•	←	4	†	>	ļ	4	
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Configurations	77	†	77	7	↑ ↑	44	∱ ∱	7	^	7	
Traffic Volume (vph)	215	74	517	119	79	567	1735	23	1989	224	
Future Volume (vph)	215	74	517	119	79	567	1735	23	1989	224	
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA	Perm	
Protected Phases	7	4	5	3	8	5	2	1	6		
Permitted Phases			4							6	
Detector Phase	7	4	5	3	8	5	2	1	6	6	
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0	10.0	
Minimum Split (s)	9.6	28.8	9.6	9.6	28.8	9.6	27.2	9.6	31.2	31.2	
Total Split (s)	10.7	29.7	20.5	9.8	28.8	20.5	69.5	11.0	60.0	60.0	
Total Split (%)	8.9%	24.8%	17.1%	8.2%	24.0%	17.1%	57.9%	9.2%	50.0%	50.0%	
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2	6.2	
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lag	Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Min	None	Min	Min	
Act Effct Green (s)	6.1	10.8	29.4	8.9	10.5	15.9	70.0	5.8	53.8	53.8	
Actuated g/C Ratio	0.06	0.10	0.27	0.08	0.10	0.15	0.65	0.05	0.50	0.50	
v/c Ratio	1.21	0.40	0.60	0.87	0.38	1.23	0.78	0.26	1.08	0.25	
Control Delay	179.1	51.7	36.4	100.2	28.6	158.7	17.4	56.1	72.7	3.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	179.1	51.7	36.4	100.2	28.6	158.7	17.4	56.1	72.7	3.2	
LOS	F	D	D	F	С	F	В	Е	Е	Α	
Approach Delay		75.9			61.5		50.5		65.5		
Approach LOS		E			E		D		Е		

Cycle Length: 120

Actuated Cycle Length: 107.5

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.23 Intersection Signal Delay: 60.5 Intersection Capacity Utilization 106.0%

Intersection LOS: E ICU Level of Service G

Analysis Period (min) 15



	۶	→	*	•	←	4	1	†	~	-		4
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54		77	ሻ	∱ ∱		ሻሻ	ተ ኈ		ሻ	^	7
Traffic Volume (veh/h)	215	74	517	119	79	62	567	1735	119	23	1989	224
Future Volume (veh/h)	215	74	517	119	79	62	567	1735	119	23	1989	224
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1800	1900	1900	1700	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	222	76	404	123	81	64	585	1789	123	24	2051	128
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	184	177	777	83	192	138	480	1981	135	148	1905	807
Arrive On Green	0.06	0.09	0.09	0.05	0.10	0.10	0.15	0.56	0.56	0.09	0.50	0.50
Sat Flow, veh/h	3238	1900	3220	1714	2004	1442	3238	3518	239	1714	3800	1610
Grp Volume(v), veh/h	222	76	404	123	72	73	585	957	955	24	2051	128
Grp Sat Flow(s),veh/h/ln	1619	1900	1610	1714	1805	1640	1619	1900	1857	1714	1900	1610
Q Serve(g_s), s	6.1	4.1	0.0	5.2	4.0	4.5	15.9	47.6	49.7	1.4	53.8	3.2
Cycle Q Clear(g_c), s	6.1	4.1	0.0	5.2	4.0	4.5	15.9	47.6	49.7	1.4	53.8	3.2
Prop In Lane	1.00		1.00	1.00		0.88	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	184	177	777	83	173	157	480	1070	1046	148	1905	807
V/C Ratio(X)	1.21	0.43	0.52	1.48	0.42	0.46	1.22	0.89	0.91	0.16	1.08	0.16
Avail Cap(c_a), veh/h	184	423	1194	83	387	352	480	1121	1095	148	1905	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.6	46.0	35.3	51.1	45.7	45.9	45.7	20.6	21.1	45.4	26.8	6.8
Incr Delay (d2), s/veh	132.7	1.6	0.5	269.8	1.6	2.1	116.3	9.2	11.3	0.2	44.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	1.9	4.5	8.4	1.8	1.9	13.8	20.5	21.5	0.6	33.0	1.5
Unsig. Movement Delay, s/veh		1.0	1.0	0.1	1.0	1.0	10.0	20.0	21.0	0.0	00.0	1.0
LnGrp Delay(d),s/veh	183.3	47.6	35.8	320.8	47.3	48.0	162.0	29.8	32.4	45.6	71.4	6.9
LnGrp LOS	F	D	D	F	D	D	F	C	C	D	F	A
Approach Vol, veh/h	<u>'</u>	702			268		<u> </u>	2497			2203	
Approach Delay, s/veh		83.7			173.0			61.8			67.4	
Approach LOS		65.7 F			F			_			67.4 E	
Approach 200								E				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	66.6	11.0	15.8	20.5	60.0	10.7	16.1				
Change Period (Y+Rc), s	4.6	6.2	5.8	* 5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	6.4	63.3	5.2	* 24	15.9	53.8	6.1	23.0				
Max Q Clear Time (g_c+l1), s	3.4	51.7	7.2	6.1	17.9	55.8	8.1	6.5				
Green Ext Time (p_c), s	0.0	8.8	0.0	1.8	0.0	0.0	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			71.9									
HCM 6th LOS			Е									
Notes												

