MHSR APARTMENTS
Traffic Impact Analysis
City of Murrieta, California

Prepared for:
Tierra Nova Consulting, Inc.
31938 Temecula Parkway Ste A369
Temecula, CA 92592

Prepared by:
TJW ENGINEERING, INC.
6 Venture, Suite 225
Irvine, CA 92618

Revised: November 22, 2019

November 22, 2019

Mr. Steve Galvez
Tierra Nova Consulting, Inc.
31938 Temecula Parkway Ste A369
Temecula, CA 92592

Subject: Revised Traffic Impact Analysis: MHSR Apartments, Murrieta CA

Dear Mr. Galvez:

TJW ENGINEERING, INC. (TJW) is pleased to present you with this revised traffic impact analysis for the proposed **MHSR** project in the City of Murrieta.

This traffic study has been updated to address comments provided by the City of Murrieta. This report is being submitted to you for review and forwarding to the City of Murrieta.

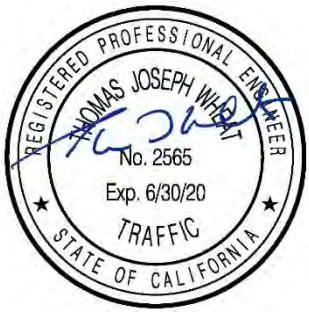
Please contact us at (949) 878-3509 if you have any questions regarding this analysis.

Sincerely,

Thomas Wheat, PE, TE
President

Jeff Weckstein
Transportation Planner

Registered Civil Engineer *#69467*
Registered Traffic Engineer *#2565*



6 Venture, Suite 225 | Irvine CA 92618 | t: (949) 878-3509 f: (949) 878-3593
www.tjwengineering.com

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TRAFFIC IMPACT ANALYSIS
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6 Venture, Suite 225
Irvine, CA 92618
Thomas Wheat, PE, TE
Jeffrey Weckstein
Jeffrey Chinchilla, EIT

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JN: TNC-18-001

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1.0 EXECUTIVE SUMMARY

This traffic impact analysis (TIA) analyzes the projected traffic operations associated with the proposed **MHSR Apartments** project located at the southeast corner of the Delhaven Street/Date Street intersection in the City of Murrieta. The purpose of this TIA is to evaluate potential circulation system deficiencies that may result from development of the proposed project, and to recommend improvements to achieve acceptable operations, if applicable. This analysis has been prepared pursuant to applicable City of Murrieta, County of Riverside and Caltrans traffic impact analysis guidelines.

The proposed MHSR Apartments project is a General Plan Amendment, Zone Change and Development Plan to change the existing Commercial General Plan land use, Neighborhood Commercial zoning to Multifamily Residential General Plan land use, Multi-Family 3 zoning and to develop multi-family housing totaling 234 units on the 8.37 acre site.

The project site is located at the southeast corner of the intersection of Delhaven Avenue and Date Street and is comprised of Assessor Parcel Number (APM) 913-210-005, 006, 007, 010-013, 033, 034, 035 and portions of 913-210-032. The site is subject to the Commercial General Plan Land Use Designation and is Zoned Neighborhood Commercial. A General Plan and Zone Change Amendment is proposed. The site is undeveloped. Site access would be provided by two private drives proposed to be located at one full access driveway aligned as the southern leg of the Delhaven Street/Date Street intersection and a secondary emergency only access is planned at the intersection of Bahama Way and Rising Hills Drive.

The proposed project is anticipated to be built and generating trips in 2020.

The following five (5) intersections in the vicinity of the project site have been included in the intersection level of service (LOS) analysis based on execution of a scoping agreement with the City of Murrieta:

- Margarita Street (NS) at Murrieta Hot Springs Road (EW);
- Delhaven Street (NS) at Date Street (EW);
- Delhaven Street (NS) at Murrieta Hot Springs Road (EW);
- Winchester Road (SR-79) (NS) at Murrieta Hot Springs Road (EW); and
- Winchester Road (SR-79) (NS) at Nicholas Road (EW).

Additionally, the Date Street/Murrieta Hot Springs Road intersection has been analyzed for EAPC conditions.

The following roadway segments have been analyzed based on the level of service “E” capacities contained in the Murrieta General Plan Circulation Element:

- Murrieta Hot Springs Road between Margarita Street and Delhaven Street; and
- Murrieta Hot Springs Road between Delhaven Street and Winchester Road (SR-79).

The study intersections and roadway segment are analyzed for the following study scenarios:

- Existing Conditions;
- Existing Plus Project Conditions;
- Existing Plus Ambient Plus Project (EAP) Conditions; and
- Existing Plus Ambient Plus Project Plus Cumulative (EAPC) Conditions.

1.1 SUMMARY OF ANALYSIS RESULTS

Table ES-1 summarizes the results of the intersection level of service analysis. No significant direct impacts are projected in the study area as a result of the proposed project, based on the City of Murrieta's thresholds of significance. Therefore, the proposed project should not be responsible for implementing any off-site improvements, except for improvements related to the proposed project driveways.

Table ES-1 Summary of Significant Impacts at Study Intersections

Intersection	EP	EAP	EAPC
Margarita Rd/Murrieta Hot Springs Rd			
Delhaven Rd/Date St	**Project access will constitute the south leg of this intersection. Applicant responsibility for constructing proposed driveway in accordance with applicable City standards.**		
Delhaven Rd/Murrieta Hot Springs Rd			
Winchester Rd/Murrieta Hot Springs Rd	**Existing**	**Existing**	**Cumulative**
Winchester Rd/Nicholas Rd			

The proposed project will participate in the cost of off-site improvements through payment of TUMF and DIF fees based on the current fees at the time of construction of the proposed project. The project's contribution to the aforementioned transportation impact fee programs or as a fair share contribution towards a cumulatively impacted facility not found to be covered by a pre-existing fee program should be considered sufficient to address the project's fair share towards mitigation measure(s) designed to alleviate cumulative project impacts.

All with project scenarios (*EP, EAP, EAPC)* assumed the following with regards to roadway improvements:

- Murrieta Hot Springs Road will be improved from four-lanes to six-lanes between Margarita Road and Winchester Road.
- Construction of a raised median on Murrieta Hot Spring Road will prohibit left-turn movements into and out of Delhaven Street at Murrieta Hot Springs Road.
- Project driveways and other facilities assumed to be constructed by the proposed project to provide site access, which includes construction of the south leg of the Delhaven Street/Date Street intersection.
- Based on direction provided by City staff, this analysis does not assume the construction of Date Street between Winchester Creek Avenue and Murrieta Hot Springs Road for EP and EAP

conditions but does assume construction of Date Street and signalization of the Date Street/Murrieta Hot Spring Road intersection for EAPC conditions.

Existing Conditions

- The study intersections are currently operating at an acceptable LOS (LOS D or better) during the AM and PM peak hours with the exception of the following intersections:
    - Delhaven Street/Murrieta Hot Springs Road (Minor Street movements LOS F AM and PM peak hour)
    - Winchester Road/Murrieta Hot Springs Road (LOS E PM Peak Hour)
- The study roadway segments are currently operating at an unacceptable LOS (LOS F).

EP Conditions

- The study intersections are projected to continue to operate at an acceptable LOS during the AM and PM peak hours for *EP* conditions with the exception of the Winchester Road/Murrieta Hot Springs Road intersection which is projected to continue to operate at LOS E during the PM peak hour.
- The study roadway segments are projected to operate at an acceptable LOS (LOS C) for *existing plus project* conditions.
- Based on the thresholds of significance for *EP* conditions discussed in section 2.4, the addition of project generated trips is projected to not have a significant direct impact at any of the study intersections.

EAP Conditions

- The study intersections are projected to continue to operate at an acceptable LOS during the AM and PM peak hours for *EAP* conditions with the exception of the Winchester Road/Murrieta Hot Springs Road intersection which is projected to continue to operate at LOS E during the PM peak hour.
- The study roadway segments are projected to operate at an acceptable LOS (LOS C) for *EAP* conditions.

EAPC Conditions

- The study intersections are projected to continue to operate at an acceptable LOS during the AM and PM peak hours for *EAPC* conditions with the exception of the Winchester Road/Murrieta Hot Springs Road intersection which is projected to operate at LOS F during the AM and PM peak hours.
- Based on the thresholds of significance for *EAPC* conditions discussed in *section 2.4*, the addition of project generated trips to this intersection represents a potential cumulative impact at the Winchester Road/Murrieta Hot Springs Road intersection.
- The study roadway segments are projected to operate at LOS D for *EAPC* conditions.

1.2 SUMMARY OF RECOMMENDED IMPROVEMENTS

The City of Murrieta General Plan Circulation Element identifies the Winchester Road/Murrieta Hot Springs Road intersection and Murrieta Hot Springs Road between Margarita Avenue and Winchester Road as having significant unavoidable impacts, with no additional improvements recommended beyond the scheduled widening of Murrieta Hot Springs Road from four- to six-lanes between Via Princessa and Winchester Road. Therefore, no improvements are recommended at the Winchester Road/Murrieta Hot Springs Road intersection (projected to operate at LOS F during the AM and PM peak hours) and on Murrieta Hot Springs Road itself (roadway segments LOS D).

1.3 SUMMARY OF LOCAL AND REGIONAL FUNDING MECHANISMS

Transportation improvements throughout the County of Riverside are funded through a combination of direct project mitigation, fair share contributions or development impact fee programs such as the City's adoption of the Transportation Uniform Mitigation Fee (TUMF) program and the City of Murrieta Development Impact Fee (DIF) program. It is anticipated that the proposed project will be subject to the TUMF and the City's DIF. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

The TUMF program is administered by the Western Riverside Council of Governments (WRCOG) based upon a regional Nexus Study completed in early 2002 and updated in 2005, 2009 and 2016 to address major changes in right of way acquisition and improvement cost factors. The TUMF program identifies network backbone and local roadways that are needed to accommodate growth through 2035. The regional program was put into place to ensure that developments pay their fair share and that funding is in place for the construction of facilities needed to maintain an acceptable level of service for the transportation system. The TUMF is a regional mitigation fee program and is imposed and implemented in every jurisdiction in Western Riverside County.

TUMF fees are imposed on new residential, industrial and commercial development through application of the TUMF fee ordinance and fees are collected at the building or occupancy permit phase.

The proposed project will participate in the cost of off-site improvements through payment of TUMF fees based on the current fees at the time of construction of the proposed project.

The proposed project is located within the City of Murrieta and will therefore be subject to the City's Development Impact Fees (DIF).

The proposed project will participate in the cost of off-site improvements through payment of City DIF fees based on the current fees at the time of construction of the proposed project. The project's contribution to the aforementioned transportation impact fee programs or as a fair share contribution towards a cumulatively impacted facility not found to be covered by a pre-existing fee program should be considered sufficient to address the project's fair share towards mitigation

measure(s) designed to alleviate cumulative project impacts. ***Table ES-2*** calculates the proposed project's fair share percentage and projected fair share cost at cumulatively impacted intersections.

Additionally, while the proposed project is not projected to have a significant impact at the Murrieta Hot Springs Road/Delhaven Street intersection, the City requested this analysis includes a fair share calculation at this location since there is a planned improvement to widen the eastbound Murrieta Hot Springs Road approach to include a dedicated right-turn lane.

Table ES-2 Fair Share Calculations

Winchester Road/Murrieta Hot Springs Road	Existing Volume (A)	EAPC Volume (B)	Project EAP Volume (C)	Project Fair Share (C) / (B-A)
AM Peak Hour	5645	6392	100	13.39%
PM Peak Hour	6681	7759	103	9.55%
Murrieta Hot Springs Road/ Delhaven Street	**Existing Volume (A)**	**EAPC Volume (B)**	**Project EAP Volume (C)**	**Project Fair Share (C) / (B-A)**
AM Peak Hour	2632	3124	154	31.30%
PM Peak Hour	3074	3735	204	30.86%

1.4 ON-SITE ROADWAY AND SITE ACCESS IMPROVEMENTS

Wherever necessary, roadways adjacent to the proposed project site and site access points will be constructed in compliance with recommended roadway classifications and respective cross-sections in the City of Murrieta General Plan Circulation Element or as directed by the City Engineer.

Sight distance at each project access point should be reviewed with respect to standard Caltrans and City sight distance standards at the time of final grading, landscaping and street improvement plans.

Signing/striping should be implemented in conjunction with detailed construction plans for the project site.

2.0 INTRODUCTION

This traffic impact analysis (TIA) analyzes the projected traffic operations associated with the proposed **MHSR Apartments** project located at the southeast corner of the Delhaven Street/Date Street intersection in the City of Murrieta. The purpose of this TIA is to evaluate potential circulation system deficiencies that may result from development of the proposed project, and to recommend improvements to achieve acceptable operations, if applicable. This analysis has been prepared pursuant to applicable City of Murrieta, County of Riverside and Caltrans traffic impact analysis guidelines.

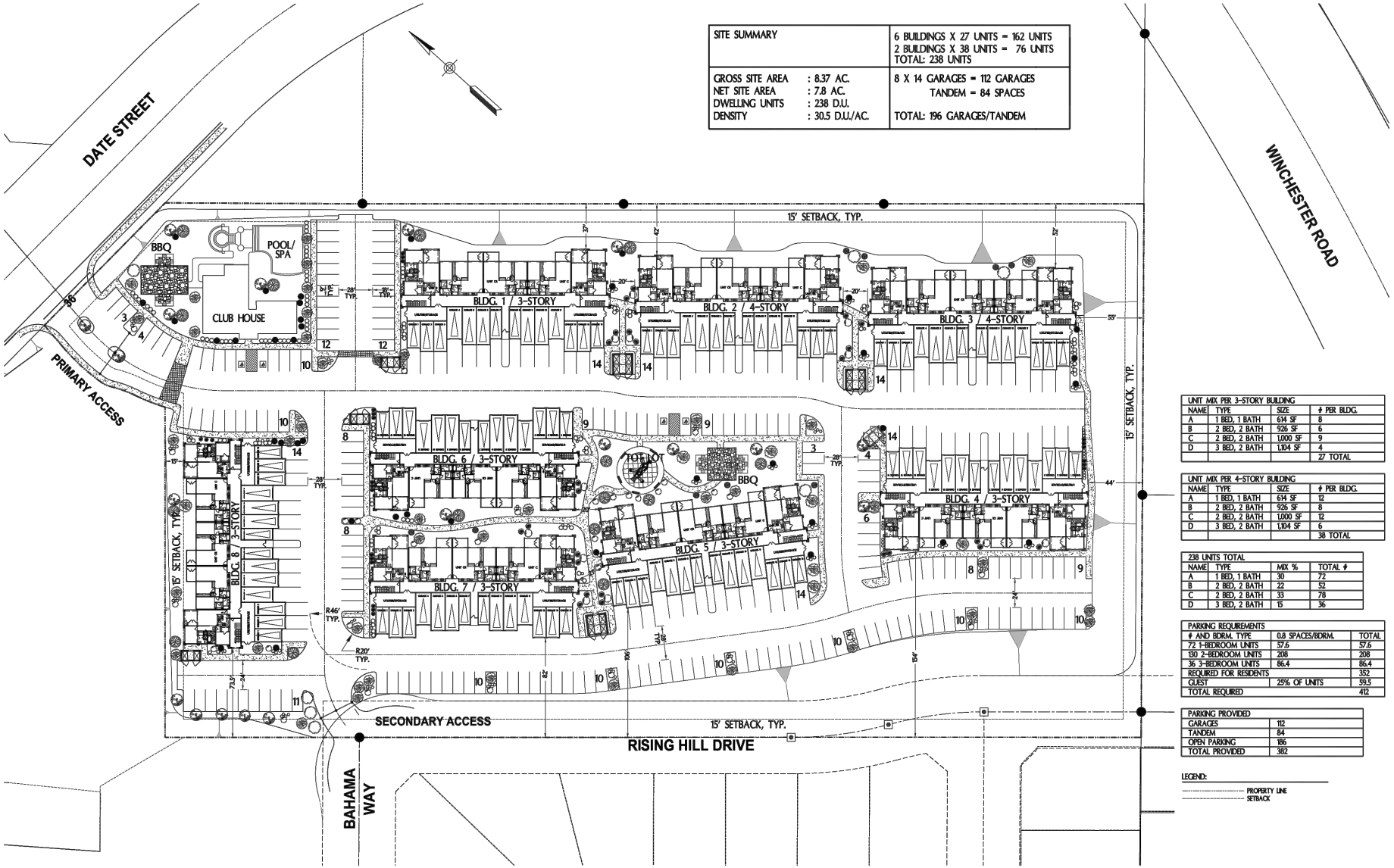
2.1 PROJECT DESCRIPTION

The proposed MHSR Apartments project is a General Plan Amendment, Zone Change and Development Plan to change the existing Commercial General Plan land use, Neighborhood Commercial zoning to Multifamily Residential General Plan land use, Multi-Family 3 zoning and to develop multi-family housing totaling 234 units on the 8.37 acre site. This traffic has analyzed the proposed project as a 238-unit project, which is more conservative than the currently proposed 234-unit project.

The project site is located at the southeast corner of the intersection of Delhaven Avenue and Date Street and is comprised of Assessor Parcel Number (APM) 913-210-005, 006, 007, 010-013, 033, 034, 035 and portions of 913-210-032. The site is subject to the Commercial General Plan Land Use Designation and is Zoned Neighborhood Commercial. A General Plan and Zone Change Amendment is proposed. The site is undeveloped. Site access would be provided by two private drives proposed to be located at one full access driveway aligned as the southern leg of the Delhaven Street/Date Street intersection and a secondary emergency access is planned at the intersection of Bahama Way and Rising Hills Drive. The proposed project is anticipated to be built and generating trips in 2020.

Figure 1 shows the project site location. ***Exhibit 1*** shows the proposed project site plan.

Figure 1– *Project Location*



SITE SUMMARY		
		6 BUILDINGS X 27 UNITS = 162 UNITS 2 BUILDINGS X 38 UNITS = 76 UNITS TOTAL: 238 UNITS
GROSS SITE AREA	: 8.37 AC.	8 X 14 GARAGES = 112 GARAGES
NET SITE AREA	: 7.8 AC.	TANDEM = 84 SPACES
DWELLING UNITS	: 238 D.U.	
DENSITY	: 30.5 D.U./AC.	TOTAL: 196 GARAGES/TANDEM

UNIT MIX PER 3-STORY BUILDING			
NAME	TYPE	SIZE	# PER BLDG.
A	1 BED, 1 BATH	614 SF	8
B	2 BED, 2 BATH	926 SF	6
C	2 BED, 2 BATH	1,000 SF	9
D	3 BED, 2 BATH	1,104 SF	4
			27 TOTAL

UNIT MIX PER 4-STORY BUILDING			
NAME	TYPE	SIZE	# PER BLDG.
A	1 BED, 1 BATH	614 SF	12
B	2 BED, 2 BATH	926 SF	8
C	2 BED, 2 BATH	1,000 SF	12
D	3 BED, 2 BATH	1,104 SF	6
			38 TOTAL

238 UNITS TOTAL			
NAME	TYPE	MIX %	TOTAL #
A	1 BED, 1 BATH	30	72
B	2 BED, 2 BATH	22	52
C	2 BED, 2 BATH	33	78
D	3 BED, 2 BATH	15	36

PARKING REQUIREMENTS		
# AND BDRM. TYPE	0.8 SPACES/BDRM.	TOTAL
72 1-BEDROOM UNITS	57.6	57.6
130 2-BEDROOM UNITS	208	208
36 3-BEDROOM UNITS	86.4	86.4
REQUIRED FOR RESIDENTS		352
GUEST	25% OF UNITS	59.5
TOTAL REQUIRED		412

PARKING PROVIDED	
GARAGES	112
TANDEM	84
OPEN PARKING	186
TOTAL PROVIDED	382

LEGEND:
PROPERTY LINE
SETBACK

Exhibit 1: Proposed Project Site Plan

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale

2.2 STUDY AREA

The following five (5) intersections in the vicinity of the project site have been included in the intersection level of service (LOS) analysis based on execution of a scoping agreement with the City of Murrieta; A copy of the executed scoping agreement is provided in ***Appendix A***:

- Margarita Street (NS) at Murrieta Hot Springs Road (EW);
- Delhaven Street (NS) at Date Street (EW);
- Delhaven Street (NS) at Murrieta Hot Springs Road (EW);
- Winchester Road (SR-79) (NS) at Murrieta Hot Springs Road (EW); and
- Winchester Road (SR-79) (NS) at Nicholas Road (EW).

The project will have secondary, emergency-only access at Rising Hills Drive/Bahama Way. Therefore, this analysis assumes all trips associated with the project utilize the primary access aligned with the Delhaven Street/Date Street intersection.

The current alignment of State Route 79 (SR-79) traverses Winchester Road in the study area.

Additionally, the following roadway segments have been analyzed based on the level of service "E" capacities contained in the Murrieta General Plan Circulation Element:

- Murrieta Hot Springs Road between Margarita Street and Delhaven Street; and
- Murrieta Hot Springs Road between Delhaven Street and Winchester Road (SR-79).

This traffic analysis follows the applicable guidelines in the following documents:

- *City of Murrieta Traffic Impact Analysis Preparation Guide (October 2013)*
- *County of Riverside Transportation Department Traffic Impact Analysis Preparation Guide (April 2008)*
- *Caltrans Guide for the Preparation of Traffic Impact Studies (December 2002)*.

Exhibit 2 shows the location of the study intersections and roadway segment, which are analyzed for the following study scenarios:

- Existing Conditions;
- Existing Plus Project Conditions;
- Existing Plus Ambient Growth;
- Existing Plus Ambient Plus Project (EAP) Conditions; and
- Existing Plus Ambient Plus Project Plus Cumulative (EAPC) Conditions.

Traffic operations are evaluated for the following time periods:

- Weekday AM Peak Hour occurring within 7:00 AM to 9:00 AM; and
- Weekday PM Peak Hour occurring within 4:00 PM to 6:00 PM.

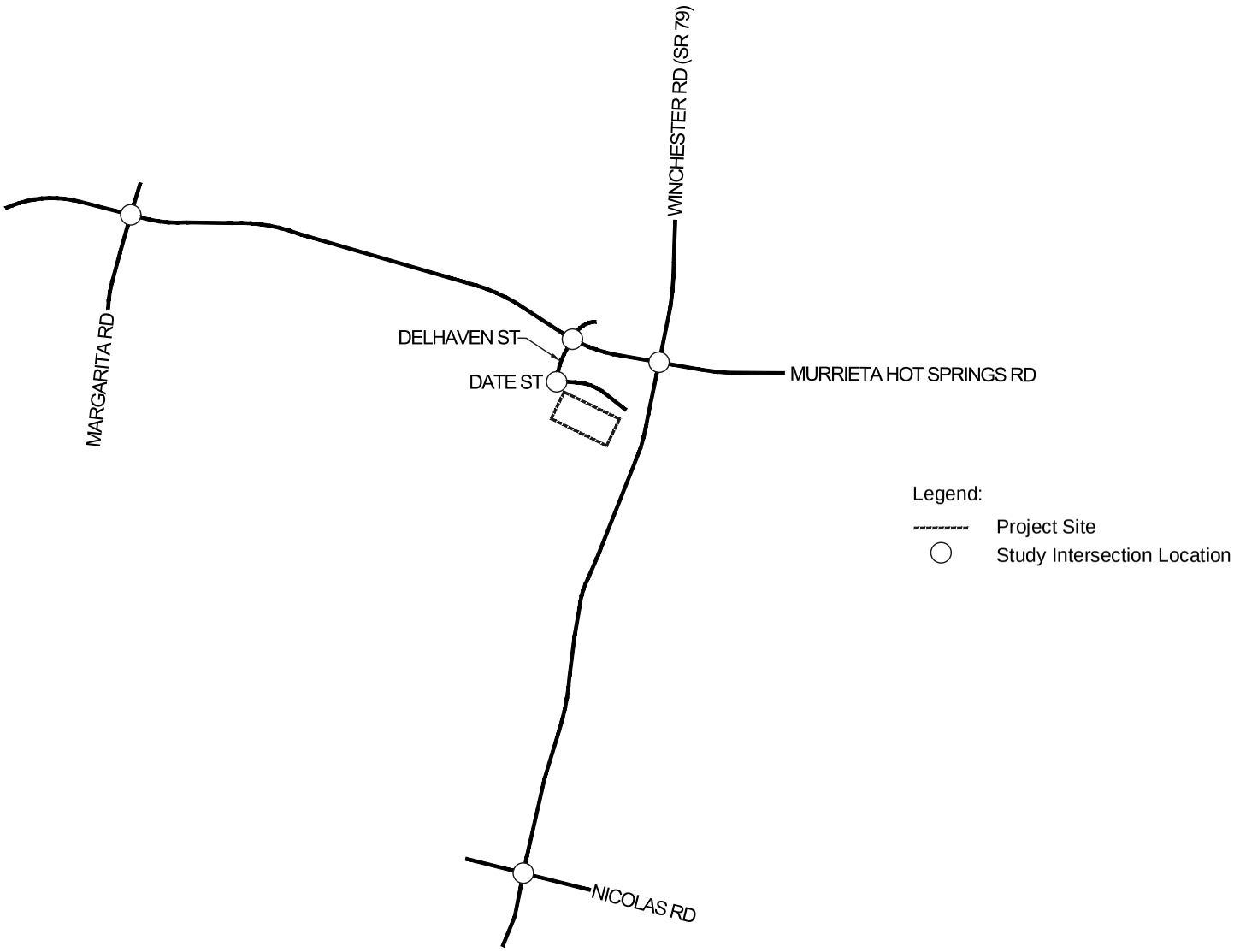


Exhibit 2: Project Location and Proposed TIA Study Area

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale

2.3 ANALYSIS METHODOLOGY

2.3.1 Intersection Analysis – City of Murrieta/County of Riverside/Caltrans

Level of Service (LOS) is commonly used to describe the quality of flow on roadways and at intersections using a range of LOS from LOS A (free flow with little congestion) to LOS F (severely congested conditions). The definitions for LOS for interruption of traffic flow differ depending on the type of traffic control (traffic signal, unsignalized intersection with side street stops, unsignalized intersection with all-way stops). The Highway Capacity Manual (HCM) 2010 (Transportation Research Board, 2010) methodology expresses the LOS of an intersection in terms of delay time for the intersection approaches. The HCM methodology utilizes different procedures for different types of intersection control.

The City of Murrieta, County of Riverside and Caltrans traffic study guidelines require signalized intersection operations be analyzed utilizing the HCM 2010 methodology. Intersection LOS for signalized intersections is based on the intersections average control delay for all movements at the intersection during the peak hour. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Table 1 describes the general characteristics of traffic flow and accompanying delay ranges at signalized intersections.

Table 1
HCM – LOS & Delay Ranges – Signalized Intersections

LEVEL OF SERVICE	DESCRIPTION	DELAY (in seconds)
A	Very favorable progression; most vehicles arrive during green signal and do not stop. Short cycle lengths.	0 – 10.00
B	Good progression, short cycle lengths. More vehicles stop than for LOS A.	10.01 – 20.00
C	Fair progression; longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant, though many vehicles still pass through without stopping.	20.01 – 35.00
D	Progression less favorable, longer cycle length and high flow/capacity ratio. The proportion of vehicles that pass through without stopping diminishes. Individual cycle failures are obvious.	35.01 – 55.00
E	Severe congestion with some long-standing queues on critical approaches. Poor progression, long cycle lengths and high flow/capacity ratio. Individual cycle failures are frequent.	55.01 – 80.00
F	Very poor progression, long cycle lengths and many individual cycle failures. Arrival flow rates exceed capacity of intersection.	> 80.01

Source: Transportation Research Board, *Highway Capacity Manual*, HCM2010 Edition (Washington D.C., 2010).

Collected peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. It is a common practice in LOS analysis to conservatively use a peak 15-minute flow rate applied to the entire hour to derive flow rates in vehicles per hour that are used in the LOS analysis. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume. PHF = [Hourly Volume]/

[4 * Peak 15-Minute Volume]. The use of a 15-minute PHF produces a more detailed and conservative analysis compared to analyzing vehicles per hour. Existing PHFs, obtained from the existing traffic counts have been used for all analysis scenarios in this study.

The City of Murrieta, County of Riverside, and Caltrans traffic study guidelines also require unsignalized intersection operations be analyzed utilizing the HCM 2010 methodology. Intersection operation for unsignalized intersections is based on the weighted average control delay expressed in seconds per vehicle.

At a two-way or side-street stop-controlled intersection, LOS is calculated for each stop-controlled minor street movement, for the left-turn movement(s) from the major street, and for the intersection as a whole. For approaches consisting of a single lane, the delay is calculated as the average of all movements in that lane. For all-way stop-controlled intersection, LOS is computed for the intersection as a whole.

Table 2 describes the general characteristics of traffic flow and accompanying delay ranges at unsignalized intersections.

Table 2
HCM – LOS & Delay Ranges – Unsignalized Intersections

LEVEL OF SERVICE	DESCRIPTION	DELAY (in seconds)
A	Little or no delays.	0 – 10.00
B	Short traffic delays.	10.01 – 15.00
C	Average traffic delays.	15.01 – 25.00
D	Long traffic delays. Multiple vehicles in queue.	25.01 – 35.00
E	Very long delays. Demand approaching capacity of intersection	35.01 – 50.00
F	Very constrained flow with extreme delays and intersection capacity exceeded.	> 50.01

Source: Transportation Research Board, *Highway Capacity Manual*, HCM2010 Edition (Washington D.C., 2010).

Study intersections under the jurisdiction of Caltrans have been analyzed per the *Caltrans Guide for the Preparation of Traffic Impact* Studies, which also requires intersections be analyzed utilizing the HCM 2010 methodology.

This analysis utilizes the Synchro 10 analysis software for all signalized and unsignalized intersections. Synchro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis specified in Chapter 16 of the HCM. The level of service and capacity analysis performed within Synchro takes the optimization and coordination of signalized intersections within a network into consideration.

2.3.2 Roadway Segment Capacity Analysis

Roadway segment operations have been evaluated using the roadway segment capacity thresholds contained in *Murrieta General Plan 2013 (July 2011)*. The daily roadway segment capacity for each type of roadway is shown in ***Table 3.*** Roadway capacities tend to be "rule of thumb" estimated for planning purposes and are affected by factors such as intersection spacing, configuration and control, access control, roadway

grade, design geometrics, sight distance and vehicle mix. Typically, when ADT-based roadway segment analysis indicates a deficiency, a review of peak hour operation of the intersections on either end of the segment is undertaken. The more detailed peak hour intersection operation analysis takes into account the factors that affect roadway capacity; unless the peak hour intersection analysis indicates the need for additional through lanes, roadway segment widening is not recommended on the basis of ADT analysis alone.

Table 3
City of Murrieta Roadway Segment Thresholds

Facility	Number of Lanes	Maximum Two-Way Volume (ADT)		
		LOS C	LOS D	LOS E
Freeway	4	61,200	68,900	76,500
Freeway	6	94,000	105,800	117,500
Freeway	8	128,400	144,500	160,500
Freeway	10	160,500	180,500	200,600
Expressway	4	32,700	36,800	40,900
Expressway	6	49,000	55,200	61,300
Multi-Modal Corridor	4	28,700	32,300	35,900
Multi-Modal Corridor	6	43,100	48,500	53,900
Augmented Urban Arterial	8	57,400	64,600	71,800
Urban Arterial	6	43,100	48,500	53,900
Arterial	4	28,700	32,300	35,900
Arterial	6	43,100	48,500	53,900
Major	4	27,300	30,700	34,100
Secondary	4	20,700	23,300	25,900
Collector	2	10,400	11,700	13,000

Notes:
1. All capacity figures are based on optimum conditions and are intended as guidelines for planning purposed only.
2. Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables, as defined in the Riverside County Congestion Management Program.

Source: Murrieta General Plan 2035 Circulation Element (2011)

2.3.3 Traffic Signal Warrant Analysis Methodology

Traffic signal warrants refer to a list of established criteria utilized by Caltrans and other public agencies to quantitatively justify or determine the potential need for installation of a traffic signal at an unsignalized location. This analysis uses the signal warrant criteria in the latest edition of the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) as amended by the 2014 California MUTCD (CA MUTCD), Revision 3, effective March 9, 2018, for all unsignalized, non-driveway study intersections.

The CA MUTCD contains nine different signal warrants for existing conditions based on several different factors such as vehicular volumes, pedestrian volumes, accident frequency, location of schools and location of railroad tracks. This TIA utilizes the peak hour volume-based warrant (Warrant 3) as the appropriate traffic signal warrant analysis for all analysis. Warrant 3 is appropriate for this analysis because it provides specialized criteria for intersections with rural characteristics.

It is important to note that a signal warrant defines the minimum condition under which the installation of a traffic signal *may be* warranted. Satisfying a signal warrant does not require that a traffic signal be installed at a particular location, rather other traffic factors and conditions should be evaluated to determine if signalization is justified. Additionally, signal warrants do not necessarily correlate with level of service; an intersection may satisfy a warrant and still be operating at or better than LOS D, or be operating at a deficient LOS (E or F) and not meet signal warrants.

2.4 PERFORMANCE CRITERIA

2.4.1 City of Murrieta

The City of Murrieta Traffic Impact Analysis Preparation Guide (October 2013), outlines the City's Level of Service standards. Per the City of Murrieta General Plan, Chapter V, the peak hour intersection Level of Service standard is LOS D and for freeway ramp intersections the Level of Service standard is LOS E.

The City of Murrieta's current Level of Service (LOS) standard for roadway segments is LOS C.

2.4.2 Caltrans

Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State Highway facilities, although Caltrans acknowledges that this may not always be feasible. If an existing State Highway facility is operating at less than this target LOS, the existing LOS should be maintained. In general, the region-wide goal for acceptable LOS on all freeways, roadway segments and intersections is LOS "D." Consistent with the City of Murrieta LOS threshold of LOS "D", LOS "D" will be used as the target LOS for state highway intersections in this analysis.

2.5 THRESHOLDS OF SIGNIFICANCE

According to California Environmental Quality Act (CEQA) guidelines, a project is considered to cause a significant impact to a transportation system if it:

- Conflicts with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel.
- Conflicts with an applicable congestion management program (CMP), including, but not limited to level of service standards, travel demand measures, or other standards established by the County Congestion Management Agency for roadways or highways.
- Conflicts with adopted policies or programs regarding public transit, bicycle or pedestrian facilities, or otherwise decreases the performance or safety of such facilities.

2.5.1 City of Murrieta

The City of Murrieta considers the following types of impacts to be "significant" under CEQA:

1) When existing traffic conditions (Analysis Scenario 1) exceed the General Plan target LOS.

2) When project traffic, when added to existing traffic (EAP conditions), will deteriorate the LOS to below the target LOS, and impacts cannot be mitigated through project conditions of approval.

3) When cumulative traffic (EAPC conditions) exceeds the target LOS, and impacts cannot be mitigated through existing infrastructure funding mechanisms.

In this analysis, impacts are identified and categorized based on the following criteria in adherence with City guidelines and CEQA:

- When the pre-Project conditions is at or better than acceptable LOS (LOS D or better for intersections, LOS C or better for roadway segments), and proposed project generated traffic causes deterioration to unacceptable LOS, a significant direct impact is deemed to occur.
- When the pre-project conditions are already deficient, and the project is anticipated to contribute traffic to the location, the project's contribution to the cumulative impact is considered cumulatively considerable.

2.5.2 Caltrans

Impacts to State Highway intersections will be considered significant if:

- The Project causes the LOS of a State Highway intersection to degrade from LOS D or better to LOS E or F; or
- At State Highway intersections operating at LOS E or F for pre-project conditions, Caltrans threshold of significance is to maintain the pre-project measure of effectiveness for the intersection.

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

The applicant shall participate in the funding or construction of off-site improvements, including traffic signals that are needed to serve cumulative traffic conditions through the payment of the Transportation Uniform Mitigation Fees (TUMF), City of Murrieta Development Impact Fees (DIF), or a fair share contribution as directed by the City. These fees are collected as part of a funding mechanism aimed at ensuring that regional highways and arterial expansions keep pace with projected population increases. With regard to California Environmental Quality Act (CEQA) guidelines, the above fees will address the project's fair share toward mitigation measures designed to alleviate the cumulative impact.

3.0 Existing Conditions

3.1 EXISTING CIRCULATION NETWORK/STUDY AREA CONDITIONS

The characteristics of the roadway system in the vicinity of the proposed project site are described in ***Table 4.***

Table 4
Roadway Characteristics Within Study Area

Roadway	Classification[1]	Jurisdiction	General Direction	Existing Travel Lanes	Median Type[2]	Speed Limit (mph)	On-Street Parking
Murrieta Hot Springs Road	Multi-Modal Transportation Corridor	Murrieta	East-West	4-6[3]	RLM-TWLTL[2]	45-50[7]	No
Winchester Road (SR-79)	Expressway	Caltrans, County of Riverside	North-South	6	RLM-TWLTL[2]	55	No
Margarita Street	Major	Murrieta	North-South	2-4[4]	RLM-TWLTL[2]	25-45[8]	No
Date Street	Major	Murrieta	NE-SW	2-4[5]	TWLTL-NM[2]	25-45[9]	No
Delhaven Street	Local	Murrieta	North-South	2	NM[2]	25	No
Nicholas Road	Local	County of Riverside	East-West	2-4[6]	NM-PM[2]	45	No

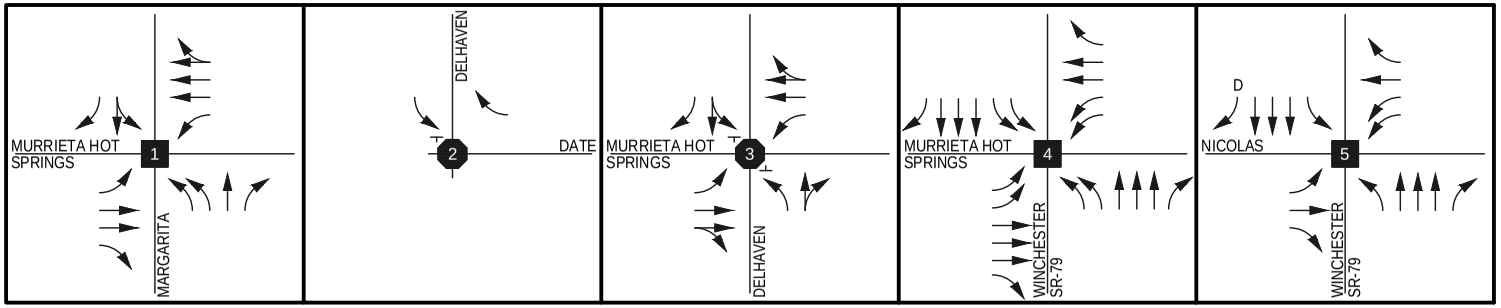
1: Sources: City of Murrieta General Plan Circulation Element (2011)
2: RLM = Raised Landscaped Median, TWLTL = Two-Way Left-Turn Lane, PM = Painted Median, NM = No Median.
3: Six-lanes west of Margarita, four-lanes between Margarita and Winchester, four -lanes east of Winchester. Widening of MHSR from 4- to 6-lanes between Margarita and Winchester is a fully funded project with an expected completion date of Late 2019.
4: Four-lanes south of MHSR, two-lanes north of MHSR
5: Four-lanes between Margarita and Winchester Creek, two-lanes adjacent project site.
6: Two-lanes west of Winchester, four-lanes east of Winchester
7: 45mph west of Winchester, 50mph east of Winchester.
8: 25mph north of MHSR, 45mph south of MHSR
9: 25mph adjacent project site, 45mph between Margarita and Winchester Creek

Exhibit 3 shows existing conditions study area intersection and roadway geometry.

Based on direction provided by City staff, this analysis does not assume the construction of Date Street between Winchester Creek Avenue and Murrieta Hot Springs Road and signalization of the Murrieta Hot Springs Road/New Date Street intersection for any analysis scenarios since the proposed extension is not yet fully funded.

3.2 CITY OF MURRIETA GENERAL PLAN CIRCULATION ELEMENT

The proposed project site is located within the City of Murrieta. ***Appendix B*** contains the Murrieta General Plan Circulation Element future transportation network and roadway cross sections.



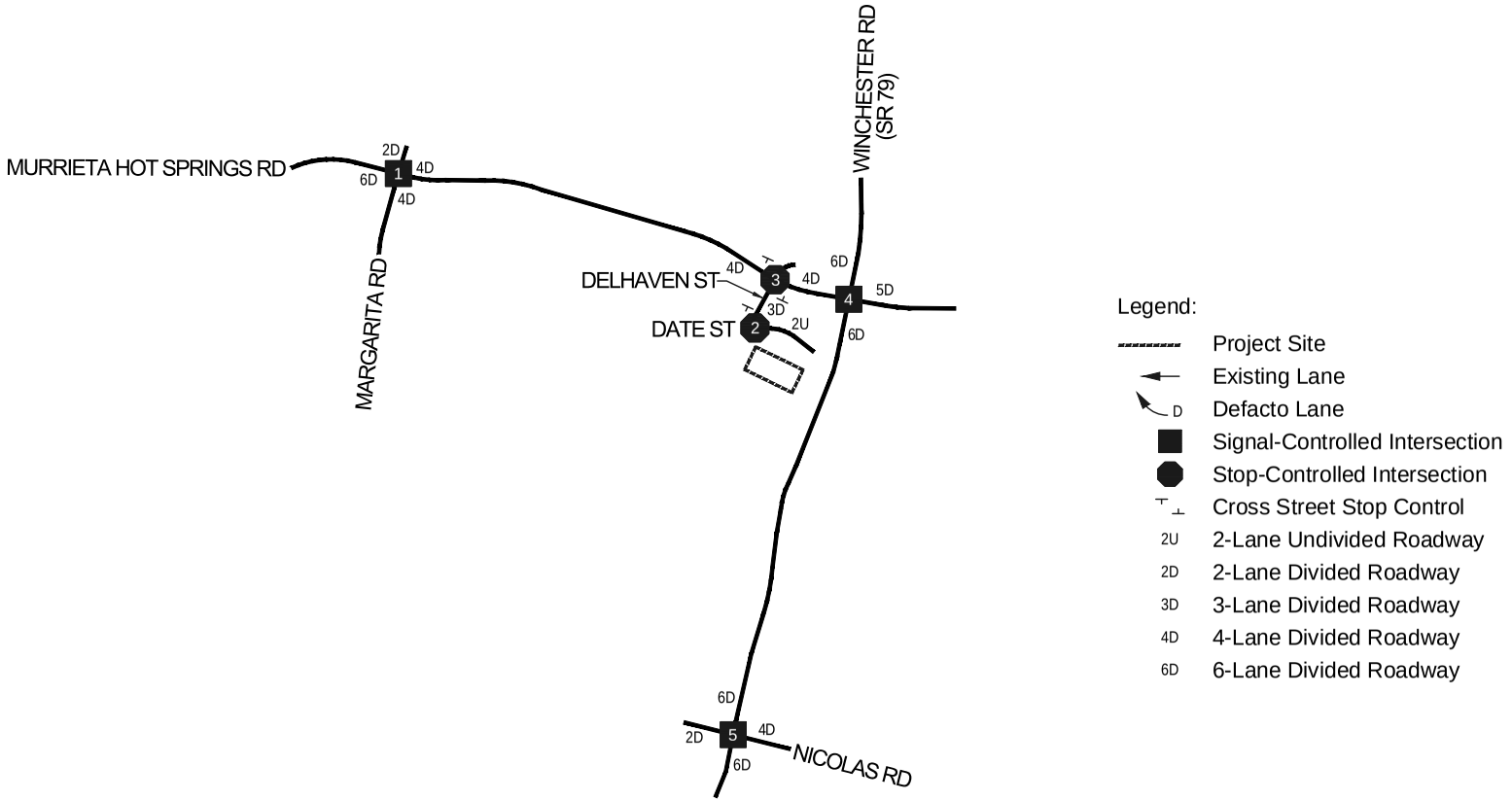


Exhibit 3: Existing Lane Geometry and Intersection Controls

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale

3.3 EXISTING BICYCLE AND PEDESTRIAN FACILITIES

Within the study area, Class II on-street bicycle lanes exist on the following roadways:

- Nicholas Road east of Winchester Road
- Date Street between Winchester Creek Avenue and Margarita Road
- Margarita Road between Murrieta Hot Springs Road and Winchester Road
- Murrieta Hot Springs Road between Alta Murrieta Drive and Margarita Road

According to the Murrieta General Plan Circulation Element, Class II on-street bicycle lanes are planned on Murrieta Hot Springs Road between Margarita Road and Winchester Road and on Date Street between its current terminus and Murrieta Hot Springs Road when the Date Street extension is constructed.

Sidewalks and curb ramps at intersections are generally present where development has occurred within the study area, and absent where development has yet to occur.

Appendix B contains the Murrieta General Plan Circulation Element Bikeway Plan.

3.4 EXISTING PUBLIC TRANSIT SERVICES

The City of Murrieta is served by the Riverside Transit Agency which provides local and regional bus service throughout Riverside County. ***Figure 2*** shows the Riverside Transit routes in the vicinity of the City of Murrieta.

Figure 2– *Riverside Transit Routes*

Source: www.riversidetransit.com

There are two bus routes with stops within one-quarter mile of the project site.

Riverside Transit Route 23 travels between Wildomar, Murrieta and Temecula. In the vicinity of the proposed project, Route 23 runs along Murrieta Hot Springs Road and Winchester Road with stops on Murrieta Hot Springs Road at Delhaven Road (eastbound direction) and Winchester Road (westbound direction). Route 23 runs from approximately 5:00 AM to 8:00 PM on weekdays with headways of 50-60 minutes and from 7:00 AM to 7:00 PM with headways of 60 minutes on weekends.

Riverside Transit Route 79 travels between Hemet and Winchester. In the vicinity of the proposed project, Route 79 runs along Winchester Road with a stop at the Murrieta Hot Springs Road/Winchester Road intersection. Route 79 runs from approximately 5:00 AM to 8:00 PM on weekdays with headways of 60-75 minutes, and on Saturdays from 6:00 AM to 8:00 PM with headways of 60-75 minutes.

There are no other transit facilities within one-quarter mile of the proposed project site.

3.5 EXISTING TRAFFIC VOLUMES

To determine the existing operation of the study intersections, AM and PM peak period traffic counts at the study intersections and 24-hour average daily traffic counts at the study roadway segment were collected on Thursday May 24, 2018. The traffic volumes used in this analysis are from the highest hour within the peak period counted. Detailed traffic count data is provided in ***Appendix C***.

Exhibit 4 shows existing AM and PM peak hour volumes at the study intersections and ADT volumes at the study roadway segment.

3.6 EXISTING CONDITIONS INTERSECTION LEVEL OF SERVICE ANALYSIS

Existing conditions AM and PM peak hour intersection analysis is shown in ***Table 5***. Calculations are based on the existing geometrics at the study area intersections as shown in ***Exhibit 3.*** HCM analysis sheets are provided in ***Appendix D***.

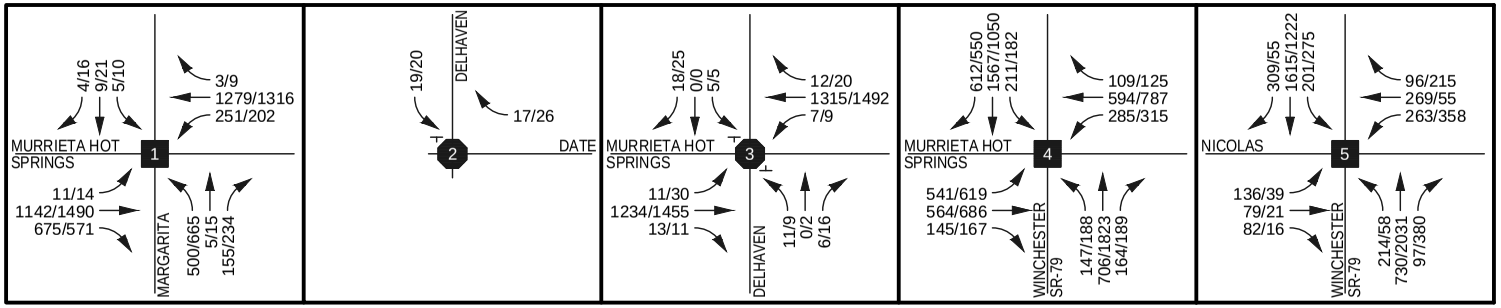
Table 5
Intersection Analysis – Existing Conditions

Intersection	Control Type	Peak Hour	Existing Conditions
			Delay[1] - LOS
Margarita Road/Murrieta Hot Springs Road	Signal	AM	35.1 – D
		PM	40.2 – D
Delhaven Street/Date Street	OWSC	AM	0.0 – A[2]
		PM	0.0 – A[2]
Delhaven Street/Murrieta Hot Springs Road	TWSC	AM	**154.9 – F**
		PM	**369.4 – F**
Winchester Road/Murrieta Hot Springs Road	Signal	AM	**59.1 – E**
		PM	**74.1 – E**
Winchester Road/Nicholas Road	Signal	AM	40.6 – D
		PM	45.1 – D

Note: OWSC = One-Way Stop-Control; TWSC = Two-Way Stop-Control
Delay shown in seconds per vehicle. Unacceptable intersection operation shown in **bold**.
1 = Per the 2010 Highway Capacity Manual, overall average delay and LOS are shown for signalized and all-way stop-controlled intersections. For intersections with one-or-two-way stop-control, the delay and LOS for the worst individual movement is shown.
2 = Intersection currently only has southbound and westbound legs and functions as a 'knuckle' with no conflicting movements.

As shown in ***Table 5***, the intersections are currently operating at an acceptable LOS (LOS D or better) during the AM and PM peak hours with the exception of the following intersections:

- Delhaven Street/Murrieta Hot Springs Road (Minor Street movements LOS F AM and PM peak hour)
- Winchester Road/Murrieta Hot Springs Road (LOS E AM & PM Peak Hour)



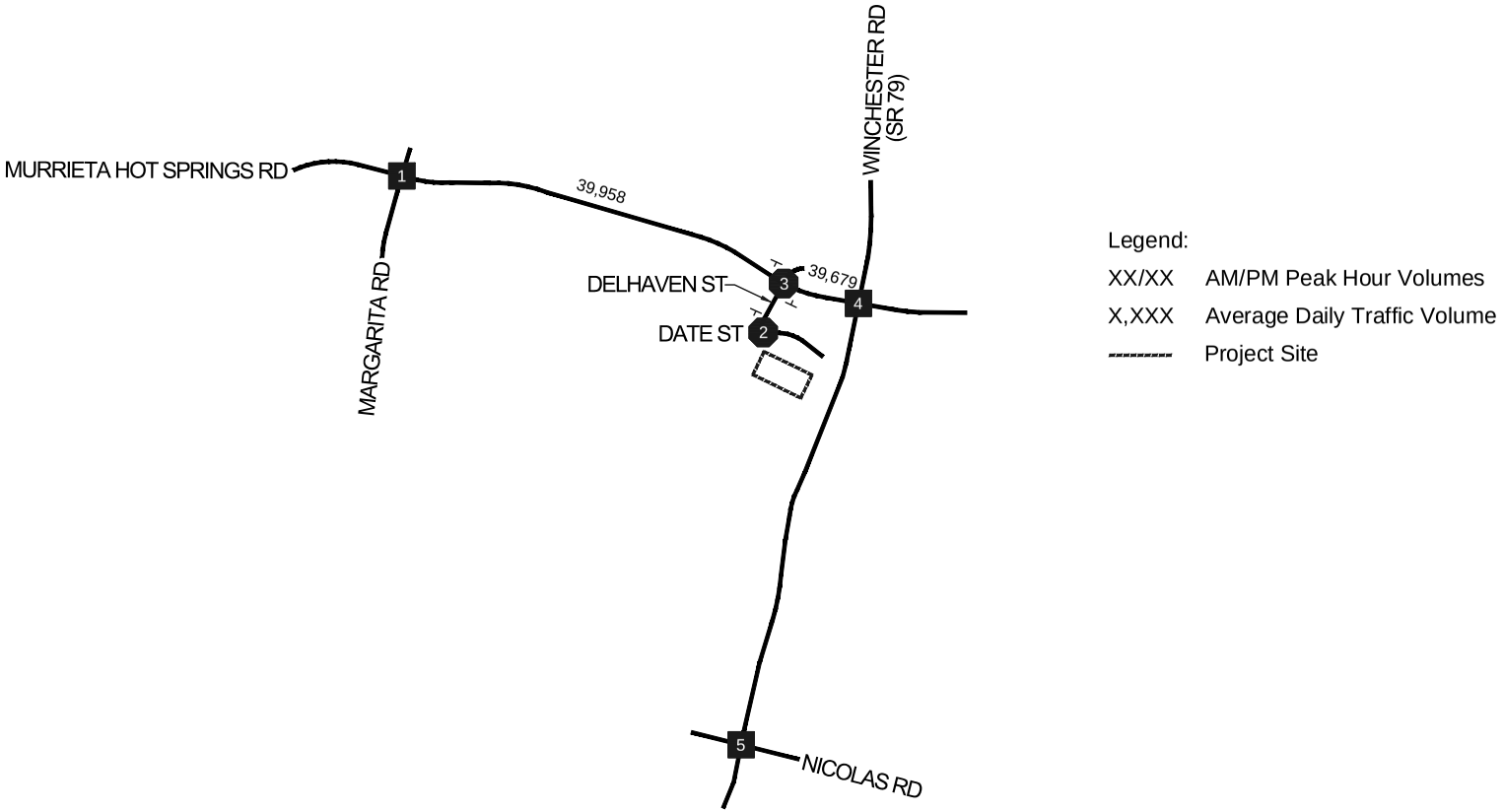


Exhibit 4: Existing AM/PM Peak Hour Intersection Volumes

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale

3.7 EXISTING CONDITIONS ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

Table 6 summarizes existing conditions roadway segment analysis based on the LOS E capacities provided in the Murrieta General Plan Circulation Element, previously summarized in ***Table 3***.

Table 6
Roadway Segment Analysis – Existing Conditions

Roadway Segment	Existing Cross Section	LOS E Capacity	Existing		
			ADT	V/C	LOS
Murrieta Hot Springs Road between Margarita Road and Delhaven Street	4D	35,900	39,958	1.11	F
Murrieta Hot Springs Road between Delhaven Street and Winchester Road	4D	35,900	39,679	1.11	F

Note: 4D = four-lane divided roadway. V/C = volume to capacity ratio.

As shown in ***Table 6***, the study roadway segments are currently operating at an unacceptable LOS.

3.8 EXISTING CONDITIONS SIGNAL WARRANT ANALYSIS

Traffic signal warrants for existing conditions have been prepared based on existing peak hour intersection volumes at the unsignalized study intersections. ***Table 7*** summarizes the results of the signal warrant analysis. Detailed warrant analysis sheets are contained in ***Appendix E***.

Table 7
Signal Warrant Analysis – Existing Conditions

Intersection	Signal Warrants Met?	
	AM Peak Hour	PM Peak Hour
Delhaven Street/Date Street	No	No

Peak hour signal warrants are not met at any unsignalized study intersections for existing conditions.

4.0 Proposed Project

4.1 Project Description

The proposed MHSR Apartments project is a General Plan Amendment, Zone Change and Development Plan to change the existing Commercial General Plan land use, Neighborhood Commercial zoning to Multifamily Residential General Plan land use, Multi-Family 3 zoning and to develop multi-family housing totaling 234 units on the 8.37 acre site.

The project site is located at the southeast corner of the intersection of Delhaven Avenue and Date Street and is comprised of Assessor Parcel Number (APM) 913-210-005, 006, 007, 010-013, 033, 034, 035 and portions of 913-210-032. The site is subject to the Commercial General Plan Land Use Designation and is Zoned Neighborhood Commercial. A General Plan and Zone Change Amendment is proposed. The site is undeveloped. Site access would be provided by two private drives proposed to be located at one full access driveway aligned as the southern leg of the Delhaven Street/Date Street intersection and a secondary emergency-only access is planned at the intersection of Bahama Way and Rising Hills Drive.

The proposed project is anticipated to be built and generating trips in 2020.

This traffic has analyzed the proposed project as a 238-unit project, which is more conservative than the currently proposed 234-unit project. ***Exhibit 1*** previously showed the proposed site plan.

Based on direction provided by City staff, this analysis does not assume the construction of Date Street between Winchester Creek Avenue and Murrieta Hot Springs Road and signalization of the Murrieta Hot Springs Road/New Date Street intersection for the EP and EAP analysis scenarios but assumes construction of the Date Street extension for the EAPC scenario since MHS20 cumulative project (discussed in *Section 4.6*) is being conditioned to construct the extension.

4.2 Project Trip Generation

Trip generation represents the amount of traffic, both inbound and outbound, produced by a development. Determining trip generation for a proposed project is based on projecting the amount of traffic that the specific land uses being proposed will produce. Industry standard *Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017)* trip generation rates were used to determine trip generation of the proposed project.

***Table* 8** shows the ITE 10th Edition trip generation rates used to calculate projected trip generation of the proposed project, as well as he projected trip generation of the proposed project based on those rates.

Table 8
Projected Trip Generation of Proposed Project

Proposed Land Use[1]	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Apartments (220)	238 DU	7.32	1742	0.46	23:77	25	84	109	0.56	63:37	84	49	133

1: Rates from ITE Trip Generation (10th Edition, 2017)

DU =dwelling unit

Source: ITE Trip Generation, 10th Edition (2017).

As shown in ***Table 8,*** the proposed project is forecast to generate approximately 109 AM peak hour trips, 133 PM peak hour trips and 1,742 daily trips.

4.3 Project Trip Distribution

Projecting trip distribution involves the process of identifying probable destinations and traffic routes that will be utilized by the proposed project's traffic. The potential interaction between the proposed land use and surrounding regional access routes are considered to identify the probable routes onto which project traffic would distribute. The projected trip distribution for the proposed project is based on anticipated travel patterns to and from the project site.

Exhibit 5 shows the projected trip distribution of proposed project trips for EP and EAP conditions.

4.4 Modal Split

The traffic reducing potential of public transit, walking and bicycling have not been considered in this analysis since transit facilities in the study area are limited.

4.5 Project Trip Assignment

Exhibit 6 shows the corresponding projected AM/PM peak hour trip assignment of projected proposed project trips for EP and EAP conditions.

4.6 Cumulative Projects Traffic

CEQA guidelines require that other reasonably foreseeable development projects which are either approved or are currently being processed in the study area also be included as part of a cumulative analysis scenario. A list of cumulative projects for inclusion in this analysis was provided by City of Murrieta staff. ***Exhibit 7*** shows the location of the cumulative projects. A summary of the cumulative projects land uses is shown in ***Table 9***.

Since the City has indicated that the MHS20 cumulative project is responsible for construction of the Date Street Extension to Murrieta Hot Springs Road, EAPC conditions analysis assumes a slightly different trip distribution to account for the circulation system change. ***Exhibit 8*** shows the projected trip distribution of proposed project trips for EAPC conditions, and ***Exhibit 9*** shows the corresponding projected trip assignment of proposed project trips for EAPC conditions.

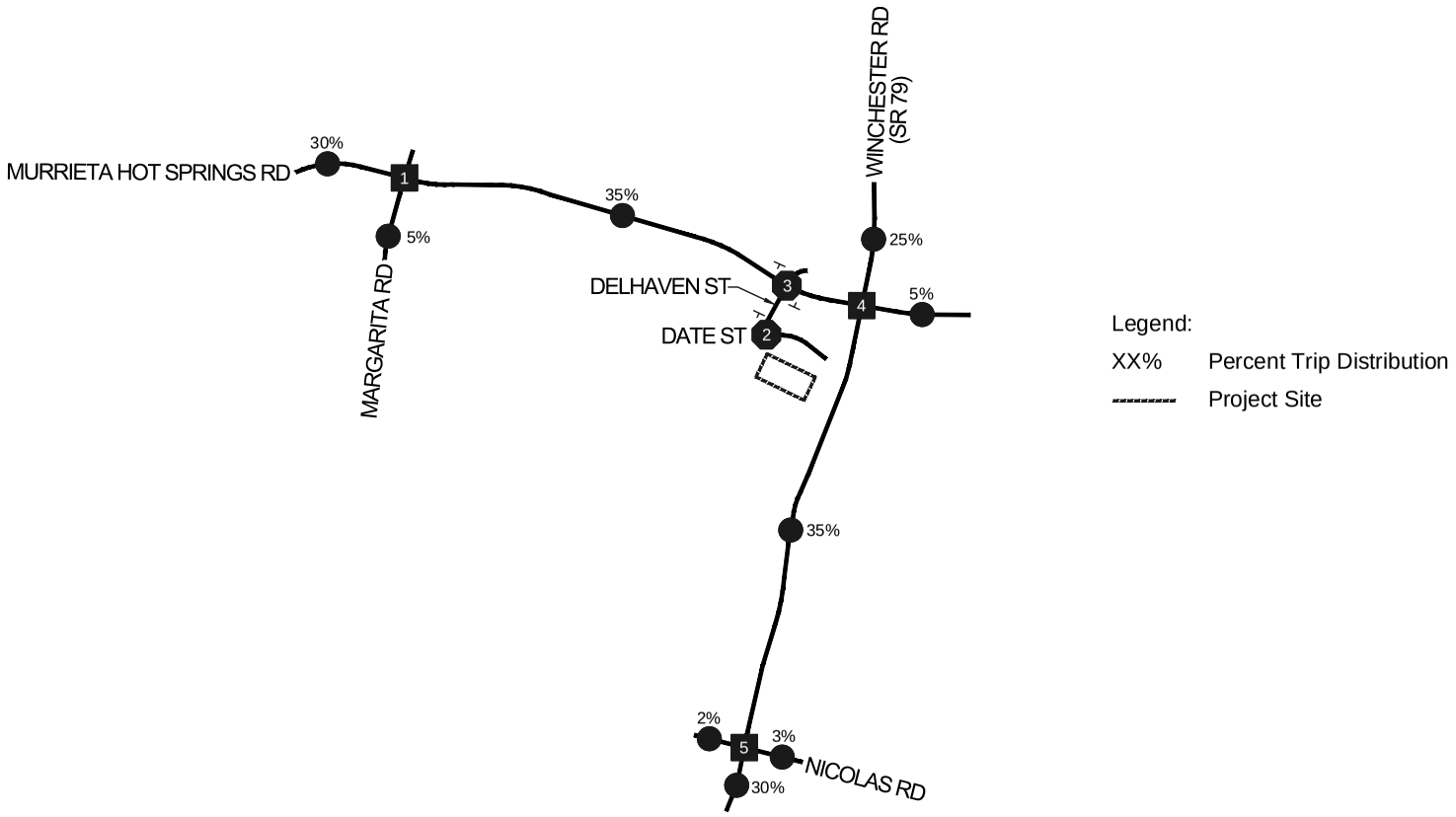
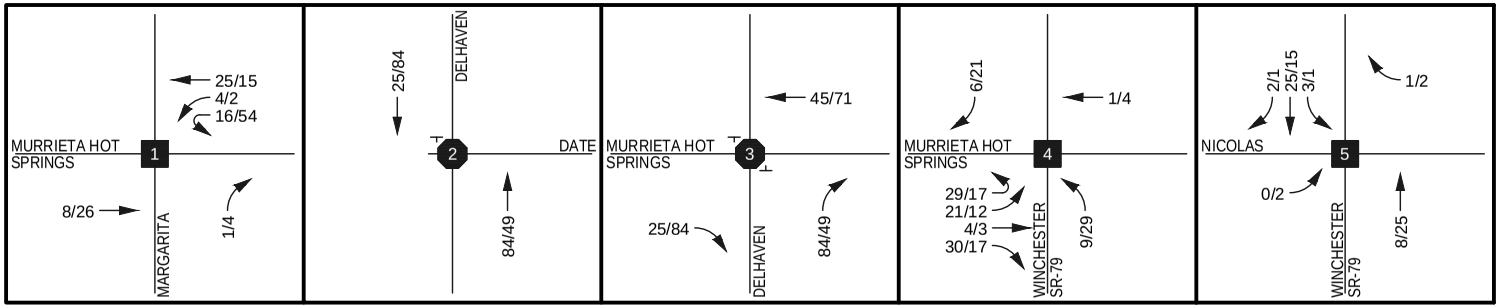


Exhibit 5:
Trip Distribution of Proposed Project Trips at Study Intersections

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale



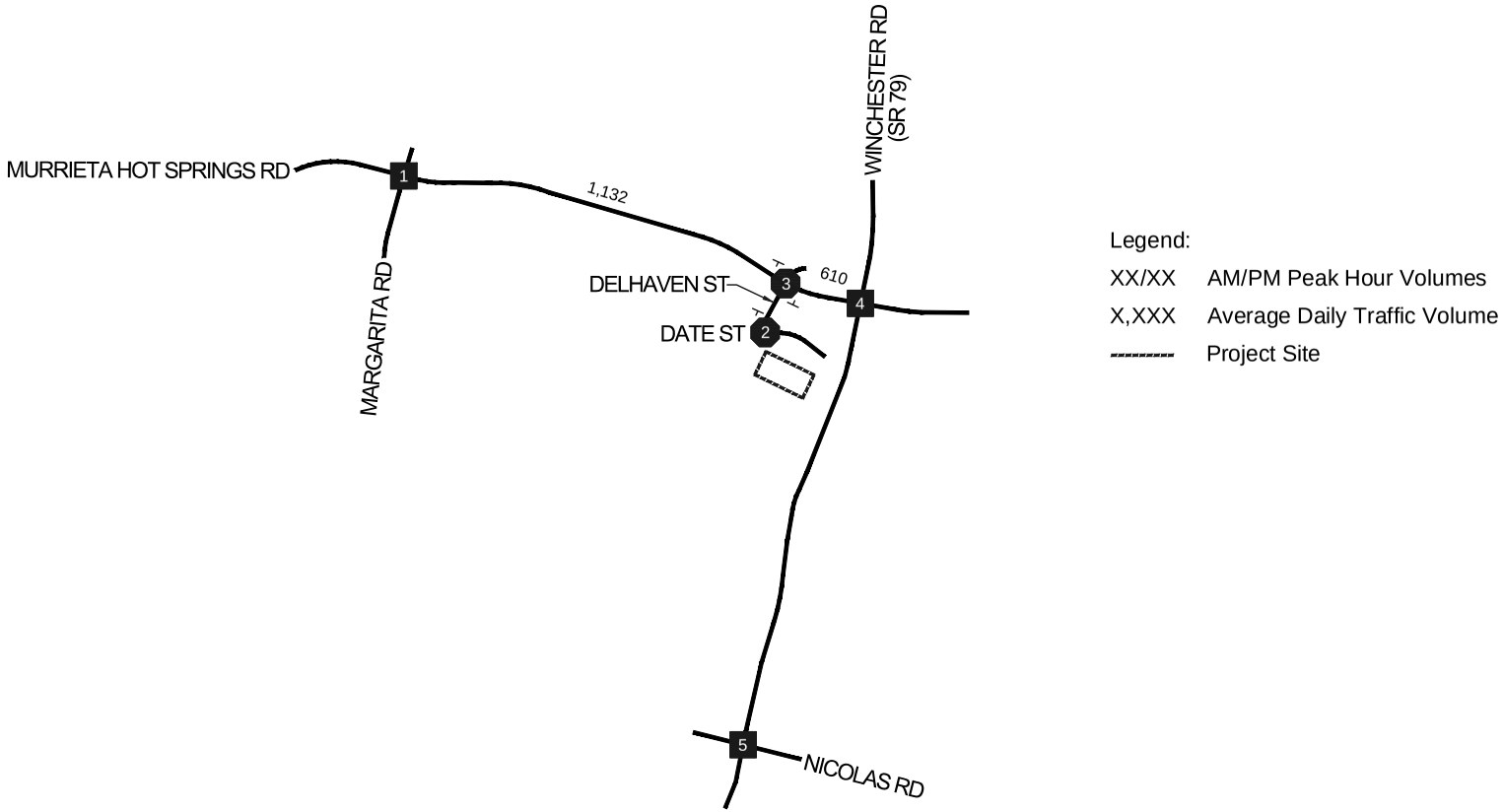


Exhibit 6: Projected PCE Trip Assignment of Proposed Project Trips

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale

Legend:

X Approximate Cumulative Project Locations

Project Site

Exhibit 7:
Cumulative Project Map

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale

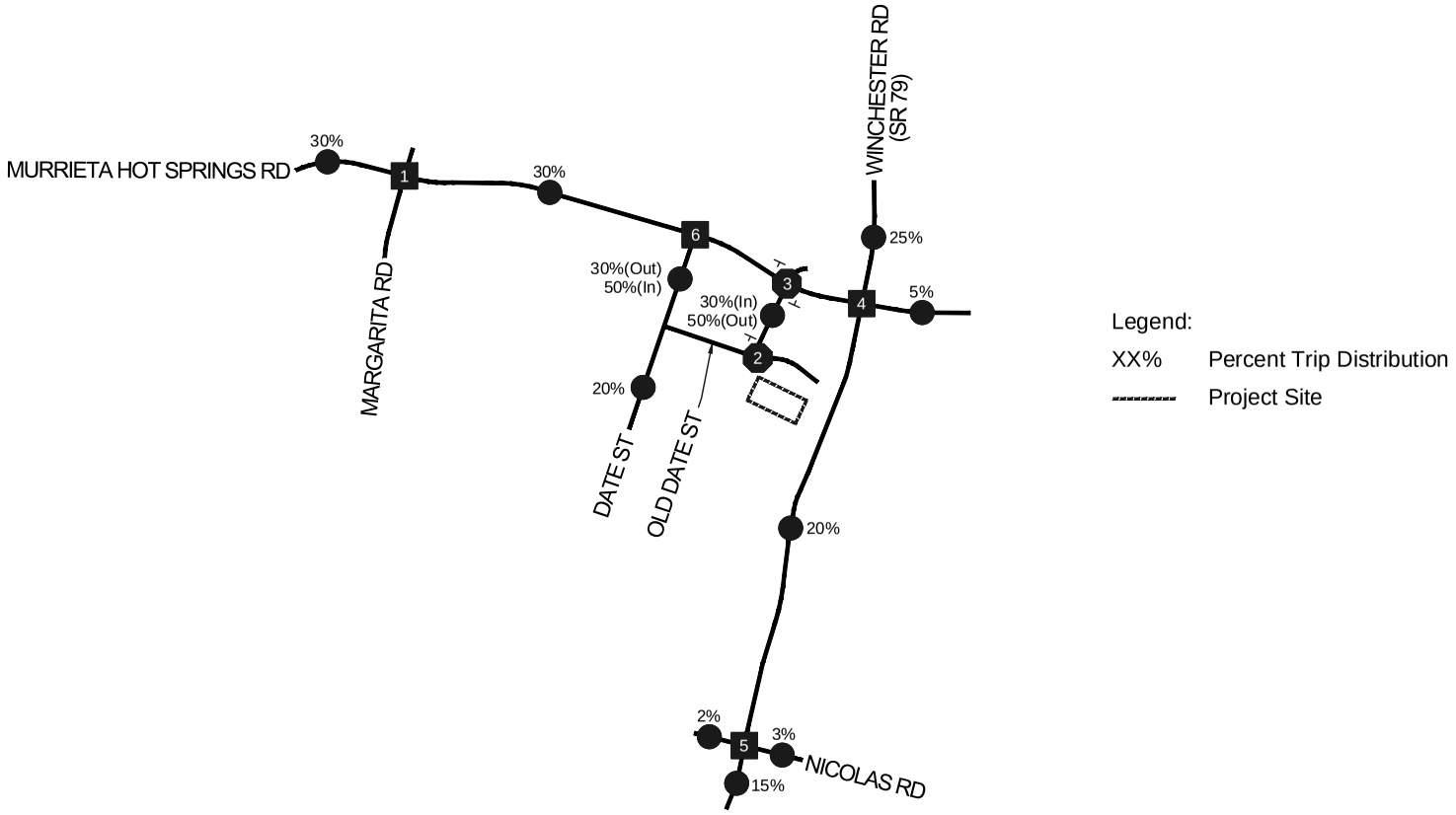
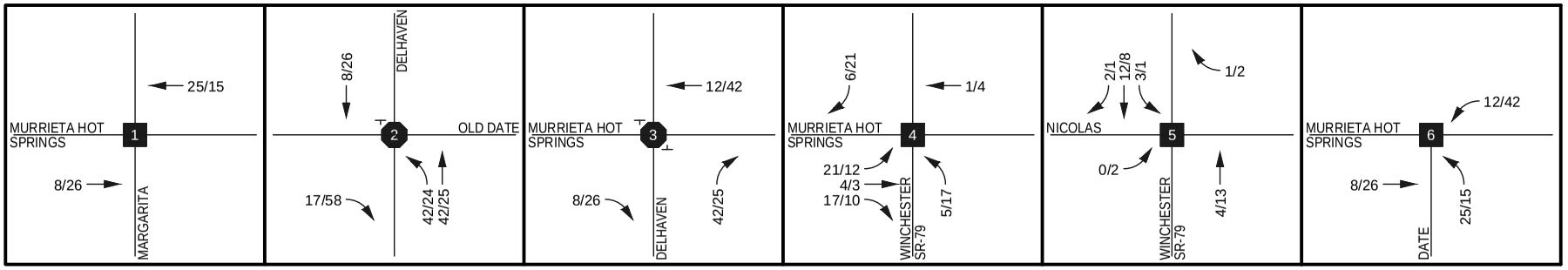


Exhibit 8:
Trip Distribution of Proposed Project Trips for EAPC Conditions

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale



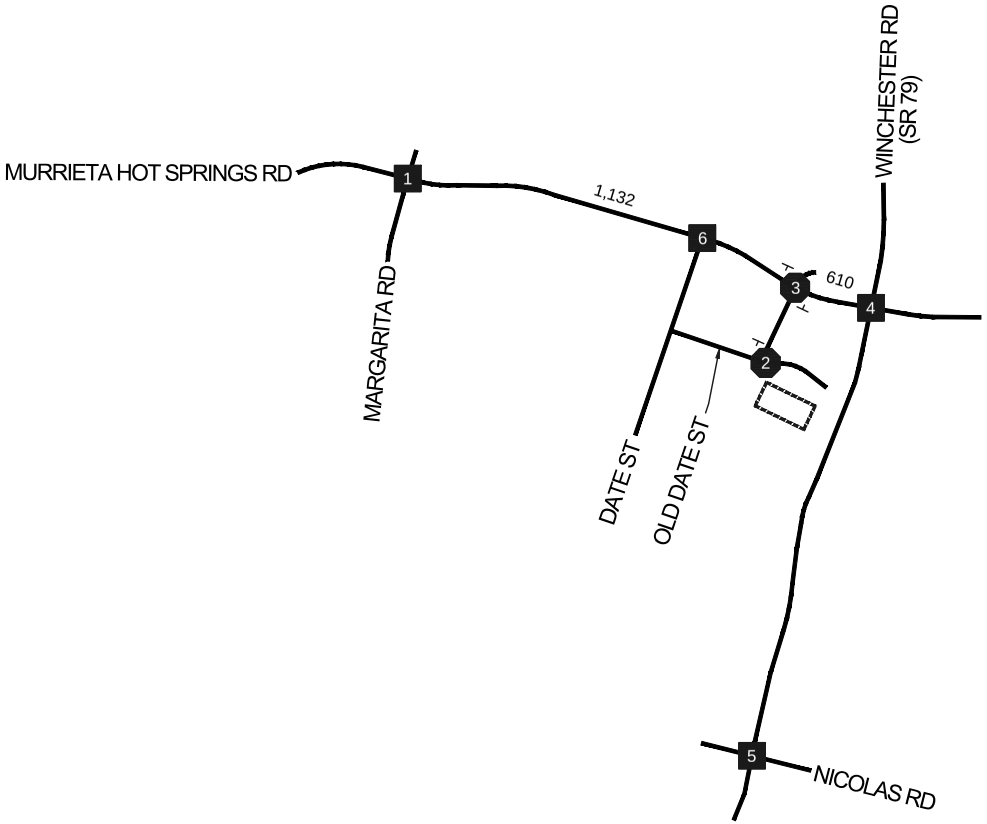


Exhibit 9: Trip Assignment of Proposed Project Trips for EAPC Conditions

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale

Table 9
Summary of Cumulative Projects

#	Project Name/Description	Land Use	Quantity
1	Certified Tire & Services (DP-2016-1153)	Auto Care	6.2 TSF, 10 bays
2	Golden Eagle (DP-2012-3267)	Apartments	112 DU
3	Murrieta 196	Apartments	196 DU
4	TTM 31251	Single Family Homes	8 DU
5	Adobe Springs (TTM-2015-518)	Single Family Homes Business Park	287 DU 208.5 TSF
6	Murrieta Market Place (DP-2017-1370)	Shopping Center 3 Gas Stations (2 with convenience stores)	567.672 TSF 36 VFP (total of all 3 stations)
7	Aldi Food Market (DP-2017-1529)	Supermarket	19.056 TSF
8	Date Street Shopping Ctr (DP-2016-1176)	Shopping Center	24.874 TSF
9	MHS20	Gas Station w/ Conv. Store, Automated Car Wash and Quick Lube Facility	12 VFP 1 Tunnel 2 Bays

Note: TSF = thousand square feet. DU = Dwelling Unit, NA = Data Not Available

Cumulative project information provided by City staff is included in ***Appendix F.***

5.0 Existing Plus Project Conditions (EP)

Existing plus project (EP) conditions analysis is intended to identify the project-related impacts on the existing circulation system by comparing EP conditions to existing conditions.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the existing plus project scenario are consistent with those previously shown in ***Exhibit 3***, with the following exceptions:

- Murrieta Hot Springs Road will be improved from four-lanes to six-lanes between Margarita Road and Winchester Road as part of the City's Capital Improvement Program project CIP 8079.
- Construction of a raised median on Murrieta Hot Spring Road will prohibit left-turn movements into and out of Delhaven Street at Murrieta Hot Springs Road as part of the City's Capital Improvement Program project CIP 8079.
- Project driveways and other facilities assumed to be constructed by the proposed project to provide site access, which includes construction of the south leg of the Delhaven Street/Date Street intersection.

Based on direction provided by City staff, this analysis does not assume the construction of Date Street between Winchester Creek Avenue and Murrieta Hot Springs Road and signalization of the Murrieta Hot Springs Road/New Date Street intersection for the EP and EAP analysis scenarios but assumes construction of the Date Street extension for the EAPC scenario since MHS20 cumulative project (discussed in *Section 4.6*) is being conditioned to construct the extension.

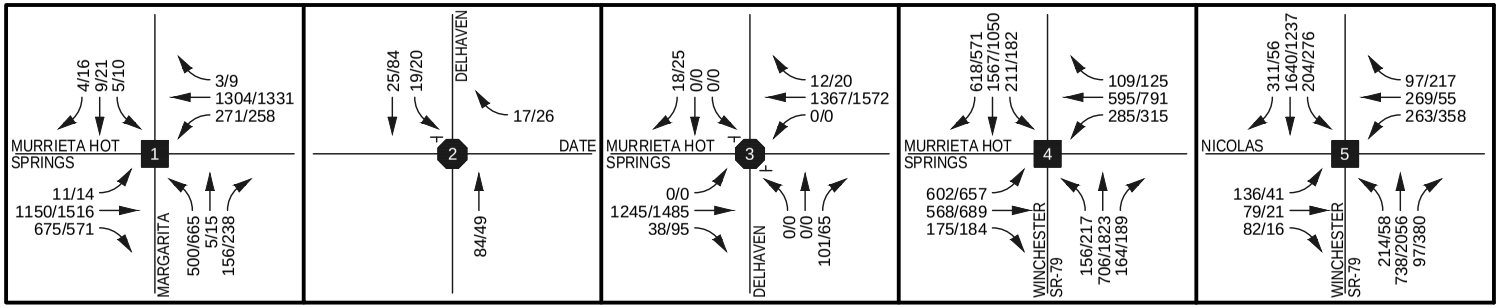
5.2 EP TRAFFIC VOLUMES

EP volumes include existing traffic plus the addition of the traffic projected to be generated by the proposed project.

EP Volumes = Existing (2018) Counts + Project Traffic

Additionally, with the restriction of Delhaven Street to right-in/right-out only operation, existing traffic volumes have been redistributed to reflect the change. Until the construction of the Date Street extension, vehicles wishing to head westbound on Murrieta Hot Springs Road at Delhaven Street would be required to turn right onto Murrieta Hot Springs Road and make a U-turn at the Winchester Road/Murrieta Hot Springs Road intersection.

Exhibit 10 shows *EP* AM and PM peak hour volumes at the study intersections and ADT volume at the study roadway segment.



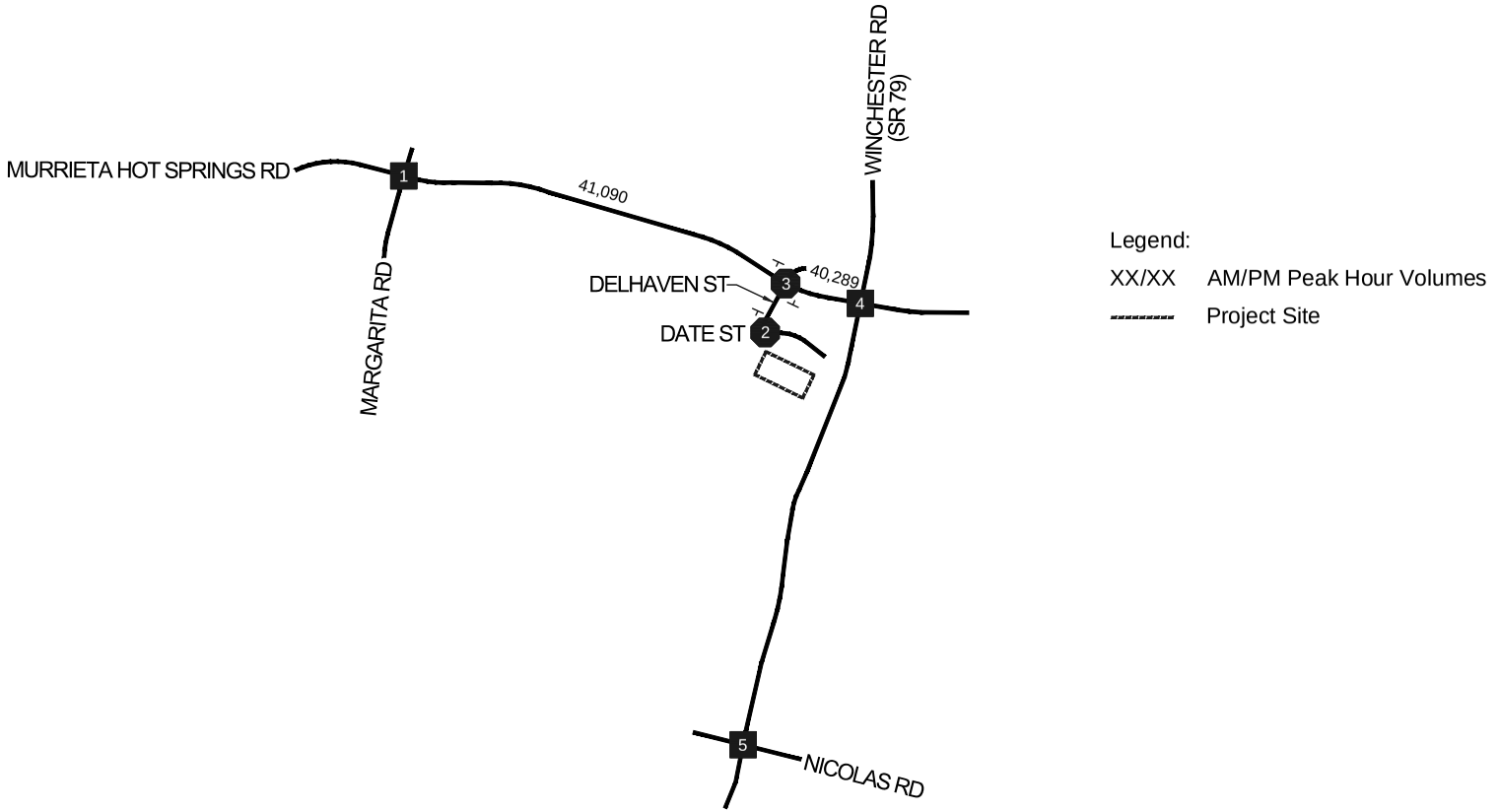


Exhibit 10: Existing Plus Project AM/PM Peak Hour Volumes

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale

5.3 EP INTERSECTION LEVEL OF SERVICE ANALYSIS

EP conditions AM and PM peak hour intersection analysis is shown in ***Table 10.*** Calculations are based on the existing geometrics at the study area intersections as shown in ***Exhibit 3.*** HCM analysis sheets are provided in ***Appendix D***.

Table 10
Intersection Analysis – EP Conditions

Intersection	Peak Hour	Existing Conditions	EP Conditions		
		Delay[1] – LOS	Delay[1] – LOS	Change	Impact?
Margarita Road/Murrieta Hot Springs Road	AM PM	35.1 – D 40.2 – D	37.3 – D 47.6 – D	2.2 7.4	No
Delhaven Street/Date Street	AM PM	0.0 – A[2] 0.0 – A[2]	7.4 – A 7.5 – A	7.4 7.5	No
Delhaven Street/Murrieta Hot Springs Road	AM PM	**154.9 – F** **369.4 – F**	21.7 – C 21.9 – C	-133.2 -347.5	No
Winchester Road/Murrieta Hot Springs Road	AM PM	**59.1 – E** **74.1 – E**	**68.8 – E** **82.8 – F**	9.7 8.7	Yes, Cumulative
Winchester Road/Nicholas Road	AM PM	40.6 – D 45.1 – D	43.0 – D 45.6 – D	2.4 0.5	No

Note: Delay shown in seconds per vehicle.
1 = Per the 2010 Highway Capacity Manual, overall average delay and LOS are shown for signalized and all-way stop-controlled intersections. For intersections with one-or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in ***Table 10***, the study intersections are projected to continue to operate at an acceptable LOS during the AM and PM peak hours for *EP* conditions with the exception of the Winchester Road/Murrieta Hot Springs Road intersection which is projected to continue to operate at LOS E/F during the AM/PM peak hour.

Based on the thresholds of significance for *EP* conditions previously discussed in section 2.4, the addition of project generated trips is not projected to have a significant direct impact at any of the study intersections since the deficiently operating Winchester Road/Murrieta Hot Springs Road intersection operates at a deficient LOS pre-project. According to recent case law such as *Los Angeles Unified Sch. Dist. V City of Los Angeles* (1997) 58 CalApp4th 1019 and *Communities for a Better Env't v California Resources Agency* (2002) 103 CalApp 4th 98, a project that results in an increase to an impact that already exceeds the established thresholds contributes to a cumulative impact as opposed to a direct impact. Mitigation of the cumulative impacts at the Winchester Road/Murrieta Hot Springs Road intersection will be discussed in the *Existing Plus Ambient Plus Project Plus Cumulatives* (EAPC) scenario.

5.4 EP ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

Table 11 summarizes *EP* conditions roadway segment analysis based on the LOS E capacities provided in the Murrieta General Plan Circulation Element, previously summarized in ***Table 3***.

Table 11
Roadway Segment Analysis – EP Conditions

Roadway Segment	Existing Cross Section	LOS E Capacity	Existing Plus Project		
			ADT	V/C	LOS
Murrieta Hot Springs Road between Margarita Road and Delhaven Street	6D	53,900	41,090	0.762	C
Murrieta Hot Springs Road between Delhaven Street and Winchester Road	6D	53,900	40,289	0.767	C

Note: 4D = four-lane divided roadway. V/C = volume to capacity ratio.

As shown in ***Table 11***, the study roadway segment is projected to operate at an acceptable for *EP* conditions assuming completion of the widening of Murrieta Hot Springs Road from four-lanes to six-lanes between Margarita Road and Winchester Road.

5.5 EP CONDITIONS SIGNAL WARRANT ANALYSIS

Traffic signal warrants for existing conditions have been prepared based on EAP peak hour intersection volumes at the unsignalized study intersections and project site access locations. ***Table 12*** summarizes the results of the signal warrant analysis. Detailed warrant analysis sheets are contained in ***Appendix E***.

Table 12
Signal Warrant Analysis – EP Conditions

Intersection	Signal Warrants Met?	
	AM Peak Hour	PM Peak Hour
Delhaven Street/Date Street	No	No

Peak hour signal warrants are projected to not be met at any unsignalized study intersections for EAP conditions.

5.6 EP CONDITIONS RECOMMENDED IMPROVEMENTS

Since the addition of project generated trips is not projected to have a significant direct impact on any of the study facilities, no improvements are recommended for *EAP* conditions.

6.0 Existing Plus Ambient Plus Project Conditions (EAP)

Existing plus ambient plus project (EAP) conditions analysis is intended to identify the project-related impacts on both the planned near-term circulation system by comparing EAP conditions to existing conditions. EAP analysis is intended to identify "opening year" impacts associated with the development of the proposed project based on the expected background growth within the study area.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the existing plus project scenario are consistent with those previously shown in ***Exhibit 3***, with the following exceptions:

- Murrieta Hot Springs Road will be improved from four-lanes to six-lanes between Margarita Road and Winchester Road as part of the City's Capital Improvement Program project CIP 8079.
- Construction of a raised median on Murrieta Hot Spring Road will prohibit left-turn movements into and out of Delhaven Street at Murrieta Hot Springs Road as part of the City's Capital Improvement Program project CIP 8079.
- Project driveways and other facilities Project driveways and other facilities assumed to be constructed by the proposed project to provide site access, which includes construction of the south leg of the Delhaven Street/Date Street intersection.

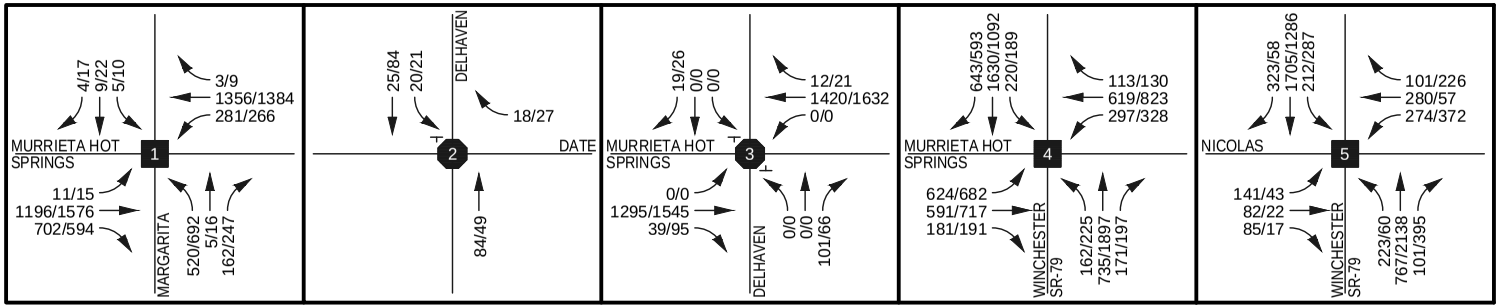
Based on direction provided by City staff, this analysis does not assume the construction of Date Street between Winchester Creek Avenue and Murrieta Hot Springs Road and signalization of the Murrieta Hot Springs Road/New Date Street intersection for the EP and EAP analysis scenarios but assumes construction of the Date Street extension for the EAPC scenario since MHS20 cumulative project (discussed in *Section 4.6*) is being conditioned to construct the extension.

6.2 EAP TRAFFIC VOLUMES

EAP volumes include background traffic plus the addition of the traffic projected to be generated by the proposed project. Since the proposed project is expected to be built and generating trips in 2020, *EAP* volumes include an ambient growth rate of 2% per year for two years, applied to existing volumes.

EAP Volumes = (Existing (2018) Counts * 1.02^2) + Project Traffic

Exhibit 11 shows *EAP* AM and PM peak hour volumes at the study intersections and ADT volume at the study roadway segment. With the restriction of Delhaven Street to right-in/right-out only operation, existing traffic volumes have been redistributed to reflect the change. Until the construction of the Date Street extension, vehicles wishing to head westbound on Murrieta Hot Springs Road at Delhaven Street would be required to turn right onto Murrieta Hot Springs Road and make a U-turn at the Winchester Road/Murrieta Hot Springs Road intersection.



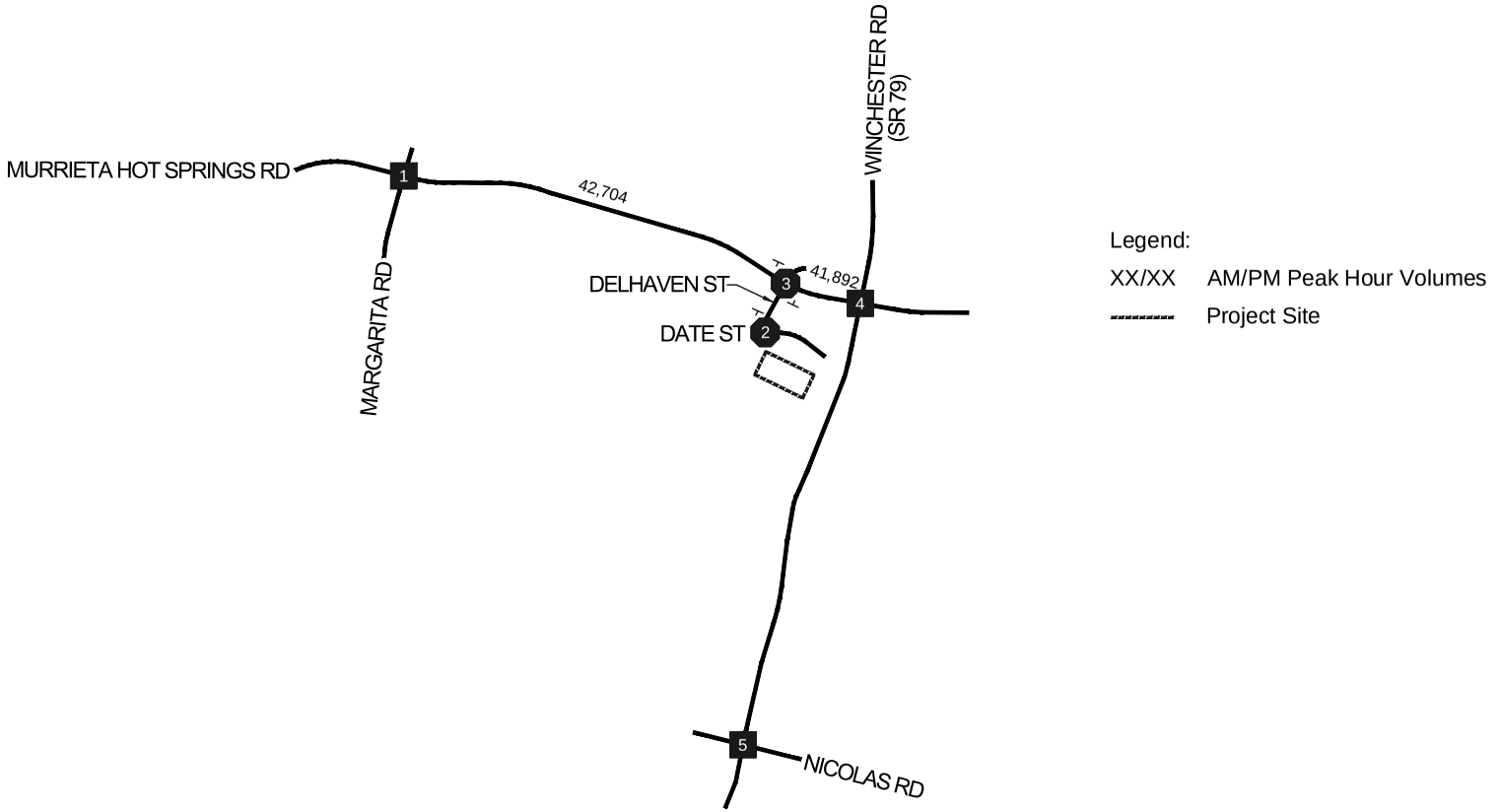


Exhibit 11: EAP AM/PM Peak Hour Volumes

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale

6.3 EAP INTERSECTION LEVEL OF SERVICE ANALYSIS

EAP conditions AM and PM peak hour intersection analysis is shown in ***Table 13.*** Calculations are based on the existing geometrics at the study area intersections as shown in ***Exhibit 3.*** HCM analysis sheets are provided in ***Appendix D***.

Table 13
Intersection Analysis – EAP Conditions

Intersection	Peak Hour	Existing Conditions	EAP Conditions		
		Delay[1] – LOS	Delay[1] – LOS	Change	Impact?
Margarita Road/Murrieta Hot Springs Road	AM PM	35.1 – D 40.2 – D	41.5 – D 53.5 – D	6.4 13.3	No
Delhaven Street/Date Street	AM PM	0.0 – A[2] 0.0 – A[2]	7.4 – A 7.5 – A	7.4 7.5	No
Delhaven Street/Murrieta Hot Springs Road	AM PM	**154.9 – F** **369.4 – F**	22.8 – C 23.1 – C	-132.1 -373.3	No
Winchester Road/Murrieta Hot Springs Road	AM PM	**59.1 – E** **74.1 – E**	**75.0 – F** **91.8 – F**	15.9 17.7	Yes, Cumulative
Winchester Road/Nicholas Road	AM PM	40.6 – D 45.1 – D	49.9 – D 50.5 – D	9.0 5.4	No

Note: Delay shown in seconds per vehicle.
1 = Per the 2010 Highway Capacity Manual, overall average delay and LOS are shown for signalized and all-way stop-controlled intersections. For intersections with one-or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in ***Table 13***, the study intersections are projected to continue to operate at an acceptable LOS during the AM and PM peak hours for *EAP* conditions, with the exception of the Winchester Road/Murrieta Hot Springs Road intersection which is projected to operate at LOS F during both peak hours.

Based on the thresholds of significance for *EAP* conditions previously discussed in section 2.4, the addition of project generated trips is not projected to have a significant direct impact at any of the study intersections since the deficiently operating Winchester Road/Murrieta Hot Springs Road intersection operates at a deficient LOS pre-project. According to recent case law such as *Los Angeles Unified Sch. Dist. V City of Los Angeles* (1997) 58 CalApp4th 1019 and *Communities for a Better Env't v California Resources Agency* (2002) 103 CalApp 4th 98, a project that results in an increase to an impact that already exceeds the established thresholds contributes to a cumulative impact as opposed to a direct impact. Mitigation of the cumulative impacts at the Winchester Road/Murrieta Hot Springs Road intersection will be discussed in the *Existing Plus Ambient Plus Project Plus Cumulatives* (EAPC) scenario.

6.4 EAP ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

Table 14 summarizes *EAP* conditions roadway segment analysis based on the LOS E capacities provided in the Murrieta General Plan Circulation Element, previously summarized in ***Table 3***.

Table 14
Roadway Segment Analysis – EAP Conditions

Roadway Segment	EAP Cross Section	LOS E Capacity	EAP		
			ADT	V/C	LOS
Murrieta Hot Springs Road between Margarita Road and Delhaven Street	6D	53,900	42,704	0.792	C
Murrieta Hot Springs Road between Delhaven Street and Winchester Road	6D	53,900	41,892	0.777	C

Note: 6D = six-lane divided roadway. V/C = volume to capacity ratio.

As shown in ***Table 14***, the study roadway segments are projected to operate at an acceptable LOS for *EAP conditions* assuming completion of the widening of Murrieta Hot Springs Road from four-lanes to six-lanes between Margarita Road and Winchester Road.

6.5 EAP CONDITIONS SIGNAL WARRANT ANALYSIS

Traffic signal warrants for existing conditions have been prepared based on EAP peak hour intersection volumes at the unsignalized study intersections and project site access locations. ***Table 15*** summarizes the results of the signal warrant analysis. Detailed warrant analysis sheets are contained in ***Appendix E***.

Table 15
Signal Warrant Analysis – EAP Conditions

Intersection	Signal Warrants Met?	
	AM Peak Hour	PM Peak Hour
Delhaven Street/Date Street	No	No

Peak hour signal warrants are projected to not be met at any unsignalized study intersections for EAP conditions.

6.6 EAP CONDITIONS RECOMMENDED IMPROVEMENTS

Since the addition of project generated trips is not projected to have a significant direct impact on any of the study facilities, no improvements are recommended for *EAP* conditions.