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

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	
Lane Configurations	1,1	†	77	ሻ	∱ }	44	∱ }	ሻ	∱ }	
Traffic Volume (vph)	236	90	499	101	88	331	1449	20	1349	
Future Volume (vph)	236	90	499	101	88	331	1449	20	1349	
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA	
Protected Phases	7	4	5	3	8	5	2	1	6	
Permitted Phases			4							
Detector Phase	7	4	5	3	8	5	2	1	6	
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0	
Minimum Split (s)	9.6	32.8	9.6	9.6	30.8	9.6	27.2	9.6	33.2	
Total Split (s)	15.2	32.8	18.8	13.4	31.0	18.8	64.2	9.6	55.0	
Total Split (%)	12.7%	27.3%	15.7%	11.2%	25.8%	15.7%	53.5%	8.0%	45.8%	
ellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
ost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2	
₋ead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	
_ead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Min	None	Min	
Act Effct Green (s)	10.6	11.5	31.5	9.7	10.6	14.2	63.8	5.0	48.8	
Actuated g/C Ratio	0.10	0.11	0.30	0.09	0.10	0.13	0.61	0.05	0.46	
v/c Ratio	0.80	0.47	0.56	0.70	0.39	0.83	0.75	0.27	0.89	
Control Delay	65.3	51.8	33.6	71.2	30.5	61.7	18.6	57.6	34.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	65.3	51.8	33.6	71.2	30.5	61.7	18.6	57.6	34.1	
_OS	Е	D	С	Е	С	Е	В	Е	С	
Approach Delay		44.7			47.5		26.1		34.4	
Approach LOS		D			D		С		С	
Intersection Summary										
Cycle Length, 100										

Cycle Length: 120

Actuated Cycle Length: 105.4

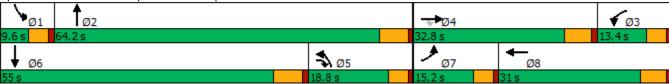
Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.89 Intersection Signal Delay: 33.5

Intersection Signal Delay: 33.5 Intersection LOS: C
Intersection Capacity Utilization 84.2% ICU Level of Service E

Analysis Period (min) 15



Movement		۶	→	•	•	←	4	1	†	~	/	†	1
Traffic Volume (veh/h)	Movement		EBT		WBL	WBT	WBR			NBR	SBL	SBT	SBR
Future Volume (veh/h) Column (veh/h) 236 90 499 101 88 52 331 1449 117 20 1349 89 Initial Q (Qb), veh 0 0 0 0 0 0 0 0 0	Lane Configurations		↑			∱ ∱		ሻሻ			ሻ	ተ ኈ	
Initial Q (Ob), weh	Traffic Volume (veh/h)					88							
Ped-Bike Adji(A_pbT)	Future Volume (veh/h)				101		52		1449		20	1349	
Parking Bus, Adj	Initial Q (Qb), veh		0			0			0			0	
Work Zone On Ápproach	Ped-Bike Adj(A_pbT)												
Adj Star Flow, vehirhin 1700 1900 100 00 0 <t< td=""><td>Parking Bus, Adj</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td></t<>	Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Flow Rate, veh/h 257 98 542 110 96 57 360 1575 127 22 1486 97 Peak Hour Factor 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92													
Peak Hour Factor 0.92 0.92 0.92 0.92 0.92 0.92 0.92 0.92													
Percent Heavy Veh, % 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0													
Cap, veh/h 316 185 729 147 218 121 418 2003 160 39 1604 106 Arrive On Green 0.10 0.10 0.10 0.09 0.10 0.13 0.58 0.02 0.45 0.45 Sat Flow, veh/h 3238 1900 3220 1714 2241 1241 3238 3472 278 1714 3262 322 Gry Volume(v), veh/h 257 98 542 110 76 77 360 856 846 22 787 776 Gry Sat Flow(s), veh/h/In 1619 1900 1610 1714 1805 1677 1619 1900 1858 714 1900 1858 Q Serve(g. s), s. 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 13 39.7 40.3 Orge Clear(g. s), s. 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7			0.92		0.92	0.92	0.92		0.92	0.92			
Arrive On Green 0.10 0.10 0.10 0.10 0.09 0.10 0.10 0.13 0.58 0.58 0.02 0.45 0.45 Sat Flow, veh/h 3238 1900 3220 1714 2241 1241 3238 3472 278 1714 3526 232 Grp Volume(v), veh/h 257 98 542 110 76 77 360 856 846 22 787 776 Grp Sat Flow(s), veh/h 1619 1900 1610 1714 1805 1677 1619 1900 1850 1714 1900 1858 Q Serve(g_s), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Top In Lane 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0													
Sat Flow, veh/h 3238 1900 3220 1714 2241 1241 3238 3472 278 1714 3526 232 Grp Volume(v), veh/h 257 98 542 110 76 77 360 856 846 22 787 776 Grp Sat Flow(s), veh/h/ln 1619 1900 1610 1714 1805 1677 1619 1900 1850 1714 1900 1850 Q Serve(g. s), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g. c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Prop In Lane 1.00 1.00 1.00 1.00 1.00 0.74 17.5 163 418 190 106 769 39 864 845 V/C Ratio(X) 0.81 0.53 0.74 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>													
Grp Volume(v), veh/h 257 98 542 110 76 77 360 856 846 22 787 776 Grp Sat Flow(s),veh/h/ln 1619 1900 1610 1714 1805 1677 1619 1900 1850 1714 1900 1858 Q Serve(g_s), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Lane Grp Cap(c), veh/h 316 185 729 147 175 163 418 1096 1067 83 90 881 HCR Patric 333 488 1260 147 442 410			0.10					0.13		0.58			