7.0 Existing Plus Ambient Plus Project Plus Cumulative Conditions

Existing plus ambient plus project plus cumulative (EAPC) conditions analysis is intended to identify the project-related cumulative impacts on both the existing and planned near-term circulation system.

7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the *EAPC* scenario are consistent with those previously shown in **Exhibit 3** with the following exceptions:

- Murrieta Hot Springs Road will be improved from four-lanes to six-lanes between Margarita Road and Winchester Road as part of the City's Capital Improvement Program project CIP 8079.
- Construction of a raised median on Murrieta Hot Spring Road will prohibit left-turn movements into and out of Delhaven Street at Murrieta Hot Springs Road as part of the City's Capital Improvement Program project CIP 8079.
- Project driveways and other facilities Project driveways and other facilities assumed to be constructed by the proposed project to provide site access, which includes construction of the south leg of the Delhaven Street/Date Street intersection.
- Extension of Date Street to Murrieta Hot Springs Road and creation of a signalized intersection at Date Street/Murrieta Hot Springs Road.

7.2 EAPC TRAFFIC VOLUMES

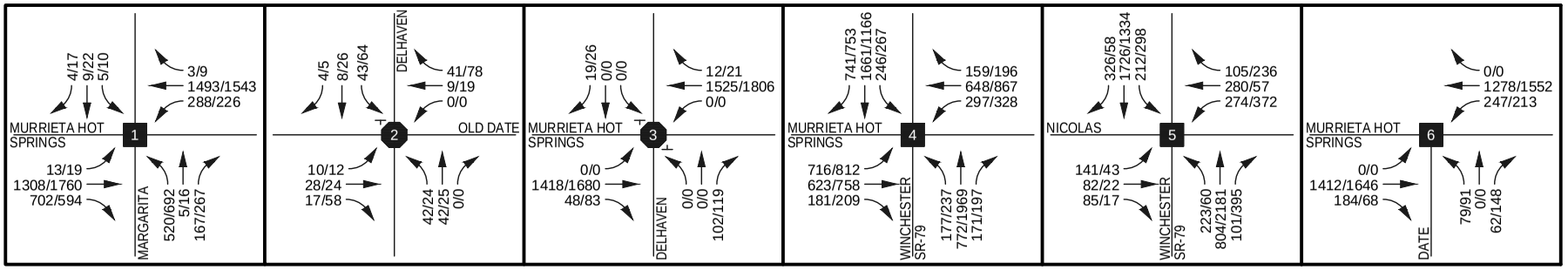
EAPC volumes include background traffic plus the addition of the traffic projected to be generated by the proposed project and traffic projected to be generated by cumulative developments in the vicinity of the proposed project which are in various stages of planning, entitlement and construction. Since the proposed project is expected to be built and generating trips in 2020, *EAPC* volumes include an ambient growth rate of 2% per year for two years, applied to existing volumes.

EAPC Volumes = (Existing (2018) Counts * 1.02^2) + Project Traffic + Cumulative Projects Traffic

The cumulative projects were previously discussed in *Section 4.6 Cumulative Projects Traffic.*

Volumes at the Date Street/Murrieta Hot Springs Road intersection are based on the analysis in *Analysis of Date Street/Murrieta Hot Springs Road for PM36440 (Albert. A. Webb Associates, May 9, 2012)*, adjusted to reflect existing through volumes on Murrieta Hot Springs Road.

Exhibit 12 shows *EAPC* AM and PM peak hour volumes at the study intersections and ADT volumes at the study roadway segment.



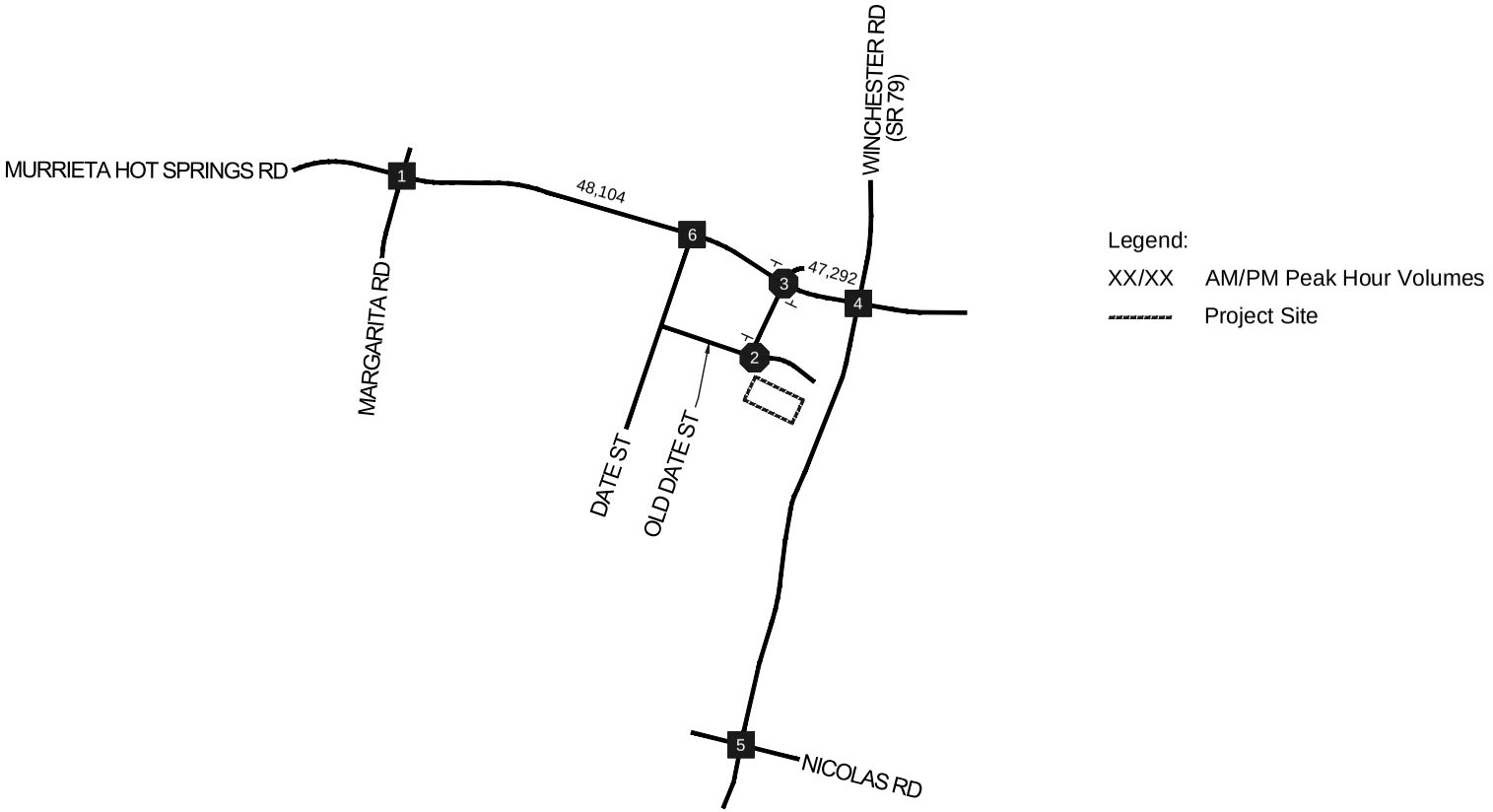


Exhibit 12: EAPC AM/PM Peak Hour Volumes

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale

7.3 EAPC CONDITIONS INTERSECTION LEVEL OF SERVICE ANALYSIS

EAPC conditions AM and PM peak hour intersection analysis is shown in ***Table 16.*** HCM analysis sheets are provided in ***Appendix D***.

Table 16
Intersection Analysis – EAPC Conditions

Intersection	Peak Hour	EAPC (2020) Conditions
		Delay[1] – LOS
Margarita Road/Murrieta Hot Springs Road	AM	44.2 – D
	PM	37.0 – D
Date Street/Murrieta Hot Springs Road	AM	23.7 – C
	PM	17.8 – B
Delhaven Street/Old Date Street	AM	7.6 – A
	PM	8.1 – A
Delhaven Street/Murrieta Hot Springs Road	AM	26.3 – D
	PM	34.0 – D
Winchester Road/Murrieta Hot Springs Road	AM	**112.8 – F**
	PM	**108.1 – F**
Winchester Road/Nicholas Road	AM	42.1 – D
	PM	54.1 – D

Note: Delay shown in seconds per vehicle.
1 = Per the 2010 Highway Capacity Manual, overall average delay and LOS are shown for signalized and all-way stop-controlled intersections. For intersections with one-or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown ***Table 16***, the study intersections are projected to operate an acceptable LOS (LOS D or better) for EAPC conditions, with the exception of the following intersection:

- Winchester Road/Murrieta Hot Springs Road (LOS F AM and PM peak hours)

Based on the thresholds of significance for *EAPC* conditions previously discussed in section 2.4, the addition of project generated trips to this intersection represents a potential cumulative impact.

7.4 EAPC ROADWAY SEGMENT LEVEL OF SERVICE ANALYSIS

Table 17 summarizes *EAPC* conditions roadway segment analysis based on the LOS E capacities provided in the Murrieta General Plan Circulation Element, previously summarized in ***Table 3***.

Table 17
Roadway Segment Analysis – EAPC Conditions

Roadway Segment	EAPC Cross Section	LOS E Capacity	EAPC		
			ADT	V/C	LOS
Murrieta Hot Springs Road between Margarita Road and Delhaven Street	6D	53,900	48,204	0.894	D
Murrieta Hot Springs Road between Delhaven Street and Winchester Road	6D	53,900	47,391	0.879	D

Note: 6D = six-lane divided roadway. V/C = volume to capacity ratio.

As shown in ***Table 17*** the study roadway segments are projected to operate at LOS D for *EAPC conditions*.

7.5 EAPC CONDITIONS SIGNAL WARRANT ANALYSIS

Traffic signal warrants for existing conditions have been prepared based on EAPC peak hour intersection volumes at the unsignalized study intersections and project site access locations. ***Table 18*** summarizes the results of the signal warrant analysis. Detailed warrant analysis sheets are contained in ***Appendix D***.

Table 18
Signal Warrant Analysis – EAPC Conditions

Intersection	Signal Warrants Met?	
	AM Peak Hour	PM Peak Hour
Delhaven Street/Date Street	No	No

Peak hour signal warrants are not met at any unsignalized study intersections for EAPC conditions.

7.6 EAPC RECOMMENDED IMPROVEMENTS

The City of Murrieta General Plan Circulation Element identifies the Winchester Road/Murrieta Hot Springs Road intersection and Murrieta Hot Springs Road between Margarita Avenue and Winchester Road as having significant unavoidable impacts, with no additional improvements recommended beyond the scheduled widening of Murrieta Hot Springs Road from four- to six-lanes between Via Princessa and Winchester Road. Therefore, no improvements are recommended at the Winchester Road/Murrieta Hot Springs Road intersection (projected to operate at LOS F during the AM and PM peak hours) and on Murrieta Hot Springs Road itself (roadway segments LOS D).

8.0 General Plan Analysis

The proposed project involves a zone change/General Plan Amendment from the current zoning of neighborhood commercial to a proposed zoning of MF-3 (Multifamily-3) and from the current General Plan land use of Commercial to a proposed General Plan land use of Multi-family Residential.

This section evaluates the projected trip generation potential of the site under existing zoning compared to the projected trip generation of the currently proposed project.

The existing 8.17-acre (356,000 square-foot) site is zoned Neighborhood Commercial, which allows a floor-area-ratio of 0.25, allowing for the development of 89,000 square feet of neighborhood commercial uses on the site.

ITE trip generation equations for the shopping center land use have been utilized to analyze the projected trip generation of the currently allowable neighborhood commercial land uses. The trip generation equations for shopping center, compared to the trip generation rates, more accurately reflect the trip generation potential of restaurants, fast-food restaurants with drive throughs, convenience stores and other high trip generators that are allowed in Neighborhood Commercial zones in addition to retail land uses. The trip generation rates for multi-family dwelling units was used in this analysis for the proposed project; the trip generation rates and equations for the multi-family land use produce nearly identical results.

Table 19 compares the trip generation of the proposed Murrieta Apartments project to the trip generation potential of an 89,000 square foot neighborhood commercial center.

Table 19
Trip Generation Comparison – Existing Zoning and Proposed Project

Proposed Land Use[1]	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Apartments (220)	238 DU	7.32	1742	0.46	23:77	25	84	109	0.56	63:37	84	49	133
Currently Allowable General Plan Land Use[1]	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Equation	Volume	Equation	In:Out Split	Volume			Equation	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Shopping Center (820)	89.0 TSF	Ln(T) = 0.68*Ln(X) + 5.57	5554	T = 0.50(X) + 151.78	62:38	121	75	196	Ln(T) = 0.74 Ln(X) + 2.89	50:50	239	259	498
		Net Change	-3812	Net Change		-96	9	-87	Net Change		-155	-210	-365

1: Rates/Equations from ITE Trip Generation (10th Edition, 2017)

DU =dwelling unit, TSF = thousand square feet

As shown in ***Table 19***, the proposed Murrieta Apartments project is projected to generate fewer AM peak hour, PM peak hour and daily trips than the currently allowable Neighborhood Commercial development land use.

9.0 Local Circulation and Site Access

This section summarizes proposed site access and on-site circulation recommendations.

9.1 ON-SITE ROADWAY IMPROVEMENTS

The recommended site-adjacent roadway improvements are described below.

Wherever necessary, roadways adjacent to the proposed project site and site access points should be constructed in compliance with recommended roadway classifications and respective cross-sections in the City of Murrieta General Plan Circulation Element or as directed by the City Engineer.

Sight distance at each project access point should be reviewed with respect to standard Caltrans and City sight distance standards at the time of final grading, landscaping and street improvement plans.

9.2 GATE STACKING ANALYSIS

To determine the required queue storage capacity for the proposed project's main gated access location, an ingress queue analysis has been prepared. At a gated entrance, the critical vehicular queue length requirement is based on the queue generated by both residents and visitors who have to wait to be let into the community. Residents would have immediate access but would have to wait for the gate to retract. Visitors would have to drive up to the entry system and wait to be buzzed in by the homeowner they are visiting.

Analysis Methodology

The Crommelin Methodology is a queuing analysis methodology used to determine the storage required for vehicles at entryways to gated communities, based on *Entrance-Exit Design and Control for Major Parking Facilities (Robert W. Crommelin, October 5, 1972)*. While the Crommelin Methodology was developed many years ago, it is still in use by agencies around the county as it is one of the only methodologies that attempts to quantify queuing at gated communities. The Crommelin Methodology determines the minimum storage length required to provide adequate access and control at gated entry points to ensure minimal impacts on the surrounding street network. The methodology is based on worst case peak hour volumes, the processing rate at the control point and the number of travel lanes. The determination of the reservoir length required to serve peak hour volumes is based on a *Poisson* distribution.

A traffic intensity factor is calculated by dividing peak hour traffic volumes by the control point processing rate. The intensity factor is then plotted on a *Crommelin Reservoir Needs nomograph* to determine the number of vehicles forecast to queue behind the control point based on the selected confidence interval. The projected queue of vehicles is increased by one vehicle to account for the service position vehicle (the vehicle at the call box in this case) and multiplied by 25 feet per vehicle to determine the total required storage capacity.

ITE trip generation for the PM peak hour of apartments has been utilized to determine the volume of vehicles entering the proposed project site during the busiest hour of ingress into the site.

Crommelin Queue Analysis

The following conservative assumptions were made in determining data input for the queuing analysis:

- 25% of inbound trips at the entrance during the peak hour are assumed to be visitor trips.
- All inbound trips utilize the main access gate.
- For residents, the processing rate at the control point is assumed to be 450 vehicles per hour (i.e., one resident vehicle every 8 seconds can be processed and continue through the gate). This is a conservative assumption since if multiple residents arrive while the gate is open, they can pass through without stopping.
- For visitors, the processing rate at the control point is assumed to be 120 vehicles per hour (i.e., one visitor vehicle every 30 seconds can be processed and continue through the gate). This is based on the abovementioned time for the visitor to enter the passcode/call the homeowner they are visiting to obtain the passcode and for the gate to open.
- The analysis is based on a 99% confidence interval (i.e., 99% of the time, the queue will be equal to or less than the maximum vehicle queue).Table 20

Table 20 summarizes the results of the Crommelin queue analysis.

Table 20
Murrieta Apartments Ingress Crommelin Queuing Analysis Summary

Location	Time Period	Entering Vehicle Volume	Service Rate (veh/hr)	Traffic Intensity Factor	Maximum Vehicle Queue	Required Queue Storage Capacity (feet)
Main Entrance	PM Peak Hour of Generator	94 total 70 resident 24 visitor	 450 120	 0.156 0.200	 2 2	 50 50

The main entrance to the proposed Murrieta apartments is projected to have a maximum queue of two visitor vehicles and two resident vehicles during the peak hour, requiring a minimum storage length of 50 feet between the visitor call box and Old Date Street.

10.0 Local and Regional Funding Mechanisms

Transportation improvements throughout the County of Riverside are funded through a combination of direct project mitigation, fair share contributions or development impact fee programs such as the City's adoption of the Transportation Uniform Mitigation Fee (TUMF) program and the City of Murrieta Development Impact Fee (DIF) program. It is anticipated that the proposed project will be subject to the TUMF and the City's DIF. Identification and timing of needed improvements is generally determined through local jurisdictions based upon a variety of factors.

The project's contribution to the aforementioned transportation impact fee programs or as a fair share contribution towards a cumulatively impacted facility not found to be covered by a pre-existing fee program should be considered sufficient to address the project's fair share towards mitigation measure(s) designed to alleviate the cumulative impact. Discussion of the relevant pre-existing transportation impact fee programs is provided in the next section of this report

The City Engineer will ultimately determine the improvements required at off-site intersections.

10.1 TRANSPORTATION UNIFORM MITIGATION FEE (TUMF) PROGRAM

The TUMF program is administered by the Western Riverside Council of Governments (WRCOG) based upon a regional Nexus Study completed in early 2002 and updated in 2005, 2009, 2015 and 2017 to address major changes in right of way acquisition and improvement cost factors. The TUMF program identifies network backbone and local roadways that are needed to accommodate growth through 2035. The regional program was put into place to ensure that developments pay their fair share and that funding is in place for the construction of facilities needed to maintain an acceptable level of service for the transportation system. The TUMF is a regional mitigation fee program and is imposed and implemented in every jurisdiction in Western Riverside County.

TUMF fees are imposed on new residential, industrial and commercial development through application of the TUMF fee ordinance and fees are collected at the building or occupancy permit phase. The current fee for retail use is $7.50 per square foot.

The proposed project will participate in the cost of off-site improvements through payment of TUMF fees based on the current fees at the time of construction of the proposed project.

10.2 CITY OF MURRIETA DEVELOPMENT IMPACT FEE (DIF) PROGRAM

The proposed project is located within the City of Murrieta and will therefore be subject to the City's Development Impact Fees (DIF). The City's DIF program includes facilities that are not part of the regional TUMF program.

The proposed project will participate in the cost of off-site improvements through payment of City DIF fees based on the current fees at the time of construction of the proposed project.

10.3 FAIR SHARE CALCULATIONS

The proposed project will participate in the cost of off-site improvements through payment of City DIF fees based on the current fees at the time of construction of the proposed project. The project's contribution to the aforementioned transportation impact fee programs or as a fair share contribution towards a cumulatively impacted facility not found to be covered by a pre-existing fee program should be considered sufficient to address the project's fair share towards mitigation measure(s) designed to alleviate cumulative project impacts. Project mitigation may include a combination of fee payments towards the established fee programs (TUMF, DIF), construction of specific improvements, payment of a fair share contribution toward future improvements, or a combination of these approaches.

Fair share calculations are provided in ***Table 21*** for the cumulatively impacted Winchester Road/Murrieta Hot Springs Road intersection. Additionally, while the proposed project is not projected to have a significant impact at the Murrieta Hot Springs Road/Delhaven Street intersection, the City requested this analysis includes a fair share calculation at this location since there is a planned improvement to widen the eastbound Murrieta Hot Springs Road approach to include a dedicated right-turn lane.

Table 21
Fair Share Calculations

Winchester Road/Murrieta Hot Springs Road	Existing Volume (A)	EAPC Volume (B)	Project EAP Volume (C)	Project Fair Share (C) / (B-A)
AM Peak Hour	5645	6392	100	13.39%
PM Peak Hour	6681	7759	103	9.55%
Murrieta Hot Springs Road/ Delhaven Street	**Existing Volume (A)**	**EAPC Volume (B)**	**Project EAP Volume (C)**	**Project Fair Share (C) / (B-A)**
AM Peak Hour	2632	3124	154	31.30%
PM Peak Hour	3074	3735	204	30.86%

Appendices

APPENDIX A

SCOPING AGREEMENT

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT ANALYSIS

This letter acknowledges the City of Murrieta Engineering Department requirements for traffic impact analysis of the following project. The analysis must follow the City of Murrieta Public Works Department Traffic Study Guidelines dated October 2013.

Case No. (Required for submittal) Not Available Yet
Related Cases -
SP No.
EIR No.
GPA No.
CZ No.
Project Name: Murrieta Apartments
Project Address: South of Old Date Street, North of Rising Hills Drive
Project Description: 238 Apartment Dwelling Units

	Consultant	Developer
Name:	TJW Engineering, Inc.	Tierra Nova Consulting, Inc.
Address:	6 Venture Suite 225 Irvine CA 92618	31938 Temecula Pkwy Suite A369, Temecula
Telephone:	949-878-3509	951-297-8120

A. Trip Generation Source: (ITE ~~9th~~ 10th Edition or other)

Current GP Land Use: C — Proposed Land Use: MFR
Current Zoning: NC — Proposed Zoning: MF-3

	Current Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	0	0	0	25	84	109
PM Trips	0	0	0	84	49	133

Internal Trip Allowance ☐Yes ☒No (% Trip Discount)
Pass-By Trip Allowance ☐Yes ☒No (% Trip Discount)

A pass-by trip discount of up to 25% is allowed for appropriate land uses. The pass-by trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

B. Trip Geographic Distribution: N 45% S 32% E 8 % W 15%
(attach exhibit for detailed assignment)

C. Background Traffic
Project Build-out Year: 2020 Annual Ambient Growth Rate: % 2%

Phase Year(s) _____
Other area projects to be analyzed: A list of cumulative projects will be provided by City staff to be included in the analysis.

Model/Forecast methodology: Manual trip assignment.

D. Study intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)

1. Margarita St/Murrieta Hot Springs Road
2. Delhaven St/Date St
3. Delhaven St/Murrieta Hot Springs Road
4. Winchester Rd (SR-79)/Murrieta Hot Springs Rd
5. Winchester Rd (SR-79)/Nicholas Rd
6. All project dwys
7. _____
8. _____
9. _____
10. _____

E. Study Roadway Segments: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.) – Machine counts required

1. MHS Rd between Margarita & Delhaven st
2. MHS Rd between Delhaven & Winchester
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

F. Site Plan (please attach reduced copy)

G. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Engineering Department)

H. Existing Conditions
Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.
Date of counts _____

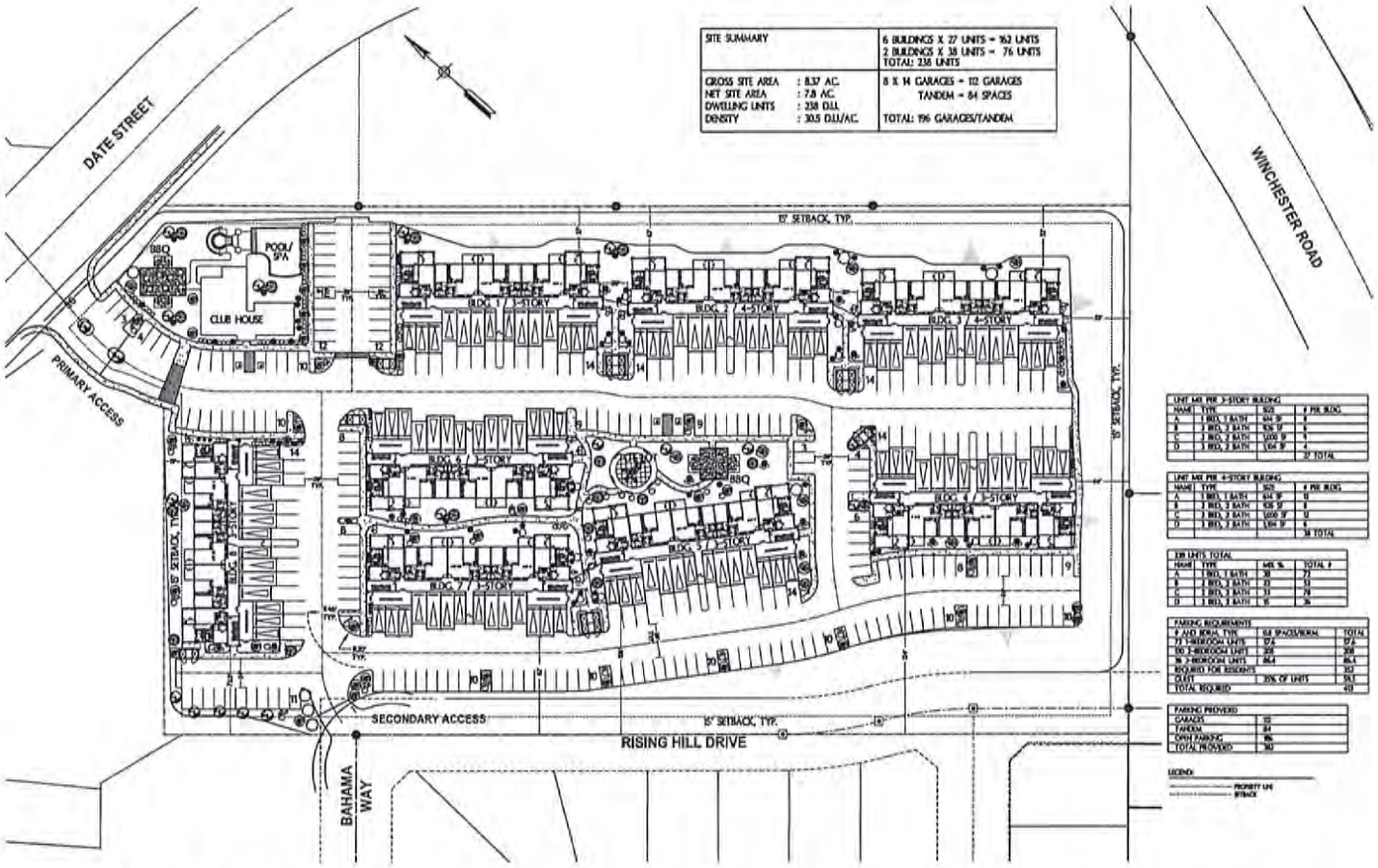
Recommended by:
Thomas Wheat, PE, TE — May 5, 2018
Consultant's Representative — Date

Scoping Agreement Submitted on May 5, 2018

Revised on _____

Approved Scoping Agreement:
* Arda Edgington — 5/17/18
City Of Murrieta Engineering Department — Date

* With Edits



MURRIETA APARTMENTS

MURRIETA, CA

PRELIMINARY SITE PLAN

SCALE 1" = 30'-0"

5/4/18

18007

TIERRA NOVA CONSULTING, INC.
31938 TEMECULA PARKWAY, SUITE A369
TEMECULA, CALIFORNIA 92592

FLAIR ARCHITECTS

FLAIR ARCHITECTS, INC.

1.1

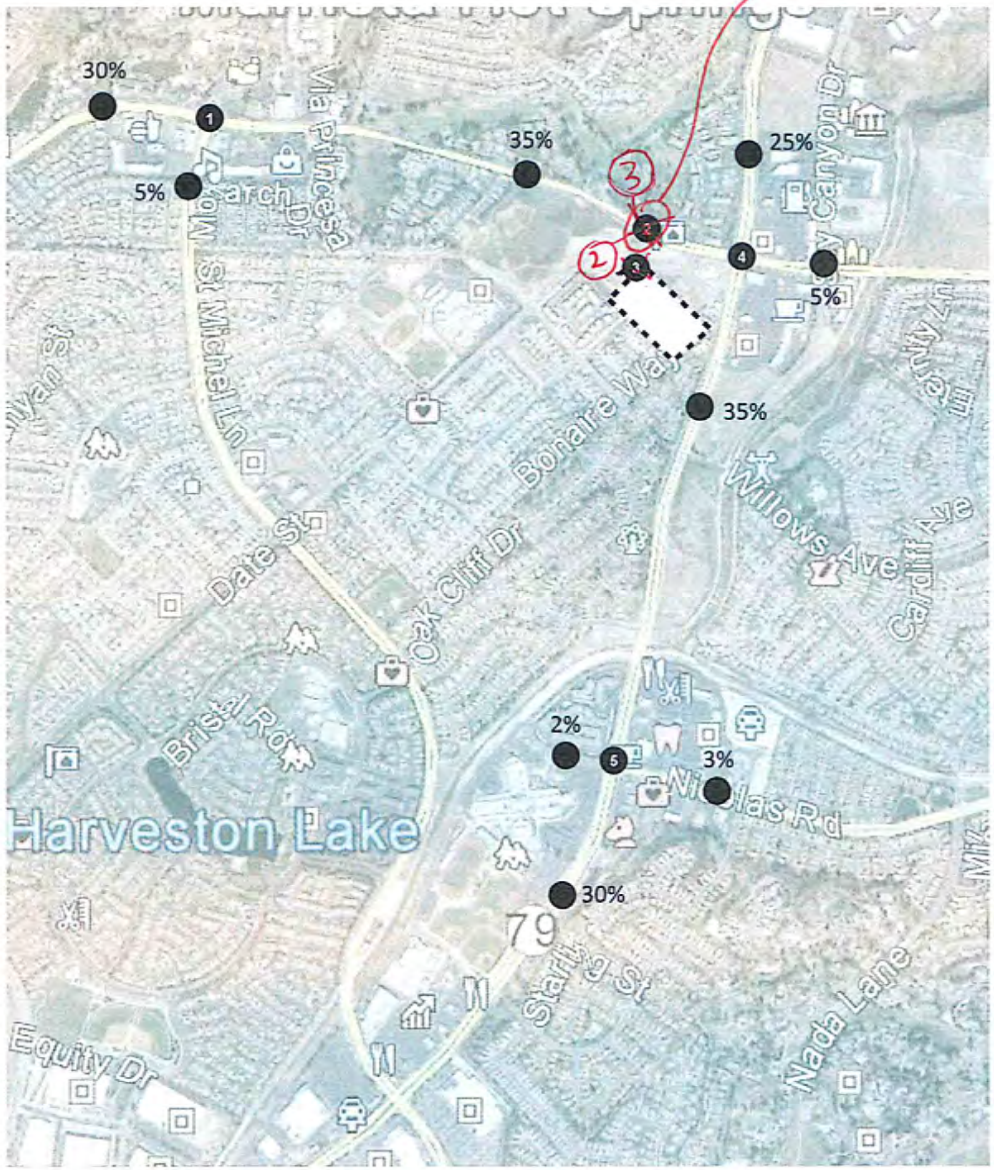
Murrieta Apartments Trip Generation

Proposed Land Use[1]	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Apartments (220)	238 DU	7.32	1742	0.46	23:77	25	84	109	0.56	63:37	84	49	133

1: Rates from ITE Trip Generation (10th Edition, 2017)

DU =dwelling unit

R in/R out access only @ Dellhaven/MHS due to upcoming MHS Rd widening project restricting left turn access



Legend:

XX% Percent Trip Distribution

Project Site

Study Intersection Location

Exhibit A: Projected Trip Distribution of Proposed Project Trips

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale

Traffic Engineering & Transportation Planning Consultants - 6 Venture, Suite 225 - Irvine, CA 92618 - P: (949) 878-3509 - F: (949) 878-3593 - www.tjwengineering.com

APPENDIX B

MURRIETA GENERAL PLAN ROADWAY CLASSIFICATIONS AND CROSS SECTIONS

Murrieta
the future of southern california
General Plan Update

LEGEND

	* Curb to Curb / R/W
County of Riverside Expressway	110' / 184'
Augmented Urban Arterial	126' / 150'
Multi-Modal Transp. Corridor	86' / 134'
Urban Arterial	110' / 134'
Arterial	86' / 110'
Major	76' / 100'
Secondary	64' / 88'
Industrial Collector	56' / 78'
Collector	44' / 66'
Selected Roadways Shown for Clarity	
City of Murrieta Boundary	
Sphere of Influence	

* Per City Standard Drawings

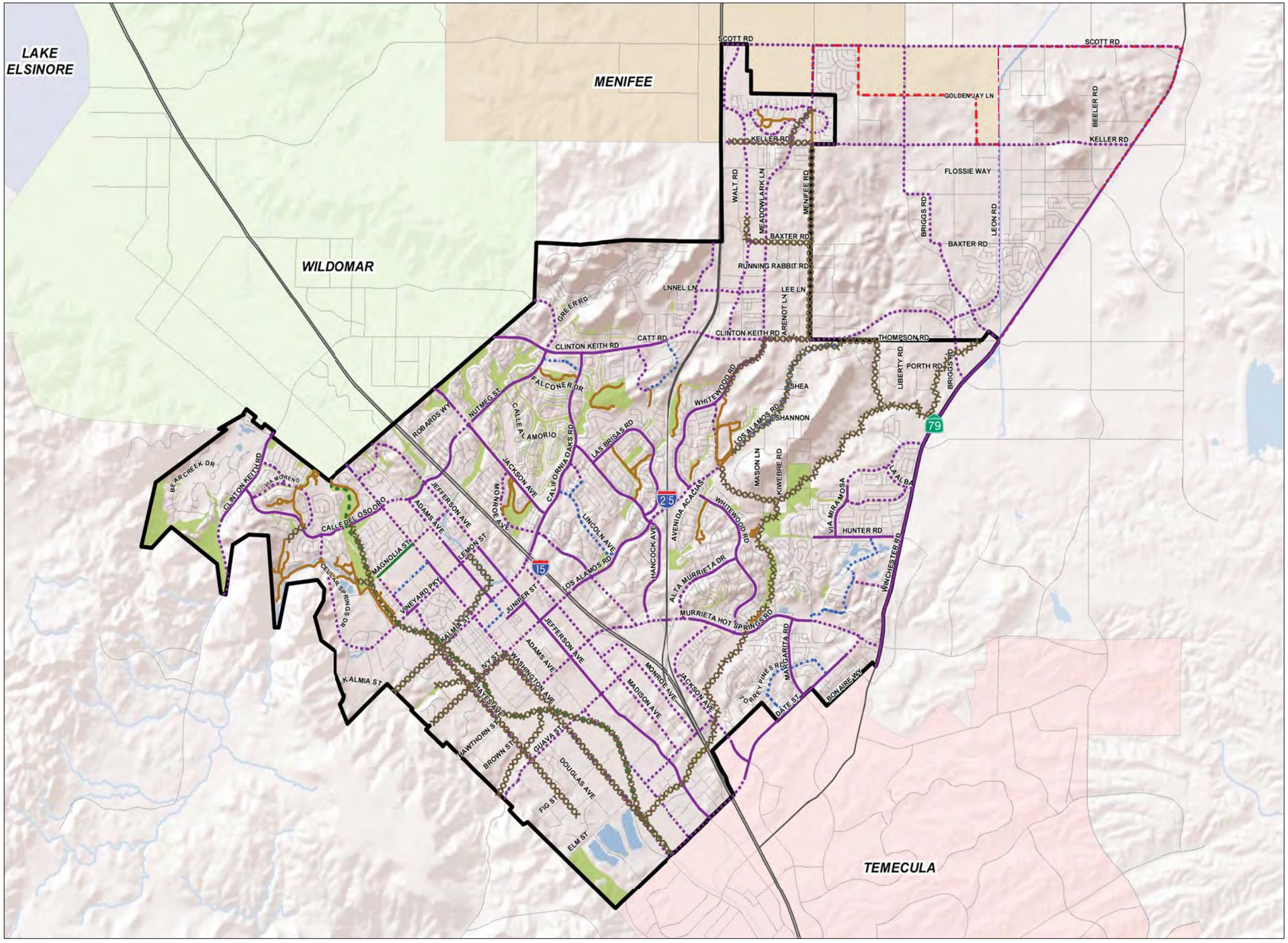
0 0.5 1
Miles

ITERIS

07/11 • JN 10-106976

General Plan 2035 Circulation Map

Exhibit 5-10



LEGEND

Bikeways

Class I: Off-Road
Paved Bike Path

- Class I - Existing
- Class I - Proposed

Class II: On-Road
Striped Bike Lane

- Class II - Existing
- Class II - Proposed

Class III: On-Road
Bike Route (Signage Only)

- Class III - Proposed

Multi-Purpose Trails

Open to horses, bikes and walking

- Existing
- Proposed

- Open Space
- Sphere of Influence
- City Boundary

0 0.5 1
Miles

Source: City of Murrieta, and ESRI - World Shaded Relief.

Trails and Bikeways

Exhibit 5-1

APPENDIX C

EXISTING TRAFFIC COUNTS

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Thu, May 24, 18

LOCATION: Murrieta
NORTH & SOUTH: Winchester
EAST & WEST: Nicholas

PROJECT #: SC1758
LOCATION #: 15
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

Add U-Turns to Left Turns

		NORTHBOUND Winchester			SOUTHBOUND Winchester			EASTBOUND Nicholas			WESTBOUND Nicholas				U-TURNS				
	LANES:	NL 1	NT 3	NR 1	SL 1	ST 3	SR 0	EL 1	ET 1	ER 1	WL 2	WT 1	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	89	160	23	64	355	109	35	15	21	30	106	21	1,028	0	27	0	0	27
	7:15 AM	93	166	15	52	324	119	60	32	34	38	105	32	1,070	0	22	0	0	22
	7:30 AM	24	210	20	48	477	67	35	25	21	106	44	13	1,090	0	15	0	0	15
	7:45 AM	8	194	39	37	459	14	6	7	6	89	14	30	903	0	13	0	0	13
	8:00 AM	6	200	49	60	423	17	7	3	14	78	10	24	891	0	22	0	0	22
	8:15 AM	19	223	55	56	444	24	7	4	13	83	16	29	973	0	21	0	0	21
	8:30 AM	11	184	52	75	410	11	7	5	16	86	7	38	902	2	33	0	0	35
	8:45 AM	6	208	50	90	432	9	3	3	13	118	8	27	967	0	39	0	0	39
	VOLUMES	256	1,545	303	482	3,324	370	160	94	138	628	310	214	7,824	2	192	0	0	194
	APPROACH %	12%	73%	14%	12%	80%	9%	41%	24%	35%	55%	27%	19%						
	APP/DEPART	2,104	/	2,111	4,176	/	4,092	392	/	687	1,152	/	934	0					
	BEGIN PEAK HR		7:00 AM																
	VOLUMES	214	730	97	201	1,615	309	136	79	82	263	269	96	4,091					
	APPROACH %	21%	70%	9%	9%	76%	15%	46%	27%	28%	42%	43%	15%						
	PEAK HR FACTOR		0.950			0.897			0.589			0.897		0.938					
	APP/DEPART	1,041	/	1,039	2,125	/	1,960	297	/	300	628	/	792	0					
PM	4:00 PM	13	345	81	86	297	9	19	7	8	94	3	51	1,013	3	29	0	0	32
	4:15 PM	15	438	76	75	279	13	12	12	4	109	8	34	1,075	0	45	0	0	45
	4:30 PM	11	522	94	79	279	14	12	4	4	87	14	53	1,173	2	38	0	0	40
	4:45 PM	18	494	102	63	303	21	7	5	2	92	21	55	1,183	0	31	0	0	31
	5:00 PM	18	477	85	85	343	10	10	10	7	88	8	48	1,189	0	34	0	0	34
	5:15 PM	11	538	99	48	297	10	10	2	3	91	12	59	1,180	0	21	0	0	21
	5:30 PM	18	443	102	85	278	5	12	4	2	90	6	53	1,098	0	24	0	0	24
	5:45 PM	15	441	92	72	313	6	8	4	3	87	8	48	1,097	2	18	0	0	20
	VOLUMES	119	3,698	731	593	2,389	88	90	48	33	738	80	401	9,008	7	240	0	0	247
	APPROACH %	3%	81%	16%	19%	78%	3%	53%	28%	19%	61%	7%	33%						
	APP/DEPART	4,548	/	4,429	3,070	/	3,167	171	/	1,132	1,219	/	280	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	58	2,031	380	275	1,222	55	39	21	16	358	55	215	4,725					
	APPROACH %	2%	82%	15%	18%	79%	4%	51%	28%	21%	57%	9%	34%						
	PEAK HR FACTOR		0.953			0.886			0.704			0.935		0.993					
	APP/DEPART	2,469	/	2,409	1,552	/	1,598	76	/	552	628	/	166	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Thu, May 24, 18

LOCATION: Murrieta
NORTH & SOUTH: Winchester
EAST & WEST: Murrieta Hot Springs

PROJECT #: SC1758
LOCATION #: 14
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Winchester			SOUTHBOUND Winchester			EASTBOUND Murrieta Hot Springs			WESTBOUND Murrieta Hot Springs				U-TURNS				
	LANES:	NL 2	NT 3	NR 1	SL 2	ST 3	SR 1	EL 2	ET 3	ER 1	WL 2	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	41	202	50	26	444	137	90	119	27	85	156	20	1,397	2	1	0	0	3
	7:15 AM	40	165	75	41	373	141	140	105	24	74	149	28	1,355	0	3	0	1	4
	7:30 AM	33	202	42	49	418	140	96	136	34	53	122	24	1,349	1	2	0	0	3
	7:45 AM	37	162	37	38	392	181	152	176	30	61	143	25	1,434	0	5	0	0	5
	8:00 AM	25	153	53	65	348	134	140	124	34	50	133	32	1,291	0	3	0	2	5
	8:15 AM	47	201	38	55	451	143	129	130	33	63	140	26	1,456	0	2	0	1	3
	8:30 AM	38	190	36	53	376	154	120	134	48	111	178	26	1,464	0	6	0	0	6
	8:45 AM	41	146	56	57	372	178	95	125	47	79	166	22	1,384	0	5	0	1	6
	VOLUMES	302	1,421	387	384	3,174	1,208	962	1,049	277	576	1,187	203	11,130	3	27	0	5	35
	APPROACH %	14%	67%	18%	8%	67%	25%	42%	46%	12%	29%	60%	10%						
	APP/DEPART	2,110	/	2,613	4,766	/	4,025	2,288	/	1,798	1,966	/	2,694	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	147	706	164	211	1,567	612	541	564	145	285	594	109	5,645					
	APPROACH %	14%	69%	16%	9%	66%	26%	43%	45%	12%	29%	60%	11%						
	PEAK HR FACTOR		0.889			0.921			0.873			0.784		0.964					
	APP/DEPART	1,017	/	1,372	2,390	/	1,994	1,250	/	926	988	/	1,353	0					
PM	4:00 PM	48	407	54	57	226	137	165	108	35	67	220	29	1,553	0	7	0	1	8
	4:15 PM	49	384	59	34	256	128	176	156	33	59	202	30	1,566	0	4	0	0	4
	4:30 PM	49	436	49	52	290	123	139	172	47	56	204	24	1,641	0	9	0	0	9
	4:45 PM	39	489	44	40	263	144	147	188	36	82	187	32	1,691	1	4	0	1	6
	5:00 PM	52	448	49	45	247	147	181	159	41	107	192	29	1,697	0	4	0	3	7
	5:15 PM	48	450	47	45	250	136	152	167	43	70	204	40	1,652	0	10	0	2	12
	5:30 PM	53	461	46	42	263	137	135	171	31	62	152	37	1,590	0	5	0	0	5
	5:45 PM	51	452	54	35	248	149	157	224	42	52	157	35	1,656	1	2	0	0	3
	VOLUMES	389	3,527	402	350	2,043	1,101	1,252	1,345	308	555	1,518	256	13,046	2	45	0	7	54
	APPROACH %	9%	82%	9%	10%	58%	32%	43%	46%	11%	24%	65%	11%						
	APP/DEPART	4,318	/	5,080	3,494	/	2,901	2,905	/	2,059	2,329	/	3,006	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	188	1,823	189	182	1,050	550	619	686	167	315	787	125	6,681					
	APPROACH %	9%	83%	9%	10%	59%	31%	42%	47%	11%	26%	64%	10%						
	PEAK HR FACTOR		0.962			0.958			0.966			0.935		0.984					
	APP/DEPART	2,200	/	2,594	1,782	/	1,527	1,472	/	1,036	1,227	/	1,524	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Thu, May 24, 18

LOCATION: Murrieta
NORTH & SOUTH: Delhaven
EAST & WEST: Date

PROJECT #: SC1758
LOCATION #: 13
CONTROL: STOP S

NOTES:

AM
PM
MD
OTHER
OTHER

▲ N
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E ►
S ▼

☐ Add U-Turns to Left Turns

		NORTHBOUND Delhaven			SOUTHBOUND Delhaven			EASTBOUND Date			WESTBOUND Date				U-TURNS				
	LANES:	NL X	NT X	NR X	SL 1	ST X	SR X	EL X	ET X	ER X	WL X	WT X	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	0	0	2	0	0	0	0	0	0	0	4	6	0	0	0	0	0
	7:15 AM	0	0	0	3	0	0	0	0	0	0	0	1	4	0	0	0	0	0
	7:30 AM	0	0	0	2	0	0	0	0	0	0	0	5	7	0	0	0	0	0
	7:45 AM	0	0	0	4	0	0	0	0	0	0	0	5	9	0	0	0	0	0
	8:00 AM	0	0	0	5	0	0	0	0	0	0	0	3	8	0	1	0	0	1
	8:15 AM	0	0	0	6	0	0	0	0	0	0	0	2	8	0	0	0	0	0
	8:30 AM	0	0	0	4	0	0	0	0	0	0	0	7	11	0	0	0	0	0
	8:45 AM	0	0	0	4	0	0	0	0	0	0	0	5	9	0	0	0	0	0
	VOLUMES	0	0	0	30	0	0	0	0	0	0	0	32	63	0	1	0	0	1
	APPROACH %	0%	0%	0%	97%	0%	0%	0%	0%	0%	0%	0%	100%						
	APP/DEPART	0	/	33	31	/	0	0	/	30	32	/	0	0					
	BEGIN PEAK HR		8:00 AM																
	VOLUMES	0	0	0	19	0	0	0	0	0	0	0	17	37					
	APPROACH %	0%	0%	0%	95%	0%	0%	0%	0%	0%	0%	0%	100%						
	PEAK HR FACTOR		0.000			0.833			0.000			0.607		0.841					
	APP/DEPART	0	/	18	20	/	0	0	/	19	17	/	0	0					
PM	4:00 PM	0	0	0	8	0	0	0	0	0	0	0	7	15	0	0	0	0	0
	4:15 PM	0	0	0	4	0	0	0	0	0	0	0	6	10	0	0	0	0	0
	4:30 PM	0	0	0	4	0	0	0	0	0	0	0	7	11	0	0	0	0	0
	4:45 PM	0	0	0	4	0	0	0	0	0	0	0	6	10	0	0	0	0	0
	5:00 PM	0	0	0	6	0	0	0	0	0	0	0	5	11	0	0	0	0	0
	5:15 PM	0	0	0	3	0	0	0	0	0	0	0	6	9	0	0	0	0	0
	5:30 PM	0	0	0	2	0	0	0	0	0	0	0	5	7	0	0	0	0	0
	5:45 PM	0	0	0	6	0	0	0	0	0	0	0	9	15	0	0	0	0	0
	VOLUMES	0	0	0	37	0	0	0	0	0	0	0	51	88	0	0	0	0	0
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	100%						
	APP/DEPART	0	/	51	37	/	0	0	/	37	51	/	0	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	0	0	20	0	0	0	0	0	0	0	26	46					
	APPROACH %	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	100%						
	PEAK HR FACTOR		0.000			0.625			0.000			0.929		0.767					
	APP/DEPART	0	/	26	20	/	0	0	/	20	26	/	0	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Thu, May 24, 18

LOCATION: Murrieta
NORTH & SOUTH: Delhaven
EAST & WEST: Murrieta Hot Springs

PROJECT #: SC1758
LOCATION #: 12
CONTROL: STOP N/S

NOTES:

AM / PM / MD / OTHER / OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

		NORTHBOUND Delhaven			SOUTHBOUND Delhaven			EASTBOUND Murrieta Hot Springs			WESTBOUND Murrieta Hot Springs				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	1	0	1	1	0	1	2	0	1	2	0		0	0	0	0	
AM	7:00 AM	3	0	1	0	0	7	4	236	3	0	340	4	598	0	0	0	0	0
	7:15 AM	1	0	0	1	0	3	2	268	2	1	333	2	613	0	0	0	0	0
	7:30 AM	3	0	3	0	0	4	8	264	2	1	293	2	580	0	0	1	0	1
	7:45 AM	3	0	2	3	0	4	4	354	2	0	344	4	720	0	0	0	0	0
	8:00 AM	1	0	2	1	0	3	2	286	3	3	287	1	589	0	0	1	1	2
	8:15 AM	1	0	1	0	0	6	3	294	6	1	330	3	645	0	0	2	0	2
	8:30 AM	6	0	1	1	0	5	2	300	2	3	354	4	678	0	0	0	0	0
	8:45 AM	2	0	3	0	0	5	4	268	3	1	384	4	674	0	0	0	0	0
	VOLUMES	20	0	13	6	0	37	29	2,270	23	10	2,665	24	5,097	0	0	4	1	5
	APPROACH %	61%	0%	39%	14%	0%	86%	1%	98%	1%	0%	99%	1%						
	APP/DEPART	33	/	49	43	/	32	2,322	/	2,290	2,699	/	2,726	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	11	0	6	5	0	18	11	1,234	13	7	1,315	12	2,632					
	APPROACH %	65%	0%	35%	22%	0%	78%	1%	98%	1%	1%	99%	1%						
	PEAK HR FACTOR		0.607			0.821			0.874			0.924		0.914					
	APP/DEPART	17	/	20	23	/	19	1,258	/	1,246	1,334	/	1,347	0					
PM	4:00 PM	5	0	2	0	1	1	7	308	6	1	393	7	731	0	0	0	0	0
	4:15 PM	2	0	2	0	0	2	7	366	4	1	370	8	762	0	0	0	1	1
	4:30 PM	3	0	5	1	0	9	10	358	2	2	371	5	766	0	0	0	0	0
	4:45 PM	1	0	5	1	0	9	9	369	3	1	347	3	748	0	0	0	0	0
	5:00 PM	3	1	2	1	0	2	4	366	5	3	382	8	777	0	0	0	1	1
	5:15 PM	2	1	4	2	0	5	7	362	1	3	392	4	783	0	0	1	1	2
	5:30 PM	3	0	1	0	0	2	11	335	2	1	344	9	708	0	0	0	1	1
	5:45 PM	5	0	4	0	0	3	6	410	4	2	352	5	791	0	0	0	0	0
	VOLUMES	24	2	25	5	1	33	61	2,874	27	14	2,951	49	6,066	0	0	1	4	5
	APPROACH %	47%	4%	49%	13%	3%	85%	2%	97%	1%	0%	98%	2%						
	APP/DEPART	51	/	111	39	/	38	2,962	/	2,908	3,014	/	3,009	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	9	2	16	5	0	25	30	1,455	11	9	1,492	20	3,074					
	APPROACH %	33%	7%	59%	17%	0%	83%	2%	97%	1%	1%	98%	1%						
	PEAK HR FACTOR		0.844			0.750			0.982			0.953		0.981					
	APP/DEPART	27	/	51	30	/	18	1,496	/	1,478	1,521	/	1,527	0					

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: Thu, May 24, 18

LOCATION: Murrieta
NORTH & SOUTH: Margarita
EAST & WEST: Murrieta Hot Springs

PROJECT #: SC1758
LOCATION #: 11
CONTROL: SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

N
W
E
S

Add U-Turns to Left Turns

		NORTHBOUND Margarita			SOUTHBOUND Margarita			EASTBOUND Murrieta Hot Springs			WESTBOUND Murrieta Hot Springs				U-TURNS				
	LANES:	NL 2	NT 1	NR 1	SL 0.5	ST 0.5	SR 1	EL 1	ET 2	ER 1	WL 1	WT 3	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	131	0	22	2	0	4	4	221	91	34	403	1	913	0	0	0	0	0
	7:15 AM	119	3	18	0	2	1	6	264	130	27	302	3	875	0	0	0	1	1
	7:30 AM	111	0	23	2	1	1	3	261	190	51	340	1	984	0	0	1	0	1
	7:45 AM	141	2	33	2	1	0	2	328	216	66	324	1	1,116	0	0	0	0	0
	8:00 AM	101	0	30	1	1	1	2	267	124	80	294	0	901	0	0	0	0	0
	8:15 AM	131	2	50	1	4	2	5	273	152	44	316	1	981	0	0	0	0	0
	8:30 AM	127	1	42	1	3	1	2	274	183	61	345	1	1,041	0	0	0	0	0
	8:45 AM	174	1	30	0	0	1	3	276	164	64	341	2	1,056	0	0	1	0	1
	VOLUMES	1,035	9	248	9	12	11	27	2,164	1,250	427	2,665	10	7,867	0	0	2	1	3
	APPROACH %	80%	1%	19%	28%	38%	34%	1%	63%	36%	14%	86%	0%						
	APP/DEPART	1,292	/	44	32	/	1,688	3,441	/	2,422	3,102	/	3,713	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	500	5	155	5	9	4	11	1,142	675	251	1,279	3	4,039					
	APPROACH %	76%	1%	23%	28%	50%	22%	1%	62%	37%	16%	83%	0%						
	PEAK HR FACTOR		0.902			0.643			0.837			0.942		0.905					
	APP/DEPART	660	/	19	18	/	935	1,828	/	1,302	1,533	/	1,783	0					
PM	4:00 PM	151	2	48	0	3	0	4	333	135	48	329	3	1,056	0	0	1	1	2
	4:15 PM	146	6	55	0	2	2	8	362	129	49	321	10	1,090	0	0	0	1	1
	4:30 PM	164	2	49	7	1	7	2	329	120	49	335	5	1,070	0	0	0	0	0
	4:45 PM	151	2	45	0	3	7	4	376	149	57	353	1	1,148	0	0	0	2	2
	5:00 PM	166	1	45	0	4	2	2	397	127	37	323	0	1,104	0	0	1	1	2
	5:15 PM	157	7	50	1	4	3	5	347	154	62	341	3	1,134	0	0	1	1	2
	5:30 PM	177	3	59	9	9	9	1	364	138	49	328	1	1,147	0	0	0	0	0
	5:45 PM	165	4	80	0	4	2	6	382	152	54	324	5	1,178	1	0	1	1	3
	VOLUMES	1,277	27	431	17	30	32	32	2,890	1,104	405	2,654	28	8,927	1	0	4	7	12
	APPROACH %	74%	2%	25%	22%	38%	41%	1%	72%	27%	13%	86%	1%						
	APP/DEPART	1,735	/	83	79	/	1,533	4,026	/	3,345	3,087	/	3,966	0					
	BEGIN PEAK HR		5:00 PM																
	VOLUMES	665	15	234	10	21	16	14	1,490	571	202	1,316	9	4,563					
	APPROACH %	73%	2%	26%	21%	45%	34%	1%	72%	28%	13%	86%	1%						
	PEAK HR FACTOR		0.918			0.435			0.961			0.940		0.968					
	APP/DEPART	914	/	35	47	/	792	2,075	/	1,737	1,527	/	1,999	0					

Thursday, May 24, 2018 | CITY: Murrieta | PROJECT: SC1758

Prepared by: Field Data Services of Arizor

ADT1 Murrieta Hot Springs between Margarita and Delhaven.

Suhsduhg#e|#DlpWG#OOF##who1#:47#586#:;;;

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:00	0		0		56		31			12:00	0		0		278		288		
0:15	0		0		53		23			12:15	0		0		331		263		
0:30	0		0		36		21			12:30	0		0		277		281		
0:45	0	0	0	0	39	184	12	87	271	12:45	0	0	0	0	296	1182	271	1103	2285
1:00	0		0		26		18			13:00	0		0		266		303		
1:15	0		0		25		9			13:15	0		0		313		287		
1:30	0		0		19		7			13:30	0		0		291		312		
1:45	0	0	0	0	17	87	13	47	134	13:45	0	0	0	0	306	1176	308	1210	2386
2:00	0		0		15		10			14:00	0		0		258		275		
2:15	0		0		18		15			14:15	0		0		333		300		
2:30	0		0		10		19			14:30	0		0		360		327		
2:45	0	0	0	0	12	55	18	62	117	14:45	0	0	0	0	374	1325	374	1276	2601
3:00	0		0		11		24			15:00	0		0		377		371		
3:15	0		0		14		39			15:15	0		0		352		340		
3:30	0		0		20		47			15:30	0		0		317		372		
3:45	0	0	0	0	25	70	49	159	229	15:45	0	0	0	0	386	1432	366	1449	2881
4:00	0		0		19		71			16:00	0		0		321		399		
4:15	0		0		16		82			16:15	0		0		377		374		
4:30	0		0		24		110			16:30	0		0		370		383		
4:45	0	0	0	0	36	95	124	387	482	16:45	0	0	0	0	381	1449	364	1520	2969
5:00	0		0		34		109			17:00	0		0		375		387		
5:15	0		0		68		120			17:15	0		0		370		400		
5:30	0		0		85		143			17:30	0		0		353		349		
5:45	0	0	0	0	102	289	149	521	810	17:45	0	0	0	0	420	1518	360	1496	3014
6:00	0		0		105		142			18:00	0		0		353		303		
6:15	0		0		134		185			18:15	0		0		350		342		
6:30	0		0		203		253			18:30	0		0		319		283		
6:45	0	0	0	0	244	686	351	931	1617	18:45	0	0	0	0	335	1357	239	1167	2524
7:00	0		0		243		350			19:00	0		0		310		238		
7:15	0		0		272		337			19:15	0		0		314		221		
7:30	0		0		274		306			19:30	0		0		268		196		
7:45	0	0	0	0	358	1147	351	1344	2491	19:45	0	0	0	0	243	1135	175	830	1965
8:00	0		0		291		292			20:00	0		0		258		162		
8:15	0		0		303		339			20:15	0		0		278		188		
8:30	0		0		304		365			20:30	0		0		230		203		
8:45	0	0	0	0	275	1173	391	1387	2560	20:45	0	0	0	0	227	993	157	710	1703
9:00	0		0		230		365			21:00	0		0		199		163		
9:15	0		0		239		307			21:15	0		0		197		127		
9:30	0		0		242		284			21:30	0		0		163		113		
9:45	0	0	0	0	225	936	296	1252	2188	21:45	0	0	0	0	159	718	112	515	1233
10:00	0		0		223		296			22:00	0		0		143		89		
10:15	0		0		252		281			22:15	0		0		105		87		
10:30	0		0		227		315			22:30	0		0		108		61		
10:45	0	0	0	0	272	974	281	1173	2147	22:45	0	0	0	0	82	438	47	284	722
11:00	0		0		242		286			23:00	0		0		71		47		
11:15	0		0		274		286			23:15	0		0		65		47		
11:30	0		0		288		259			23:30	0		0		54		27		
11:45	0	0	0	0	303	1107	282	1113	2220	23:45	0	0	0	0	65	255	33	154	409
Total Vol.					6803		8463		**15266**						12978		11714		**24692**

Daily Totals

NB	SB	EB	WB	Combined
		19781	20177	**39958**

	AM			PM		
Split %	44.6%	55.4%	**38.2%**	52.6%	47.4%	**61.8%**
Peak Hour	7:45	8:15	**7:45**	17:00	16:30	**16:30**
Volume	1256	1460	**2603**	1518	1534	**3030**
P.H.F.	0.88	0.93	**0.92**	0.90	0.96	**0.98**

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Thursday, May 24, 2018 CITY: Murrieta PROJECT: SC1758

Prepared by: Field Data Services of Arizor

ADT2 Murrieta Hot Springs between Delhaven and Winchester.

Suhsduhg#e|#DlpWG#OOF##who1#:47#586#:;;;

AM Period	NB		SB		EB		WB			PM Period	NB		SB		EB		WB		
0:00	0		0		55		29			12:00	0		0		278		288		
0:15	0		0		53		26			12:15	0		0		328		269		
0:30	0		0		35		19			12:30	0		0		273		282		
0:45	0	0	0	0	38	181	11	85	266	12:45	0	0	0	0	292	1171	271	1110	2281
1:00	0		0		23		19			13:00	0		0		260		306		
1:15	0		0		25		9			13:15	0		0		313		292		
1:30	0		0		19		7			13:30	0		0		288		315		
1:45	0	0	0	0	17	84	13	48	132	13:45	0	0	0	0	300	1161	308	1221	2382
2:00	0		0		15		12			14:00	0		0		254		274		
2:15	0		0		18		15			14:15	0		0		332		299		
2:30	0		0		8		18			14:30	0		0		353		325		
2:45	0	0	0	0	12	53	19	64	117	14:45	0	0	0	0	369	1308	375	1273	2581
3:00	0		0		12		24			15:00	0		0		376		375		
3:15	0		0		13		37			15:15	0		0		347		348		
3:30	0		0		19		48			15:30	0		0		310		376		
3:45	0	0	0	0	26	70	48	157	227	15:45	0	0	0	0	378	1411	373	1472	2883
4:00	0		0		19		71			16:00	0		0		310		401		
4:15	0		0		18		80			16:15	0		0		369		379		
4:30	0		0		24		104			16:30	0		0		364		378		
4:45	0	0	0	0	36	97	121	376	473	16:45	0	0	0	0	375	1418	354	1512	2930
5:00	0		0		36		109			17:00	0		0		370		393		
5:15	0		0		70		116			17:15	0		0		367		399		
5:30	0		0		85		139			17:30	0		0		337		354		
5:45	0	0	0	0	103	294	146	510	804	17:45	0	0	0	0	414	1488	359	1505	2993
6:00	0		0		108		143			18:00	0		0		343		311		
6:15	0		0		132		185			18:15	0		0		348		345		
6:30	0		0		200		249			18:30	0		0		309		288		
6:45	0	0	0	0	248	688	344	921	1609	18:45	0	0	0	0	328	1328	240	1184	2512
7:00	0		0		237		344			19:00	0		0		306		243		
7:15	0		0		269		336			19:15	0		0		305		219		
7:30	0		0		267		296			19:30	0		0		260		194		
7:45	0	0	0	0	359	1132	348	1324	2456	19:45	0	0	0	0	240	1111	180	836	1947
8:00	0		0		290		292			20:00	0		0		252		166		
8:15	0		0		295		334			20:15	0		0		271		190		
8:30	0		0		302		361			20:30	0		0		224		198		
8:45	0	0	0	0	271	1158	389	1376	2534	20:45	0	0	0	0	221	968	159	713	1681
9:00	0		0		223		369			21:00	0		0		198		170		
9:15	0		0		242		307			21:15	0		0		196		130		
9:30	0		0		240		283			21:30	0		0		159		115		
9:45	0	0	0	0	226	931	299	1258	2189	21:45	0	0	0	0	155	708	113	528	1236
10:00	0		0		222		299			22:00	0		0		141		94		
10:15	0		0		251		279			22:15	0		0		98		89		
10:30	0		0		226		312			22:30	0		0		102		61		
10:45	0	0	0	0	267	966	278	1168	2134	22:45	0	0	0	0	76	417	48	292	709
11:00	0		0		242		284			23:00	0		0		72		45		
11:15	0		0		273		288			23:15	0		0		60		45		
11:30	0		0		278		258			23:30	0		0		53		29		
11:45	0	0	0	0	301	1094	280	1110	2204	23:45	0	0	0	0	62	247	33	152	399
Total Vol.					6748		8397		**15145**						12736		11798		**24534**

	NB	SB	EB	WB	**Combined**
Daily Totals			19484	20195	**39679**

	AM			**PM**		
Split %	44.6%	55.4%	**38.2%**	51.9%	48.1%	**61.8%**
Peak Hour	7:45	8:15	**7:45**	17:00	15:45	**16:30**
Volume	1246	1453	**2581**	1488	1531	**3000**
P.H.F.	0.87	0.93	**0.91**	0.90	0.95	**0.98**

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APPENDIX D

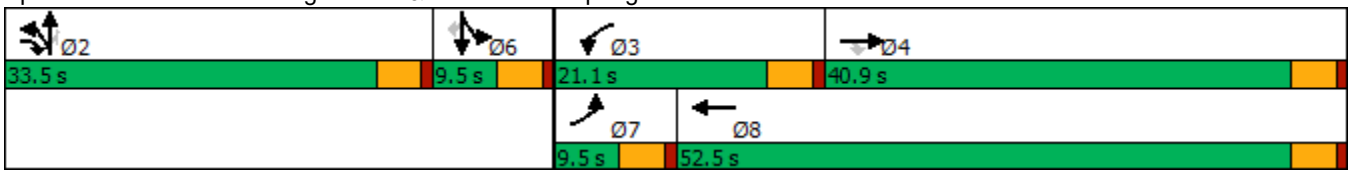
HCM ANALYSIS WORKSHEETS

EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	11	1142	675	251	1279	500	5	155	9	4
Future Volume (vph)	11	1142	675	251	1279	500	5	155	9	4
Turn Type	Prot	NA	pm+ov	Prot	NA	Split	NA	Perm	NA	Perm
Protected Phases	7	4	2	3	8	2	2		6	
Permitted Phases			4					2		6
Detector Phase	7	4	2	3	8	2	2	2	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
Minimum Split (s)	9.5	40.5	33.5	9.5	40.5	33.5	33.5	33.5	9.5	9.5
Total Split (s)	9.5	40.9	33.5	21.1	52.5	33.5	33.5	33.5	9.5	9.5
Total Split (%)	9.0%	39.0%	31.9%	20.1%	50.0%	31.9%	31.9%	31.9%	9.0%	9.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag					
Lead-Lag Optimize?	Yes	Yes		Yes	Yes					
Recall Mode	None	None	Max	None	None	Max	Max	Max	None	None
Act Effct Green (s)	5.0	36.5	70.1	16.6	55.8	29.1	29.1	29.1	5.0	5.0
Actuated g/C Ratio	0.05	0.37	0.71	0.17	0.56	0.29	0.29	0.29	0.05	0.05
v/c Ratio	0.13	0.97	0.61	0.93	0.49	0.55	0.01	0.29	0.16	0.02
Control Delay	50.7	50.2	6.9	80.6	15.0	32.6	27.2	6.0	51.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	50.2	6.9	80.6	15.0	32.6	27.2	6.0	51.3	0.2
LOS	D	D	A	F	B	C	C	A	D	A
Approach Delay		34.2			25.8		26.4		40.5	
Approach LOS		C			C		C		D	

Intersection Summary		
Cycle Length: 105		
Actuated Cycle Length: 99.3		
Natural Cycle: 105		
Control Type: Semi Act-Uncoord		
Maximum v/c Ratio: 0.97		
Intersection Signal Delay: 29.7	Intersection LOS: C	
Intersection Capacity Utilization 77.7%	ICU Level of Service D	
Analysis Period (min) 15		

Splits and Phases: 1: Margarita Rd & Murrieta Hot Springs Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	1142	675	251	1279	3	500	5	155	5	9	4
Future Volume (veh/h)	11	1142	675	251	1279	3	500	5	155	5	9	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	12	1255	742	276	1405	3	549	5	170	5	10	4
Adj No. of Lanes	1	2	1	1	3	0	2	1	1	0	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	1262	1014	288	2646	6	978	529	450	12	25	32
Arrive On Green	0.01	0.36	0.36	0.16	0.51	0.51	0.28	0.28	0.28	0.02	0.02	0.02
Sat Flow, veh/h	1774	3539	1583	1774	5240	11	3442	1863	1583	611	1221	1583
Grp Volume(v), veh/h	12	1255	742	276	909	499	549	5	170	15	0	4
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1695	1861	1721	1863	1583	1832	0	1583
Q Serve(g_s), s	0.7	36.1	32.4	15.7	18.5	18.5	13.9	0.2	8.8	0.8	0.0	0.3
Cycle Q Clear(g_c), s	0.7	36.1	32.4	15.7	18.5	18.5	13.9	0.2	8.8	0.8	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.33		1.00
Lane Grp Cap(c), veh/h	25	1262	1014	288	1712	940	978	529	450	37	0	32
V/C Ratio(X)	0.48	0.99	0.73	0.96	0.53	0.53	0.56	0.01	0.38	0.40	0.00	0.12
Avail Cap(c_a), veh/h	87	1262	1014	288	1712	940	978	529	450	90	0	78
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	0.00	1.00
Uniform Delay (d), s/veh	49.9	32.7	12.4	42.4	17.1	17.1	31.1	26.2	29.3	49.4	0.0	49.1
Incr Delay (d2), s/veh	13.5	23.9	2.7	41.2	0.3	0.6	2.3	0.0	2.4	6.8	0.0	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	21.8	21.6	11.0	8.7	9.6	6.9	0.1	4.1	0.5	0.0	0.1
LnGrp Delay(d),s/veh	63.4	56.7	15.1	83.6	17.4	17.7	33.5	26.3	31.7	56.2	0.0	50.8
LnGrp LOS	E	E	B	F	B	B	C	C	C	E		D
Approach Vol, veh/h		2009			1684			724			19	
Approach Delay, s/veh		41.4			28.3			33.0			55.1	
Approach LOS		D			C			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		33.5	21.1	40.9		6.6	5.9	56.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.0	16.6	36.4		5.0	5.0	48.0
Max Q Clear Time (g_c+I1), s		15.9	17.7	38.1		2.8	2.7	20.5
Green Ext Time (p_c), s		2.2	0.0	0.0		0.0	0.0	10.3

Intersection Summary	
HCM 2010 Ctrl Delay	35.1
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑		↱	↰	
Traffic Vol, veh/h	0	0	0	17	19	0
Future Vol, veh/h	0	0	0	17	19	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	-	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	20	23	0

Major/Minor	Major1			Minor2	
Conflicting Flow All	-	0		0	-
Stage 1	-	-		0	-
Stage 2	-	-		0	-
Critical Hdwy	-	-		6.42	-
Critical Hdwy Stg 1	-	-		-	-
Critical Hdwy Stg 2	-	-		5.42	-
Follow-up Hdwy	-	-		3.518	-
Pot Cap-1 Maneuver	0	-		-	0
Stage 1	0	-		-	0
Stage 2	0	-		-	0
Platoon blocked, %		-			
Mov Cap-1 Maneuver	-	-		-	-
Mov Cap-2 Maneuver	-	-		-	-
Stage 1	-	-		-	-
Stage 2	-	-		-	-

Approach	EB	SB
HCM Control Delay, s	0	
HCM LOS		-

Minor Lane/Major Mvmt	EBT	SBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	-
HCM Lane LOS	-	-
HCM 95th %tile Q(veh)	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	1234	13	7	1315	12	11	0	6	5	0	18
Future Vol, veh/h	11	1234	13	7	1315	12	11	0	6	5	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	150	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	1356	14	8	1445	13	12	0	7	5	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1458	0	0	1370	0	0	2126	2861	685	2170	2862	729
Stage 1	-	-	-	-	-	-	1387	1387	-	1468	1468	-
Stage 2	-	-	-	-	-	-	739	1474	-	702	1394	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	460	-	-	497	-	-	28	16	391	26	16	365
Stage 1	-	-	-	-	-	-	150	208	-	134	190	-
Stage 2	-	-	-	-	-	-	375	189	-	395	207	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	460	-	-	497	-	-	26	15	391	25	15	365
Mov Cap-2 Maneuver	-	-	-	-	-	-	26	15	-	25	15	-
Stage 1	-	-	-	-	-	-	146	203	-	131	187	-
Stage 2	-	-	-	-	-	-	349	186	-	378	202	-

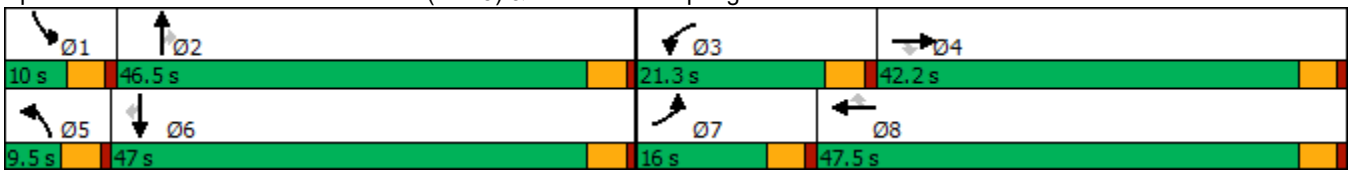
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	154.9	52.4
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	26	391	460	-	-	497	-	-	25	365
HCM Lane V/C Ratio	0.465	0.017	0.026	-	-	0.015	-	-	0.22	0.054
HCM Control Delay (s)	231.5	14.4	13	-	-	12.4	-	-	185.7	15.4
HCM Lane LOS	F	B	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	1.4	0.1	0.1	-	-	0	-	-	0.7	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	541	564	145	285	594	109	147	706	164	211	1567	612
Future Volume (vph)	541	564	145	285	594	109	147	706	164	211	1567	612
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	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	9.5	9.5	9.5	47.5	47.5	9.5	45.5	45.5	9.5	45.5	45.5
Total Split (s)	16.0	42.2	42.2	21.3	47.5	47.5	9.5	46.5	46.5	10.0	47.0	47.0
Total Split (%)	13.3%	35.2%	35.2%	17.8%	39.6%	39.6%	7.9%	38.8%	38.8%	8.3%	39.2%	39.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
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	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	11.5	21.6	21.6	13.6	23.7	23.7	5.0	42.1	42.1	5.5	42.6	42.6
Actuated g/C Ratio	0.11	0.21	0.21	0.13	0.23	0.23	0.05	0.42	0.42	0.05	0.42	0.42
v/c Ratio	1.44	0.54	0.34	0.64	0.75	0.25	0.90	0.35	0.23	1.18	0.76	0.76
Control Delay	246.1	37.3	9.8	48.5	41.6	7.1	96.5	21.2	4.1	163.7	28.3	19.8
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	246.1	37.3	9.8	48.5	41.6	7.1	96.5	21.2	4.1	163.7	28.3	19.8
LOS	F	D	A	D	D	A	F	C	A	F	C	B
Approach Delay		124.5			39.8			29.3			38.1	
Approach LOS		F			D			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.9	
Natural Cycle: 135	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.44	
Intersection Signal Delay: 56.0	Intersection LOS: E
Intersection Capacity Utilization 81.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: Winchester Rd (SR79) & Murrieta Hot Springs Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	541	564	145	285	594	109	147	706	164	211	1567	612
Future Volume (veh/h)	541	564	145	285	594	109	147	706	164	211	1567	612
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	564	588	151	297	619	114	153	735	171	220	1632	638
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	1185	369	377	804	360	173	2144	667	190	2169	675
Arrive On Green	0.12	0.23	0.23	0.11	0.23	0.23	0.05	0.42	0.42	0.06	0.43	0.43
Sat Flow, veh/h	3442	5085	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	564	588	151	297	619	114	153	735	171	220	1632	638
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	11.5	10.0	8.1	8.4	16.3	6.0	4.4	9.7	7.0	5.5	27.0	38.6
Cycle Q Clear(g_c), s	11.5	10.0	8.1	8.4	16.3	6.0	4.4	9.7	7.0	5.5	27.0	38.6
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	397	1185	369	377	804	360	173	2144	667	190	2169	675
V/C Ratio(X)	1.42	0.50	0.41	0.79	0.77	0.32	0.89	0.34	0.26	1.16	0.75	0.94
Avail Cap(c_a), veh/h	397	1924	599	580	1527	683	173	2144	667	190	2169	675
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	44.1	33.1	32.4	43.2	36.1	32.1	47.0	19.5	18.7	47.1	24.1	27.4
Incr Delay (d2), s/veh	203.2	0.3	0.7	4.0	1.6	0.5	38.1	0.4	0.9	114.3	2.5	23.4
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	16.6	4.7	3.6	4.2	8.2	2.6	3.0	4.6	3.2	5.6	13.0	21.2
LnGrp Delay(d),s/veh	247.2	33.5	33.1	47.2	37.7	32.6	85.2	19.9	19.6	161.4	26.6	50.9
LnGrp LOS	F	C	C	D	D	C	F	B	B	F	C	D
Approach Vol, veh/h		1303			1030			1059			2490	
Approach Delay, s/veh		125.9			39.9			29.3			44.7	
Approach LOS		F			D			C			D	

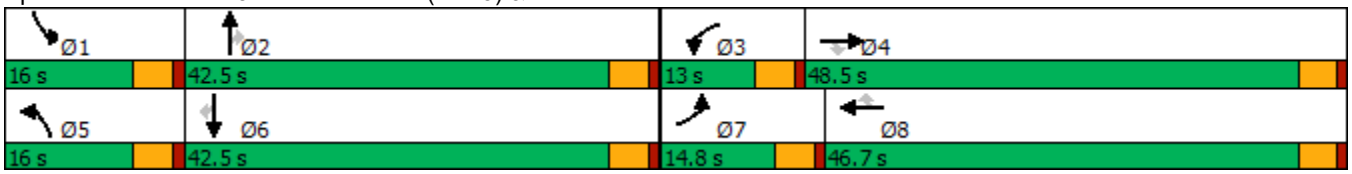
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	46.5	15.4	27.7	9.5	47.0	16.0	27.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	42.0	16.8	37.7	5.0	42.5	11.5	43.0
Max Q Clear Time (g_c+I1), s	7.5	11.7	10.4	12.0	6.4	40.6	13.5	18.3
Green Ext Time (p_c), s	0.0	5.3	0.5	4.3	0.0	1.7	0.0	4.3

Intersection Summary	
HCM 2010 Ctrl Delay	59.1
HCM 2010 LOS	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	79	82	263	269	96	214	730	97	201	1615	309
Future Volume (vph)	136	79	82	263	269	96	214	730	97	201	1615	309
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	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	48.5	48.5	9.5	46.5	46.5	9.5	40.5	40.5	9.5	32.5	32.5
Total Split (s)	14.8	48.5	48.5	13.0	46.7	46.7	16.0	42.5	42.5	16.0	42.5	42.5
Total Split (%)	12.3%	40.4%	40.4%	10.8%	38.9%	38.9%	13.3%	35.4%	35.4%	13.3%	35.4%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
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	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	10.3	22.1	22.1	8.5	20.3	20.3	11.5	38.1	38.1	11.5	38.1	38.1
Actuated g/C Ratio	0.10	0.22	0.22	0.09	0.21	0.21	0.12	0.39	0.39	0.12	0.39	0.39
v/c Ratio	0.78	0.20	0.20	0.94	0.74	0.25	1.10	0.39	0.15	1.03	0.87	0.51
Control Delay	72.7	31.4	6.5	86.0	48.8	7.9	134.5	23.2	5.2	116.2	34.6	13.3
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	72.7	31.4	6.5	86.0	48.8	7.9	134.5	23.2	5.2	116.2	34.6	13.3
LOS	E	C	A	F	D	A	F	C	A	F	C	B
Approach Delay		43.5			58.2			44.4			39.3	
Approach LOS		D			E			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 98.3	
Natural Cycle: 140	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.10	
Intersection Signal Delay: 43.8	Intersection LOS: D
Intersection Capacity Utilization 79.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Winchester Rd (SR79) & Nicolas Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	79	82	263	269	96	214	730	97	201	1615	309
Future Volume (veh/h)	136	79	82	263	269	96	214	730	97	201	1615	309
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1788
Adj Flow Rate, veh/h	145	84	87	280	286	102	228	777	103	214	1718	329
Adj No. of Lanes	1	1	1	2	1	1	1	3	1	1	3	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	367	312	309	350	297	215	2041	635	215	2041	610
Arrive On Green	0.10	0.20	0.20	0.09	0.19	0.19	0.12	0.40	0.40	0.12	0.40	0.40
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	5085	1583	1774	5085	1520
Grp Volume(v), veh/h	145	84	87	280	286	102	228	777	103	214	1718	329
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1695	1583	1774	1695	1520
Q Serve(g_s), s	7.6	3.6	4.4	7.6	13.9	5.3	11.5	10.2	3.9	11.4	28.9	15.7
Cycle Q Clear(g_c), s	7.6	3.6	4.4	7.6	13.9	5.3	11.5	10.2	3.9	11.4	28.9	15.7
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	176	367	312	309	350	297	215	2041	635	215	2041	610
V/C Ratio(X)	0.82	0.23	0.28	0.91	0.82	0.34	1.06	0.38	0.16	0.99	0.84	0.54
Avail Cap(c_a), veh/h	193	866	736	309	830	706	215	2041	635	215	2041	610
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	41.8	31.9	32.3	42.7	36.9	33.4	41.6	20.0	18.1	41.5	25.6	21.7
Incr Delay (d2), s/veh	22.6	0.3	0.5	28.6	4.7	0.7	77.5	0.5	0.5	59.2	4.4	3.4
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	4.8	1.9	2.0	4.8	7.6	2.4	10.2	4.9	1.8	9.1	14.4	7.2
LnGrp Delay(d),s/veh	64.4	32.3	32.8	71.3	41.6	34.1	119.1	20.6	18.7	100.8	30.0	25.0
LnGrp LOS	E	C	C	E	D	C	F	C	B	F	C	C
Approach Vol, veh/h		316			668			1108			2261	
Approach Delay, s/veh		47.1			52.9			40.7			36.0	
Approach LOS		D			D			D			D	

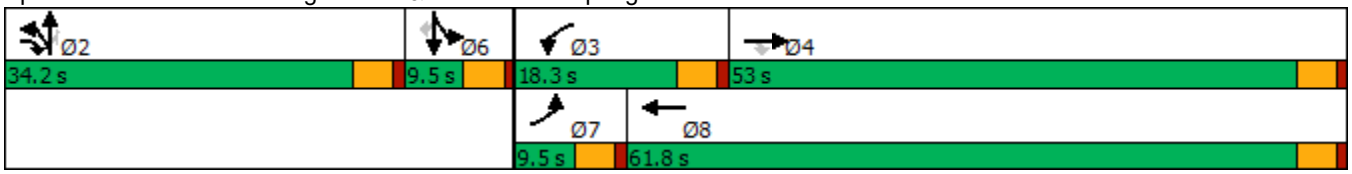
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	42.5	13.0	23.2	16.0	42.5	13.9	22.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	38.0	8.5	44.0	11.5	38.0	10.3	42.2
Max Q Clear Time (g_c+I1), s	13.4	12.2	9.6	6.4	13.5	30.9	9.6	15.9
Green Ext Time (p_c), s	0.0	5.4	0.0	0.8	0.0	5.6	0.0	1.8

Intersection Summary	
HCM 2010 Ctrl Delay	40.6
HCM 2010 LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	14	1490	571	202	1316	665	15	234	21	16
Future Volume (vph)	14	1490	571	202	1316	665	15	234	21	16
Turn Type	Prot	NA	pm+ov	Prot	NA	Split	NA	Perm	NA	Perm
Protected Phases	7	4	2	3	8	2	2		6	
Permitted Phases			4					2		6
Detector Phase	7	4	2	3	8	2	2	2	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
Minimum Split (s)	9.5	40.5	33.5	9.5	40.5	33.5	33.5	33.5	9.5	9.5
Total Split (s)	9.5	53.0	34.2	18.3	61.8	34.2	34.2	34.2	9.5	9.5
Total Split (%)	8.3%	46.1%	29.7%	15.9%	53.7%	29.7%	29.7%	29.7%	8.3%	8.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag					
Lead-Lag Optimize?	Yes	Yes		Yes	Yes					
Recall Mode	None	None	Max	None	None	Max	Max	Max	None	None
Act Effct Green (s)	5.0	48.6	82.8	13.8	63.2	29.8	29.8	29.8	5.0	5.0
Actuated g/C Ratio	0.04	0.44	0.74	0.12	0.57	0.27	0.27	0.27	0.04	0.04
v/c Ratio	0.18	0.99	0.47	0.95	0.47	0.75	0.03	0.41	0.39	0.08
Control Delay	58.2	53.6	4.4	98.3	16.0	43.8	32.1	7.3	67.2	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	53.6	4.4	98.3	16.0	43.8	32.1	7.3	67.2	0.8
LOS	E	D	A	F	B	D	C	A	E	A
Approach Delay		40.1			26.9		34.3		45.1	
Approach LOS		D			C		C		D	

Intersection Summary	
Cycle Length: 115	
Actuated Cycle Length: 111.2	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 34.5	Intersection LOS: C
Intersection Capacity Utilization 89.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Margarita Rd & Murrieta Hot Springs Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1490	571	202	1316	9	665	15	234	10	21	16
Future Volume (veh/h)	14	1490	571	202	1316	9	665	15	234	10	21	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	14	1536	589	208	1357	9	686	15	241	10	22	16
Adj No. of Lanes	1	2	1	1	3	0	2	1	1	0	1	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1507	1087	215	2769	18	897	486	413	20	43	54
Arrive On Green	0.02	0.43	0.43	0.12	0.53	0.53	0.26	0.26	0.26	0.03	0.03	0.03
Sat Flow, veh/h	1774	3539	1583	1774	5212	35	3442	1863	1583	573	1261	1583
Grp Volume(v), veh/h	14	1536	589	208	883	483	686	15	241	32	0	16
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1695	1857	1721	1863	1583	1834	0	1583
Q Serve(g_s), s	0.9	48.5	21.2	13.3	18.8	18.8	21.0	0.7	15.1	2.0	0.0	1.1
Cycle Q Clear(g_c), s	0.9	48.5	21.2	13.3	18.8	18.8	21.0	0.7	15.1	2.0	0.0	1.1
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.31		1.00
Lane Grp Cap(c), veh/h	28	1507	1087	215	1801	986	897	486	413	63	0	54
V/C Ratio(X)	0.50	1.02	0.54	0.97	0.49	0.49	0.76	0.03	0.58	0.51	0.00	0.29
Avail Cap(c_a), veh/h	78	1507	1087	215	1801	986	897	486	413	81	0	70
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	0.00	1.00
Uniform Delay (d), s/veh	55.6	32.7	8.9	49.8	16.9	16.9	38.9	31.4	36.7	54.1	0.0	53.7
Incr Delay (d2), s/veh	13.3	28.1	0.6	52.0	0.2	0.4	6.2	0.1	5.9	6.2	0.0	3.0
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	29.5	17.0	9.6	8.8	9.6	10.8	0.4	7.3	1.1	0.0	0.5
LnGrp Delay(d),s/veh	68.9	60.8	9.5	101.9	17.1	17.3	45.0	31.5	42.6	60.3	0.0	56.6
LnGrp LOS	E	F	A	F	B	B	D	C	D	E		E
Approach Vol, veh/h		2139			1574			942			48	
Approach Delay, s/veh		46.7			28.4			44.2			59.1	
Approach LOS		D			C			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		34.2	18.3	53.0		8.4	6.3	65.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.7	13.8	48.5		5.0	5.0	57.3
Max Q Clear Time (g_c+I1), s		23.0	15.3	50.5		4.0	2.9	20.8
Green Ext Time (p_c), s		2.1	0.0	0.0		0.0	0.0	10.8

Intersection Summary	
HCM 2010 Ctrl Delay	40.2
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑		↱	↰	
Traffic Vol, veh/h	0	0	0	26	20	0
Future Vol, veh/h	0	0	0	26	20	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	-	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	34	26	0

Major/Minor	Major1		Minor2	
Conflicting Flow All	-	0	0	-
Stage 1	-	-	0	-
Stage 2	-	-	0	-
Critical Hdwy	-	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.42	-
Follow-up Hdwy	-	-	3.518	-
Pot Cap-1 Maneuver	0	-	-	0
Stage 1	0	-	-	0
Stage 2	0	-	-	0
Platoon blocked, %		-		
Mov Cap-1 Maneuver	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	SB
HCM Control Delay, s	0	
HCM LOS		-

Minor Lane/Major Mvmt	EBT	SBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	-
HCM Lane LOS	-	-
HCM 95th %tile Q(veh)	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	1455	11	9	1492	20	9	2	16	5	0	25
Future Vol, veh/h	30	1455	11	9	1492	20	9	2	16	5	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	185	-	-	150	-	-	0	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	1485	11	9	1522	20	9	2	16	5	0	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1542	0	0	1496	0	0	2332	3113	748	2356	3108	771
Stage 1	-	-	-	-	-	-	1553	1553	-	1550	1550	-
Stage 2	-	-	-	-	-	-	779	1560	-	806	1558	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	427	-	-	444	-	-	20	11	355	19	11	343
Stage 1	-	-	-	-	-	-	118	173	-	119	173	-
Stage 2	-	-	-	-	-	-	355	171	-	342	172	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	427	-	-	444	-	-	17	10	355	14	10	343
Mov Cap-2 Maneuver	-	-	-	-	-	-	17	10	-	14	10	-
Stage 1	-	-	-	-	-	-	109	160	-	110	170	-
Stage 2	-	-	-	-	-	-	322	168	-	299	159	-

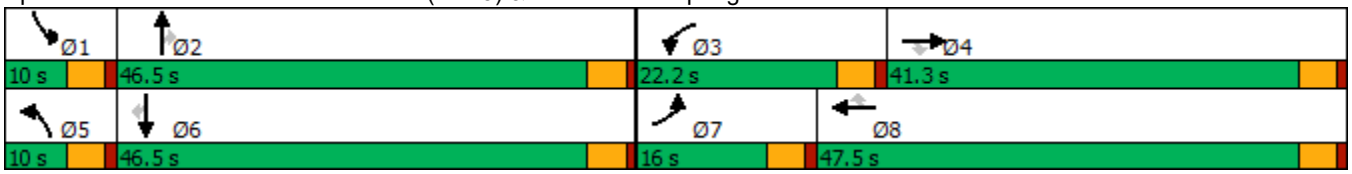
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	167.7	75.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	17	73	427	-	-	444	-	-	14	343
HCM Lane V/C Ratio	0.54	0.252	0.072	-	-	0.021	-	-	0.364	0.074
HCM Control Delay (s)	$ 362.7	70.2	14.1	-	-	13.3	-	-	$ 369.4	16.3
HCM Lane LOS	F	F	B	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	1.4	0.9	0.2	-	-	0.1	-	-	0.9	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	619	686	167	315	787	125	188	1823	189	182	1050	550
Future Volume (vph)	619	686	167	315	787	125	188	1823	189	182	1050	550
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	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	9.5	9.5	9.5	47.5	47.5	9.5	45.5	45.5	9.5	45.5	45.5
Total Split (s)	16.0	41.3	41.3	22.2	47.5	47.5	10.0	46.5	46.5	10.0	46.5	46.5
Total Split (%)	13.3%	34.4%	34.4%	18.5%	39.6%	39.6%	8.3%	38.8%	38.8%	8.3%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
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	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	11.5	28.3	28.3	14.8	31.5	31.5	5.5	42.1	42.1	5.5	42.1	42.1
Actuated g/C Ratio	0.11	0.26	0.26	0.14	0.29	0.29	0.05	0.39	0.39	0.05	0.39	0.39
v/c Ratio	1.74	0.53	0.33	0.69	0.78	0.24	1.10	0.94	0.26	1.07	0.54	0.72
Control Delay	374.5	36.2	10.5	53.6	41.2	9.3	148.1	44.1	4.6	138.6	28.0	21.6
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	374.5	36.2	10.5	53.6	41.2	9.3	148.1	44.1	4.6	138.6	28.0	21.6
LOS	F	D	B	D	D	A	F	D	A	F	C	C
Approach Delay		175.6			41.1			49.6			37.3	
Approach LOS		F			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 108.8	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.74	
Intersection Signal Delay: 72.5	Intersection LOS: E
Intersection Capacity Utilization 94.8%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 4: Winchester Rd (SR79) & Murrieta Hot Springs Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	619	686	167	315	787	125	188	1823	189	182	1050	550
Future Volume (veh/h)	619	686	167	315	787	125	188	1823	189	182	1050	550
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	632	700	170	321	803	128	192	1860	193	186	1071	561
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	3	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	370	1384	431	396	990	443	177	1998	622	177	1998	622
Arrive On Green	0.11	0.27	0.27	0.11	0.28	0.28	0.05	0.39	0.39	0.05	0.39	0.39
Sat Flow, veh/h	3442	5085	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	632	700	170	321	803	128	192	1860	193	186	1071	561
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	11.5	12.4	9.4	9.7	22.6	6.8	5.5	37.4	9.0	5.5	17.3	35.6
Cycle Q Clear(g_c), s	11.5	12.4	9.4	9.7	22.6	6.8	5.5	37.4	9.0	5.5	17.3	35.6
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	370	1384	431	396	990	443	177	1998	622	177	1998	622
V/C Ratio(X)	1.71	0.51	0.39	0.81	0.81	0.29	1.08	0.93	0.31	1.05	0.54	0.90
Avail Cap(c_a), veh/h	370	1751	545	570	1424	637	177	1998	622	177	1998	622
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	32.8	31.7	46.2	35.9	30.2	50.7	31.1	22.4	50.7	24.9	30.5
Incr Delay (d2), s/veh	329.4	0.3	0.6	5.8	2.4	0.4	91.9	9.3	1.3	81.5	1.0	18.7
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	22.3	5.9	4.2	5.0	11.4	3.0	4.9	19.1	4.1	4.6	8.2	18.7
LnGrp Delay(d),s/veh	377.1	33.1	32.3	51.9	38.3	30.5	142.5	40.4	23.7	132.3	26.0	49.2
LnGrp LOS	F	C	C	D	D	C	F	D	C	F	C	D
Approach Vol, veh/h		1502			1252			2245			1818	
Approach Delay, s/veh		177.7			41.0			47.7			44.0	
Approach LOS		F			D			D			D	

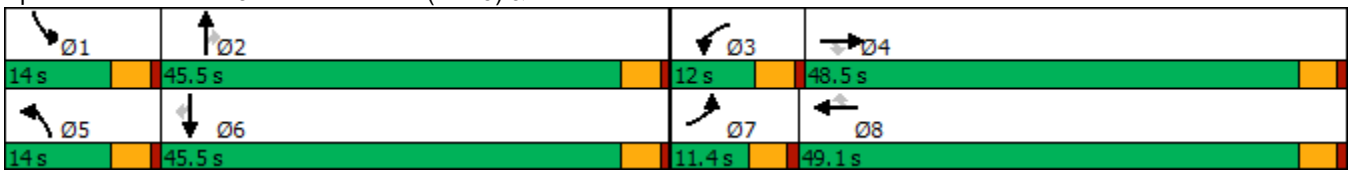
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	46.5	16.8	33.6	10.0	46.5	16.0	34.4
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	42.0	17.7	36.8	5.5	42.0	11.5	43.0
Max Q Clear Time (g_c+I1), s	7.5	39.4	11.7	14.4	7.5	37.6	13.5	24.6
Green Ext Time (p_c), s	0.0	2.2	0.6	5.0	0.0	3.1	0.0	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	74.1
HCM 2010 LOS	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	21	16	358	55	215	58	2031	380	275	1222	55
Future Volume (vph)	39	21	16	358	55	215	58	2031	380	275	1222	55
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	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	48.5	48.5	9.5	46.5	46.5	9.5	40.5	40.5	9.5	32.5	32.5
Total Split (s)	11.4	48.5	48.5	12.0	49.1	49.1	14.0	45.5	45.5	14.0	45.5	45.5
Total Split (%)	9.5%	40.4%	40.4%	10.0%	40.9%	40.9%	11.7%	37.9%	37.9%	11.7%	37.9%	37.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
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	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	6.5	7.5	7.5	7.6	8.7	8.7	7.8	41.3	41.3	9.6	47.9	47.9
Actuated g/C Ratio	0.08	0.09	0.09	0.10	0.11	0.11	0.10	0.52	0.52	0.12	0.60	0.60
v/c Ratio	0.27	0.12	0.07	1.11	0.28	0.59	0.34	0.78	0.40	1.31	0.40	0.06
Control Delay	41.6	35.8	0.6	120.4	37.8	12.7	40.7	19.3	4.6	201.3	11.5	1.1
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	41.6	35.8	0.6	120.4	37.8	12.7	40.7	19.3	4.6	201.3	11.5	1.1
LOS	D	D	A	F	D	B	D	B	A	F	B	A
Approach Delay		31.4			76.3			17.5			44.8	
Approach LOS		C			E			B			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 79.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.31	
Intersection Signal Delay: 34.5	Intersection LOS: C
Intersection Capacity Utilization 82.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Winchester Rd (SR79) & Nicolas Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	21	16	358	55	215	58	2031	380	275	1222	55
Future Volume (veh/h)	39	21	16	358	55	215	58	2031	380	275	1222	55
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1788
Adj Flow Rate, veh/h	39	21	16	362	56	217	59	2052	384	278	1234	56
Adj No. of Lanes	1	1	1	2	1	1	1	3	1	1	3	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	214	182	301	311	264	78	2428	756	196	2768	827
Arrive On Green	0.04	0.11	0.11	0.09	0.17	0.17	0.04	0.48	0.48	0.11	0.54	0.54
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	5085	1583	1774	5085	1520
Grp Volume(v), veh/h	39	21	16	362	56	217	59	2052	384	278	1234	56
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1695	1583	1774	1695	1520
Q Serve(g_s), s	1.9	0.9	0.8	7.5	2.2	11.4	2.8	30.3	14.4	9.5	12.5	1.5
Cycle Q Clear(g_c), s	1.9	0.9	0.8	7.5	2.2	11.4	2.8	30.3	14.4	9.5	12.5	1.5
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	63	214	182	301	311	264	78	2428	756	196	2768	827
V/C Ratio(X)	0.62	0.10	0.09	1.20	0.18	0.82	0.76	0.84	0.51	1.42	0.45	0.07
Avail Cap(c_a), veh/h	143	955	811	301	968	823	196	2428	756	196	2768	827
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	40.9	34.0	34.0	39.2	30.7	34.5	40.6	19.6	15.5	38.2	11.8	9.3
Incr Delay (d2), s/veh	9.7	0.2	0.2	119.1	0.3	6.3	13.7	3.8	2.4	214.5	0.5	0.2
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	1.1	0.5	0.3	8.5	1.2	5.4	1.7	14.9	6.7	16.3	6.0	0.7
LnGrp Delay(d),s/veh	50.6	34.2	34.2	158.3	31.0	40.8	54.3	23.5	17.9	252.7	12.3	9.4
LnGrp LOS	D	C	C	F	C	D	D	C	B	F	B	A
Approach Vol, veh/h		76			635			2495			1568	
Approach Delay, s/veh		42.6			106.9			23.3			54.8	
Approach LOS		D			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	45.5	12.0	14.4	8.3	51.2	7.5	18.8
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	41.0	7.5	44.0	9.5	41.0	6.9	44.6
Max Q Clear Time (g_c+I1), s	11.5	32.3	9.5	2.9	4.8	14.5	3.9	13.4
Green Ext Time (p_c), s	0.0	7.4	0.0	0.1	0.0	8.8	0.0	1.0

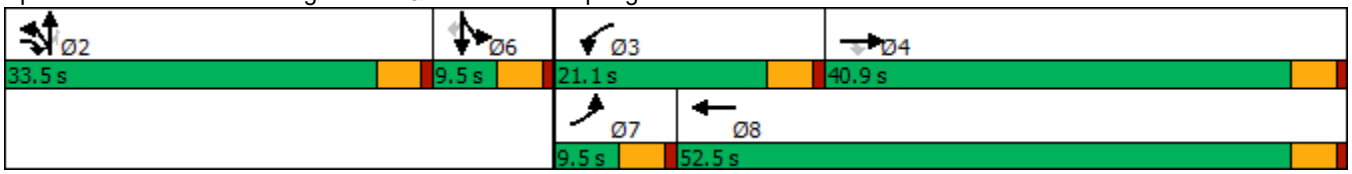
Intersection Summary	
HCM 2010 Ctrl Delay	45.1
HCM 2010 LOS	D