Grp Sat Flow(s), veh/h/ln 1619 1900 1610 1714 1805 1677 1619 1900 1850 1714 1900 1858 Q Serve(g_s), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Cycle Q Clear(g_c), s 8.0 5.1 4.2 4.1 10.0 1.00 1.00 1.00 1.00 1.00 1.00	Sat Flow, veh/h	3238	1900	3220	1714	2241	1241	3238	3472	278	1714	3526	232
Q Serve(g_s), s	Grp Volume(v), veh/h	257	98	542	110	76	77	360	856	846	22	787	776
Cycle Q Clear(g_c), s 8.0 5.1 2.8 6.5 4.1 4.5 11.2 35.7 36.7 1.3 39.7 40.3 Prop In Lane 1.00 1.00 1.00 0.74 1.00 0.15 1.00 0.13 Avail Cap(c), veh/h 316 185 729 147 175 163 418 1096 1067 39 864 845 V/C Ratio(X) 0.81 0.53 0.74 0.75 0.43 0.47 0.86 0.78 0.79 0.57 0.91 0.92 Avail Cap(c_a), veh/h 333 498 1260 147 442 410 447 1096 1067 83 900 881 HCM Platoon Ratio 1.00 <td>Grp Sat Flow(s),veh/h/ln</td> <td>1619</td> <td>1900</td> <td>1610</td> <td>1714</td> <td>1805</td> <td>1677</td> <td>1619</td> <td>1900</td> <td>1850</td> <td>1714</td> <td>1900</td> <td>1858</td>	Grp Sat Flow(s),veh/h/ln	1619	1900	1610	1714	1805	1677	1619	1900	1850	1714	1900	1858
Prop In Lane 1.00 1.00 1.00 1.00 0.74 1.00 0.15 1.00 0.13 Lane Grp Cap(c), veh/h 316 185 729 147 175 163 418 1096 1067 39 864 845 V/C Ratio(X) 0.81 0.53 0.74 0.75 0.43 0.47 0.86 0.78 0.79 0.57 0.91 0.92 Avail Cap(c_a), veh/h 333 498 1260 147 442 410 447 1096 1067 83 900 881 HCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Q Serve(g_s), s	8.0	5.1	2.8	6.5	4.1	4.5	11.2	35.7	36.7	1.3	39.7	40.3
Lane Grp Cap(c), veh/h 316 185 729 147 175 163 418 1096 1067 39 864 845 V/C Ratio(X) 0.81 0.53 0.74 0.75 0.43 0.47 0.86 0.78 0.79 0.57 0.91 0.92 Avail Cap(c_a), veh/h 333 498 1260 147 442 410 447 1096 1067 83 900 881 HCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Cycle Q Clear(g_c), s	8.0	5.1	2.8	6.5	4.1	4.5	11.2	35.7	36.7	1.3	39.7	40.3
V/C Ratio(X) 0.81 0.53 0.74 0.75 0.43 0.47 0.86 0.78 0.79 0.57 0.91 0.92 Avail Cap(c_a), veh/h 333 498 1260 147 442 410 447 1096 1067 83 900 881 HCM Platoon Ratio 1.00 <td< td=""><td>Prop In Lane</td><td>1.00</td><td></td><td>1.00</td><td>1.00</td><td></td><td>0.74</td><td>1.00</td><td></td><td>0.15</td><td>1.00</td><td></td><td>0.13</td></td<>	Prop In Lane	1.00		1.00	1.00		0.74	1.00		0.15	1.00		0.13
Avail Cap(c_a), veh/h Avail Cap(c_a), veh/h BCM Platoon Ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Lane Grp Cap(c), veh/h	316	185	729	147	175	163	418	1096	1067	39	864	845
HCM Platoon Ratio	V/C Ratio(X)	0.81	0.53	0.74	0.75	0.43	0.47	0.86	0.78	0.79	0.57	0.91	0.92
Upstream Filter(I) 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.0	Avail Cap(c_a), veh/h	333	498	1260	147	442	410	447	1096	1067	83	900	881
Uniform Delay (d), s/veh	HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incr Delay (d2), s/veh 12.6 2.4 1.5 16.9 1.7 2.1 14.0 3.7 4.2 4.7 12.9 14.1 Initial Q Delay(d3), s/veh 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Wile BackOfQ(50%), veh/ln 3.7 2.4 6.2 3.3 1.8 1.9 5.1 14.1 14.2 0.6 19.0 19.1 Unsig. Movement Delay, s/veh	Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Q Delay(d3),s/veh	Uniform Delay (d), s/veh	45.6	44.3	37.1	46.0	43.8	44.0	43.9	16.8	17.0	49.8	26.1	26.3
%ile BackOfQ(50%), yeh/ln 3.7 2.4 6.2 3.3 1.8 1.9 5.1 14.1 14.2 0.6 19.0 19.1 Unsig. Movement Delay, s/veh LnGrp Delay(d),s/veh 58.1 46.6 38.6 62.9 45.5 46.1 57.9 20.5 21.2 54.5 39.0 40.3 LnGrp LOS E D D E D D E C C D D D Approach Vol, veh/h 897 263 2062 1585 27.3 39.9 39.9 Approach LOS D D D C D D D C D D D C D D D C D D D C D D D C D D D D A 4.6 6.2 5.8 4.6 6.2 5.8 4.6 6.2 5.8 4.6 6.2 5.8 4.6 5.8 4.6 6.2 5.8 4.6 5.8 4.6 5.8 4.6 6.2 </td <td>Incr Delay (d2), s/veh</td> <td>12.6</td> <td>2.4</td> <td>1.5</td> <td>16.9</td> <td>1.7</td> <td>2.1</td> <td>14.0</td> <td>3.7</td> <td>4.2</td> <td>4.7</td> <td>12.9</td> <td>14.1</td>	Incr Delay (d2), s/veh	12.6	2.4	1.5	16.9	1.7	2.1	14.0	3.7	4.2	4.7	12.9	14.1
Unsig. Movement Delay, s/veh LnGrp Delay(d),s/veh 58.1 46.6 38.6 62.9 45.5 46.1 57.9 20.5 21.2 54.5 39.0 40.3 LnGrp LOS E D D E D D E C C D D D Approach Vol, veh/h 897 263 2062 1585 Approach Delay, s/veh 45.1 53.0 27.3 39.9 Approach LOS D D C D Timer - Assigned Phs 1 2 3 4 5 6 7 8 Phs Duration (G+Y+Rc), s 6.9 65.6 14.6 15.8 19.5 53.0 14.6 15.8 Change Period (Y+Rc), s 4.6 6.2 5.8 *5.8 6.2 *6.2 4.6 5.8 Max Green Setting (Gmax), s 5.0 58.0 8.8 *27 14.2 *49 10.6 25.2 Max Q Clear Time (g_c+I1), s 3.3 38.7 8.5 7.1 13.2 42.3 10.0 6.5 Green Ext Time (p_c), s 0.0 11.2 0.0 2.6 0.1 4.6 0.0 0.6 Intersection Summary HCM 6th Ctrl Delay 36.2	Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh 58.1 46.6 38.6 62.9 45.5 46.1 57.9 20.5 21.2 54.5 39.0 40.3 LnGrp LOS E D D E D D E C C D D D Approach Vol, veh/h 897 263 2062 1585 Approach Vol, veh/h 45.1 53.0 27.3 39.9 Approach LOS D D C D D D C D	%ile BackOfQ(50%),veh/ln	3.7	2.4	6.2	3.3	1.8	1.9	5.1	14.1	14.2	0.6	19.0	19.1
LnGrp LOS E D D E D D E C C D D D Approach Vol, veh/h 897 263 2062 1585 Approach Los 27.3 39.9 Approach LOS D D D C D Timer - Assigned Phs 1 2 3 4 5 6 7 8 Phs Duration (G+Y+Rc), s 6.9 65.6 14.6 15.8 19.5 53.0 14.6 15.8 Change Period (Y+Rc), s 4.6 6.2 5.8 *5.8 6.2 *6.2 4.6 5.8 Max Green Setting (Gmax), s 5.0 58.0 8.8 *27 14.2 *49 10.6 25.2 Max Q Clear Time (g_c+l1), s 3.3 38.7 8.5 7.1 13.2 42.3 10.0 6.5 Green Ext Time (p_c), s 0.0 11.2 0.0 2.6 0.1 4.6 0.0 0.6 Intersection Summary	Unsig. Movement Delay, s/veh	1											
Approach Vol, veh/h 897 263 2062 1585 Approach Delay, s/veh 45.1 53.0 27.3 39.9 Approach LOS D D C D Timer - Assigned Phs 1 2 3 4 5 6 7 8 Phs Duration (G+Y+Rc), s 6.9 65.6 14.6 15.8 19.5 53.0 14.6 15.8 Change Period (Y+Rc), s 4.6 6.2 5.8 *5.8 6.2 *6.2 4.6 5.8 Max Green Setting (Gmax), s 5.0 58.0 8.8 *27 14.2 *49 10.6 25.2 Max Q Clear Time (g_c+l1), s 3.3 38.7 8.5 7.1 13.2 42.3 10.0 6.5 Green Ext Time (p_c), s 0.0 11.2 0.0 2.6 0.1 4.6 0.0 0.6 Intersection Summary HCM 6th Ctrl Delay 36.2	LnGrp Delay(d),s/veh	58.1	46.6	38.6	62.9	45.5	46.1	57.9	20.5	21.2	54.5	39.0	40.3