EP CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	11	1150	675	271	1304	500	5	156	9	4
Future Volume (vph)	11	1150	675	271	1304	500	5	156	9	4
Turn Type	Prot	NA	pm+ov	Prot	NA	Split	NA	Perm	NA	Perm
Protected Phases	7	4	2	3	8	2	2		6	
Permitted Phases			4					2		6
Detector Phase	7	4	2	3	8	2	2	2	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
Minimum Split (s)	9.5	40.5	33.5	9.5	40.5	33.5	33.5	33.5	9.5	9.5
Total Split (s)	9.5	40.9	33.5	21.1	52.5	33.5	33.5	33.5	9.5	9.5
Total Split (%)	9.0%	39.0%	31.9%	20.1%	50.0%	31.9%	31.9%	31.9%	9.0%	9.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag					
Lead-Lag Optimize?	Yes	Yes		Yes	Yes					
Recall Mode	None	None	Max	None	None	Max	Max	Max	None	None
Act Effct Green (s)	5.0	36.5	70.1	16.6	55.8	29.1	29.1	29.1	5.0	5.0
Actuated g/C Ratio	0.05	0.37	0.71	0.17	0.56	0.29	0.29	0.29	0.05	0.05
v/c Ratio	0.13	0.97	0.62	1.01	0.50	0.55	0.01	0.29	0.16	0.02
Control Delay	50.7	51.5	7.1	97.5	15.1	32.6	27.2	6.0	51.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	51.5	7.1	97.5	15.1	32.6	27.2	6.0	51.3	0.2
LOS	D	D	A	F	B	C	C	A	D	A
Approach Delay		35.2			29.3		26.3		40.5	
Approach LOS		D			C		C		D	

Intersection Summary	
Cycle Length: 105	
Actuated Cycle Length: 99.3	
Natural Cycle: 105	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.01	
Intersection Signal Delay: 31.5	Intersection LOS: C
Intersection Capacity Utilization 79.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Margarita Rd & Murrieta Hot Springs Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	1150	675	271	1304	3	500	5	156	5	9	4
Future Volume (veh/h)	11	1150	675	271	1304	3	500	5	156	5	9	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	12	1264	742	298	1433	3	549	5	171	5	10	4
Adj No. of Lanes	1	2	1	1	3	0	2	1	1	0	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	1262	1014	288	2647	6	978	529	450	12	25	32
Arrive On Green	0.01	0.36	0.36	0.16	0.51	0.51	0.28	0.28	0.28	0.02	0.02	0.02
Sat Flow, veh/h	1774	3539	1583	1774	5240	11	3442	1863	1583	611	1221	1583
Grp Volume(v), veh/h	12	1264	742	298	927	509	549	5	171	15	0	4
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1695	1861	1721	1863	1583	1832	0	1583
Q Serve(g_s), s	0.7	36.4	32.4	16.6	19.0	19.0	13.9	0.2	8.8	0.8	0.0	0.3
Cycle Q Clear(g_c), s	0.7	36.4	32.4	16.6	19.0	19.0	13.9	0.2	8.8	0.8	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.33		1.00
Lane Grp Cap(c), veh/h	25	1262	1014	288	1712	940	978	529	450	37	0	32
V/C Ratio(X)	0.48	1.00	0.73	1.03	0.54	0.54	0.56	0.01	0.38	0.40	0.00	0.12
Avail Cap(c_a), veh/h	87	1262	1014	288	1712	940	978	529	450	90	0	78
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	0.00	1.00
Uniform Delay (d), s/veh	49.9	32.8	12.4	42.7	17.2	17.2	31.1	26.2	29.3	49.4	0.0	49.1
Incr Delay (d2), s/veh	13.5	25.7	2.7	61.8	0.3	0.6	2.3	0.0	2.4	6.8	0.0	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	22.2	21.6	13.0	9.0	9.9	6.9	0.1	4.2	0.5	0.0	0.1
LnGrp Delay(d),s/veh	63.4	58.6	15.1	104.5	17.6	17.8	33.5	26.3	31.8	56.2	0.0	50.8
LnGrp LOS	E	F	B	F	B	B	C	C	C	E		D
Approach Vol, veh/h		2018			1734			725			19	
Approach Delay, s/veh		42.6			32.6			33.0			55.1	
Approach LOS		D			C			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		33.5	21.1	40.9		6.6	5.9	56.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.0	16.6	36.4		5.0	5.0	48.0
Max Q Clear Time (g_c+I1), s		15.9	18.6	38.4		2.8	2.7	21.0
Green Ext Time (p_c), s		2.2	0.0	0.0		0.0	0.0	10.5

Intersection Summary	
HCM 2010 Ctrl Delay	37.3
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	17	84	0	19	25
Future Vol, veh/h	0	17	84	0	19	25
Peak Hour Factor	0.92	0.84	0.92	0.92	0.84	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	91	0	23	27
Number of Lanes	0	1	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	6.7	7.5	7.4
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	43%
Vol Thru, %	100%	0%	57%
Vol Right, %	0%	100%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	84	17	44
LT Vol	0	0	19
Through Vol	84	0	25
RT Vol	0	17	0
Lane Flow Rate	91	20	50
Geometry Grp	1	1	1
Degree of Util (X)	0.102	0.02	0.057
Departure Headway (Hd)	4.006	3.575	4.124
Convergence, Y/N	Yes	Yes	Yes
Cap	897	990	869
Service Time	2.021	1.639	2.146
HCM Lane V/C Ratio	0.101	0.02	0.058
HCM Control Delay	7.5	6.7	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.1	0.2

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1245	38	0	1367	12	0	0	101	0	0	18
Future Vol, veh/h	0	1245	38	0	1367	12	0	0	101	0	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1368	42	0	1502	13	0	0	111	0	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	705	-	-	758
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	325	0	0	300
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	325	-	-	300
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

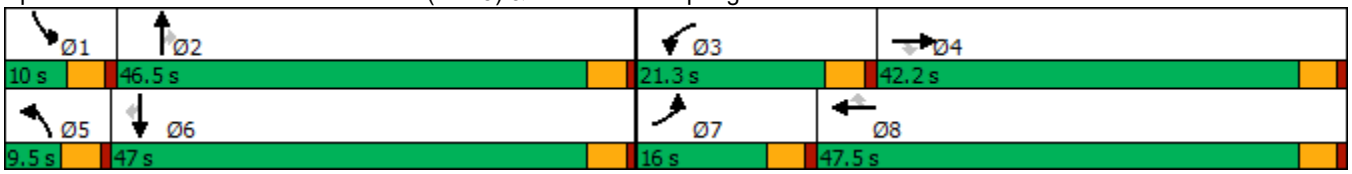
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	21.7	17.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	325	-	-	-	-	300
HCM Lane V/C Ratio	0.342	-	-	-	-	0.066
HCM Control Delay (s)	21.7	-	-	-	-	17.8
HCM Lane LOS	C	-	-	-	-	C
HCM 95th %tile Q(veh)	1.5	-	-	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	602	568	175	285	595	109	156	706	164	211	1567	618
Future Volume (vph)	602	568	175	285	595	109	156	706	164	211	1567	618
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	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	9.5	9.5	9.5	47.5	47.5	9.5	45.5	45.5	9.5	45.5	45.5
Total Split (s)	16.0	42.2	42.2	21.3	47.5	47.5	9.5	46.5	46.5	10.0	47.0	47.0
Total Split (%)	13.3%	35.2%	35.2%	17.8%	39.6%	39.6%	7.9%	38.8%	38.8%	8.3%	39.2%	39.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
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	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	11.5	21.7	21.7	13.6	23.7	23.7	5.0	42.1	42.1	5.5	42.6	42.6
Actuated g/C Ratio	0.11	0.22	0.22	0.13	0.23	0.23	0.05	0.42	0.42	0.05	0.42	0.42
v/c Ratio	1.60	0.54	0.41	0.64	0.75	0.25	0.96	0.35	0.23	1.18	0.76	0.76
Control Delay	313.6	37.4	13.4	48.6	41.6	7.1	108.9	21.2	4.1	164.2	28.3	20.2
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	313.6	37.4	13.4	48.6	41.6	7.1	108.9	21.2	4.1	164.2	28.3	20.2
LOS	F	D	B	D	D	A	F	C	A	F	C	C
Approach Delay		157.9			39.8			31.8			38.2	
Approach LOS		F			D			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 100.9	
Natural Cycle: 135	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.60	
Intersection Signal Delay: 65.3	Intersection LOS: E
Intersection Capacity Utilization 83.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Winchester Rd (SR79) & Murrieta Hot Springs Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	602	568	175	285	595	109	156	706	164	211	1567	618
Future Volume (veh/h)	602	568	175	285	595	109	156	706	164	211	1567	618
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	627	592	182	297	620	114	162	735	171	220	1632	644
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	1187	369	377	805	360	173	2143	667	190	2168	675
Arrive On Green	0.12	0.23	0.23	0.11	0.23	0.23	0.05	0.42	0.42	0.06	0.43	0.43
Sat Flow, veh/h	3442	5085	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	627	592	182	297	620	114	162	735	171	220	1632	644
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	11.5	10.1	9.9	8.4	16.4	6.0	4.7	9.7	7.0	5.5	27.0	39.2
Cycle Q Clear(g_c), s	11.5	10.1	9.9	8.4	16.4	6.0	4.7	9.7	7.0	5.5	27.0	39.2
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	397	1187	369	377	805	360	173	2143	667	190	2168	675
V/C Ratio(X)	1.58	0.50	0.49	0.79	0.77	0.32	0.94	0.34	0.26	1.16	0.75	0.95
Avail Cap(c_a), veh/h	397	1923	599	580	1527	683	173	2143	667	190	2168	675
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	44.1	33.1	33.1	43.3	36.1	32.0	47.2	19.5	18.7	47.1	24.1	27.6
Incr Delay (d2), s/veh	272.4	0.3	1.0	4.0	1.6	0.5	50.7	0.4	0.9	114.5	2.5	25.0
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	20.4	4.7	4.5	4.2	8.2	2.6	3.4	4.6	3.2	5.6	13.0	21.7
LnGrp Delay(d),s/veh	316.5	33.5	34.1	47.3	37.7	32.5	97.9	19.9	19.6	161.5	26.6	52.6
LnGrp LOS	F	C	C	D	D	C	F	B	B	F	C	D
Approach Vol, veh/h		1401			1031			1068			2496	
Approach Delay, s/veh		160.2			39.9			31.7			45.2	
Approach LOS		F			D			C			D	

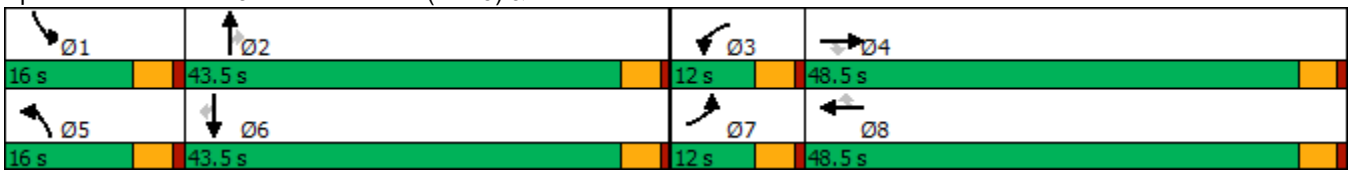
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	46.5	15.4	27.8	9.5	47.0	16.0	27.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	42.0	16.8	37.7	5.0	42.5	11.5	43.0
Max Q Clear Time (g_c+I1), s	7.5	11.7	10.4	12.1	6.7	41.2	13.5	18.4
Green Ext Time (p_c), s	0.0	5.3	0.5	4.5	0.0	1.2	0.0	4.3

Intersection Summary	
HCM 2010 Ctrl Delay	68.8
HCM 2010 LOS	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	79	82	263	269	97	214	738	97	204	1640	311
Future Volume (vph)	136	79	82	263	269	97	214	738	97	204	1640	311
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	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	48.5	48.5	9.5	46.5	46.5	9.5	40.5	40.5	9.5	32.5	32.5
Total Split (s)	12.0	48.5	48.5	12.0	48.5	48.5	16.0	43.5	43.5	16.0	43.5	43.5
Total Split (%)	10.0%	40.4%	40.4%	10.0%	40.4%	40.4%	13.3%	36.3%	36.3%	13.3%	36.3%	36.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
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	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	7.5	20.0	20.0	7.5	20.0	20.0	11.5	39.1	39.1	11.5	39.1	39.1
Actuated g/C Ratio	0.08	0.21	0.21	0.08	0.21	0.21	0.12	0.41	0.41	0.12	0.41	0.41
v/c Ratio	1.05	0.22	0.22	1.04	0.74	0.25	1.08	0.38	0.15	1.02	0.84	0.49
Control Delay	136.9	32.3	6.9	112.2	47.7	7.7	125.9	21.4	4.8	112.4	31.3	12.3
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	136.9	32.3	6.9	112.2	47.7	7.7	125.9	21.4	4.8	112.4	31.3	12.3
LOS	F	C	A	F	D	A	F	C	A	F	C	B
Approach Delay		73.3			68.5			41.2			36.3	
Approach LOS		E			E			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 96.2	
Natural Cycle: 140	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay: 45.1	Intersection LOS: D
Intersection Capacity Utilization 80.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Winchester Rd (SR79) & Nicolas Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	79	82	263	269	97	214	738	97	204	1640	311
Future Volume (veh/h)	136	79	82	263	269	97	214	738	97	204	1640	311
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1788
Adj Flow Rate, veh/h	145	84	87	280	286	103	228	785	103	217	1745	331
Adj No. of Lanes	1	1	1	2	1	1	1	3	1	1	3	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	351	298	276	351	298	218	2118	659	218	2118	633
Arrive On Green	0.08	0.19	0.19	0.08	0.19	0.19	0.12	0.42	0.42	0.12	0.42	0.42
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	5085	1583	1774	5085	1520
Grp Volume(v), veh/h	145	84	87	280	286	103	228	785	103	217	1745	331
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1695	1583	1774	1695	1520
Q Serve(g_s), s	7.5	3.6	4.4	7.5	13.8	5.3	11.5	10.0	3.8	11.4	28.5	15.2
Cycle Q Clear(g_c), s	7.5	3.6	4.4	7.5	13.8	5.3	11.5	10.0	3.8	11.4	28.5	15.2
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	142	351	298	276	351	298	218	2118	659	218	2118	633
V/C Ratio(X)	1.02	0.24	0.29	1.02	0.82	0.35	1.05	0.37	0.16	1.00	0.82	0.52
Avail Cap(c_a), veh/h	142	875	744	276	875	744	218	2118	659	218	2118	633
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	43.1	32.3	32.6	43.1	36.4	33.0	41.1	18.8	17.0	41.0	24.3	20.4
Incr Delay (d2), s/veh	81.0	0.3	0.5	58.3	4.6	0.7	73.7	0.5	0.5	59.8	3.8	3.1
Initial Q Delay(d3),s/veh	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	1.9	2.0	5.8	7.5	2.4	10.0	4.7	1.8	9.2	14.0	6.9
LnGrp Delay(d),s/veh	124.3	32.6	33.2	101.5	41.1	33.7	114.8	19.3	17.6	100.8	28.1	23.4
LnGrp LOS	F	C	C	F	D	C	F	B	B	F	C	C
Approach Vol, veh/h		316			669			1116			2293	
Approach Delay, s/veh		74.8			65.2			38.7			34.3	
Approach LOS		E			E			D			C	

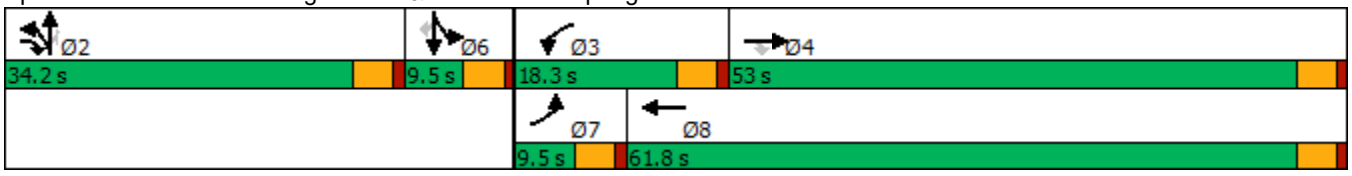
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	43.5	12.0	22.1	16.0	43.5	12.0	22.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	39.0	7.5	44.0	11.5	39.0	7.5	44.0
Max Q Clear Time (g_c+I1), s	13.4	12.0	9.5	6.4	13.5	30.5	9.5	15.8
Green Ext Time (p_c), s	0.0	5.5	0.0	0.8	0.0	6.5	0.0	1.9

Intersection Summary	
HCM 2010 Ctrl Delay	43.0
HCM 2010 LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	14	1516	571	258	1331	665	15	238	21	16
Future Volume (vph)	14	1516	571	258	1331	665	15	238	21	16
Turn Type	Prot	NA	pm+ov	Prot	NA	Split	NA	Perm	NA	Perm
Protected Phases	7	4	2	3	8	2	2		6	
Permitted Phases			4					2		6
Detector Phase	7	4	2	3	8	2	2	2	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
Minimum Split (s)	9.5	40.5	33.5	9.5	40.5	33.5	33.5	33.5	9.5	9.5
Total Split (s)	9.5	53.0	34.2	18.3	61.8	34.2	34.2	34.2	9.5	9.5
Total Split (%)	8.3%	46.1%	29.7%	15.9%	53.7%	29.7%	29.7%	29.7%	8.3%	8.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag					
Lead-Lag Optimize?	Yes	Yes		Yes	Yes					
Recall Mode	None	None	Max	None	None	Max	Max	Max	None	None
Act Effct Green (s)	5.0	48.6	82.8	13.8	63.2	29.8	29.8	29.8	5.0	5.0
Actuated g/C Ratio	0.04	0.44	0.74	0.12	0.57	0.27	0.27	0.27	0.04	0.04
v/c Ratio	0.18	1.01	0.48	1.21	0.48	0.75	0.03	0.41	0.39	0.08
Control Delay	58.2	57.8	4.8	171.9	16.1	43.8	32.1	7.7	67.2	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.2	57.8	4.8	171.9	16.1	43.8	32.1	7.7	67.2	0.8
LOS	E	E	A	F	B	D	C	A	E	A
Approach Delay		43.4			41.2		34.3		45.1	
Approach LOS		D			D		C		D	

Intersection Summary	
Cycle Length: 115	
Actuated Cycle Length: 111.2	
Natural Cycle: 125	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.21	
Intersection Signal Delay: 40.9	Intersection LOS: D
Intersection Capacity Utilization 93.1%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 1: Margarita Rd & Murrieta Hot Springs Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	1516	571	258	1331	9	665	15	238	10	21	16
Future Volume (veh/h)	14	1516	571	258	1331	9	665	15	238	10	21	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	14	1563	589	266	1372	9	686	15	245	10	22	16
Adj No. of Lanes	1	2	1	1	3	0	2	1	1	0	1	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1507	1087	215	2769	18	897	486	413	20	43	54
Arrive On Green	0.02	0.43	0.43	0.12	0.53	0.53	0.26	0.26	0.26	0.03	0.03	0.03
Sat Flow, veh/h	1774	3539	1583	1774	5213	34	3442	1863	1583	573	1261	1583
Grp Volume(v), veh/h	14	1563	589	266	892	489	686	15	245	32	0	16
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1695	1857	1721	1863	1583	1834	0	1583
Q Serve(g_s), s	0.9	48.5	21.2	13.8	19.1	19.1	21.0	0.7	15.4	2.0	0.0	1.1
Cycle Q Clear(g_c), s	0.9	48.5	21.2	13.8	19.1	19.1	21.0	0.7	15.4	2.0	0.0	1.1
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.31		1.00
Lane Grp Cap(c), veh/h	28	1507	1087	215	1801	986	897	486	413	63	0	54
V/C Ratio(X)	0.50	1.04	0.54	1.24	0.50	0.50	0.76	0.03	0.59	0.51	0.00	0.29
Avail Cap(c_a), veh/h	78	1507	1087	215	1801	986	897	486	413	81	0	70
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	0.00	1.00
Uniform Delay (d), s/veh	55.6	32.7	8.9	50.1	17.0	17.0	38.9	31.4	36.8	54.1	0.0	53.7
Incr Delay (d2), s/veh	13.3	33.4	0.6	140.2	0.2	0.4	6.2	0.1	6.2	6.2	0.0	3.0
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	30.6	17.0	15.1	9.0	9.9	10.8	0.4	7.5	1.1	0.0	0.5
LnGrp Delay(d),s/veh	68.9	66.1	9.5	190.2	17.2	17.4	45.0	31.5	43.0	60.3	0.0	56.6
LnGrp LOS	E	F	A	F	B	B	D	C	D	E		E
Approach Vol, veh/h		2166			1647			946			48	
Approach Delay, s/veh		50.7			45.2			44.3			59.1	
Approach LOS		D			D			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		34.2	18.3	53.0		8.4	6.3	65.0
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.7	13.8	48.5		5.0	5.0	57.3
Max Q Clear Time (g_c+I1), s		23.0	15.8	50.5		4.0	2.9	21.1
Green Ext Time (p_c), s		2.1	0.0	0.0		0.0	0.0	10.9

Intersection Summary	
HCM 2010 Ctrl Delay	47.6
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	26	49	0	20	84
Future Vol, veh/h	0	26	49	0	20	84
Peak Hour Factor	0.92	0.77	0.92	0.92	0.77	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	34	53	0	26	91
Number of Lanes	0	1	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	6.8	7.4	7.7
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	19%
Vol Thru, %	100%	0%	81%
Vol Right, %	0%	100%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	49	26	104
LT Vol	0	0	20
Through Vol	49	0	84
RT Vol	0	26	0
Lane Flow Rate	53	34	117
Geometry Grp	1	1	1
Degree of Util (X)	0.06	0.034	0.133
Departure Headway (Hd)	4.081	3.624	4.071
Convergence, Y/N	Yes	Yes	Yes
Cap	876	972	882
Service Time	2.114	1.704	2.09
HCM Lane V/C Ratio	0.061	0.035	0.133
HCM Control Delay	7.4	6.8	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.1	0.5

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1485	95	0	1572	20	0	0	65	0	0	25
Future Vol, veh/h	0	1485	95	0	1572	20	0	0	65	0	0	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1515	97	0	1604	20	0	0	66	0	0	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	806	-	-	812
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	279	0	0	276
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	279	-	-	276
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

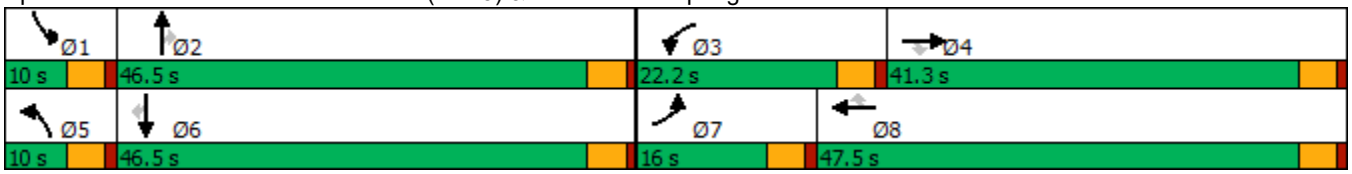
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	21.9	19.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	279	-	-	-	-	276
HCM Lane V/C Ratio	0.238	-	-	-	-	0.092
HCM Control Delay (s)	21.9	-	-	-	-	19.4
HCM Lane LOS	C	-	-	-	-	C
HCM 95th %tile Q(veh)	0.9	-	-	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	657	689	184	315	791	125	217	1823	189	182	1050	571
Future Volume (vph)	657	689	184	315	791	125	217	1823	189	182	1050	571
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	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	9.5	9.5	9.5	47.5	47.5	9.5	45.5	45.5	9.5	45.5	45.5
Total Split (s)	16.0	41.3	41.3	22.2	47.5	47.5	10.0	46.5	46.5	10.0	46.5	46.5
Total Split (%)	13.3%	34.4%	34.4%	18.5%	39.6%	39.6%	8.3%	38.8%	38.8%	8.3%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
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	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	11.5	28.4	28.4	14.8	31.7	31.7	5.5	42.2	42.2	5.5	42.2	42.2
Actuated g/C Ratio	0.11	0.26	0.26	0.14	0.29	0.29	0.05	0.39	0.39	0.05	0.39	0.39
v/c Ratio	1.85	0.53	0.37	0.69	0.78	0.24	1.28	0.95	0.26	1.08	0.54	0.75
Control Delay	419.8	36.2	12.5	53.5	41.2	9.3	203.1	44.4	4.6	139.0	28.0	23.5
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	419.8	36.2	12.5	53.5	41.2	9.3	203.1	44.4	4.6	139.0	28.0	23.5
LOS	F	D	B	D	D	A	F	D	A	F	C	C
Approach Delay		198.0			41.1			56.4			37.8	
Approach LOS		F			D			E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 109	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.85	
Intersection Signal Delay: 80.6	Intersection LOS: F
Intersection Capacity Utilization 96.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 4: Winchester Rd (SR79) & Murrieta Hot Springs Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	657	689	184	315	791	125	217	1823	189	182	1050	571
Future Volume (veh/h)	657	689	184	315	791	125	217	1823	189	182	1050	571
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	670	703	188	321	807	128	221	1860	193	186	1071	583
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	3	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	370	1389	432	396	993	444	177	1995	621	177	1995	621
Arrive On Green	0.11	0.27	0.27	0.11	0.28	0.28	0.05	0.39	0.39	0.05	0.39	0.39
Sat Flow, veh/h	3442	5085	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	670	703	188	321	807	128	221	1860	193	186	1071	583
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	11.5	12.5	10.5	9.7	22.7	6.8	5.5	37.5	9.0	5.5	17.4	37.9
Cycle Q Clear(g_c), s	11.5	12.5	10.5	9.7	22.7	6.8	5.5	37.5	9.0	5.5	17.4	37.9
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	370	1389	432	396	993	444	177	1995	621	177	1995	621
V/C Ratio(X)	1.81	0.51	0.43	0.81	0.81	0.29	1.25	0.93	0.31	1.05	0.54	0.94
Avail Cap(c_a), veh/h	370	1748	544	569	1422	636	177	1995	621	177	1995	621
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	47.8	32.8	32.1	46.2	35.9	30.1	50.8	31.2	22.5	50.8	25.0	31.3
Incr Delay (d2), s/veh	376.0	0.3	0.7	5.8	2.5	0.4	150.4	9.5	1.3	82.0	1.0	23.8
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	24.8	5.9	4.7	5.0	11.4	3.0	6.3	19.3	4.1	4.6	8.3	20.6
LnGrp Delay(d),s/veh	423.8	33.1	32.8	52.0	38.3	30.5	201.2	40.6	23.8	132.8	26.1	55.0
LnGrp LOS	F	C	C	D	D	C	F	D	C	F	C	E
Approach Vol, veh/h		1561			1256			2274			1840	
Approach Delay, s/veh		200.7			41.0			54.8			46.0	
Approach LOS		F			D			D			D	

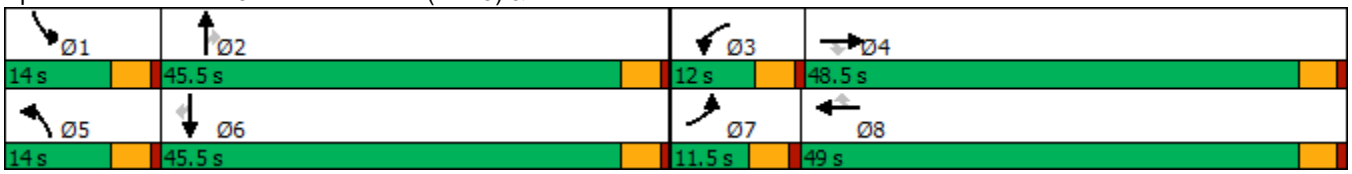
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	46.5	16.8	33.7	10.0	46.5	16.0	34.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	42.0	17.7	36.8	5.5	42.0	11.5	43.0
Max Q Clear Time (g_c+I1), s	7.5	39.5	11.7	14.5	7.5	39.9	13.5	24.7
Green Ext Time (p_c), s	0.0	2.2	0.6	5.1	0.0	1.6	0.0	5.3

Intersection Summary	
HCM 2010 Ctrl Delay	82.8
HCM 2010 LOS	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	21	16	358	55	217	58	2056	380	276	1237	56
Future Volume (vph)	41	21	16	358	55	217	58	2056	380	276	1237	56
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	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	48.5	48.5	9.5	46.5	46.5	9.5	40.5	40.5	9.5	32.5	32.5
Total Split (s)	11.5	48.5	48.5	12.0	49.0	49.0	14.0	45.5	45.5	14.0	45.5	45.5
Total Split (%)	9.6%	40.4%	40.4%	10.0%	40.8%	40.8%	11.7%	37.9%	37.9%	11.7%	37.9%	37.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
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	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	6.6	7.6	7.6	7.6	8.7	8.7	7.8	41.3	41.3	9.6	45.3	45.3
Actuated g/C Ratio	0.08	0.10	0.10	0.10	0.11	0.11	0.10	0.52	0.52	0.12	0.57	0.57
v/c Ratio	0.28	0.12	0.07	1.11	0.28	0.60	0.34	0.79	0.40	1.32	0.43	0.07
Control Delay	41.8	35.7	0.6	120.9	37.8	12.7	40.7	19.6	4.8	203.1	12.5	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	41.8	35.7	0.6	120.9	37.8	12.7	40.7	19.6	4.8	203.1	12.5	1.2
LOS	D	D	A	F	D	B	D	B	A	F	B	A
Approach Delay		31.7			76.4			17.9			45.6	
Approach LOS		C			E			B			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 79.6	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.32	
Intersection Signal Delay: 35.0	Intersection LOS: C
Intersection Capacity Utilization 83.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Winchester Rd (SR79) & Nicolas Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	21	16	358	55	217	58	2056	380	276	1237	56
Future Volume (veh/h)	41	21	16	358	55	217	58	2056	380	276	1237	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1788
Adj Flow Rate, veh/h	41	21	16	362	56	219	59	2077	384	279	1249	57
Adj No. of Lanes	1	1	1	2	1	1	1	3	1	1	3	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	218	186	300	313	266	78	2422	754	196	2759	825
Arrive On Green	0.04	0.12	0.12	0.09	0.17	0.17	0.04	0.48	0.48	0.11	0.54	0.54
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	5085	1583	1774	5085	1520
Grp Volume(v), veh/h	41	21	16	362	56	219	59	2077	384	279	1249	57
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1695	1583	1774	1695	1520
Q Serve(g_s), s	2.0	0.9	0.8	7.5	2.2	11.5	2.8	31.1	14.4	9.5	12.8	1.5
Cycle Q Clear(g_c), s	2.0	0.9	0.8	7.5	2.2	11.5	2.8	31.1	14.4	9.5	12.8	1.5
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	64	218	186	300	313	266	78	2422	754	196	2759	825
V/C Ratio(X)	0.64	0.10	0.09	1.21	0.18	0.82	0.76	0.86	0.51	1.43	0.45	0.07
Avail Cap(c_a), veh/h	144	952	809	300	963	818	196	2422	754	196	2759	825
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	40.9	33.9	33.9	39.3	30.7	34.6	40.7	20.0	15.6	38.3	11.9	9.4
Incr Delay (d2), s/veh	10.0	0.2	0.2	120.4	0.3	6.3	13.8	4.2	2.5	218.4	0.5	0.2
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	1.1	0.5	0.3	8.6	1.2	5.5	1.7	15.4	6.8	16.5	6.0	0.7
LnGrp Delay(d),s/veh	50.9	34.1	34.1	159.7	31.0	40.9	54.5	24.2	18.0	256.7	12.5	9.5
LnGrp LOS	D	C	C	F	C	D	D	C	B	F	B	A
Approach Vol, veh/h		78			637			2520			1585	
Approach Delay, s/veh		42.9			107.5			23.9			55.4	
Approach LOS		D			F			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	45.5	12.0	14.6	8.3	51.2	7.6	19.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	41.0	7.5	44.0	9.5	41.0	7.0	44.5
Max Q Clear Time (g_c+I1), s	11.5	33.1	9.5	2.9	4.8	14.8	4.0	13.5
Green Ext Time (p_c), s	0.0	6.8	0.0	0.1	0.0	8.9	0.0	1.0

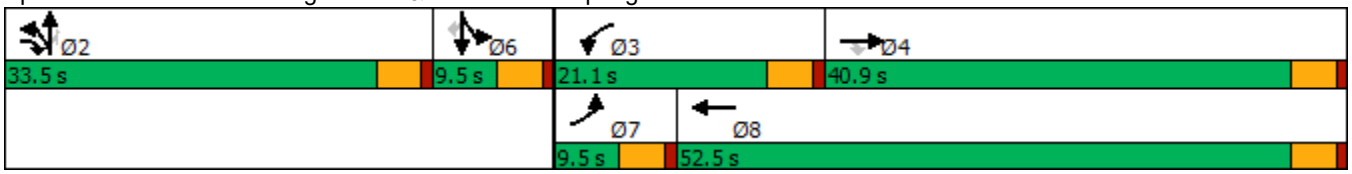
Intersection Summary	
HCM 2010 Ctrl Delay	45.6
HCM 2010 LOS	D

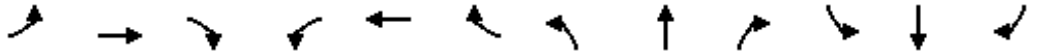
EAP CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	11	1196	702	281	1356	520	5	162	9	4
Future Volume (vph)	11	1196	702	281	1356	520	5	162	9	4
Turn Type	Prot	NA	pm+ov	Prot	NA	Split	NA	Perm	NA	Perm
Protected Phases	7	4	2	3	8	2	2		6	
Permitted Phases			4					2		6
Detector Phase	7	4	2	3	8	2	2	2	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
Minimum Split (s)	9.5	40.5	33.5	9.5	40.5	33.5	33.5	33.5	9.5	9.5
Total Split (s)	9.5	40.9	33.5	21.1	52.5	33.5	33.5	33.5	9.5	9.5
Total Split (%)	9.0%	39.0%	31.9%	20.1%	50.0%	31.9%	31.9%	31.9%	9.0%	9.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag					
Lead-Lag Optimize?	Yes	Yes		Yes	Yes					
Recall Mode	None	None	Max	None	None	Max	Max	Max	None	None
Act Effct Green (s)	5.0	36.5	70.1	16.6	55.8	29.1	29.1	29.1	5.0	5.0
Actuated g/C Ratio	0.05	0.37	0.71	0.17	0.56	0.29	0.29	0.29	0.05	0.05
v/c Ratio	0.13	1.01	0.64	1.04	0.52	0.57	0.01	0.30	0.16	0.02
Control Delay	50.7	60.3	7.7	106.4	15.4	33.1	27.2	6.0	51.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	60.3	7.7	106.4	15.4	33.1	27.2	6.0	51.3	0.2
LOS	D	E	A	F	B	C	C	A	D	A
Approach Delay		40.9			31.0		26.6		40.5	
Approach LOS		D			C		C		D	

Intersection Summary	
Cycle Length: 105	
Actuated Cycle Length: 99.3	
Natural Cycle: 115	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.04	
Intersection Signal Delay: 34.8	Intersection LOS: C
Intersection Capacity Utilization 81.4%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Margarita Rd & Murrieta Hot Springs Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	1196	702	281	1356	3	520	5	162	5	9	4
Future Volume (veh/h)	11	1196	702	281	1356	3	520	5	162	5	9	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	12	1314	771	309	1490	3	571	5	178	5	10	4
Adj No. of Lanes	1	2	1	1	3	0	2	1	1	0	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	1262	1014	288	2647	5	978	529	450	12	25	32
Arrive On Green	0.01	0.36	0.36	0.16	0.51	0.51	0.28	0.28	0.28	0.02	0.02	0.02
Sat Flow, veh/h	1774	3539	1583	1774	5241	11	3442	1863	1583	611	1221	1583
Grp Volume(v), veh/h	12	1314	771	309	964	529	571	5	178	15	0	4
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1695	1861	1721	1863	1583	1832	0	1583
Q Serve(g_s), s	0.7	36.4	34.8	16.6	20.1	20.1	14.5	0.2	9.3	0.8	0.0	0.3
Cycle Q Clear(g_c), s	0.7	36.4	34.8	16.6	20.1	20.1	14.5	0.2	9.3	0.8	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.33		1.00
Lane Grp Cap(c), veh/h	25	1262	1014	288	1712	940	978	529	450	37	0	32
V/C Ratio(X)	0.48	1.04	0.76	1.07	0.56	0.56	0.58	0.01	0.40	0.40	0.00	0.12
Avail Cap(c_a), veh/h	87	1262	1014	288	1712	940	978	529	450	90	0	78
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	0.00	1.00
Uniform Delay (d), s/veh	49.9	32.8	12.8	42.7	17.5	17.5	31.4	26.2	29.5	49.4	0.0	49.1
Incr Delay (d2), s/veh	13.5	36.7	3.4	73.1	0.4	0.8	2.5	0.0	2.6	6.8	0.0	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	24.1	22.6	14.0	9.5	10.5	7.2	0.1	4.4	0.5	0.0	0.1
LnGrp Delay(d),s/veh	63.4	69.6	16.2	115.9	17.9	18.2	33.9	26.3	32.1	56.2	0.0	50.8
LnGrp LOS	E	F	B	F	B	B	C	C	C	E		D
Approach Vol, veh/h		2097			1802			754			19	
Approach Delay, s/veh		49.9			34.8			33.4			55.1	
Approach LOS		D			C			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		33.5	21.1	40.9		6.6	5.9	56.1
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.0	16.6	36.4		5.0	5.0	48.0
Max Q Clear Time (g_c+I1), s		16.5	18.6	38.4		2.8	2.7	22.1
Green Ext Time (p_c), s		2.3	0.0	0.0		0.0	0.0	10.8

Intersection Summary	
HCM 2010 Ctrl Delay	41.5
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	18	84	0	20	25
Future Vol, veh/h	0	18	84	0	20	25
Peak Hour Factor	0.92	0.84	0.92	0.92	0.84	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	21	91	0	24	27
Number of Lanes	0	1	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	6.7	7.5	7.4
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	44%
Vol Thru, %	100%	0%	56%
Vol Right, %	0%	100%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	84	18	45
LT Vol	0	0	20
Through Vol	84	0	25
RT Vol	0	18	0
Lane Flow Rate	91	21	51
Geometry Grp	1	1	1
Degree of Util (X)	0.102	0.021	0.058
Departure Headway (Hd)	4.009	3.576	4.129
Convergence, Y/N	Yes	Yes	Yes
Cap	896	989	868
Service Time	2.024	1.641	2.15
HCM Lane V/C Ratio	0.102	0.021	0.059
HCM Control Delay	7.5	6.7	7.4
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.1	0.2

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1295	39	0	1420	12	0	0	101	0	0	19
Future Vol, veh/h	0	1295	39	0	1420	12	0	0	101	0	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1423	43	0	1560	13	0	0	111	0	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	733	-	-	787
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	312	0	0	287
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	312	-	-	287
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

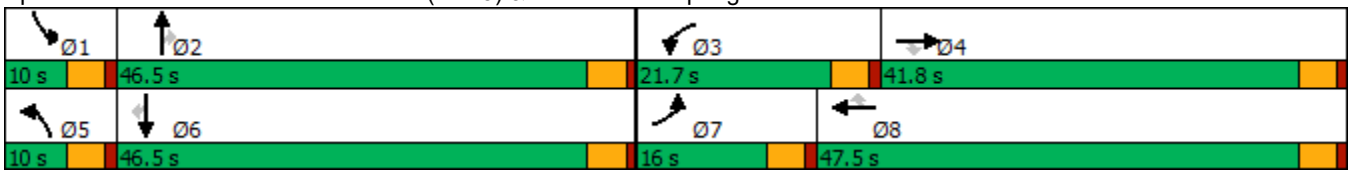
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	22.8	18.5
HCM LOS			C	C

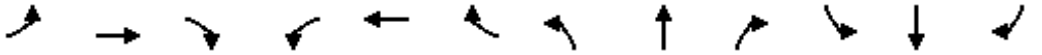
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	312	-	-	-	-	287
HCM Lane V/C Ratio	0.356	-	-	-	-	0.073
HCM Control Delay (s)	22.8	-	-	-	-	18.5
HCM Lane LOS	C	-	-	-	-	C
HCM 95th %tile Q(veh)	1.6	-	-	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	624	591	181	297	619	113	162	735	171	220	1630	643
Future Volume (vph)	624	591	181	297	619	113	162	735	171	220	1630	643
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	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	9.5	9.5	9.5	47.5	47.5	9.5	45.5	45.5	9.5	45.5	45.5
Total Split (s)	16.0	41.8	41.8	21.7	47.5	47.5	10.0	46.5	46.5	10.0	46.5	46.5
Total Split (%)	13.3%	34.8%	34.8%	18.1%	39.6%	39.6%	8.3%	38.8%	38.8%	8.3%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
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	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	11.5	22.3	22.3	13.9	24.7	24.7	5.5	42.1	42.1	5.5	42.1	42.1
Actuated g/C Ratio	0.11	0.22	0.22	0.14	0.24	0.24	0.05	0.41	0.41	0.05	0.41	0.41
v/c Ratio	1.68	0.55	0.42	0.66	0.75	0.25	0.91	0.36	0.23	1.24	0.81	0.81
Control Delay	345.8	37.6	14.1	49.2	41.6	6.8	96.6	21.9	4.1	185.6	30.9	24.2
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	345.8	37.6	14.1	49.2	41.6	6.8	96.6	21.9	4.1	185.6	30.9	24.2
LOS	F	D	B	D	D	A	F	C	A	F	C	C
Approach Delay		172.2			39.9			30.4			42.8	
Approach LOS		F			D			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 101.9	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.68	
Intersection Signal Delay: 70.3	Intersection LOS: E
Intersection Capacity Utilization 86.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Winchester Rd (SR79) & Murrieta Hot Springs Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	624	591	181	297	619	113	162	735	171	220	1630	643
Future Volume (veh/h)	624	591	181	297	619	113	162	735	171	220	1630	643
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	650	616	189	309	645	118	169	766	178	229	1698	670
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	1202	374	389	832	372	188	2122	661	188	2122	661
Arrive On Green	0.11	0.24	0.24	0.11	0.23	0.23	0.05	0.42	0.42	0.05	0.42	0.42
Sat Flow, veh/h	3442	5085	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	650	616	189	309	645	118	169	766	178	229	1698	670
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	11.5	10.6	10.4	8.8	17.2	6.2	4.9	10.4	7.4	5.5	29.4	42.0
Cycle Q Clear(g_c), s	11.5	10.6	10.4	8.8	17.2	6.2	4.9	10.4	7.4	5.5	29.4	42.0
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	393	1202	374	389	832	372	188	2122	661	188	2122	661
V/C Ratio(X)	1.65	0.51	0.51	0.80	0.78	0.32	0.90	0.36	0.27	1.22	0.80	1.01
Avail Cap(c_a), veh/h	393	1885	587	588	1512	676	188	2122	661	188	2122	661
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	33.4	33.3	43.5	36.0	31.8	47.3	20.1	19.3	47.6	25.7	29.3
Incr Delay (d2), s/veh	305.0	0.3	1.1	4.4	1.6	0.5	38.6	0.5	1.0	136.4	3.3	38.6
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	22.1	5.0	4.7	4.4	8.5	2.8	3.3	4.9	3.4	6.1	14.3	25.2
LnGrp Delay(d),s/veh	349.6	33.7	34.4	47.9	37.6	32.3	85.9	20.6	20.3	184.0	28.9	67.9
LnGrp LOS	F	C	C	D	D	C	F	C	C	F	C	F
Approach Vol, veh/h		1455			1072			1113			2597	
Approach Delay, s/veh		174.9			40.0			30.5			52.6	
Approach LOS		F			D			C			D	

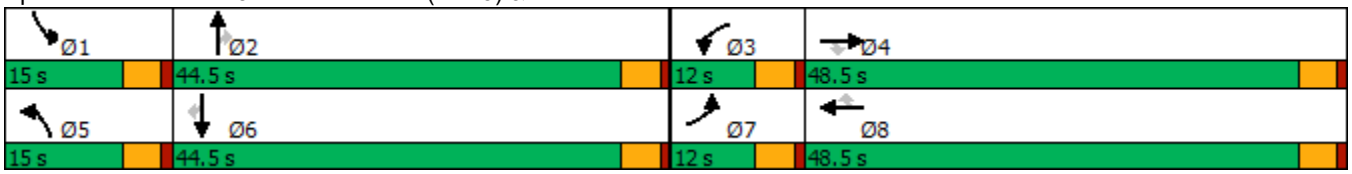
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	46.5	15.9	28.3	10.0	46.5	16.0	28.1
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	42.0	17.2	37.3	5.5	42.0	11.5	43.0
Max Q Clear Time (g_c+I1), s	7.5	12.4	10.8	12.6	6.9	44.0	13.5	19.2
Green Ext Time (p_c), s	0.0	5.6	0.6	4.6	0.0	0.0	0.0	4.5

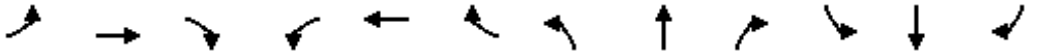
Intersection Summary	
HCM 2010 Ctrl Delay	75.0
HCM 2010 LOS	E

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	82	85	274	280	101	223	767	101	212	1705	323
Future Volume (vph)	141	82	85	274	280	101	223	767	101	212	1705	323
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	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	48.5	48.5	9.5	46.5	46.5	9.5	40.5	40.5	9.5	32.5	32.5
Total Split (s)	12.0	48.5	48.5	12.0	48.5	48.5	15.0	44.5	44.5	15.0	44.5	44.5
Total Split (%)	10.0%	40.4%	40.4%	10.0%	40.4%	40.4%	12.5%	37.1%	37.1%	12.5%	37.1%	37.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
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	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	7.5	20.6	20.6	7.5	20.6	20.6	10.5	40.1	40.1	10.5	40.1	40.1
Actuated g/C Ratio	0.08	0.21	0.21	0.08	0.21	0.21	0.11	0.41	0.41	0.11	0.41	0.41
v/c Ratio	1.09	0.22	0.22	1.09	0.75	0.25	1.23	0.39	0.15	1.18	0.86	0.51
Control Delay	149.5	32.1	7.2	125.9	47.9	7.6	181.2	21.1	4.7	161.5	31.9	12.6
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	149.5	32.1	7.2	125.9	47.9	7.6	181.2	21.1	4.7	161.5	31.9	12.6
LOS	F	C	A	F	D	A	F	C	A	F	C	B
Approach Delay		79.1			74.3			52.3			41.4	
Approach LOS		E			E			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 96.9	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.23	
Intersection Signal Delay: 51.9	Intersection LOS: D
Intersection Capacity Utilization 82.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Winchester Rd (SR79) & Nicolas Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	82	85	274	280	101	223	767	101	212	1705	323
Future Volume (veh/h)	141	82	85	274	280	101	223	767	101	212	1705	323
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1788
Adj Flow Rate, veh/h	150	87	90	291	298	107	237	816	107	226	1814	344
Adj No. of Lanes	1	1	1	2	1	1	1	3	1	1	3	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	363	309	273	363	309	197	2155	671	197	2155	644
Arrive On Green	0.08	0.19	0.19	0.08	0.19	0.19	0.11	0.42	0.42	0.11	0.42	0.42
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	5085	1583	1774	5085	1520
Grp Volume(v), veh/h	150	87	90	291	298	107	237	816	107	226	1814	344
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1695	1583	1774	1695	1520
Q Serve(g_s), s	7.5	3.7	4.6	7.5	14.5	5.5	10.5	10.4	3.9	10.5	30.2	15.9
Cycle Q Clear(g_c), s	7.5	3.7	4.6	7.5	14.5	5.5	10.5	10.4	3.9	10.5	30.2	15.9
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	141	363	309	273	363	309	197	2155	671	197	2155	644
V/C Ratio(X)	1.06	0.24	0.29	1.06	0.82	0.35	1.20	0.38	0.16	1.15	0.84	0.53
Avail Cap(c_a), veh/h	141	868	738	273	868	738	197	2155	671	197	2155	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	43.5	32.1	32.4	43.5	36.4	32.8	42.0	18.7	16.8	42.0	24.4	20.3
Incr Delay (d2), s/veh	94.0	0.3	0.5	72.5	4.6	0.7	128.8	0.5	0.5	108.7	4.2	3.2
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	7.3	1.9	2.0	6.3	7.9	2.5	12.2	4.9	1.8	11.1	14.9	7.3
LnGrp Delay(d),s/veh	137.5	32.4	33.0	115.9	41.0	33.5	170.8	19.2	17.3	150.6	28.6	23.4
LnGrp LOS	F	C	C	F	D	C	F	B	B	F	C	C
Approach Vol, veh/h		327			696			1160			2384	
Approach Delay, s/veh		80.8			71.2			50.0			39.4	
Approach LOS		F			E			D			D	

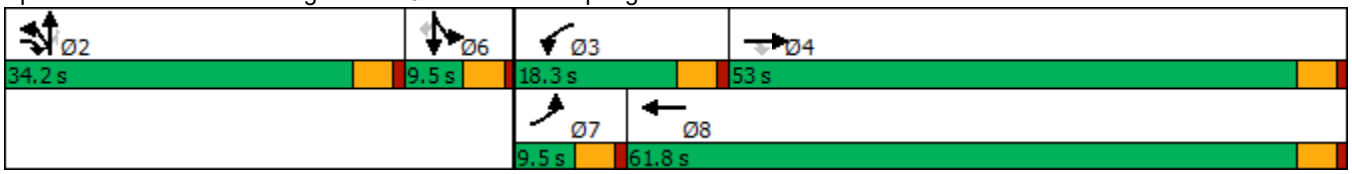
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	44.5	12.0	22.9	15.0	44.5	12.0	22.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	10.5	40.0	7.5	44.0	10.5	40.0	7.5	44.0
Max Q Clear Time (g_c+I1), s	12.5	12.4	9.5	6.6	12.5	32.2	9.5	16.5
Green Ext Time (p_c), s	0.0	5.8	0.0	0.8	0.0	6.3	0.0	1.9