Approach Delay, s/veh	LnGrp LOS	Е	D	D	Ε	D	D	Е	С	С	D	D	D
Approach LOS D D C D Timer - Assigned Phs 1 2 3 4 5 6 7 8 Phs Duration (G+Y+Rc), s 6.9 65.6 14.6 15.8 19.5 53.0 14.6 15.8 Change Period (Y+Rc), s 4.6 6.2 5.8 *5.8 6.2 *6.2 4.6 5.8 Max Green Setting (Gmax), s 5.0 58.0 8.8 *27 14.2 *49 10.6 25.2 Max Q Clear Time (g_c+I1), s 3.3 38.7 8.5 7.1 13.2 42.3 10.0 6.5 Green Ext Time (p_c), s 0.0 11.2 0.0 2.6 0.1 4.6 0.0 0.6 Intersection Summary HCM 6th Ctrl Delay 36.2	Approach Vol, veh/h		897			263			2062			1585	
Timer - Assigned Phs 1 2 3 4 5 6 7 8 Phs Duration (G+Y+Rc), s 6.9 65.6 14.6 15.8 19.5 53.0 14.6 15.8 Change Period (Y+Rc), s 4.6 6.2 5.8 *5.8 6.2 *6.2 4.6 5.8 Max Green Setting (Gmax), s 5.0 58.0 8.8 *27 14.2 *49 10.6 25.2 Max Q Clear Time (g_c+I1), s 3.3 38.7 8.5 7.1 13.2 42.3 10.0 6.5 Green Ext Time (p_c), s 0.0 11.2 0.0 2.6 0.1 4.6 0.0 0.6 Intersection Summary HCM 6th Ctrl Delay 36.2	Approach Delay, s/veh		45.1			53.0			27.3			39.9	
Phs Duration (G+Y+Rc), s 6.9 65.6 14.6 15.8 19.5 53.0 14.6 15.8 Change Period (Y+Rc), s 4.6 6.2 5.8 *5.8 6.2 *6.2 4.6 5.8 Max Green Setting (Gmax), s 5.0 58.0 8.8 *27 14.2 *49 10.6 25.2 Max Q Clear Time (g_c+I1), s 3.3 38.7 8.5 7.1 13.2 42.3 10.0 6.5 Green Ext Time (p_c), s 0.0 11.2 0.0 2.6 0.1 4.6 0.0 0.6 Intersection Summary HCM 6th Ctrl Delay 36.2	Approach LOS		D			D			С			D	
Phs Duration (G+Y+Rc), s 6.9 65.6 14.6 15.8 19.5 53.0 14.6 15.8 Change Period (Y+Rc), s 4.6 6.2 5.8 *5.8 6.2 *6.2 4.6 5.8 Max Green Setting (Gmax), s 5.0 58.0 8.8 *27 14.2 *49 10.6 25.2 Max Q Clear Time (g_c+I1), s 3.3 38.7 8.5 7.1 13.2 42.3 10.0 6.5 Green Ext Time (p_c), s 0.0 11.2 0.0 2.6 0.1 4.6 0.0 0.6 Intersection Summary HCM 6th Ctrl Delay 36.2	Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Change Period (Y+Rc), s 4.6 6.2 5.8 *5.8 6.2 *6.2 4.6 5.8 Max Green Setting (Gmax), s 5.0 58.0 8.8 *27 14.2 *49 10.6 25.2 Max Q Clear Time (g_c+I1), s 3.3 38.7 8.5 7.1 13.2 42.3 10.0 6.5 Green Ext Time (p_c), s 0.0 11.2 0.0 2.6 0.1 4.6 0.0 0.6 Intersection Summary HCM 6th Ctrl Delay 36.2		6.9						14 6					
Max Green Setting (Gmax), s 5.0 58.0 8.8 * 27 14.2 * 49 10.6 25.2 Max Q Clear Time (g_c+l1), s 3.3 38.7 8.5 7.1 13.2 42.3 10.0 6.5 Green Ext Time (p_c), s 0.0 11.2 0.0 2.6 0.1 4.6 0.0 0.6 Intersection Summary HCM 6th Ctrl Delay 36.2													
Max Q Clear Time (g_c+I1), s 3.3 38.7 8.5 7.1 13.2 42.3 10.0 6.5 Green Ext Time (p_c), s 0.0 11.2 0.0 2.6 0.1 4.6 0.0 0.6 Intersection Summary HCM 6th Ctrl Delay 36.2	. ,												
Green Ext Time (p_c), s 0.0 11.2 0.0 2.6 0.1 4.6 0.0 0.6 Intersection Summary HCM 6th Ctrl Delay 36.2													
Intersection Summary HCM 6th Ctrl Delay 36.2													
HCM 6th Ctrl Delay 36.2	0 = 7	0.0		0.0	2.0	V. 1	1.0	0.0	0.0				
				36.0									
HOW OUT LOS													
Notes				U									

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

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Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations	ሻሻ	†	77	ሻ	↑ ↑	14.54	∱ }	ሻ	ħβ
Traffic Volume (vph)	215	74	517	119	79	567	1735	23	1989
Future Volume (vph)	215	74	517	119	79	567	1735	23	1989
Turn Type	Prot	NA	pm+ov	Prot	NA	Prot	NA	Prot	NA
Protected Phases	7	4	5	3	8	5	2	1	6
Permitted Phases			4						
Detector Phase	7	4	5	3	8	5	2	1	6
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	5.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	28.8	9.6	9.6	28.8	9.6	27.2	9.6	31.2
Total Split (s)	11.0	28.8	20.0	12.0	29.8	20.0	69.5	9.7	59.2
Total Split (%)	9.2%	24.0%	16.7%	10.0%	24.8%	16.7%	57.9%	8.1%	49.3%
Yellow Time (s)	3.6	4.8	3.6	3.6	4.8	3.6	5.2	3.6	5.2
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	4.6	5.8	4.6	6.2	4.6	6.2
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Min	None	Min
Act Effct Green (s)	6.4	10.8	28.8	10.4	11.6	15.4	69.2	5.1	53.0
Actuated g/C Ratio	0.06	0.10	0.27	0.10	0.11	0.14	0.64	0.05	0.49
v/c Ratio	1.16	0.40	0.62	0.75	0.34	1.27	0.79	0.30	1.23
Control Delay	159.2	51.9	37.3	77.3	27.3	175.4	18.3	60.0	137.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	159.2	51.9	37.3	77.3	27.3	175.4	18.3	60.0	137.0
LOS	F	D	D	Е	С	F	В	Е	F
Approach Delay		71.2			50.2		55.1		136.2
Approach LOS		Е			D		E		F