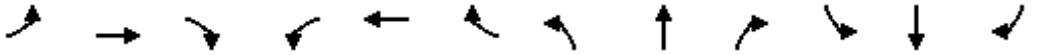
Intersection Summary	
HCM 2010 Ctrl Delay	49.9
HCM 2010 LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	15	1576	594	266	1384	692	16	247	22	17
Future Volume (vph)	15	1576	594	266	1384	692	16	247	22	17
Turn Type	Prot	NA	pm+ov	Prot	NA	Split	NA	Perm	NA	Perm
Protected Phases	7	4	2	3	8	2	2		6	
Permitted Phases			4					2		6
Detector Phase	7	4	2	3	8	2	2	2	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
Minimum Split (s)	9.5	40.5	33.5	9.5	40.5	33.5	33.5	33.5	9.5	9.5
Total Split (s)	9.5	53.0	34.2	18.3	61.8	34.2	34.2	34.2	9.5	9.5
Total Split (%)	8.3%	46.1%	29.7%	15.9%	53.7%	29.7%	29.7%	29.7%	8.3%	8.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag					
Lead-Lag Optimize?	Yes	Yes		Yes	Yes					
Recall Mode	None	None	Max	None	None	Max	Max	Max	None	None
Act Effct Green (s)	5.0	48.6	82.8	13.8	63.2	29.8	29.8	29.8	5.0	5.0
Actuated g/C Ratio	0.04	0.44	0.74	0.12	0.57	0.27	0.27	0.27	0.04	0.04
v/c Ratio	0.19	1.05	0.50	1.25	0.50	0.78	0.03	0.43	0.40	0.09
Control Delay	58.7	69.4	5.2	184.7	16.4	45.1	32.1	8.7	67.9	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	69.4	5.2	184.7	16.4	45.1	32.1	8.7	67.9	0.8
LOS	E	E	A	F	B	D	C	A	E	A
Approach Delay		51.9			43.3		35.4		44.2	
Approach LOS		D			D		D		D	

Intersection Summary		
Cycle Length: 115		
Actuated Cycle Length: 111.2		
Natural Cycle: 135		
Control Type: Actuated-Uncoordinated		
Maximum v/c Ratio: 1.25		
Intersection Signal Delay: 45.6	Intersection LOS: D	
Intersection Capacity Utilization 96.0%	ICU Level of Service F	
Analysis Period (min) 15		

Splits and Phases: 1: Margarita Rd & Murrieta Hot Springs Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	1576	594	266	1384	9	692	16	247	10	22	17
Future Volume (veh/h)	15	1576	594	266	1384	9	692	16	247	10	22	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	15	1625	612	274	1427	9	713	16	255	10	23	18
Adj No. of Lanes	1	2	1	1	3	0	2	1	1	0	1	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	29	1506	1086	215	2763	17	897	485	412	20	45	56
Arrive On Green	0.02	0.43	0.43	0.12	0.53	0.53	0.26	0.26	0.26	0.04	0.04	0.04
Sat Flow, veh/h	1774	3539	1583	1774	5214	33	3442	1863	1583	556	1279	1583
Grp Volume(v), veh/h	15	1625	612	274	928	508	713	16	255	33	0	18
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1695	1857	1721	1863	1583	1835	0	1583
Q Serve(g_s), s	1.0	48.5	22.6	13.8	20.2	20.2	22.0	0.7	16.2	2.0	0.0	1.3
Cycle Q Clear(g_c), s	1.0	48.5	22.6	13.8	20.2	20.2	22.0	0.7	16.2	2.0	0.0	1.3
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.30		1.00
Lane Grp Cap(c), veh/h	29	1506	1086	215	1796	984	897	485	412	64	0	56
V/C Ratio(X)	0.51	1.08	0.56	1.28	0.52	0.52	0.80	0.03	0.62	0.51	0.00	0.32
Avail Cap(c_a), veh/h	78	1506	1086	215	1796	984	897	485	412	80	0	69
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	0.00	1.00
Uniform Delay (d), s/veh	55.6	32.8	9.2	50.1	17.3	17.3	39.3	31.4	37.2	54.0	0.0	53.7
Incr Delay (d2), s/veh	13.0	47.8	0.7	155.2	0.3	0.5	7.2	0.1	6.8	6.2	0.0	3.3
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	0.6	33.6	18.2	16.0	9.5	10.4	11.4	0.4	7.8	1.1	0.0	0.6
LnGrp Delay(d),s/veh	68.6	80.6	9.8	205.3	17.6	17.8	46.5	31.6	44.0	60.2	0.0	57.0
LnGrp LOS	E	F	A	F	B	B	D	C	D	E		E
Approach Vol, veh/h		2252			1710			984			51	
Approach Delay, s/veh		61.3			47.7			45.6			59.1	
Approach LOS		E			D			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		34.2	18.3	53.0		8.5	6.4	64.9
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		29.7	13.8	48.5		5.0	5.0	57.3
Max Q Clear Time (g_c+I1), s		24.0	15.8	50.5		4.0	3.0	22.2
Green Ext Time (p_c), s		2.0	0.0	0.0		0.0	0.0	11.5

Intersection Summary	
HCM 2010 Ctrl Delay	53.5
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	27	49	0	21	84
Future Vol, veh/h	0	27	49	0	21	84
Peak Hour Factor	0.92	0.77	0.92	0.92	0.77	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	35	53	0	27	91
Number of Lanes	0	1	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	6.8	7.4	7.7
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	20%
Vol Thru, %	100%	0%	80%
Vol Right, %	0%	100%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	49	27	105
LT Vol	0	0	21
Through Vol	49	0	84
RT Vol	0	27	0
Lane Flow Rate	53	35	119
Geometry Grp	1	1	1
Degree of Util (X)	0.06	0.035	0.134
Departure Headway (Hd)	4.084	3.626	4.075
Convergence, Y/N	Yes	Yes	Yes
Cap	875	972	881
Service Time	2.117	1.706	2.094
HCM Lane V/C Ratio	0.061	0.036	0.135
HCM Control Delay	7.4	6.8	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.1	0.5

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1545	95	0	1632	21	0	0	66	0	0	26
Future Vol, veh/h	0	1545	95	0	1632	21	0	0	66	0	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1577	97	0	1665	21	0	0	67	0	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	837	-	-	843
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	266	0	0	264
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	266	-	-	264
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

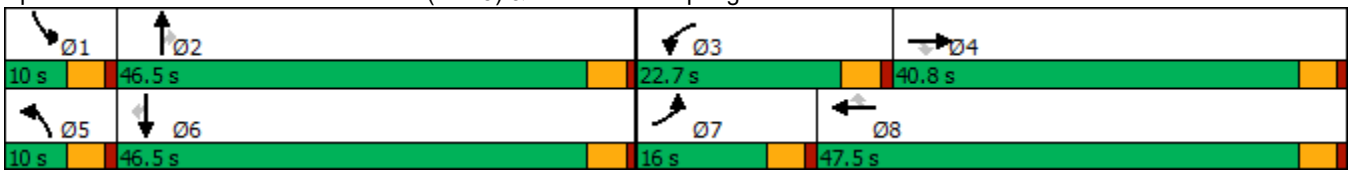
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	23.1	20.2
HCM LOS			C	C

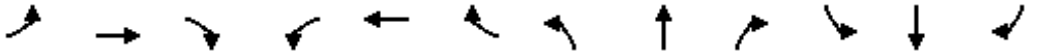
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	266	-	-	-	-	264
HCM Lane V/C Ratio	0.253	-	-	-	-	0.1
HCM Control Delay (s)	23.1	-	-	-	-	20.2
HCM Lane LOS	C	-	-	-	-	C
HCM 95th %tile Q(veh)	1	-	-	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	682	717	191	328	823	130	225	1897	197	189	1092	593
Future Volume (vph)	682	717	191	328	823	130	225	1897	197	189	1092	593
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	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	9.5	9.5	9.5	47.5	47.5	9.5	45.5	45.5	9.5	45.5	45.5
Total Split (s)	16.0	40.8	40.8	22.7	47.5	47.5	10.0	46.5	46.5	10.0	46.5	46.5
Total Split (%)	13.3%	34.0%	34.0%	18.9%	39.6%	39.6%	8.3%	38.8%	38.8%	8.3%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
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	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	11.5	29.3	29.3	15.3	33.1	33.1	5.5	42.1	42.1	5.5	42.1	42.1
Actuated g/C Ratio	0.10	0.27	0.27	0.14	0.30	0.30	0.05	0.38	0.38	0.05	0.38	0.38
v/c Ratio	1.94	0.54	0.38	0.70	0.79	0.24	1.35	1.00	0.28	1.13	0.57	0.79
Control Delay	461.5	36.5	13.2	54.4	41.3	9.6	229.1	54.6	4.7	155.3	29.2	26.5
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	461.5	36.5	13.2	54.4	41.3	9.6	229.1	54.6	4.7	155.3	29.2	26.5
LOS	F	D	B	D	D	A	F	D	A	F	C	C
Approach Delay		216.0			41.4			67.3			41.1	
Approach LOS		F			D			E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 110.3	
Natural Cycle: 145	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.94	
Intersection Signal Delay: 89.1	Intersection LOS: F
Intersection Capacity Utilization 99.3%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 4: Winchester Rd (SR79) & Murrieta Hot Springs Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	682	717	191	328	823	130	225	1897	197	189	1092	593
Future Volume (veh/h)	682	717	191	328	823	130	225	1897	197	189	1092	593
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	696	732	195	335	840	133	230	1936	201	193	1114	605
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	3	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	1407	438	409	1024	458	175	1971	614	175	1971	614
Arrive On Green	0.11	0.28	0.28	0.12	0.29	0.29	0.05	0.39	0.39	0.05	0.39	0.39
Sat Flow, veh/h	3442	5085	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	696	732	195	335	840	133	230	1936	201	193	1114	605
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	11.5	13.2	11.0	10.3	24.0	7.1	5.5	40.8	9.6	5.5	18.6	41.0
Cycle Q Clear(g_c), s	11.5	13.2	11.0	10.3	24.0	7.1	5.5	40.8	9.6	5.5	18.6	41.0
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	365	1407	438	409	1024	458	175	1971	614	175	1971	614
V/C Ratio(X)	1.91	0.52	0.45	0.82	0.82	0.29	1.32	0.98	0.33	1.10	0.57	0.99
Avail Cap(c_a), veh/h	365	1704	530	578	1404	628	175	1971	614	175	1971	614
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	48.4	33.1	32.3	46.6	35.9	29.9	51.4	32.8	23.3	51.4	26.0	32.9
Incr Delay (d2), s/veh	417.6	0.3	0.7	6.3	2.9	0.3	177.0	16.5	1.4	98.9	1.2	33.0
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	26.6	6.2	4.9	5.2	12.1	3.1	6.9	22.0	4.4	5.0	8.9	23.4
LnGrp Delay(d),s/veh	466.0	33.4	33.0	52.9	38.7	30.2	228.4	49.3	24.7	150.4	27.2	65.9
LnGrp LOS	F	C	C	D	D	C	F	D	C	F	C	E
Approach Vol, veh/h		1623			1308			2367			1912	
Approach Delay, s/veh		218.9			41.5			64.6			51.9	
Approach LOS		F			D			E			D	

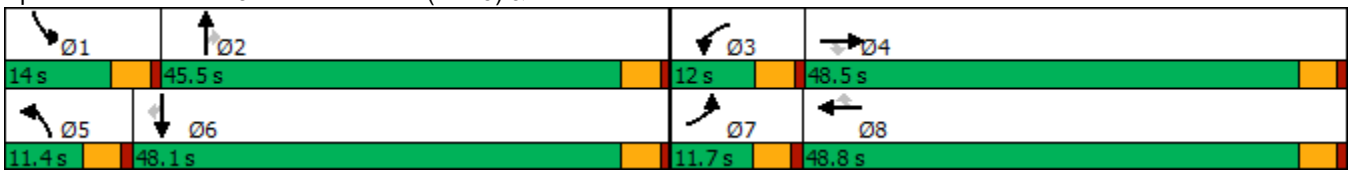
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	46.5	17.4	34.5	10.0	46.5	16.0	35.9
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	42.0	18.2	36.3	5.5	42.0	11.5	43.0
Max Q Clear Time (g_c+I1), s	7.5	42.8	12.3	15.2	7.5	43.0	13.5	26.0
Green Ext Time (p_c), s	0.0	0.0	0.6	5.3	0.0	0.0	0.0	5.4

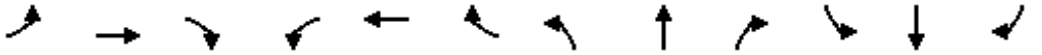
Intersection Summary	
HCM 2010 Ctrl Delay	91.8
HCM 2010 LOS	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	22	17	372	57	226	60	2138	395	287	1286	58
Future Volume (vph)	43	22	17	372	57	226	60	2138	395	287	1286	58
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	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	48.5	48.5	9.5	46.5	46.5	9.5	40.5	40.5	9.5	32.5	32.5
Total Split (s)	11.7	48.5	48.5	12.0	48.8	48.8	11.4	45.5	45.5	14.0	48.1	48.1
Total Split (%)	9.8%	40.4%	40.4%	10.0%	40.7%	40.7%	9.5%	37.9%	37.9%	11.7%	40.1%	40.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
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	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	6.7	8.4	8.4	7.6	9.4	9.4	6.7	41.4	41.4	9.6	46.6	46.6
Actuated g/C Ratio	0.08	0.10	0.10	0.09	0.12	0.12	0.08	0.51	0.51	0.12	0.58	0.58
v/c Ratio	0.29	0.11	0.07	1.16	0.27	0.64	0.41	0.83	0.42	1.38	0.44	0.07
Control Delay	42.6	34.9	0.5	139.1	37.1	17.6	46.5	21.7	5.4	229.4	12.2	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	42.6	34.9	0.5	139.1	37.1	17.6	46.5	21.7	5.4	229.4	12.2	1.2
LOS	D	C	A	F	D	B	D	C	A	F	B	A
Approach Delay		31.8			88.3			19.8			50.0	
Approach LOS		C			F			B			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 80.5	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.38	
Intersection Signal Delay: 39.0	Intersection LOS: D
Intersection Capacity Utilization 85.7%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Winchester Rd (SR79) & Nicolas Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	22	17	372	57	226	60	2138	395	287	1286	58
Future Volume (veh/h)	43	22	17	372	57	226	60	2138	395	287	1286	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1788
Adj Flow Rate, veh/h	43	22	17	376	58	228	61	2160	399	290	1299	59
Adj No. of Lanes	1	1	1	2	1	1	1	3	1	1	3	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	232	197	297	324	275	79	2402	748	194	2733	817
Arrive On Green	0.04	0.12	0.12	0.09	0.17	0.17	0.04	0.47	0.47	0.11	0.54	0.54
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	5085	1583	1774	5085	1520
Grp Volume(v), veh/h	43	22	17	376	58	228	61	2160	399	290	1299	59
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1695	1583	1774	1695	1520
Q Serve(g_s), s	2.1	0.9	0.8	7.5	2.3	12.1	3.0	33.8	15.4	9.5	13.8	1.6
Cycle Q Clear(g_c), s	2.1	0.9	0.8	7.5	2.3	12.1	3.0	33.8	15.4	9.5	13.8	1.6
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	66	232	197	297	324	275	79	2402	748	194	2733	817
V/C Ratio(X)	0.65	0.09	0.09	1.26	0.18	0.83	0.78	0.90	0.53	1.49	0.48	0.07
Avail Cap(c_a), veh/h	147	944	803	297	951	808	141	2402	748	194	2733	817
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	41.2	33.7	33.6	39.7	30.6	34.6	41.0	21.0	16.2	38.7	12.5	9.7
Incr Delay (d2), s/veh	10.4	0.2	0.2	143.1	0.3	6.3	14.8	5.9	2.7	247.4	0.6	0.2
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	1.2	0.5	0.4	9.4	1.2	5.7	1.8	17.1	7.3	18.0	6.5	0.7
LnGrp Delay(d),s/veh	51.6	33.8	33.8	182.8	30.8	40.9	55.9	26.9	18.9	286.0	13.1	9.8
LnGrp LOS	D	C	C	F	C	D	E	C	B	F	B	A
Approach Vol, veh/h		82			662			2620			1648	
Approach Delay, s/veh		43.1			120.6			26.4			61.0	
Approach LOS		D			F			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	45.5	12.0	15.3	8.4	51.1	7.7	19.6
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	41.0	7.5	44.0	6.9	43.6	7.2	44.3
Max Q Clear Time (g_c+I1), s	11.5	35.8	9.5	2.9	5.0	15.8	4.1	14.1
Green Ext Time (p_c), s	0.0	4.7	0.0	0.1	0.0	9.6	0.0	1.0

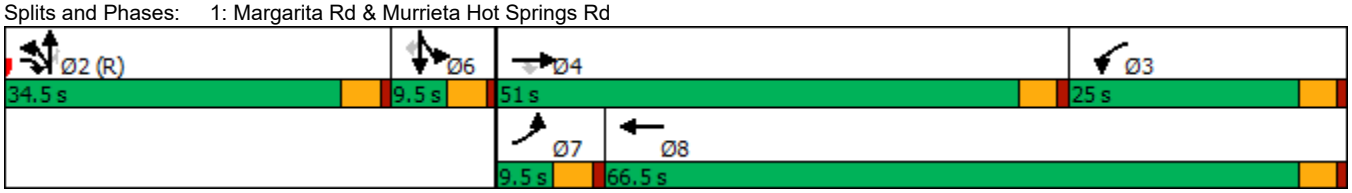
Intersection Summary	
HCM 2010 Ctrl Delay	50.5
HCM 2010 LOS	D

EAPC CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	13	1308	702	288	1493	520	5	167	9	4
Future Volume (vph)	13	1308	702	288	1493	520	5	167	9	4
Turn Type	Prot	NA	pm+ov	Prot	NA	Split	NA	Perm	NA	Perm
Protected Phases	7	4	2	3	8	2	2		6	
Permitted Phases			4					2		6
Detector Phase	7	4	2	3	8	2	2	2	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
Minimum Split (s)	9.5	40.5	33.5	9.5	40.5	33.5	33.5	33.5	9.5	9.5
Total Split (s)	9.5	51.0	34.5	25.0	66.5	34.5	34.5	34.5	9.5	9.5
Total Split (%)	7.9%	42.5%	28.8%	20.8%	55.4%	28.8%	28.8%	28.8%	7.9%	7.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes	Yes		Yes	Yes					
Recall Mode	None	None	C-Max	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	5.5	52.2	84.9	20.5	73.4	30.0	30.0	30.0	5.0	5.0
Actuated g/C Ratio	0.05	0.44	0.71	0.17	0.61	0.25	0.25	0.25	0.04	0.04
v/c Ratio	0.17	0.93	0.65	1.05	0.53	0.67	0.01	0.35	0.20	0.02
Control Delay	60.4	45.0	8.1	103.7	7.8	44.9	34.0	7.0	61.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.4	45.0	8.1	103.7	7.8	44.9	34.0	7.0	61.8	0.2
LOS	E	D	A	F	A	D	C	A	E	A
Approach Delay		32.3			23.3		35.7		48.8	
Approach LOS		C			C		D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 50 (42%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 125	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 29.3	Intersection LOS: C
Intersection Capacity Utilization 84.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Margarita Rd & Murrieta Hot Springs Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	1308	702	288	1493	3	520	5	167	5	9	4
Future Volume (veh/h)	13	1308	702	288	1493	3	520	5	167	5	9	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	14	1437	771	316	1641	3	571	5	184	5	10	4
Adj No. of Lanes	1	2	1	1	3	0	2	1	1	0	1	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	28	1371	1044	303	2845	5	937	507	431	12	24	31
Arrive On Green	0.02	0.39	0.39	0.17	0.54	0.54	0.27	0.27	0.27	0.02	0.02	0.02
Sat Flow, veh/h	1774	3539	1583	1774	5242	10	3442	1863	1583	611	1221	1583
Grp Volume(v), veh/h	14	1437	771	316	1061	583	571	5	184	15	0	4
Grp Sat Flow(s),veh/h/ln	1774	1770	1583	1774	1695	1861	1721	1863	1583	1832	0	1583
Q Serve(g_s), s	0.9	46.5	38.8	20.5	25.0	25.0	17.4	0.2	11.5	1.0	0.0	0.3
Cycle Q Clear(g_c), s	0.9	46.5	38.8	20.5	25.0	25.0	17.4	0.2	11.5	1.0	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.01	1.00		1.00	0.33		1.00
Lane Grp Cap(c), veh/h	28	1371	1044	303	1840	1010	937	507	431	36	0	31
V/C Ratio(X)	0.51	1.05	0.74	1.04	0.58	0.58	0.61	0.01	0.43	0.42	0.00	0.13
Avail Cap(c_a), veh/h	74	1371	1044	303	1840	1010	937	507	431	76	0	66
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	0.00	1.00
Uniform Delay (d), s/veh	58.6	36.8	13.5	49.8	18.3	18.3	38.1	31.9	36.0	58.2	0.0	57.8
Incr Delay (d2), s/veh	13.7	37.9	2.8	63.3	0.4	0.8	3.0	0.0	3.1	7.6	0.0	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	0.6	29.9	26.3	15.3	11.8	13.0	8.6	0.1	5.4	0.6	0.0	0.1
LnGrp Delay(d),s/veh	72.3	74.6	16.3	113.0	18.7	19.1	41.1	31.9	39.0	65.8	0.0	59.7
LnGrp LOS	E	F	B	F	B	B	D	C	D	E		E
Approach Vol, veh/h		2222			1960			760			19	
Approach Delay, s/veh		54.4			34.0			40.5			64.5	
Approach LOS		D			C			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		37.2	25.0	51.0		6.8	6.4	69.6
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		30.0	20.5	46.5		5.0	5.0	62.0
Max Q Clear Time (g_c+I1), s		19.4	22.5	48.5		3.0	2.9	27.0
Green Ext Time (p_c), s		2.1	0.0	0.0		0.0	0.0	14.0

Intersection Summary	
HCM 2010 Ctrl Delay	44.2
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	28	17	0	9	41	42	42	0	43	8	4
Future Vol, veh/h	10	28	17	0	9	41	42	42	0	43	8	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.84	0.92	0.92	0.92	0.84	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	30	18	0	10	49	46	46	0	51	9	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.1	7.9	7.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	50%	18%	0%	78%
Vol Thru, %	50%	51%	18%	15%
Vol Right, %	0%	31%	82%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	84	55	50	55
LT Vol	42	10	0	43
Through Vol	42	28	9	8
RT Vol	0	17	41	4
Lane Flow Rate	91	60	59	64
Geometry Grp	1	1	1	1
Degree of Util (X)	0.109	0.07	0.063	0.077
Departure Headway (Hd)	4.288	4.201	3.862	4.322
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	827	858	933	819
Service Time	2.361	2.201	1.863	2.402
HCM Lane V/C Ratio	0.11	0.07	0.063	0.078
HCM Control Delay	7.9	7.5	7.1	7.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.2	0.2	0.2

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1418	48	0	1525	12	0	0	102	0	0	19
Future Vol, veh/h	0	1418	48	0	1525	12	0	0	102	0	0	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1558	53	0	1676	13	0	0	112	0	0	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	806	-	-	845
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	279	0	0	263
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	279	-	-	263
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

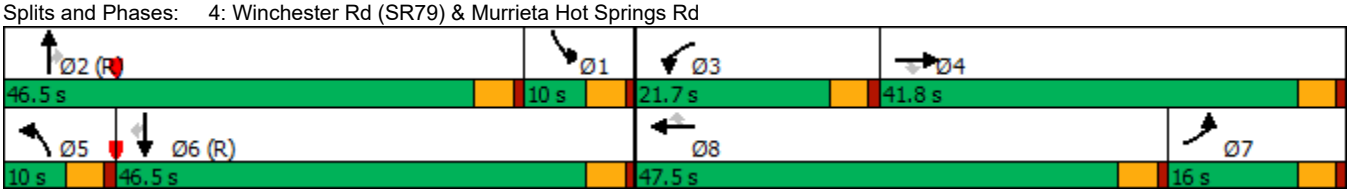
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	26.3	19.9
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	279	-	-	-	-	263
HCM Lane V/C Ratio	0.402	-	-	-	-	0.079
HCM Control Delay (s)	26.3	-	-	-	-	19.9
HCM Lane LOS	D	-	-	-	-	C
HCM 95th %tile Q(veh)	1.9	-	-	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	716	623	181	297	648	159	177	772	171	246	1661	741
Future Volume (vph)	716	623	181	297	648	159	177	772	171	246	1661	741
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	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	9.5	9.5	9.5	47.5	47.5	9.5	45.5	45.5	9.5	45.5	45.5
Total Split (s)	16.0	41.8	41.8	21.7	47.5	47.5	10.0	46.5	46.5	10.0	46.5	46.5
Total Split (%)	13.3%	34.8%	34.8%	18.1%	39.6%	39.6%	8.3%	38.8%	38.8%	8.3%	38.8%	38.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	24.3	39.2	39.2	15.3	30.2	30.2	5.5	42.0	42.0	5.5	42.0	42.0
Actuated g/C Ratio	0.20	0.33	0.33	0.13	0.25	0.25	0.05	0.35	0.35	0.05	0.35	0.35
v/c Ratio	1.07	0.39	0.31	0.71	0.76	0.33	1.17	0.45	0.27	1.63	0.97	1.04
Control Delay	77.2	7.8	3.0	59.3	47.0	9.1	174.8	31.1	4.9	346.6	54.4	69.2
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	77.2	7.8	3.0	59.3	47.0	9.1	174.8	31.1	4.9	346.6	54.4	69.2
LOS	E	A	A	E	D	A	F	C	A	F	D	E
Approach Delay		39.9			44.9			49.8			85.7	
Approach LOS		D			D			D			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green, Master Intersection	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.63	
Intersection Signal Delay: 61.4	Intersection LOS: E
Intersection Capacity Utilization 90.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: Winchester Rd (SR79) & Murrieta Hot Springs Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	716	623	181	297	648	159	177	772	171	246	1661	741
Future Volume (veh/h)	716	623	181	297	648	159	177	772	171	246	1661	741
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	746	649	189	309	675	166	184	804	178	256	1730	772
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	3	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	330	1133	353	373	833	373	158	1780	554	581	2406	749
Arrive On Green	0.03	0.07	0.07	0.11	0.24	0.24	0.05	0.35	0.35	0.17	0.47	0.47
Sat Flow, veh/h	3442	5085	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	746	649	189	309	675	166	184	804	178	256	1730	772
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	11.5	14.8	13.8	10.6	21.6	10.7	5.5	14.6	9.9	8.0	32.6	56.8
Cycle Q Clear(g_c), s	11.5	14.8	13.8	10.6	21.6	10.7	5.5	14.6	9.9	8.0	32.6	56.8
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	330	1133	353	373	833	373	158	1780	554	581	2406	749
V/C Ratio(X)	2.26	0.57	0.54	0.83	0.81	0.45	1.17	0.45	0.32	0.44	0.72	1.03
Avail Cap(c_a), veh/h	330	1581	492	493	1268	567	158	1780	554	581	2406	749
HCM Platoon Ratio	0.33	0.33	0.33	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	58.1	50.1	49.6	52.4	43.4	39.2	57.3	30.1	28.6	44.8	25.3	31.6
Incr Delay (d2), s/veh	577.4	0.5	1.3	8.7	2.4	0.8	123.4	0.8	1.5	0.5	1.9	41.0
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	31.9	7.0	6.2	5.5	10.9	4.8	5.3	7.0	4.5	3.8	15.6	33.3
LnGrp Delay(d),s/veh	635.5	50.5	50.9	61.1	45.8	40.0	180.7	30.9	30.1	45.3	27.1	72.6
LnGrp LOS	F	D	D	E	D	D	F	C	C	D	C	F
Approach Vol, veh/h		1584			1150			1166			2758	
Approach Delay, s/veh		326.1			49.1			54.4			41.6	
Approach LOS		F			D			D			D	

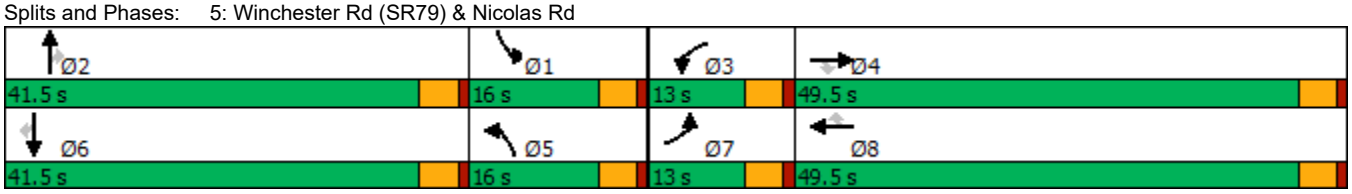
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.8	46.5	17.5	31.2	10.0	61.3	16.0	32.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	5.5	42.0	17.2	37.3	5.5	42.0	11.5	43.0
Max Q Clear Time (g_c+I1), s	10.0	16.6	12.6	16.8	7.5	58.8	13.5	23.6
Green Ext Time (p_c), s	0.0	5.7	0.4	4.6	0.0	0.0	0.0	4.6

Intersection Summary	
HCM 2010 Ctrl Delay	112.8
HCM 2010 LOS	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	141	82	85	274	280	105	223	804	101	212	1726	326
Future Volume (vph)	141	82	85	274	280	105	223	804	101	212	1726	326
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	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	48.5	48.5	9.5	46.5	46.5	9.5	40.5	40.5	9.5	32.5	32.5
Total Split (s)	13.0	49.5	49.5	13.0	49.5	49.5	16.0	41.5	41.5	16.0	41.5	41.5
Total Split (%)	10.8%	41.3%	41.3%	10.8%	41.3%	41.3%	13.3%	34.6%	34.6%	13.3%	34.6%	34.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	8.5	20.5	20.5	8.5	20.5	20.5	11.5	37.1	37.1	11.5	37.1	37.1
Actuated g/C Ratio	0.09	0.21	0.21	0.09	0.21	0.21	0.12	0.39	0.39	0.12	0.39	0.39
v/c Ratio	0.96	0.22	0.22	0.95	0.75	0.26	1.11	0.43	0.16	1.06	0.93	0.54
Control Delay	107.2	31.7	7.1	86.6	47.3	7.4	136.8	23.1	5.1	121.9	38.8	14.5
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	107.2	31.7	7.1	86.6	47.3	7.4	136.8	23.1	5.1	121.9	38.8	14.5
LOS	F	C	A	F	D	A	F	C	A	F	D	B
Approach Delay		59.6			57.2			44.0			43.1	
Approach LOS		E			E			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 95.7	
Natural Cycle: 150	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.11	
Intersection Signal Delay: 46.6	Intersection LOS: D
Intersection Capacity Utilization 83.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Winchester Rd (SR79) & Nicolas Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	82	85	274	280	105	223	804	101	212	1726	326
Future Volume (veh/h)	141	82	85	274	280	105	223	804	101	212	1726	326
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1788
Adj Flow Rate, veh/h	150	87	90	291	298	112	237	855	107	226	1836	347
Adj No. of Lanes	1	1	1	2	1	1	1	3	1	1	3	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	364	310	314	364	310	219	2018	628	219	2018	603
Arrive On Green	0.09	0.20	0.20	0.09	0.20	0.20	0.12	0.40	0.40	0.12	0.40	0.40
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	5085	1583	1774	5085	1520
Grp Volume(v), veh/h	150	87	90	291	298	112	237	855	107	226	1836	347
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1695	1583	1774	1695	1520
Q Serve(g_s), s	7.8	3.7	3.3	7.8	14.3	4.1	11.5	11.4	2.8	11.5	31.8	11.5
Cycle Q Clear(g_c), s	7.8	3.7	3.3	7.8	14.3	4.1	11.5	11.4	2.8	11.5	31.8	11.5
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	162	364	310	314	364	310	219	2018	628	219	2018	603
V/C Ratio(X)	0.93	0.24	0.29	0.93	0.82	0.36	1.08	0.42	0.17	1.03	0.91	0.58
Avail Cap(c_a), veh/h	162	899	764	314	899	764	219	2018	628	219	2018	603
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	42.1	31.6	16.9	42.1	35.9	17.1	40.9	20.4	8.6	40.9	26.5	10.4
Incr Delay (d2), s/veh	49.9	0.3	0.5	32.6	4.5	0.7	84.8	0.7	0.6	69.7	7.6	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	1.9	1.9	5.1	7.8	2.3	10.7	5.4	1.7	9.8	16.2	6.0
LnGrp Delay(d),s/veh	92.0	32.0	17.4	74.6	40.4	17.8	125.6	21.0	9.2	110.6	34.1	14.4
LnGrp LOS	F	C	B	E	D	B	F	C	A	F	C	B
Approach Vol, veh/h		327			701			1199			2409	
Approach Delay, s/veh		55.5			51.0			40.7			38.5	
Approach LOS		E			D			D			D	

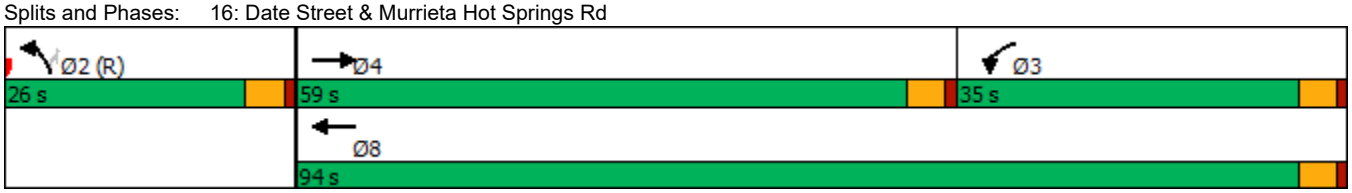
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	41.5	13.0	22.7	16.0	41.5	13.0	22.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	11.5	37.0	8.5	45.0	11.5	37.0	8.5	45.0
Max Q Clear Time (g_c+I1), s	13.5	13.4	9.8	5.7	13.5	33.8	9.8	16.3
Green Ext Time (p_c), s	0.0	5.9	0.0	0.8	0.0	2.8	0.0	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	42.1
HCM 2010 LOS	D

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1412	247	1278	79	62
Future Volume (vph)	1412	247	1278	79	62
Turn Type	NA	Prot	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases					2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5
Total Split (s)	59.0	35.0	94.0	26.0	26.0
Total Split (%)	49.2%	29.2%	78.3%	21.7%	21.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	None	None	None	C-Max	C-Max
Act Effct Green (s)	51.6	23.3	79.4	31.6	31.6
Actuated g/C Ratio	0.43	0.19	0.66	0.26	0.26
v/c Ratio	0.80	0.78	0.41	0.18	0.14
Control Delay	7.4	50.6	5.2	39.3	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	7.4	50.6	5.2	39.3	10.5
LOS	A	D	A	D	B
Approach Delay	7.4		12.6	26.7	
Approach LOS	A		B	C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 4 (3%), Referenced to phase 2:NBL and 6:, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 10.7	Intersection LOS: B
Intersection Capacity Utilization 60.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 16: Date Street & Murrieta Hot Springs Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1412	184	247	1278	79	62
Future Volume (veh/h)	1412	184	247	1278	79	62
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	1535	200	268	1389	86	67
Adj No. of Lanes	3	0	1	3	1	1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1838	239	294	3086	564	504
Arrive On Green	0.40	0.40	0.33	1.00	0.32	0.32
Sat Flow, veh/h	4723	593	1774	5253	1774	1583
Grp Volume(v), veh/h	1142	593	268	1389	86	67
Grp Sat Flow(s),veh/h/ln	1695	1758	1774	1695	1774	1583
Q Serve(g_s), s	36.3	36.5	17.4	0.0	4.2	3.6
Cycle Q Clear(g_c), s	36.3	36.5	17.4	0.0	4.2	3.6
Prop In Lane		0.34	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1368	709	294	3086	564	504
V/C Ratio(X)	0.83	0.84	0.91	0.45	0.15	0.13
Avail Cap(c_a), veh/h	1540	798	451	3793	564	504
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	32.2	39.2	0.0	29.3	29.1
Incr Delay (d2), s/veh	3.8	7.1	16.1	0.1	0.6	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	17.7	19.0	9.8	0.0	2.1	1.7
LnGrp Delay(d),s/veh	36.0	39.3	55.4	0.1	29.9	29.7
LnGrp LOS	D	D	E	A	C	C
Approach Vol, veh/h	1735			1657	153	
Approach Delay, s/veh	37.1			9.0	29.8	
Approach LOS	D			A	C	

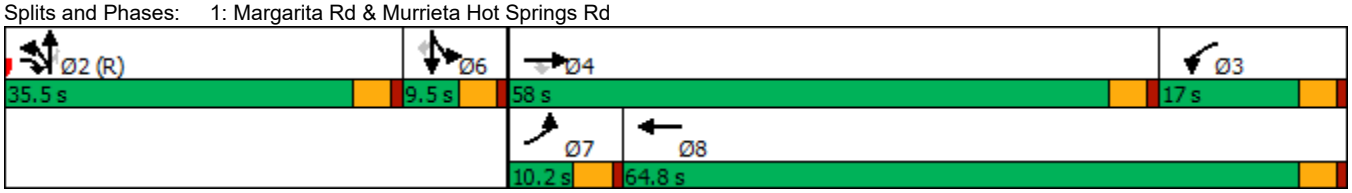
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		42.7	24.4	52.9				77.3
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		21.5	30.5	54.5				89.5
Max Q Clear Time (g_c+I1), s		6.2	19.4	38.5				2.0
Green Ext Time (p_c), s		0.3	0.6	10.0				13.5

Intersection Summary	
HCM 2010 Ctrl Delay	23.7
HCM 2010 LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	19	1760	594	226	1543	692	16	267	22	17
Future Volume (vph)	19	1760	594	226	1543	692	16	267	22	17
Turn Type	Prot	NA	pm+ov	Prot	NA	Split	NA	Perm	NA	Perm
Protected Phases	7	4	2	3	8	2	2		6	
Permitted Phases			4					2		6
Detector Phase	7	4	2	3	8	2	2	2	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
Minimum Split (s)	9.5	40.5	33.5	9.5	40.5	33.5	33.5	33.5	9.5	9.5
Total Split (s)	10.2	58.0	35.5	17.0	64.8	35.5	35.5	35.5	9.5	9.5
Total Split (%)	8.5%	48.3%	29.6%	14.2%	54.0%	29.6%	29.6%	29.6%	7.9%	7.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lead		Lag	Lag					
Lead-Lag Optimize?	Yes	Yes		Yes	Yes					
Recall Mode	None	None	C-Max	None	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	5.7	51.9	83.8	16.0	68.3	31.0	31.0	31.0	5.0	5.0
Actuated g/C Ratio	0.05	0.43	0.70	0.13	0.57	0.26	0.26	0.26	0.04	0.04
v/c Ratio	0.24	0.82	0.53	0.99	0.55	0.80	0.03	0.45	0.43	0.09
Control Delay	62.3	33.8	4.9	109.4	18.2	49.8	33.7	7.2	73.8	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	62.3	33.8	4.9	109.4	18.2	49.8	33.7	7.2	73.8	0.9
LOS	E	C	A	F	B	D	C	A	E	A
Approach Delay		26.8			29.8		37.9		48.1	
Approach LOS		C			C		D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.99	
Intersection Signal Delay: 30.1	Intersection LOS: C
Intersection Capacity Utilization 84.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 1: Margarita Rd & Murrieta Hot Springs Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1760	594	226	1543	9	692	16	267	10	22	17
Future Volume (veh/h)	19	1760	594	226	1543	9	692	16	267	10	22	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1863
Adj Flow Rate, veh/h	20	1814	612	233	1591	9	713	16	275	10	23	18
Adj No. of Lanes	1	3	1	1	3	0	2	1	1	0	1	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	36	2154	1127	185	2648	15	992	537	456	19	44	54
Arrive On Green	0.02	0.42	0.42	0.10	0.51	0.51	0.29	0.29	0.29	0.03	0.03	0.03
Sat Flow, veh/h	1774	5085	1583	1774	5218	30	3442	1863	1583	556	1279	1583
Grp Volume(v), veh/h	20	1814	612	233	1034	566	713	16	275	33	0	18
Grp Sat Flow(s),veh/h/ln	1774	1695	1583	1774	1695	1858	1721	1863	1583	1835	0	1583
Q Serve(g_s), s	1.3	38.4	21.8	12.5	25.9	25.9	22.3	0.7	18.0	2.1	0.0	1.3
Cycle Q Clear(g_c), s	1.3	38.4	21.8	12.5	25.9	25.9	22.3	0.7	18.0	2.1	0.0	1.3
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.30		1.00
Lane Grp Cap(c), veh/h	36	2154	1127	185	1720	943	992	537	456	62	0	54
V/C Ratio(X)	0.56	0.84	0.54	1.26	0.60	0.60	0.72	0.03	0.60	0.53	0.00	0.33
Avail Cap(c_a), veh/h	84	2267	1162	185	1720	943	992	537	456	76	0	66
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	0.00	1.00
Uniform Delay (d), s/veh	58.2	31.0	8.1	53.8	20.9	20.9	38.3	30.7	36.8	57.0	0.0	56.6
Incr Delay (d2), s/veh	12.7	2.9	0.5	153.4	0.6	1.1	4.5	0.1	5.8	6.8	0.0	3.6
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	0.8	18.6	19.2	14.0	12.2	13.5	11.2	0.4	8.6	1.2	0.0	0.6
LnGrp Delay(d),s/veh	71.0	33.9	8.6	207.2	21.5	22.0	42.8	30.8	42.6	63.8	0.0	60.2
LnGrp LOS	E	C	A	F	C	C	D	C	D	E		E
Approach Vol, veh/h		2446			1833			1004			51	
Approach Delay, s/veh		27.9			45.3			42.6			62.5	
Approach LOS		C			D			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		39.1	17.0	55.3		8.6	6.9	65.4
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		31.0	12.5	53.5		5.0	5.7	60.3
Max Q Clear Time (g_c+I1), s		24.3	14.5	40.4		4.1	3.3	27.9
Green Ext Time (p_c), s		2.2	0.0	10.5		0.0	0.0	13.0

Intersection Summary	
HCM 2010 Ctrl Delay	37.0
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	24	58	0	19	78	24	25	0	64	26	5
Future Vol, veh/h	12	24	58	0	19	78	24	25	0	64	26	5
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	31	75	0	25	101	31	32	0	83	34	6
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.7	8.2	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	49%	13%	0%	67%
Vol Thru, %	51%	26%	20%	27%
Vol Right, %	0%	62%	80%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	49	94	97	95
LT Vol	24	12	0	64
Through Vol	25	24	19	26
RT Vol	0	58	78	5
Lane Flow Rate	64	122	126	123
Geometry Grp	1	1	1	1
Degree of Util (X)	0.083	0.141	0.141	0.159
Departure Headway (Hd)	4.701	4.169	4.032	4.635
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	762	862	891	775
Service Time	2.727	2.187	2.048	2.658
HCM Lane V/C Ratio	0.084	0.142	0.141	0.159
HCM Control Delay	8.2	7.9	7.7	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.5	0.6

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1680	83	0	1806	21	0	0	119	0	0	26
Future Vol, veh/h	0	1680	83	0	1806	21	0	0	119	0	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1714	85	0	1843	21	0	0	121	0	0	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	900	-	-	932
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	-	-	-	7.14	-	-	7.14
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	-	-	-	3.92	-	-	3.92
Pot Cap-1 Maneuver	0	-	-	0	-	-	0	0	242	0	0	230
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	242	-	-	230
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

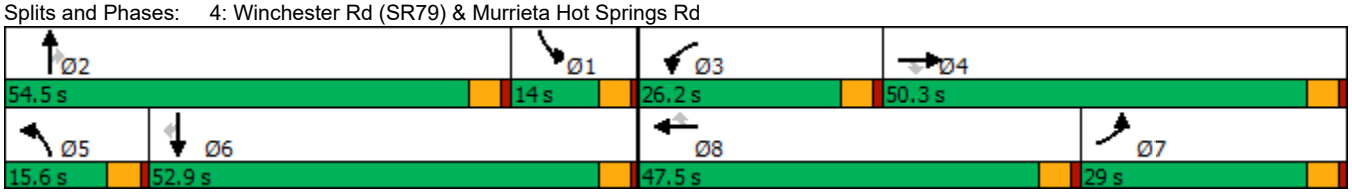
Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	34	22.7
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	242	-	-	-	-	230
HCM Lane V/C Ratio	0.502	-	-	-	-	0.115
HCM Control Delay (s)	34	-	-	-	-	22.7
HCM Lane LOS	D	-	-	-	-	C
HCM 95th %tile Q(veh)	2.6	-	-	-	-	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	812	758	209	328	867	196	237	1969	197	267	1166	753
Future Volume (vph)	812	758	209	328	867	196	237	1969	197	267	1166	753
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	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	9.5	9.5	9.5	47.5	47.5	9.5	45.5	45.5	9.5	45.5	45.5
Total Split (s)	29.0	50.3	50.3	26.2	47.5	47.5	15.6	54.5	54.5	14.0	52.9	52.9
Total Split (%)	20.0%	34.7%	34.7%	18.1%	32.8%	32.8%	10.8%	37.6%	37.6%	9.7%	36.5%	36.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	24.5	46.3	46.3	18.6	40.3	40.3	11.1	50.0	50.0	9.5	48.4	48.4
Actuated g/C Ratio	0.17	0.33	0.33	0.13	0.28	0.28	0.08	0.35	0.35	0.07	0.34	0.34
v/c Ratio	1.40	0.47	0.34	0.75	0.88	0.37	0.91	1.12	0.30	1.19	0.69	0.98
Control Delay	233.7	39.7	9.5	70.7	60.1	16.3	100.3	106.3	8.7	175.1	43.3	51.7
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	233.7	39.7	9.5	70.7	60.1	16.3	100.3	106.3	8.7	175.1	43.3	51.7
LOS	F	D	A	E	E	B	F	F	A	F	D	D
Approach Delay		124.7			56.4			97.7			62.3	
Approach LOS		F			E			F			E	

Intersection Summary		
Cycle Length: 145		
Actuated Cycle Length: 142.4		
Natural Cycle: 145		
Control Type: Semi Act-Uncoord		
Maximum v/c Ratio: 1.40		
Intersection Signal Delay: 86.5	Intersection LOS: F	
Intersection Capacity Utilization 107.8%	ICU Level of Service G	
Analysis Period (min) 15		

Splits and Phases: 4: Winchester Rd (SR79) & Murrieta Hot Springs Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	812	758	209	328	867	196	237	1969	197	267	1166	753
Future Volume (veh/h)	812	758	209	328	867	196	237	1969	197	267	1166	753
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	829	773	213	335	885	200	242	2009	201	272	1190	768
Adj No. of Lanes	2	3	1	2	2	1	2	3	1	2	3	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	596	1720	536	392	988	442	270	1797	560	231	1740	542
Arrive On Green	0.17	0.34	0.34	0.11	0.28	0.28	0.08	0.35	0.35	0.07	0.34	0.34
Sat Flow, veh/h	3442	5085	1583	3442	3539	1583	3442	5085	1583	3442	5085	1583
Grp Volume(v), veh/h	829	773	213	335	885	200	242	2009	201	272	1190	768
Grp Sat Flow(s),veh/h/ln	1721	1695	1583	1721	1770	1583	1721	1695	1583	1721	1695	1583
Q Serve(g_s), s	24.5	16.8	14.6	13.5	34.0	14.7	9.9	50.0	13.3	9.5	28.4	48.4
Cycle Q Clear(g_c), s	24.5	16.8	14.6	13.5	34.0	14.7	9.9	50.0	13.3	9.5	28.4	48.4
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	596	1720	536	392	988	442	270	1797	560	231	1740	542
V/C Ratio(X)	1.39	0.45	0.40	0.85	0.90	0.45	0.90	1.12	0.36	1.18	0.68	1.42
Avail Cap(c_a), veh/h	596	1720	536	528	1076	481	270	1797	560	231	1740	542
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	58.5	36.5	35.8	61.5	49.0	42.1	64.6	45.7	33.9	66.0	40.0	46.5
Incr Delay (d2), s/veh	186.1	0.2	0.5	10.0	9.4	0.7	29.5	61.2	1.8	115.4	2.2	198.7
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	27.0	7.9	6.5	7.0	17.9	6.5	5.8	33.5	6.1	8.2	13.7	51.0
LnGrp Delay(d),s/veh	244.6	36.7	36.3	71.5	58.5	42.8	94.1	107.0	35.7	181.4	42.2	245.2
LnGrp LOS	F	D	D	E	E	D	F	F	D	F	D	F
Approach Vol, veh/h		1815			1420			2452			2230	
Approach Delay, s/veh		131.6			59.3			99.9			129.1	
Approach LOS		F			E			F			F	

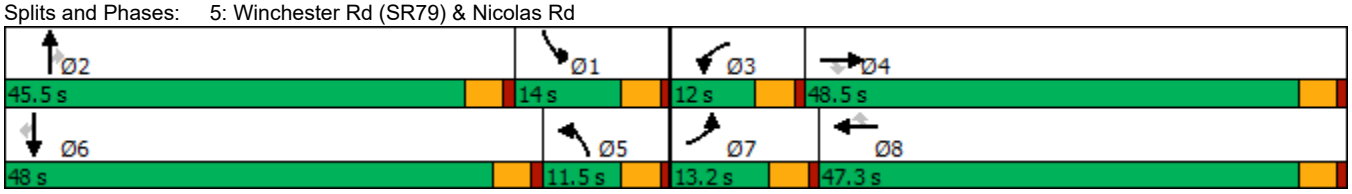
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	54.5	20.6	52.4	15.6	52.9	29.0	44.0
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	50.0	21.7	45.8	11.1	48.4	24.5	43.0
Max Q Clear Time (g_c+I1), s	11.5	52.0	15.5	18.8	11.9	50.4	26.5	36.0
Green Ext Time (p_c), s	0.0	0.0	0.6	6.1	0.0	0.0	0.0	3.5