Cycle Length: 120

Actuated Cycle Length: 107.6

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

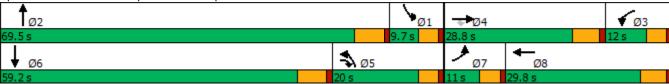
Maximum v/c Ratio: 1.27
Intersection Signal Delay: 88.8

Intersection LOS: F

Intersection Capacity Utilization 113.2%

ICU Level of Service H

Analysis Period (min) 15



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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	14.54	↑	77	ሻ	∱ ∱		ሻሻ	ተ ኈ		ሻ	∱ î≽	
Traffic Volume (veh/h)	215	74	517	119	79	62	567	1735	119	23	1989	224
Future Volume (veh/h)	215	74	517	119	79	62	567	1735	119	23	1989	224
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1700	1900	1900	1800	1900	1900	1700	1900	1900	1800	1900	1900
Adj Flow Rate, veh/h	222	76	404	123	81	64	585	1789	123	24	2051	128
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	176	756	117	226	163	461	1973	134	122	1735	107
Arrive On Green	0.06	0.09	0.09	0.07	0.11	0.11	0.14	0.56	0.56	0.07	0.49	0.49
Sat Flow, veh/h	3238	1900	3220	1714	2004	1442	3238	3518	239	1714	3542	219
Grp Volume(v), veh/h	222	76	404	123	72	73	585	957	955	24	1090	1090
Grp Sat Flow(s),veh/h/ln	1619	1900	1610	1714	1805	1640	1619	1900	1857	1714	1900	1861
Q Serve(g_s), s	6.4	4.1	0.0	7.4	4.0	4.5	15.4	48.2	50.3	1.4	53.0	53.0
Cycle Q Clear(g_c), s	6.4	4.1	0.0	7.4	4.0	4.5	15.4	48.2	50.3	1.4	53.0	53.0
Prop In Lane	1.00		1.00	1.00		0.88	1.00		0.13	1.00		0.12
Lane Grp Cap(c), veh/h	192	176	756	117	204	185	461	1065	1041	122	931	911
V/C Ratio(X)	1.16	0.43	0.53	1.05	0.35	0.39	1.27	0.90	0.92	0.20	1.17	1.20
Avail Cap(c_a), veh/h	192	404	1143	117	400	364	461	1112	1086	122	931	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.9	46.4	36.2	50.4	44.4	44.6	46.4	21.0	21.5	47.3	27.6	27.6
Incr Delay (d2), s/veh	114.4	1.7	0.6	96.9	1.0	1.4	137.4	9.6	11.8	0.3	88.3	98.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.0	4.5	6.2	1.8	1.8	14.7	21.0	22.0	0.6	43.9	45.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	165.3	48.1	36.8	147.3	45.4	45.9	183.8	30.6	33.3	47.6	115.9	126.3
LnGrp LOS	F	D	D	F	D	D	F	С	С	D	F	F
Approach Vol, veh/h		702			268		-	2497			2203	
Approach Delay, s/veh		78.7			92.3			67.5			120.3	
Approach LOS		E			F			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	66.9	13.2	15.8	20.0	59.2	11.0	18.0				
Change Period (Y+Rc), s	4.6	6.2	5.8	* 5.8	4.6	6.2	4.6	5.8				
Max Green Setting (Gmax), s	5.1	63.3	7.4	* 23	15.4	53.0	6.4	24.0				
Max Q Clear Time (g_c+l1), s	3.4	52.3	9.4	6.1	17.4	55.0	8.4	6.5				
Green Ext Time (p_c), s	0.0	8.3	0.0	1.8	0.0	0.0	0.4	0.6				
" — "	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0				
Intersection Summary			00.6									
HCM 6th LOC			90.6									
HCM 6th LOS			F									
Notes												

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