Intersection Summary	
HCM 2010 Ctrl Delay	108.1
HCM 2010 LOS	F

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	22	17	372	57	236	60	2181	395	298	1334	58
Future Volume (vph)	43	22	17	372	57	236	60	2181	395	298	1334	58
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	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	48.5	48.5	9.5	46.5	46.5	9.5	40.5	40.5	9.5	32.5	32.5
Total Split (s)	13.2	48.5	48.5	12.0	47.3	47.3	11.5	45.5	45.5	14.0	48.0	48.0
Total Split (%)	11.0%	40.4%	40.4%	10.0%	39.4%	39.4%	9.6%	37.9%	37.9%	11.7%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	7.3	8.9	8.9	7.6	9.4	9.4	6.8	41.4	41.4	9.6	46.6	46.6
Actuated g/C Ratio	0.09	0.11	0.11	0.09	0.12	0.12	0.08	0.51	0.51	0.12	0.57	0.57
v/c Ratio	0.27	0.11	0.07	1.18	0.27	0.65	0.41	0.85	0.42	1.44	0.46	0.07
Control Delay	41.5	34.3	0.5	142.6	37.6	17.2	46.8	23.0	5.7	253.2	12.8	1.3
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	41.5	34.3	0.5	142.6	37.6	17.2	46.8	23.0	5.7	253.2	12.8	1.3
LOS	D	C	A	F	D	B	D	C	A	F	B	A
Approach Delay		31.0			89.1			21.0			54.8	
Approach LOS		C			F			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 81.1	
Natural Cycle: 150	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.44	
Intersection Signal Delay: 41.3	Intersection LOS: D
Intersection Capacity Utilization 87.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Winchester Rd (SR79) & Nicolas Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	22	17	372	57	236	60	2181	395	298	1334	58
Future Volume (veh/h)	43	22	17	372	57	236	60	2181	395	298	1334	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
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
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1788
Adj Flow Rate, veh/h	43	22	17	376	58	238	61	2203	399	301	1347	59
Adj No. of Lanes	1	1	1	2	1	1	1	3	1	1	3	1
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	244	208	295	335	285	142	2384	742	193	2529	756
Arrive On Green	0.04	0.13	0.13	0.09	0.18	0.18	0.08	0.47	0.47	0.11	0.50	0.50
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	5085	1583	1774	5085	1520
Grp Volume(v), veh/h	43	22	17	376	58	238	61	2203	399	301	1347	59
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1695	1583	1774	1695	1520
Q Serve(g_s), s	2.1	0.9	0.8	7.5	2.3	12.7	2.9	35.5	15.7	9.5	15.8	1.8
Cycle Q Clear(g_c), s	2.1	0.9	0.8	7.5	2.3	12.7	2.9	35.5	15.7	9.5	15.8	1.8
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	66	244	208	295	335	285	142	2384	742	193	2529	756
V/C Ratio(X)	0.65	0.09	0.08	1.27	0.17	0.84	0.43	0.92	0.54	1.56	0.53	0.08
Avail Cap(c_a), veh/h	176	937	796	295	911	775	142	2384	742	193	2529	756
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	41.6	33.4	33.4	40.0	30.4	34.6	38.3	21.8	16.5	39.0	15.0	11.5
Incr Delay (d2), s/veh	10.5	0.2	0.2	147.2	0.2	6.4	2.0	7.5	2.8	276.8	0.8	0.2
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	1.2	0.5	0.4	9.6	1.2	6.1	1.5	18.2	7.3	19.4	7.5	0.8
LnGrp Delay(d),s/veh	52.0	33.6	33.5	187.1	30.6	41.0	40.4	29.3	19.3	315.7	15.8	11.7
LnGrp LOS	D	C	C	F	C	D	D	C	B	F	B	B
Approach Vol, veh/h		82			672			2663			1707	
Approach Delay, s/veh		43.3			121.9			28.1			68.6	
Approach LOS		D			F			C			E	

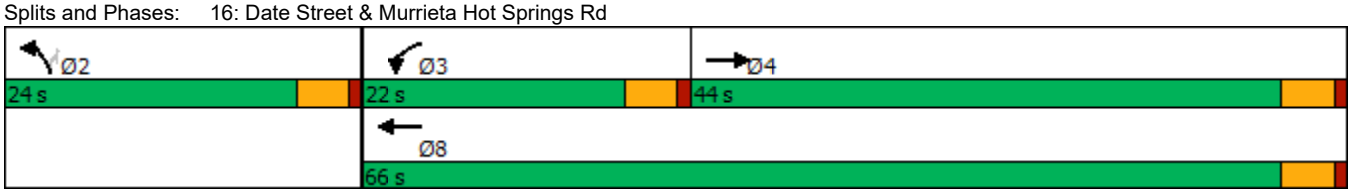
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	45.5	12.0	16.0	11.5	48.0	7.7	20.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	9.5	41.0	7.5	44.0	7.0	43.5	8.7	42.8
Max Q Clear Time (g_c+I1), s	11.5	37.5	9.5	2.9	4.9	17.8	4.1	14.7
Green Ext Time (p_c), s	0.0	3.2	0.0	0.1	0.0	9.8	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	54.1
HCM 2010 LOS	D

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations					
Traffic Volume (vph)	1646	213	1552	91	148
Future Volume (vph)	1646	213	1552	91	148
Turn Type	NA	Prot	NA	Prot	Perm
Protected Phases	4	3	8	2	
Permitted Phases					2
Detector Phase	4	3	8	2	2
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	9.5	22.5	22.5	22.5
Total Split (s)	44.0	22.0	66.0	24.0	24.0
Total Split (%)	48.9%	24.4%	73.3%	26.7%	26.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5
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)	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes			
Recall Mode	None	None	None	Max	Max
Act Effct Green (s)	37.7	14.8	57.0	19.6	19.6
Actuated g/C Ratio	0.44	0.17	0.67	0.23	0.23
v/c Ratio	0.81	0.73	0.48	0.24	0.32
Control Delay	24.5	48.9	7.5	30.6	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	48.9	7.5	30.6	7.2
LOS	C	D	A	C	A
Approach Delay	24.5		12.5	16.1	
Approach LOS	C		B	B	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 85.7	
Natural Cycle: 70	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 18.3	Intersection LOS: B
Intersection Capacity Utilization 61.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 16: Date Street & Murrieta Hot Springs Rd



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1646	68	213	1552	91	148
Future Volume (veh/h)	1646	68	213	1552	91	148
Number	4	14	3	8	5	12
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
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863
Adj Flow Rate, veh/h	1733	72	224	1634	96	156
Adj No. of Lanes	3	0	1	3	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	2190	91	267	3275	432	386
Arrive On Green	0.44	0.44	0.15	0.64	0.24	0.24
Sat Flow, veh/h	5176	208	1774	5253	1774	1583
Grp Volume(v), veh/h	1173	632	224	1634	96	156
Grp Sat Flow(s),veh/h/ln	1695	1826	1774	1695	1774	1583
Q Serve(g_s), s	23.8	23.9	9.8	13.5	3.5	6.6
Cycle Q Clear(g_c), s	23.8	23.9	9.8	13.5	3.5	6.6
Prop In Lane		0.11	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1483	799	267	3275	432	386
V/C Ratio(X)	0.79	0.79	0.84	0.50	0.22	0.40
Avail Cap(c_a), veh/h	1673	901	388	3907	432	386
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	19.4	19.4	33.1	7.5	24.2	25.4
Incr Delay (d2), s/veh	2.4	4.4	10.4	0.1	1.2	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	12.9	5.6	6.2	1.8	3.2
LnGrp Delay(d),s/veh	21.7	23.7	43.5	7.6	25.4	28.5
LnGrp LOS	C	C	D	A	C	C
Approach Vol, veh/h	1805			1858	252	
Approach Delay, s/veh	22.4			11.9	27.3	
Approach LOS	C			B	C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		24.0	16.5	39.5				56.0
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		19.5	17.5	39.5				61.5
Max Q Clear Time (g_c+I1), s		8.6	11.8	25.9				15.5
Green Ext Time (p_c), s		0.6	0.3	9.1				16.4

Intersection Summary	
HCM 2010 Ctrl Delay	17.8
HCM 2010 LOS	B

APPENDIX E

SIGNAL WARRANT ANALYSIS WORKSHEETS

EXISTING CONDITIONS PEAK HOUR VOLUME WARRANT
URBAN CONDITIONS

Peak Hour: AM

Major Street: Delhaven Street

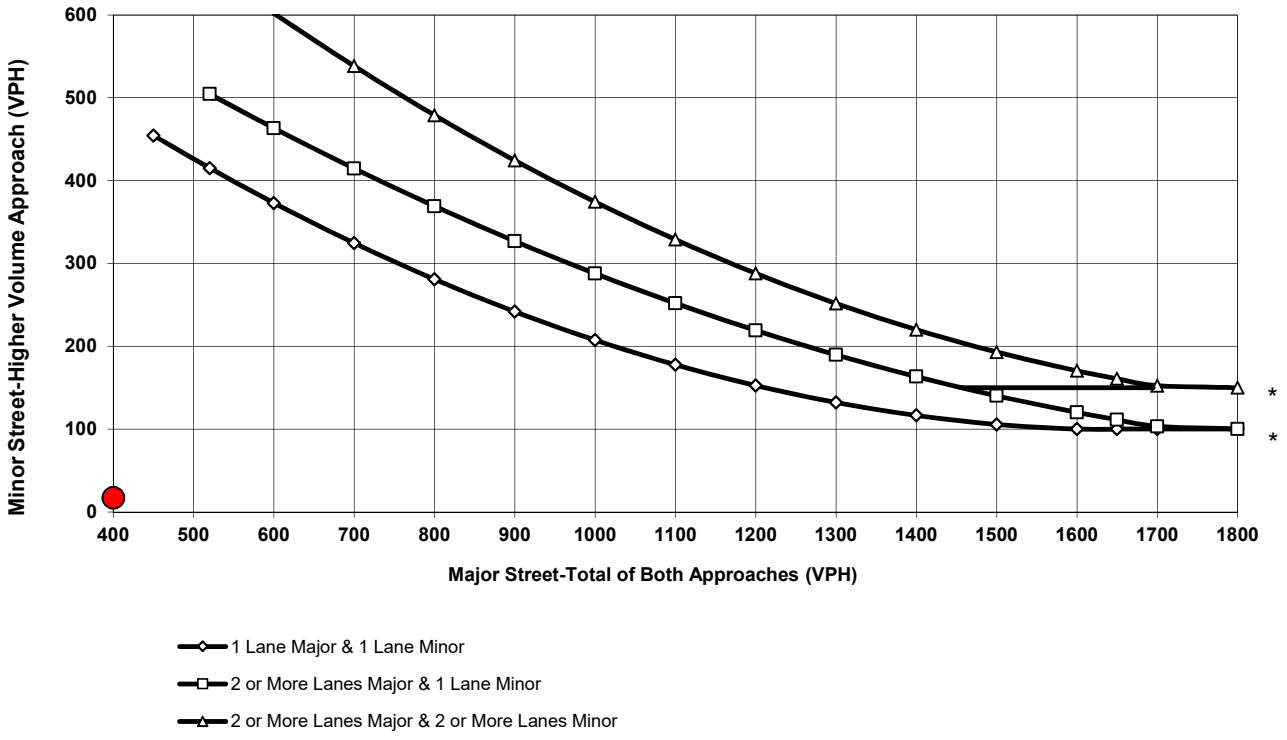
Minor Street: Date Street

Total of Both Approaches (VPH): 19
Number of Approach Lanes: 1

Higher Volume Approach (VPH): 17
Number of Approach Lanes: 1

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2014 California Supplement Including Revisions 1, 2 and 3 (Mar 9, 2018)

Existing Conditions
AM Peak Hour Volume Warrant
Delhaven Street/Date Street

EXISTING CONDITIONS PEAK HOUR VOLUME WARRANT
URBAN CONDITIONS

Peak Hour: PM

Major Street: Date Street

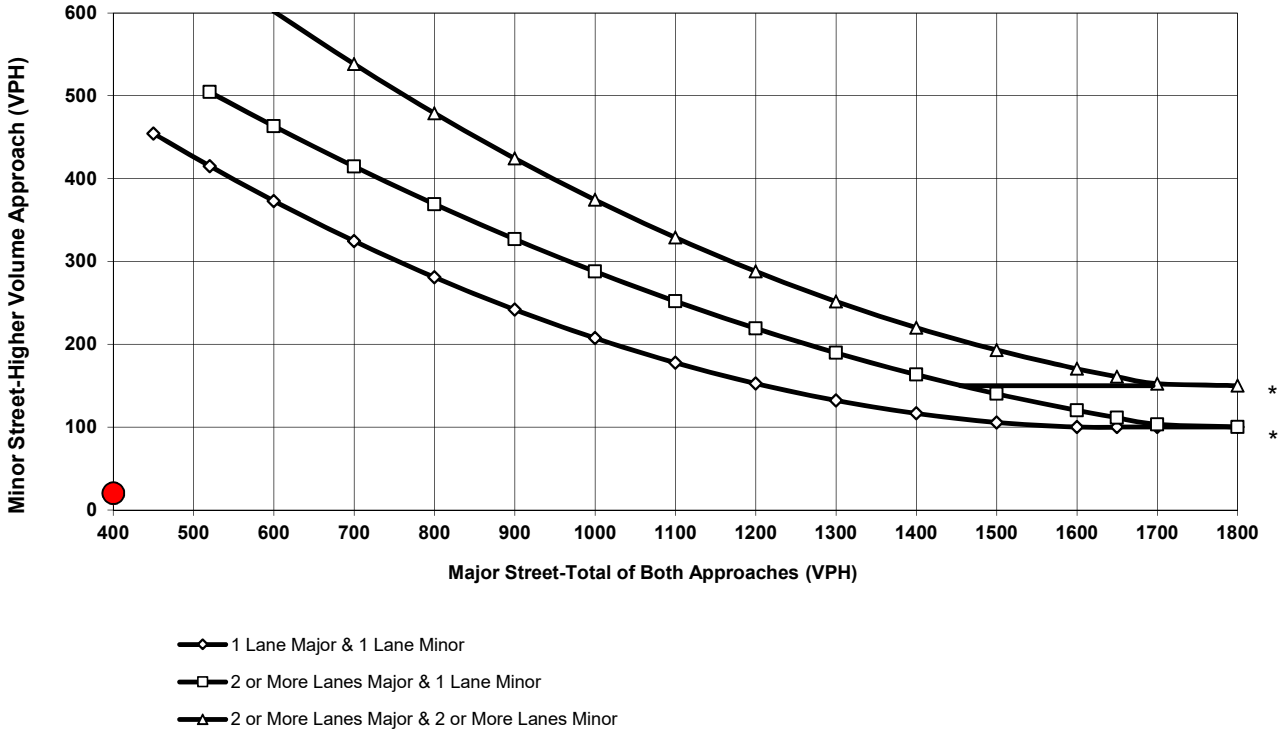
Minor Street: Delhaven Street

Total of Both Approaches (VPH): 26
Number of Approach Lanes: 1

Higher Volume Approach (VPH): 20
Number of Approach Lanes: 1

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2014 California Supplement Including Revisions 1, 2 and 3 (Mar 9, 2018)

Existing Conditions
PM Peak Hour Volume Warrant
Delhaven Street/Date Street

EXISTING PLUS PROJECT CONDITIONS PEAK HOUR VOLUME WARRANT URBAN CONDITIONS

Peak Hour: AM

Major Street: Delhaven Street

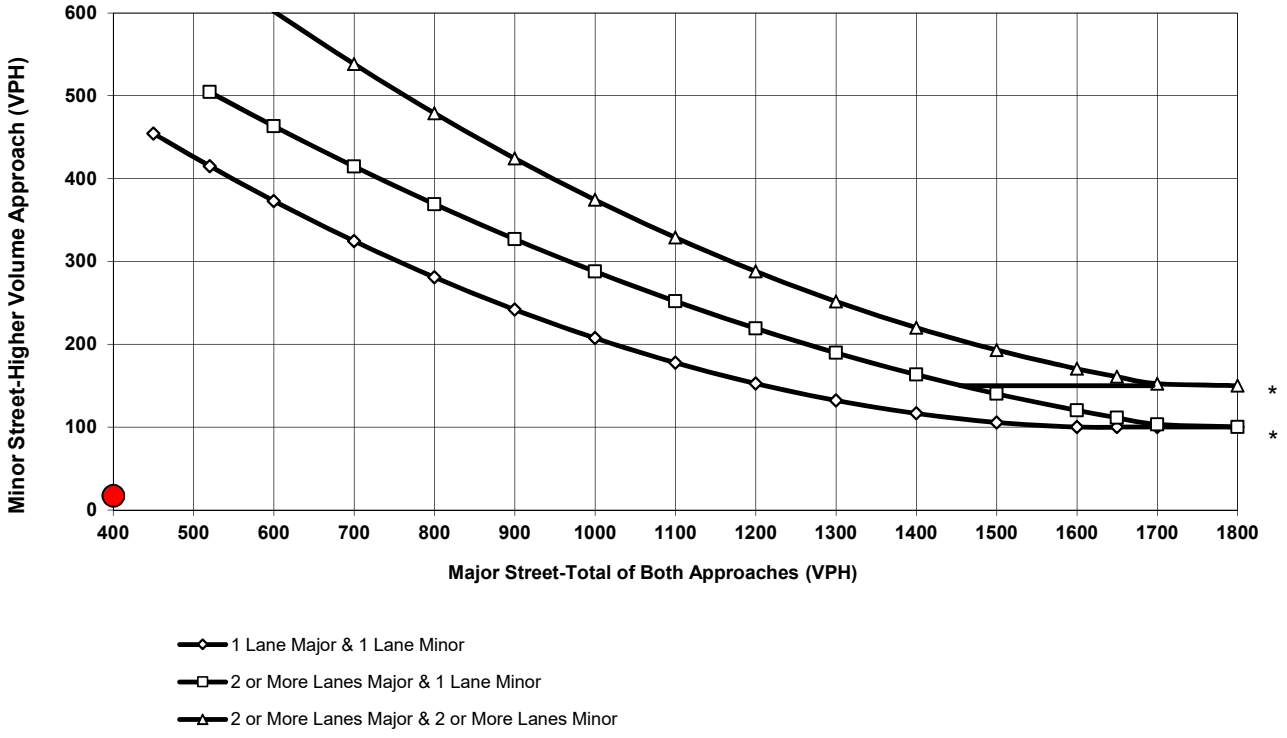
Minor Street: Date Street

Total of Both Approaches (VPH): 128
Number of Approach Lanes: 1

Higher Volume Approach (VPH): 17
Number of Approach Lanes: 1

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2014 California Supplement Including Revisions 1, 2 and 3 (Mar 9, 2018)

Existing Plus Project Conditions
AM Peak Hour Volume Warrant
Delhaven Street/Date Street

EXISTING PLUS PROJECT CONDITIONS PEAK HOUR VOLUME WARRANT URBAN CONDITIONS

Peak Hour: PM

Major Street: Delhaven Street

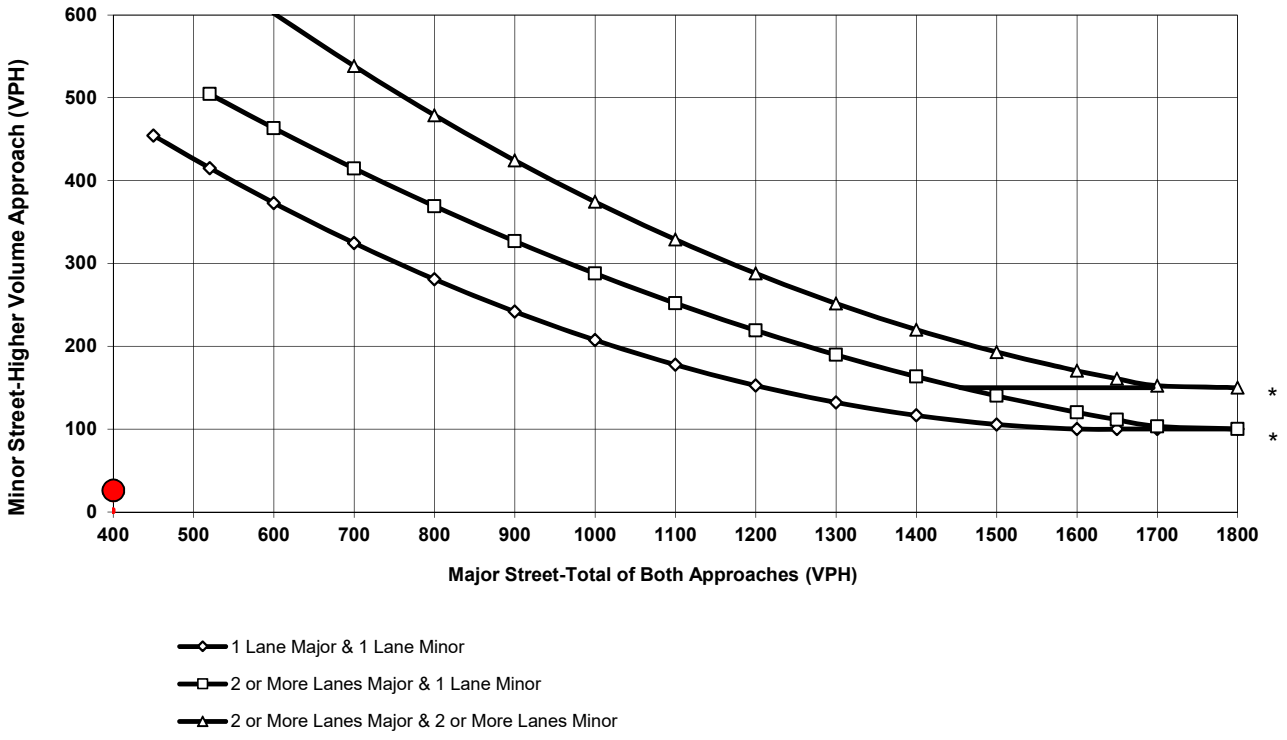
Minor Street: Date Street

Total of Both Approaches (VPH): 153
Number of Approach Lanes: 1

Higher Volume Approach (VPH): 26
Number of Approach Lanes: 1

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2014 California Supplement Including Revisions 1, 2 and 3 (Mar 9, 2018)

Existing Plus Project Conditions
PM Peak Hour Volume Warrant
Delhaven Street/Date Street

EXISTING PLUS AMBIENT PEAK HOUR VOLUME WARRANT
URBAN CONDITIONS

Peak Hour: AM

Major Street: Date Street

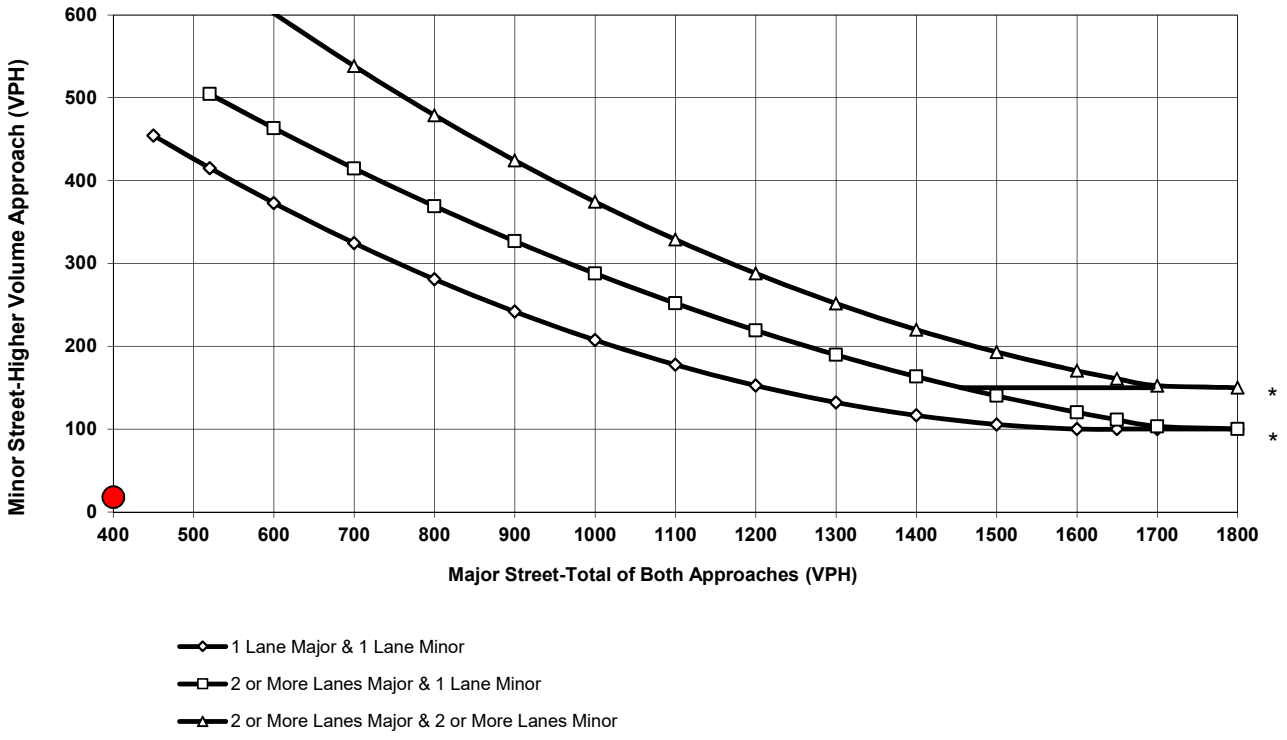
Minor Street: Delhaven Street

Total of Both Approaches (VPH): 20
Number of Approach Lanes: 1

Higher Volume Approach (VPH): 18
Number of Approach Lanes: 1

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2014 California Supplement Including Revisions 1, 2 and 3 (Mar 9, 2018)

Existing Plus Ambient Conditions
AM Peak Hour Volume Warrant
Delhaven Street/Date Street

EXISTING PLUS AMBIENT PEAK HOUR VOLUME WARRANT
URBAN CONDITIONS

Peak Hour: PM

Major Street: Date Street

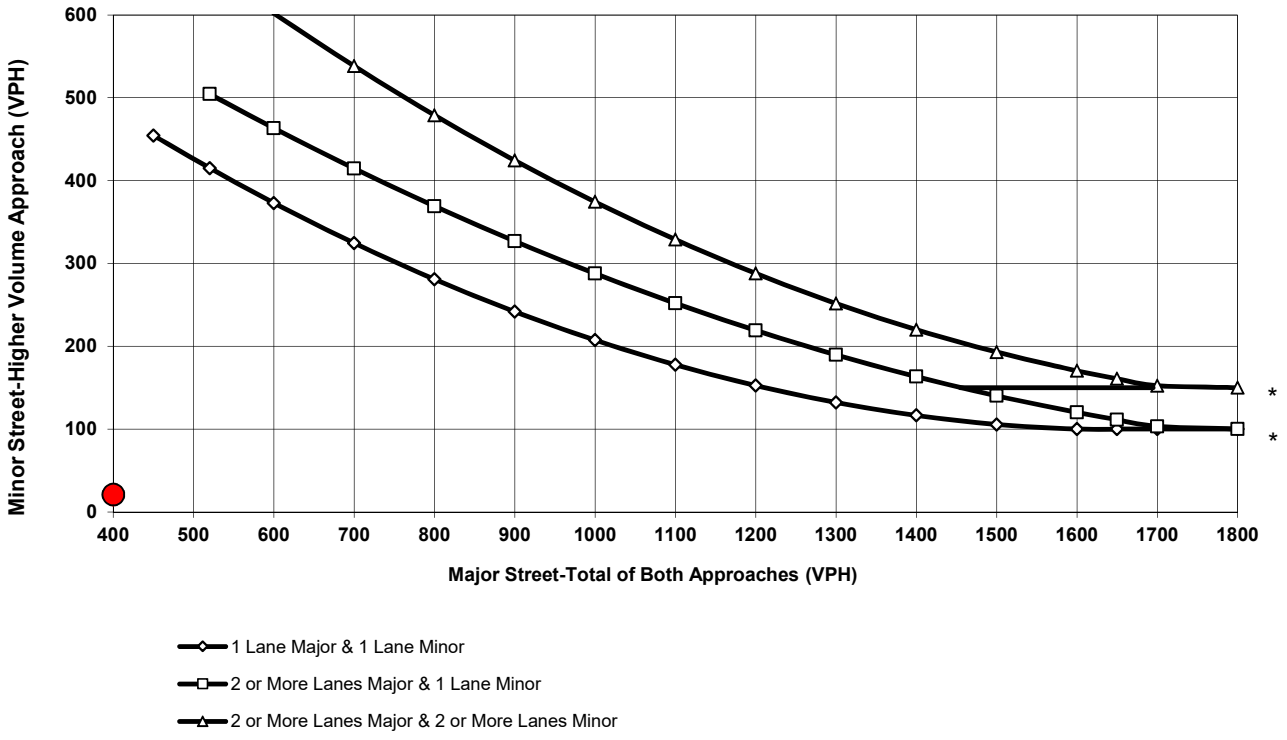
Minor Street: Delhaven Street

Total of Both Approaches (VPH): 27
Number of Approach Lanes: 1

Higher Volume Approach (VPH): 21
Number of Approach Lanes: 1

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2014 California Supplement Including Revisions 1, 2 and 3 (Mar 9, 2018)

Existing Plus Ambient Conditions
PM Peak Hour Volume Warrant
Delhaven Street/Date Street

EXISTING PLUS AMBIENT PLUS PROJECT PEAK HOUR VOLUME WARRANT
URBAN CONDITIONS

Peak Hour: AM

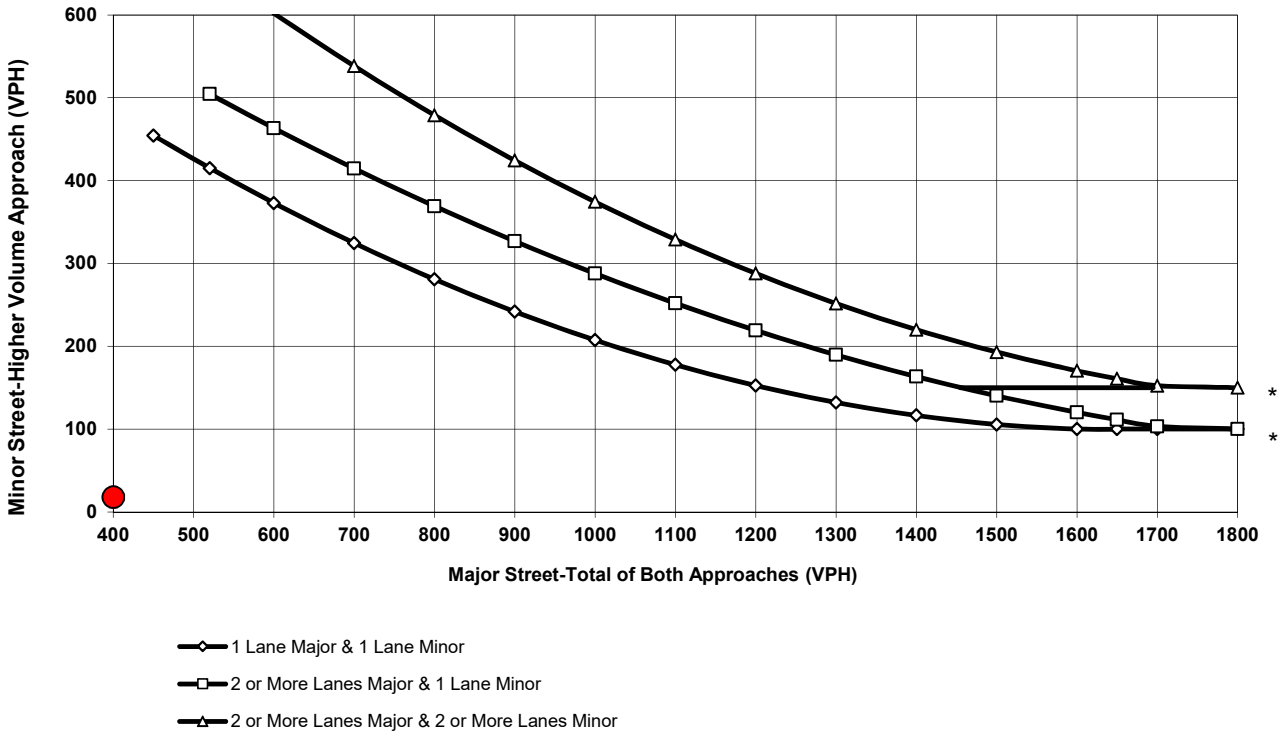
Major Street: Delhaven Street

Minor Street: Date Street

Total of Both Approaches (VPH):	129	Higher Volume Approach (VPH):	18
Number of Approach Lanes:	1	Number of Approach Lanes:	1

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2014 California Supplement Including Revisions 1, 2 and 3 (Mar 9, 2018)

Existing Plus Ambient Plus Project Conditions
AM Peak Hour Volume Warrant
Delhaven Street/Date Street

EXISTING PLUS AMBIENT PLUS PROJECT PEAK HOUR VOLUME WARRANT
URBAN CONDITIONS

Peak Hour: PM

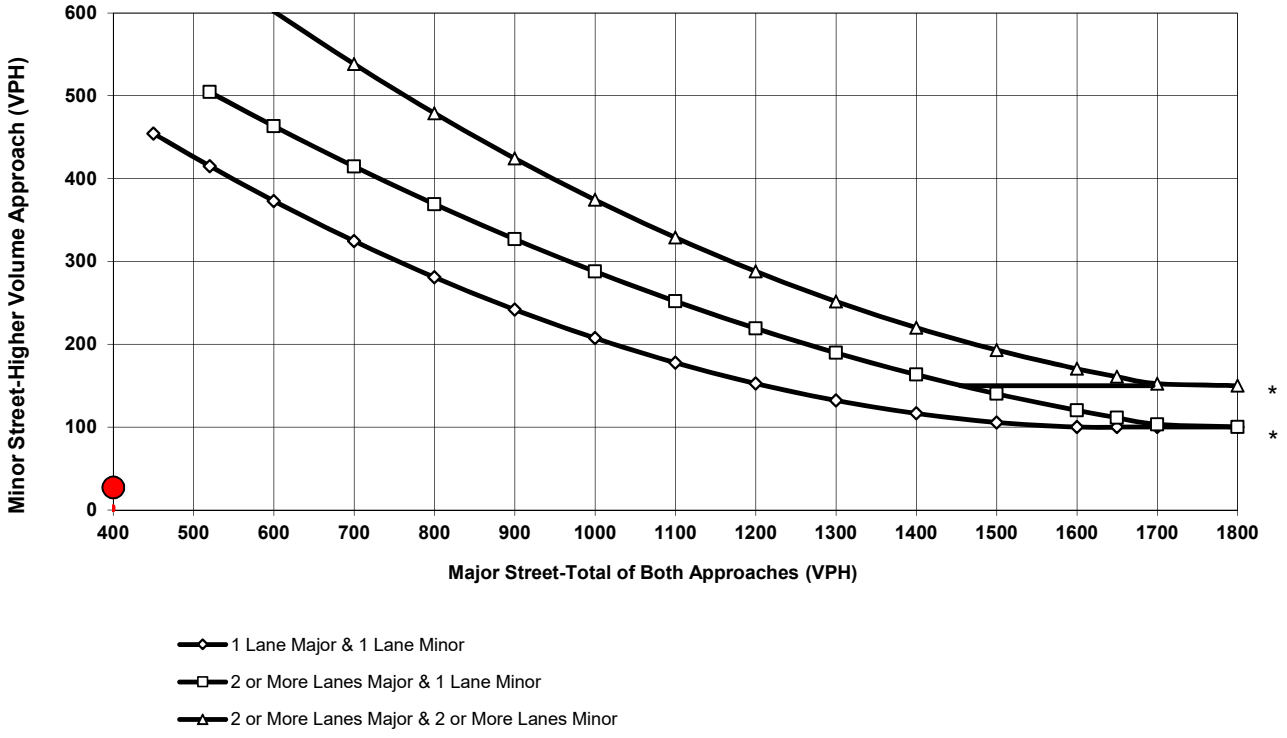
Major Street: Delhaven Street

Minor Street: Date Street

Total of Both Approaches (VPH):	154	Higher Volume Approach (VPH):	27
Number of Approach Lanes:	1	Number of Approach Lanes:	1

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2014 California Supplement Including Revisions 1, 2 and 3 (Mar 9, 2018)

Existing Plus Ambient Plus Project Conditions
PM Peak Hour Volume Warrant
Delhaven Street/Date Street

EAPC PEAK HOUR VOLUME WARRANT
URBAN CONDITIONS

Peak Hour: AM

Major Street: Delhaven Street

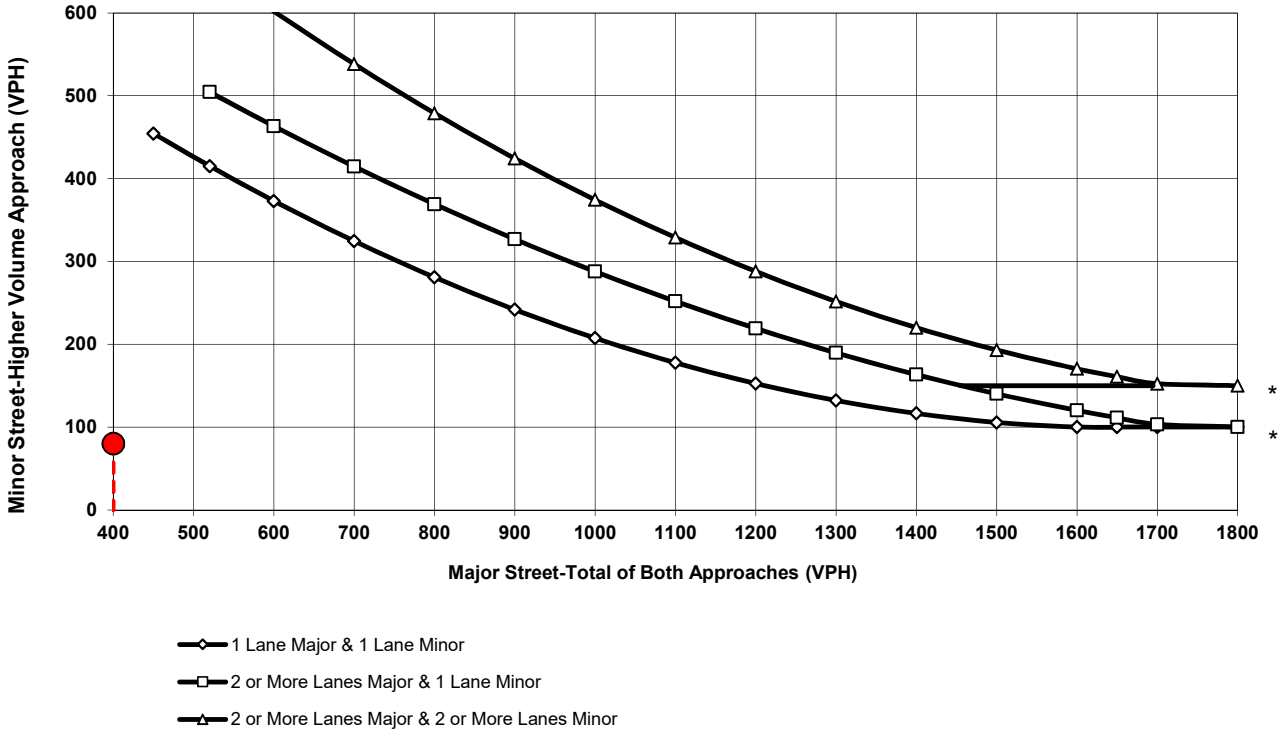
Minor Street: Date Street

Total of Both Approaches (VPH): 265
Number of Approach Lanes: 1

Higher Volume Approach (VPH): 80
Number of Approach Lanes: 1

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2014 California Supplement Including Revisions 1, 2 and 3 (Mar 9, 2018)

EAPC Conditions
AM Peak Hour Volume Warrant
Delhaven Street/Date Street

EAPC PEAK HOUR VOLUME WARRANT
URBAN CONDITIONS

Peak Hour: PM

Major Street: Delhaven Street

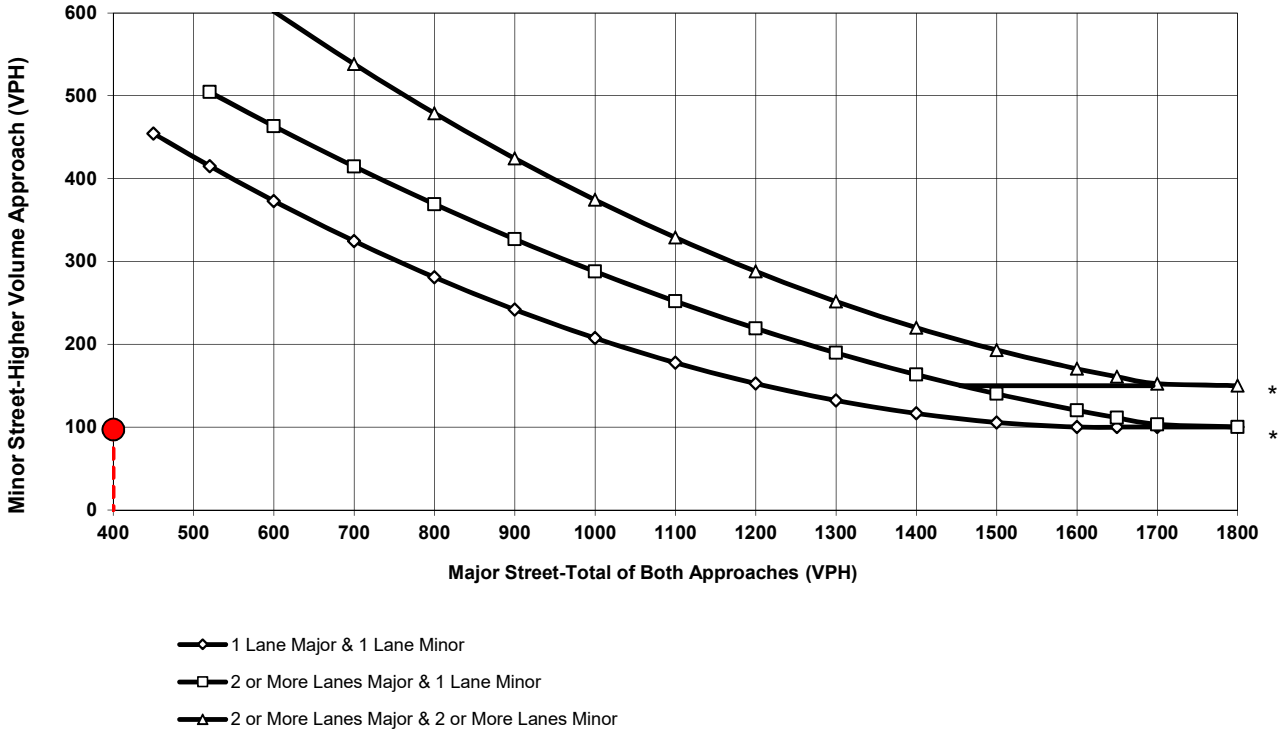
Minor Street: Date Street

Total of Both Approaches (VPH): 309
Number of Approach Lanes: 1

Higher Volume Approach (VPH): 97
Number of Approach Lanes: 1

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2014 California Supplement Including Revisions 1, 2 and 3 (Mar 9, 2018)

EAPC Conditions
PM Peak Hour Volume Warrant
Delhaven Street/Date Street

APPENDIX F

CUMULATIVE PROJECTS INFORMATION

ADOBE SPRINGS
TRAFFIC IMPACT ANALYSIS
CITY OF MURRIETA, CALIFORNIA

MAY 18, 2015

Prepared for:

Murrieta KLC Holdings 130, LLC

Prepared by:

Scott Sato, P.E.
100 E. San Marcos Boulevard, Suite 400
San Marcos, CA 92069

TRAMES SOLUTIONS INC.

(0108-0001-05)

1.0 INTRODUCTION AND SUMMARY

A. Purpose of the TIA and Study Objectives

The purpose of this traffic impact analysis (TIA) is to evaluate the traffic impact of the proposed Adobe Springs development. The project is to be developed in two phases. The first phase will consist of approximately 287 single family residential dwelling units by 2018. The second phase will be completed by 2020 and include a total of 208,500 sf (54,000 sf + 112,500 sf + 42,000 sf) of business park uses. The site is located west of Winchester Road between Auld Road and Benton Road in the City of Murrieta.

The site is currently zoned with a single family residential and business park designation. The proposed uses are allowed under this designation and will not change the underlying zoning of the property.

Study objectives include the following:

Existing (2014) Traffic. Existing traffic will be counted to determine current conditions. This constitutes the environmental setting for a CEQA analysis at the time that the hearing body reviews the project. Traffic count data shall be new or recent. In some cases, data up to one year old may be acceptable with the approval of the City of Murrieta Engineering Department. Any exception to this must be requested prior to approval of the scoping agreement

Existing (2014) Plus Project Traffic. Traffic generated by the proposed project will be added to existing traffic counts to identify and analyze impacts on the circulation system.

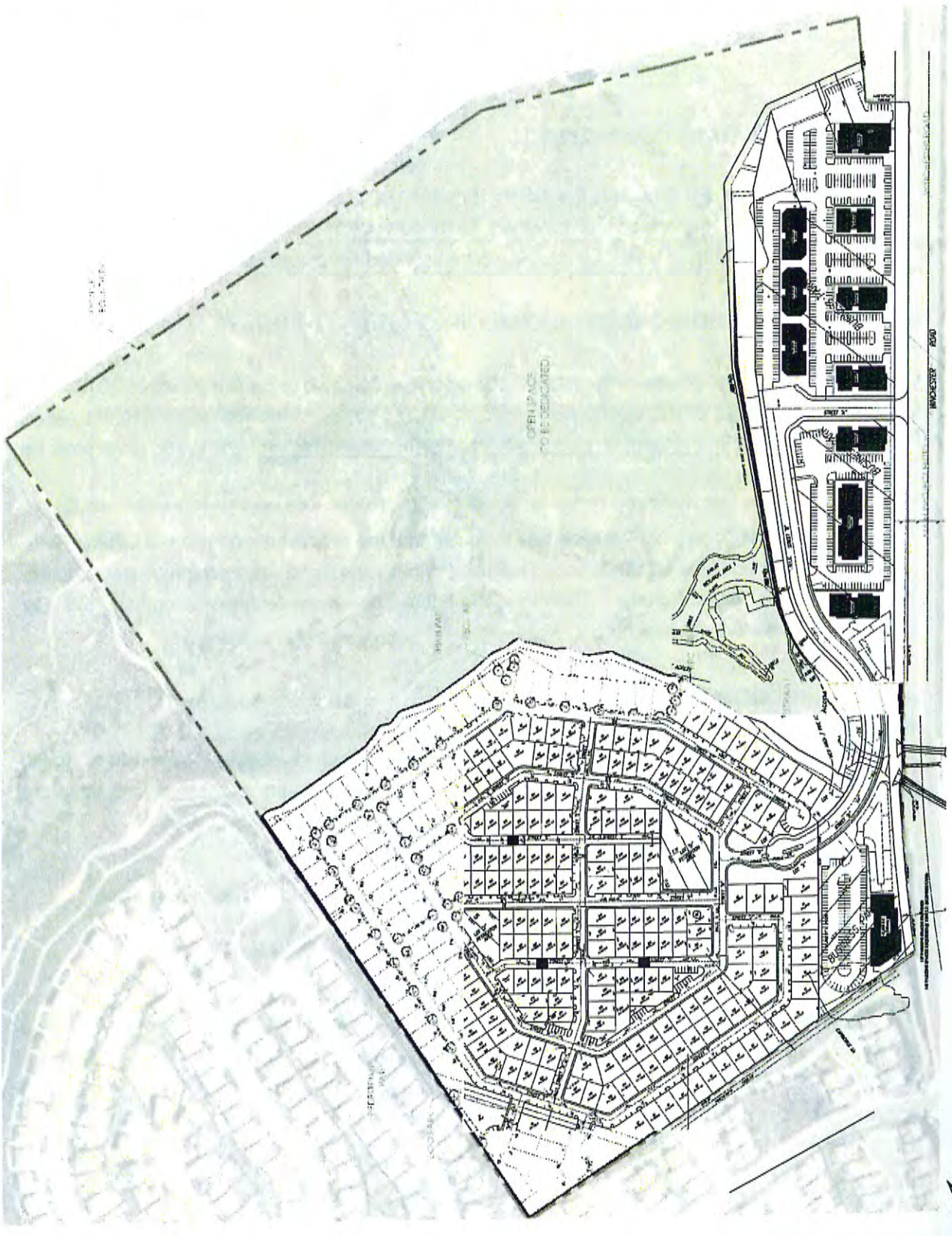
Existing + Ambient + Project (EAP 2018 – Phase 1 & EAP 2020 – Phase 2). Traffic conditions prior to the time that the proposed development is completed will be estimated by increasing the existing traffic counts by an appropriate growth rate to be provided by City of Murrieta Engineering Department staff, projected to the year that the project is estimated to be completed. Traffic generated by the proposed project will then be added, and the impacts on the circulation system will be analyzed. This will be the basis for determining project-specific impacts, mitigation, and conditions of approval.

FIGURE 1-A
STUDY AREA

Adobe SpringsTraffic Impact Analysis
City of Murrieta, CA (0108-0001:01.dwg)

TRAMES SOLUTIONS INC.

FIGURE 1-B
SITE PLAN



Adobe SpringsTraffic Impact Analysis
City of Murrieta, CA (0108-0001:01.dwg)

TRAMES SOLUTIONS INC.

4.0 PROJECTED FUTURE TRAFFIC

This section of the report quantifies the number of trips generated by the proposed project and other known developments in the area.

A. Project Traffic

1. Ambient Growth Rate

Some traffic volume increases on roadways can be attributed to vehicles originating outside of the study area. These types of trips either end up within the study area or pass-through onto an outside destination. Therefore, to account for these trips (termed "ambient growth"), a growth rate can be applied to existing traffic volumes.

A 2% ambient growth rate that has been used in this study to account for traffic not attributed to the project or other planned developments within the study area. The City of Murrieta Transportation Department staff has previously reviewed and approved this rate.

2. Project Trip Generation

Trip generation represents the amount of traffic which is attracted and produced by a development. The trip generation for the project is based upon the specific land use which has been planned for this development. For the purpose of this analysis, the following land use assumption is evaluated:

Phase 1 (2018)

- 287 single family (detached) residential dwelling units

Phase 2 (2020)

- 208,500 sf business park

Trip generation rates for the proposed development are shown in Table 4-1. The trip generation rates are based upon data collected by the Institute of Transportation Engineers (ITE).

TABLE 4-1
PROJECT TRIP GENERATION RATES

LAND USE	ITE CODE	QUANTITY[2]	PEAK HOUR TRIP RATES[1]						DAILY
			AM			PM			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
Single Family Detached Residential	210	287 DU	0.19	0.56	0.75	0.63	0.37	1.00	9.52
Business Park	770	208.5 TSF	1.19	0.21	1.40	0.33	0.93	1.26	12.44

[1] Source: ITE (Institute of Transportation Engineers) Trip Generation Manual, 9th Edition, 2012.

[2] DU = Dwelling Units; TSF = Thousand Square Feet

The daily and peak hour trip generations for the proposed project are shown on Table 4-2. The first phase of the proposed development is projected to generate a total of approximately 2,732 trip-ends per day with 216 vehicles per hour during the AM peak hour and 287 vehicles per hour during the PM peak hour. The second phase will include the business park development. This use will generate 2,594 trips per day with 292 AM trip ends and 263 PM trip ends. It is assumed that approximately 5 percent of the trips will be due to the interaction with the project's residential units during the PM peak hour. Therefore, the overall project will generate approximately 5,196 trips per day with 508 trips during the AM peak hour and 537 trips during the PM peak hour.

TABLE 4-2
PROJECT TRIP GENERATION SUMMARY

LAND USE	QUANTITY[1]	PEAK HOUR						DAILY
		AM			PM			
		IN	OUT	TOTAL	IN	OUT	TOTAL	
PHASE 1								
Single Family Detached Residential	287 DU	55	161	216	181	106	287	2,732
PHASE 1 SUBTOTAL		**55**	**161**	**216**	**181**	**106**	**287**	**2,732**
Business Park	208.5 TSF	248	44	292	69	194	263	2,594
INTERNAL INTERACTION (5%)		**0**	**0**	**0**	**-6**	**-7**	**-13**	**-130**
PHASE 2 SUBTOTAL		**248**	**44**	**292**	**63**	**187**	**250**	**2,464**
TOTAL PROJECT TRIPS		**303**	**205**	**508**	**244**	**293**	**537**	**5,196**

[1] DU = Dwelling Units; TSF = Thousand Square Feet

FIGURE 4-A
RESIDENTIAL PROJECT TRIP DISTRIBUTION

Adobe SpringsTraffic Impact Analysis
City of Murrieta, CA (0108-0001:01.dwg)

TRAMES SOLUTIONS INC.

FIGURE 4-B
NON-RESIDENTIAL PROJECT TRIP DISTRIBUTION

Adobe SpringsTraffic Impact Analysis
City of Murrieta, CA (0108-0001:01.dwg)

TRAMES SOLUTIONS INC.

3.0 Projected Future Traffic

A. PROJECT TRAFFIC

1. AMBIENT GROWTH RATE

An ambient growth rate of 2% per year was applied for one year to represent an anticipated year 2018 opening. Caltrans 2015 data was increased by 6% to represent 2018 conditions.

2. TRIP GENERATION

The project trip generation was calculated using the 9th Edition of Institute of Transportation Engineers (ITE) Trip Generation, 2012 as shown in **Table 3**.

TABLE 2: PROJECT TRIP GENERATION

Proposed							AM				PM	
Land Use	Rate	Size & Units	Daily	Rate	Split		IN	OUT	Rate	Split	IN	OUT
Driveway Trip Generation												
ITE (code 850) Supermarket	102.24 /KSF	19,056 SF	1,948	3.40	0.62	0.38	40	25	9.48	0.51 0.49	92	89
ITE Diverted and Pass-By Reductions												
ITE Diverted Percentage 38%			-69								-35	-34
ITE Pass-By Percentage 25%			-45								-23	-22
Primary Trip Generation			*1,834*				*40*	*25*			*34*	*33*

Source: Institute of Transportation Engineers (ITE) 9th Edition *Trip Generation*. SF - Square Feet; KSF - 1,000 SF. Daily: 24 hour traffic. Split-percent inbound & outbound. Rounding may cause values to be slighly higher or lower than fractional number.

3. TRIP DISTRIBUTION AND ASSIGNMENT

The project trip distribution was based on surrounding residential and other land uses anticipated to visit the project site. In general, the project distribution is based on 20% to/from the north, 30% to/from the south, 20% to/from the east, and 30% to/from the west. The project is anticipated to be open after completion of the widening of Murrieta Hot Springs Road to which the northbound left turn will be restricted as noted in the traffic scoping agreement. Therefore, project traffic returning to the west will make a U-turn at Winchester.

Capital Improvement Project (CIP) #8079 will widen Murrieta Hot Springs Road in the immediate vicinity of the project to an ultimate width of 6 lanes with an estimated completion date of late 2018. Therefore, left-turn access into Del Haven Street from westbound Murrieta Hot Springs Road will be allowed on an interim basis. Once the City's capital improvement project to construct the Date Street extension (between Winchester Creek Road/Calle de Fortuna and Murrieta Hot Springs Road) is completed, the intersection of Murrieta Hot Springs Road and Del Haven will be restricted to right-turn in/right-turn out access only. This is due to the dual left-turn lanes that will be needed for westbound vehicles on Murrieta Hot Springs Road turning southbound onto Date Street, which potentially will extend past Del Haven. There is currently no timeframe for this construction. The near-term project distribution reflects the allowed

interim westbound to southbound left turn to Del Haven Street. The project distribution is shown in **Exhibit 6**.

4. OTHER FACTORS AFFECTING TRIP GENERATION

   ITE trip reductions were applied for diverted and pass-by trips as shown in Table 2 with a maximum pass-by of 25% per coordination with city staff and diverted reduction of 38% based on ITE documented sources included in Appendix A.

5. PROJECT PEAK HOUR TURNING MOVEMENT TRAFFIC

   The project peak hour turning trip assignment is shown in **Exhibit 7**.

6. OTHER FACTORS AFFECTING TRIP GENERATION

   No project phasing is planned.

Exhibit 6: Project Trip Distribution

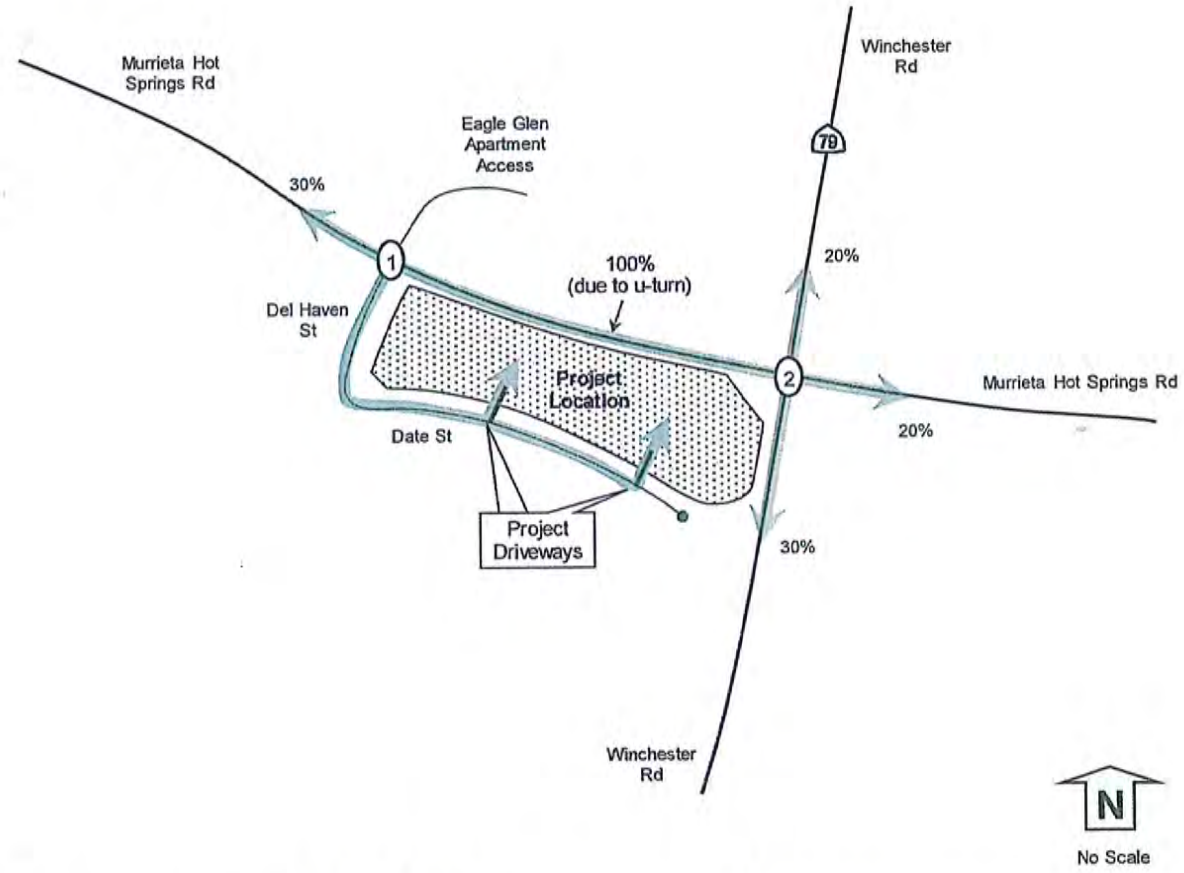
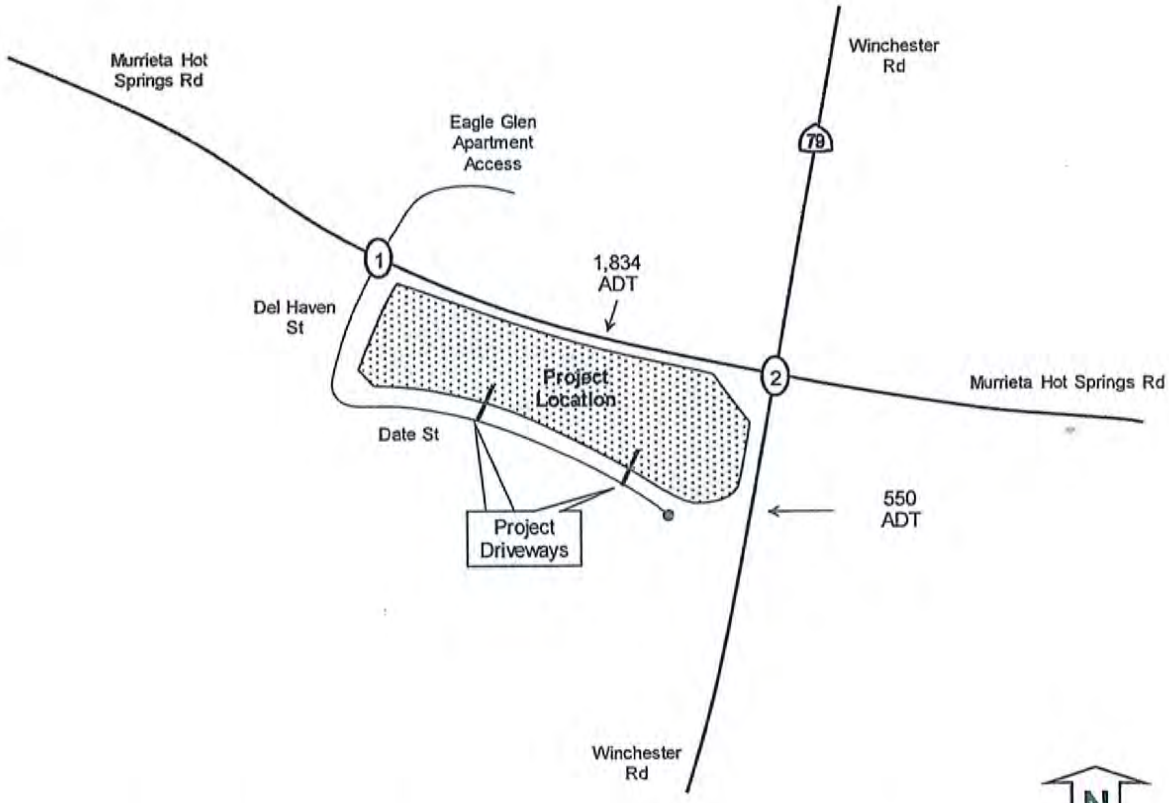
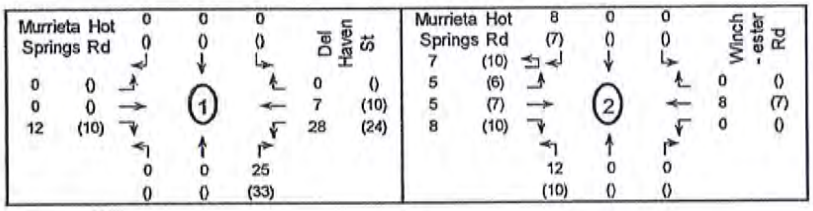


Exhibit 7: Project Trip Assignment





LEGEND

XX	AM peak hour volumes at intersections
(YY)	PM peak hour volumes at intersections
Z,ZZZ	ADT volumes shown along segments
(#)	Intersection Reference Number to LOS Tables
——	Existing Roadways

MURRIETA MARKETPLACE
TRAFFIC IMPACT ANALYSIS
CITY OF MURRIETA, CALIFORNIA

DECEMBER 26, 2017

Prepared for:

Mr. Matt Liesemeyer
J&T Management, Inc.
P.O. Box 1958
Corona, CA 92878

Prepared by:

Scott Sato, P.E.
4225 Oceanside Blvd., #354H
Oceanside, CA 92056
(760) 291-1400

TRAMES SOLUTIONS INC.

(0265-0001-13)

FIGURE 1-B
SITE PLAN (NORTH)

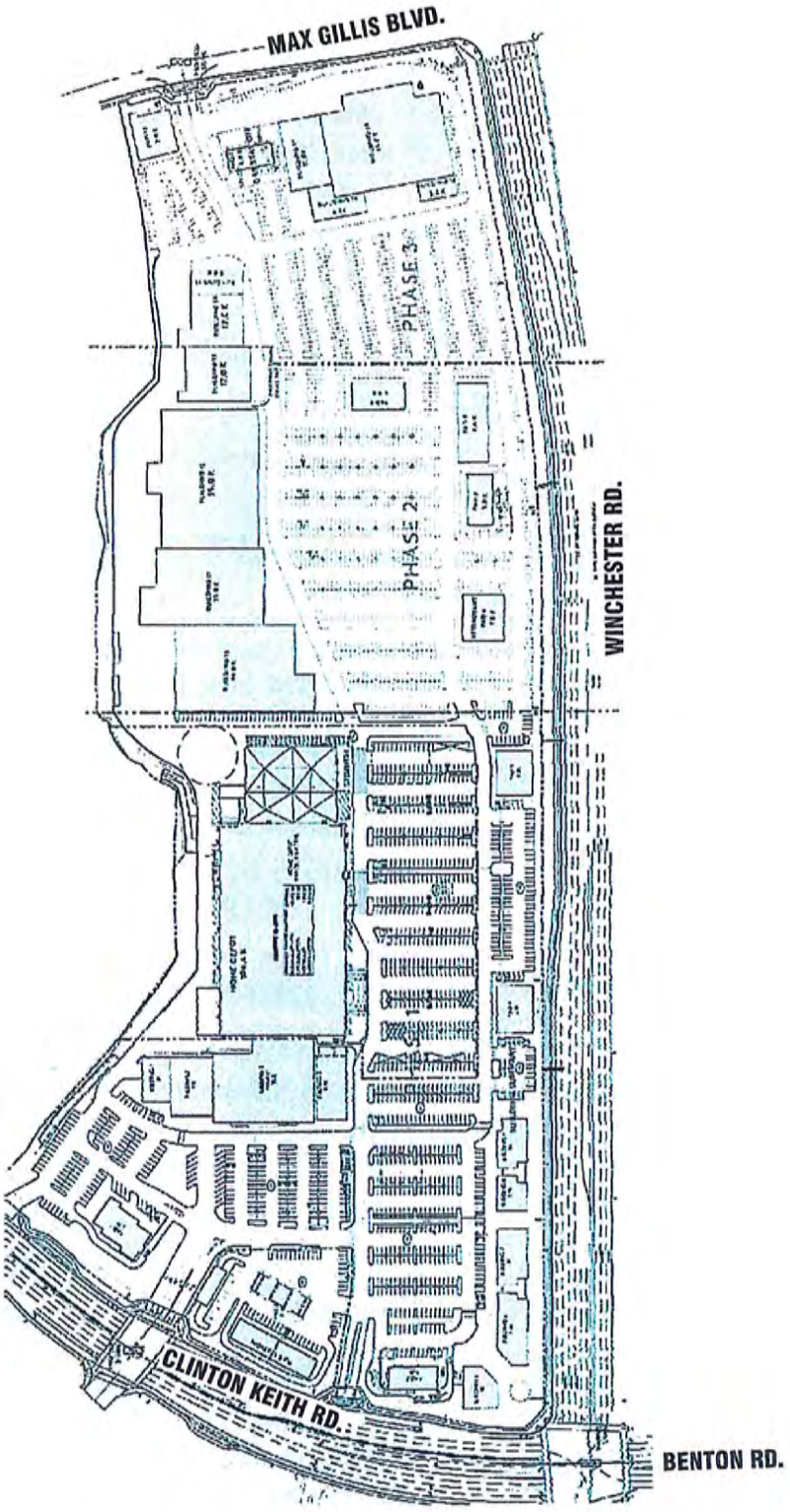
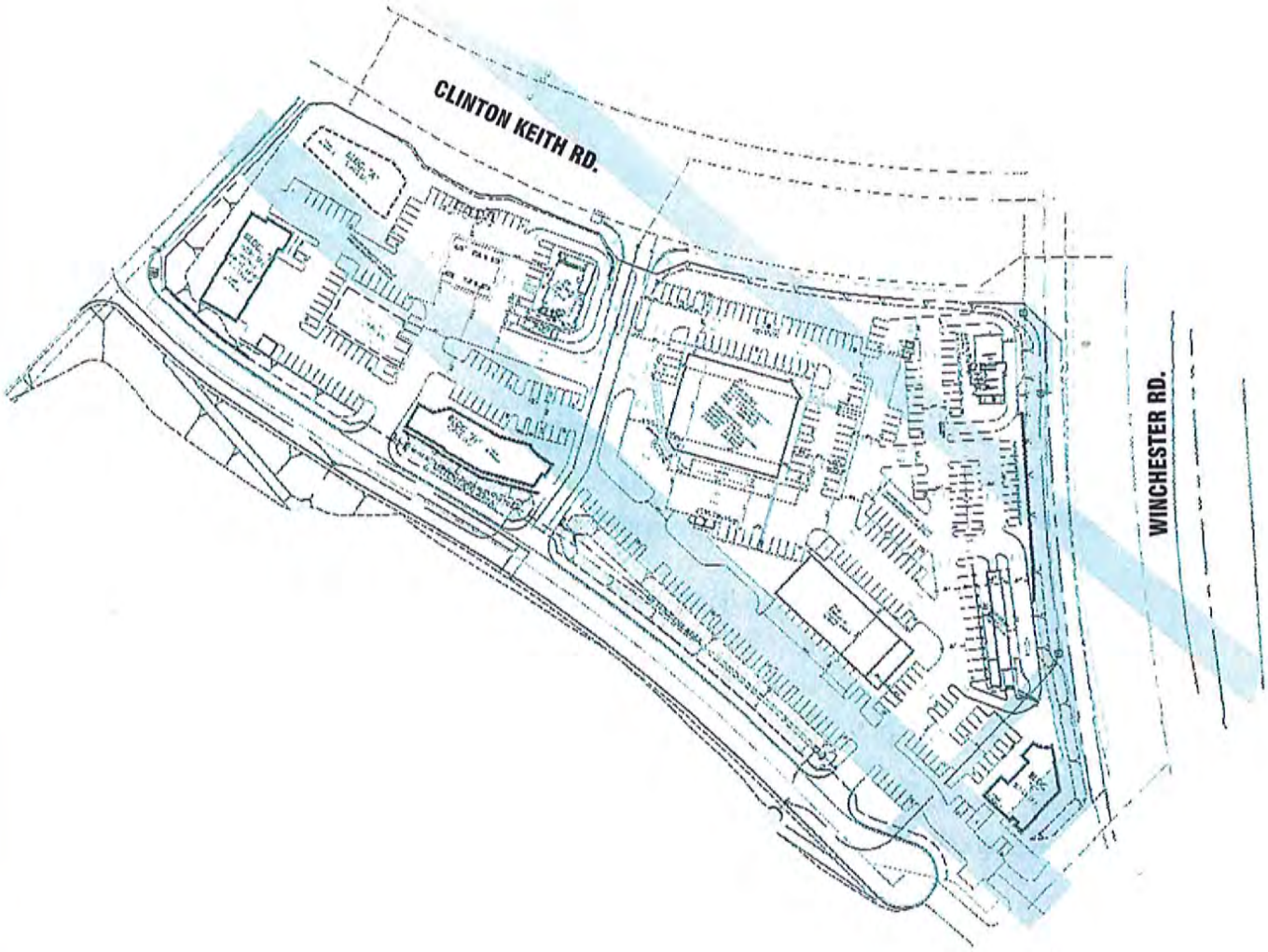


FIGURE 1-C
SITE PLAN (SOUTH)



4.0 PROJECTED FUTURE TRAFFIC

This section of the report quantifies the number of trips generated by the proposed project and other known developments in the area.

A. Project Traffic

1. Ambient Growth Rate

Some traffic volume increases on roadways can be attributed to vehicles originating outside of the study area. These types of trips either end up within the study area or pass-through onto an outside destination. Therefore, to account for these trips (termed "ambient growth"), a growth rate can be applied to existing traffic volumes.

A 2% ambient growth rate that has been used in this study to account for traffic not attributed to the project or other planned developments within the study area. This growth rate has been provided by the City of Murrieta and the County of Riverside and is used in traffic studies for developments in the French Valley area. It is important to note that the growth rate is applied in addition to other known cumulative projects in the area.

2. Project Trip Generation

Trip generation represents the amount of traffic which is attracted and produced by a development. The trip generation for the project is based upon the specific land use which has been planned for this development. For the purpose of this analysis, the following land use assumption is evaluated:

584,309 sf of commercial retail uses
523,102 sf - north site
61,270 sf – south site

North Site

- 509,602 sf shopping center
- 16 vehicle fueling position C Store with pumps and car wash
- 8 vehicle fueling position gas station

South Site

- 58,070 sf shopping center
- 12 vehicle fueling position C Store with pumps and car wash

Trip generation rates for the proposed development are shown in Table 4-1. The trip generation rates are based upon data collected by the Institute of Transportation Engineers (ITE).

TABLE 4-1
PROJECT TRIP GENERATION RATES

LAND USE	ITE CODE	QUANTITY[2]	PEAK HOUR TRIP RATES[1]						DAILY
			AM			PM			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
Shopping Center	820	509.602 TSF	0.51	0.31	0.82	1.68	1.82	3.50	38.41
Shopping Center	820	58.07 TSF	1.19	073	1.92	1.67	1.81	3.48	38.23
C Store with pumps and car wash	946	Varies VFP	6.04	5.80	11.84	7.07	6.79	13.86	152.84
Gas Station	944	8 VFP	6.2	5.96	12.16	6.94	6.94	13.88	168.56

[1] Source: ITE (Institute of Transportation Engineers) Trip Generation Manual, 9th Edition, 2012.

[2] TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions

The proposed project consists of retail uses that are anticipated to be comprised of pass-by trips. Pass-by trips are defined as an intermediate stop on the way to a primary destination. These are not new trips since they are already occurring on the roadway system. A 15% reduction for pass-by trips has been assumed for the shopping center and a 56% reduction has been taken for the C-store/gas station use. These rates were based on the ITE Trip Generation Manual and the Caltrans Traffic Study Guidelines.

The daily and peak hour trip generations for the proposed project are shown on Table 4-2. The proposed development is projected to generate a total of approximately 23,168 trip-ends per day with 640 vehicles per hour during the AM peak hour and 2,090 vehicles per hour during the PM peak hour.

TABLE 4-2
PROJECT TRIP GENERATION SUMMARY

LAND USE	QUANTITY[1]	PEAK HOUR						DAILY
		AM			PM			
		IN	OUT	TOTAL	IN	OUT	TOTAL	
North Site								
Shopping Center	509.602 TSF	260	158	418	856	927	1783	19,574
PASS-BY REDUCTION (15%)		-39	-24	-63	-128	-139	-267	-2,936
C Store with pumps and car wash	16 VFP	97	93	190	113	109	222	2,445
Gas Station	8 VFP	50	48	98	56	56	112	1,348
PASS-BY REDUCTION (56%)		-82	-79	-161	-95	-92	-187	-2,124
North Site Subtotal		**286**	**196**	**482**	**802**	**861**	**1,663**	**18,307**
South Site								
Shopping Center	58.07 TSF	69	42	111	200	217	417	4,770
PASS-BY REDUCTION (15%)		-10	-6	-16	-30	-33	-63	-716
C Store with pumps and car wash	12 VFP	72	70	142	85	81	166	1,834
PASS-BY REDUCTION (15%)		-40	-39	-79	-48	-45	-93	-1,027
South Site Subtotal		**91**	**67**	**158**	**207**	**220**	**427**	**4,861**
TOTAL PROJECT TRIPS		**377**	**263**	**640**	**1,009**	**1,081**	**2,090**	**23,168**

[1] TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions

3. Project Trip Distribution and Assignment

Trip distribution represents the directional orientation of traffic to and from the project site. The project's trip distribution patterns are based on the proximity of the specific uses to the surrounding trip attractors (employment bases, residential uses, schools, recreation centers, etc.), and the regional freeway interchanges. The trip distribution pattern for the project are illustrated on Figures 4-A through 4-D.

4. Other Trip Generation Factors

The project land uses are comprised mainly of primary traffic. Primary traffic refers to trips that are intending to go to the project as their primary destination. However, as discussed above, a 15 percent reduction has been assumed for shopping center pass-by traffic and a 56 percent reduction for the gas stations.

5. Project Peak Hour Turning Movement Traffic

The assignment of traffic from the site to the adjoining roadway system has been based upon the site's trip generation, trip distribution, proposed arterial highway and

FIGURE 4-A
NORTH SITE PROJECT TRIP DISTRIBUTION
WITH CLINTON KEITH EXTENSION BETWEEN LEON AND WINCHESTER (ALTERNATIVE 1)

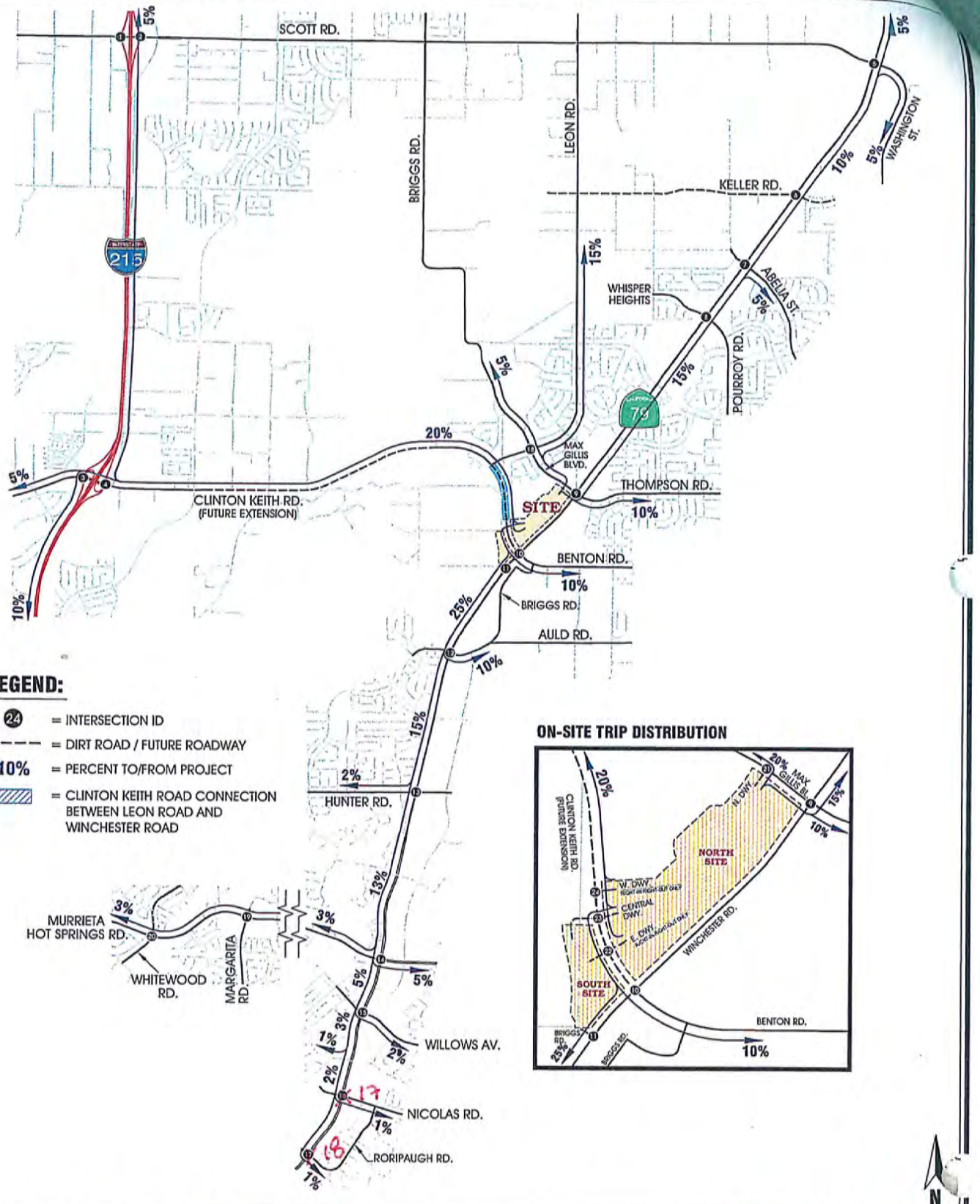


FIGURE 4-B
SOUTH SITE PROJECT TRIP DISTRIBUTION
WITH CLINTON KEITH EXTENSION BETWEEN LEON AND WINCHESTER (ALTERNATIVE 1)

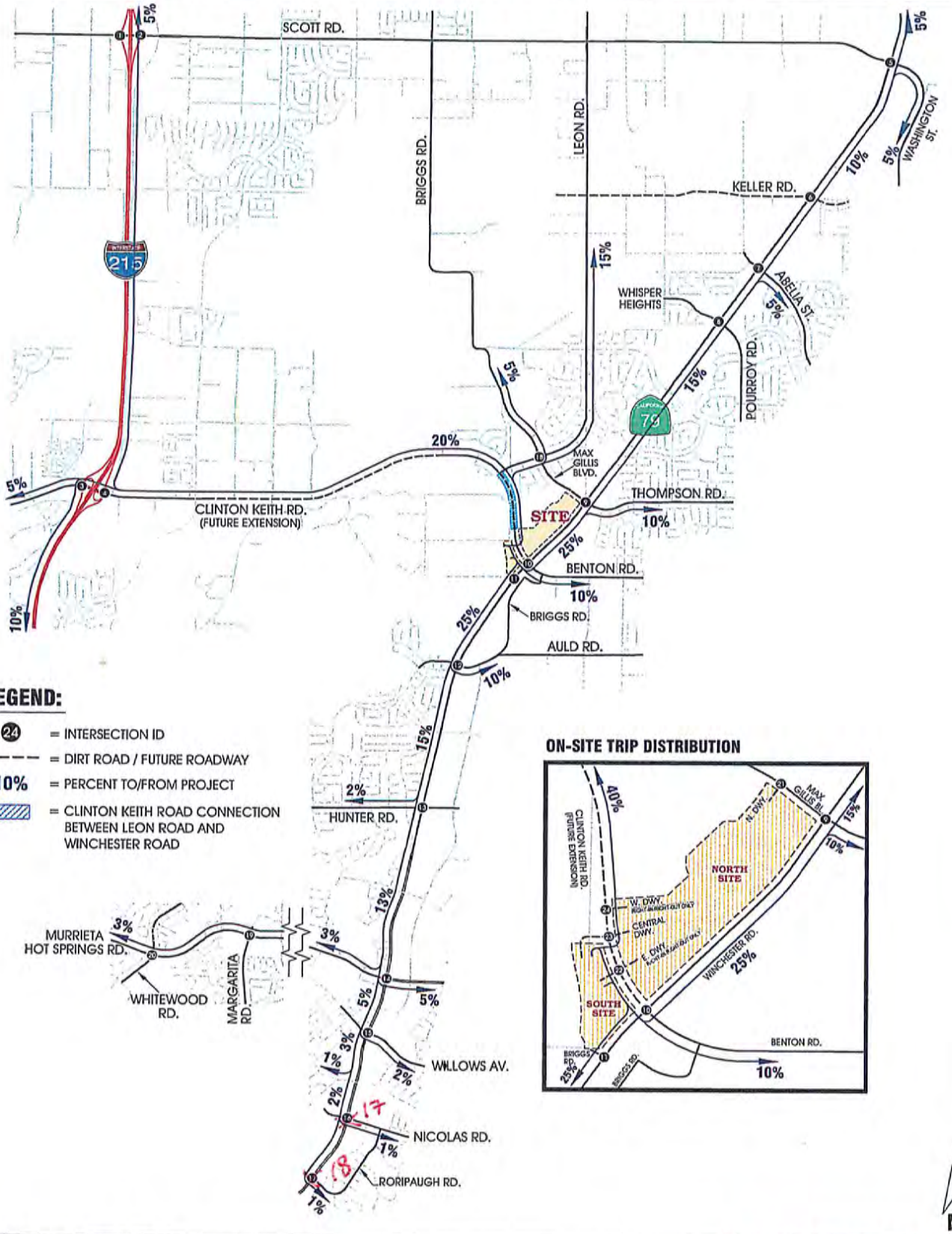


FIGURE 4-C
NORTH SITE PROJECT TRIP DISTRIBUTION
WITHOUT CLINTON KEITH EXTENSION BETWEEN LEON & WINCHESTER (ALTERNATIVE 2)

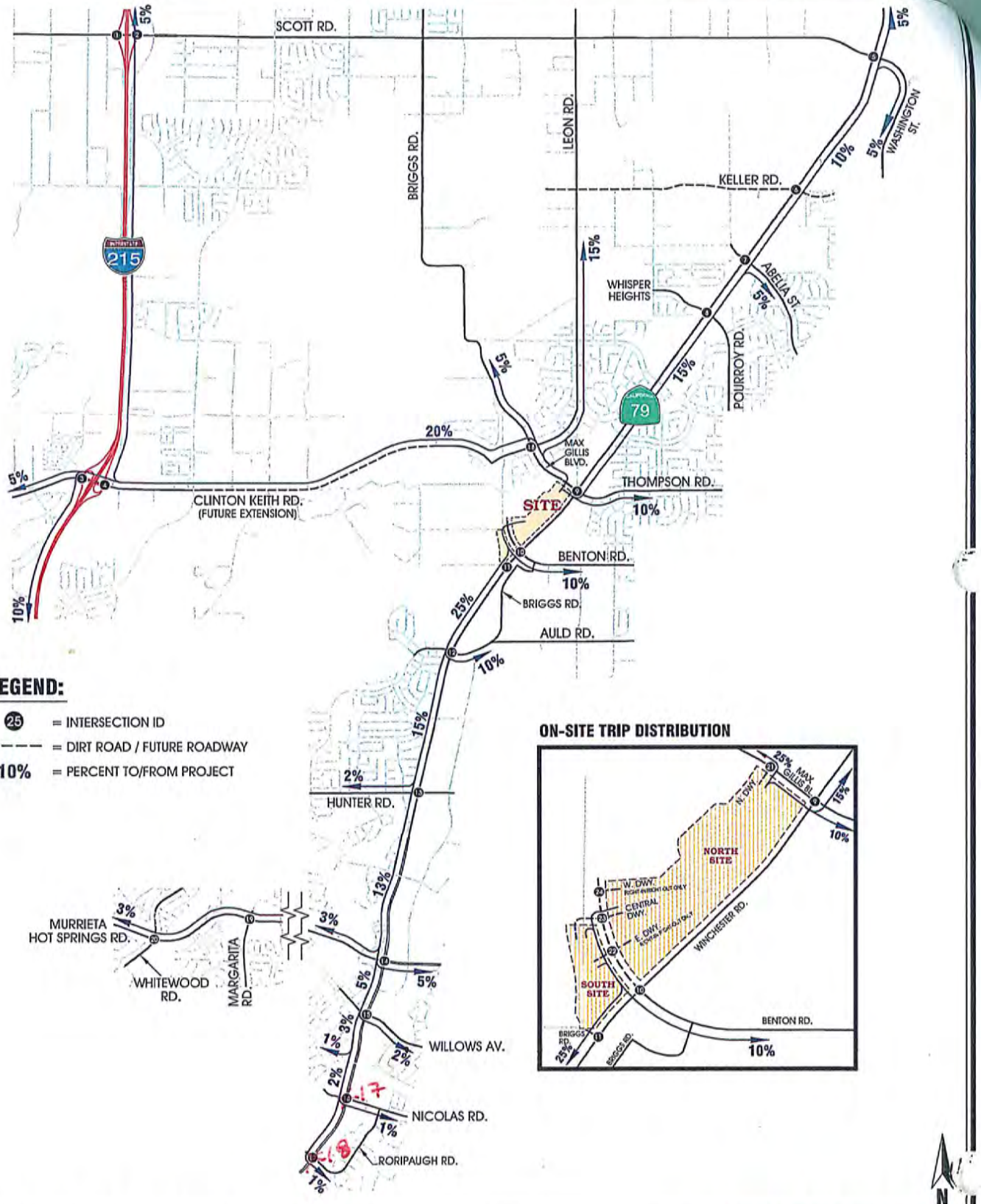


FIGURE 4-D
SOUTH SITE PROJECT TRIP DISTRIBUTION
WITHOUT CLINTON KEITH EXTENSION BETWEEN LEON & WINCHESTER (ALTERNATIVE 2)

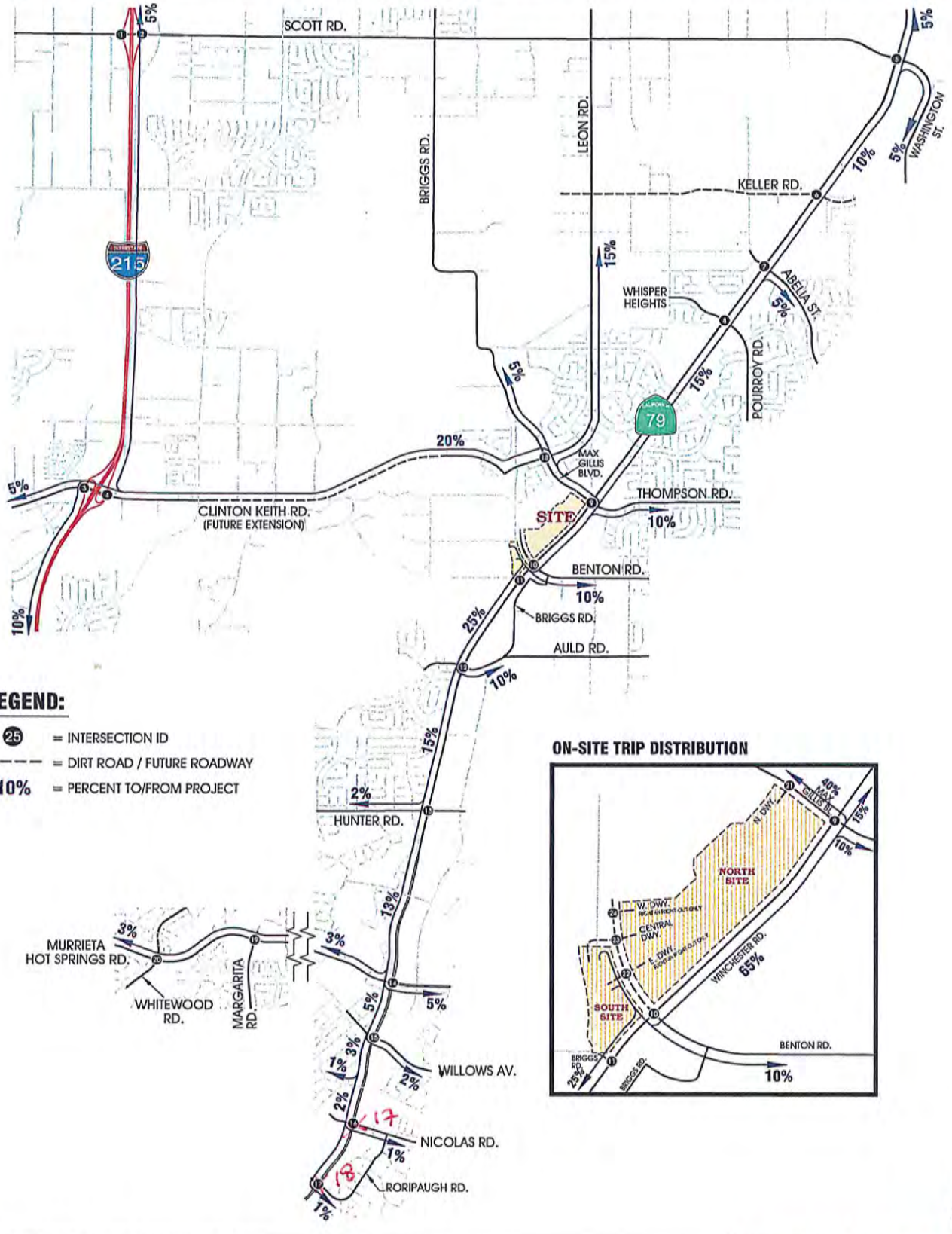
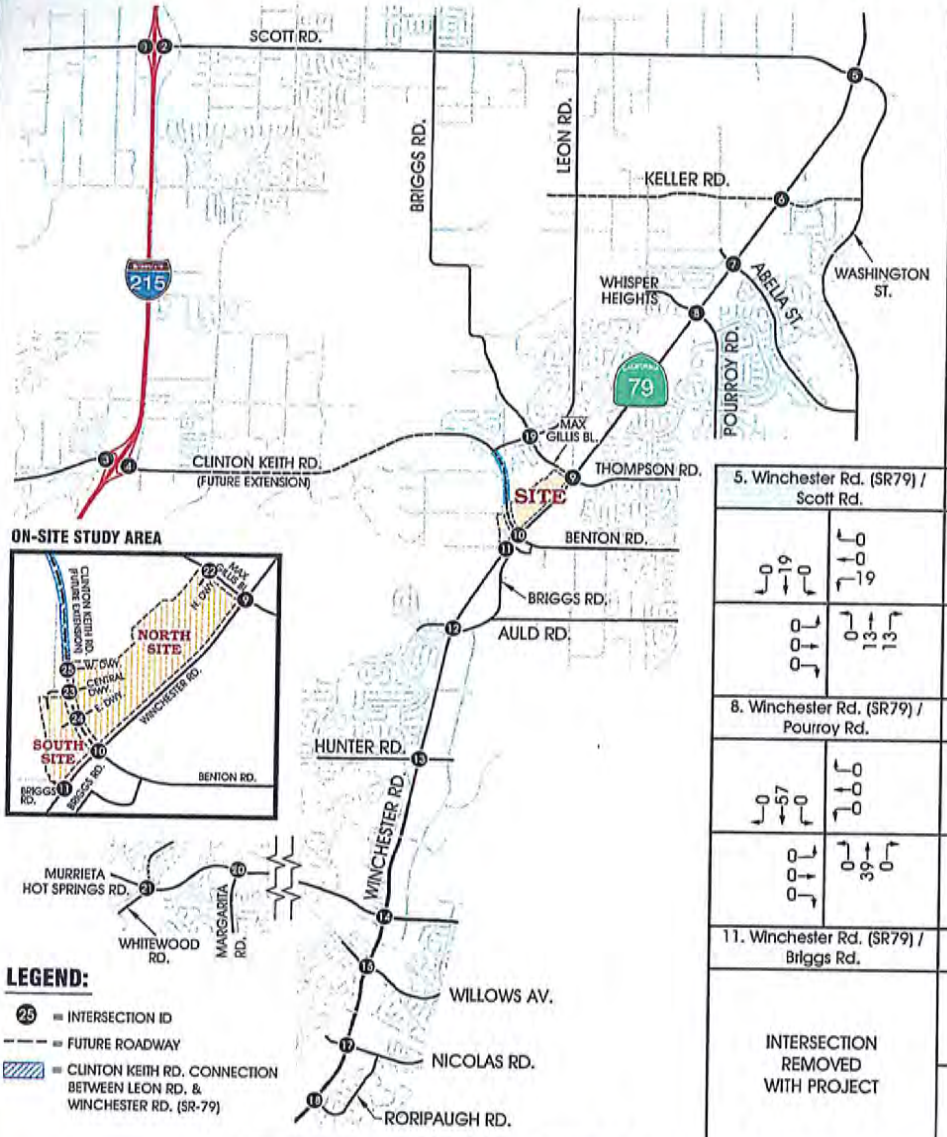


FIGURE 4-E
PROJECT ONLY AM PEAK HOUR INTERSECTION VOLUMES
WITH CLINTON KEITH EXTENSION BETWEEN LEON AND WINCHESTER (ALTERNATIVE 1)



1. I-215 SB Ramps / Scott Rd.	2. I-215 NB Ramps / Scott Rd.
0 0 0 → 0 0	→ 0 0
0 → 0	0 → 0 0 0

3. I-215 SB Ramps / Clinton Keith Rd.	4. I-215 NB Ramps / Clinton Keith Rd.
0 0 19 → 26 13	→ 13 39
19 → 0	38 → 0 0 38

5. Winchester Rd. (SR79) / Scott Rd.	6. Winchester Rd. (SR79) / Keller Rd.	7. Winchester Rd. (SR79) / Abelia St.
0 19 0 → 0 0 19	0 38 0 → 0 0 0	0 38 0 → 0 0 19
0 0 0 → 0 13 13	0 0 0 → 0 26 0	0 0 0 → 0 26 13

8. Winchester Rd. (SR79) / Pourroy Rd.	9. Winchester Rd. (SR79) / Thompson Rd.	10. Winchester Rd. (SR79) / Benton Rd.
0 57 0 → 0 0 0	43 14 0 → 0 29 9	23 0 0 → 0 38 0
0 0 0 → 0 39 0	29 20 0 → 0 10 7	17 26 66 → 94 0 0

11. Winchester Rd. (SR79) / Briggs Rd.	12. Winchester Rd. (SR79) / Auld Rd.	13. Winchester Rd. (SR79) / Hunter Rd.
INTERSECTION REMOVED WITH PROJECT	0 39 26 → 38 0 0	5 34 0 → 0 0 0
	0 0 0 → 0 57 0	8 0 0 → 0 49 0

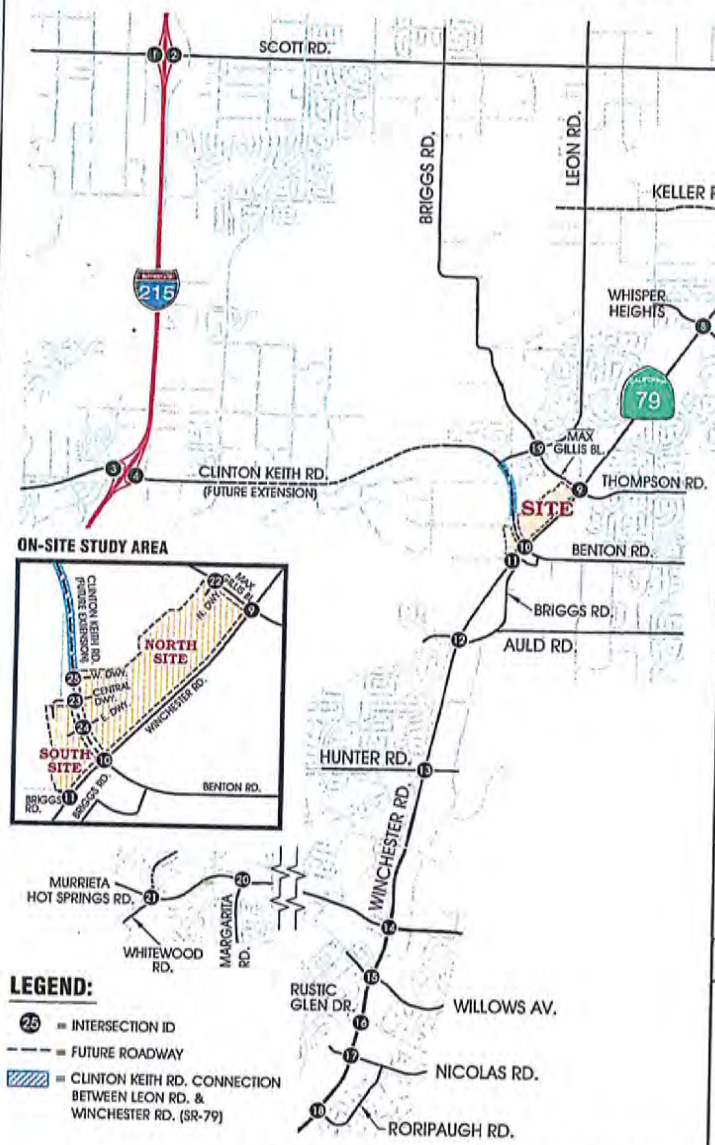
14. Winchester Rd. (SR79) / Murrieta Hot Springs Rd.	15. Winchester Rd. (SR79) / Willows Av.	17. Winchester Rd. (SR79) / Nicolas Rd.	18. Winchester Rd. (SR79) / Roripaugh Rd.	19. Briggs Rd. / Leon Rd.
8 13 13 → 19 0 0	0 8 5 → 8 0 0	0 3 3 → 4 0 0	0 0 3 → 4 0 0	5 14 0 → 0 14 43
11 0 0 → 0 19 0	4 0 0 → 0 8 0	0 0 0 → 0 4 0	0 0 0 → 0 0 0	3 10 0 → 0 10 29

20. Margarita Rd. / Murrieta Hot Springs Rd.	21. Whitewood Rd. / Murrieta Hot Springs Rd.	22. N. Project Dwy. / Max Gillis Bl.	23. Central Dwy. / Clinton Keith Rd.	24. Whitewood Rd. / Murrieta Hot Springs Rd.	25. Whitewood Rd. / Murrieta Hot Springs Rd.
0 0 0 → 0 8 0	0 0 0 → 0 8 0	→ 0 72	20 0 69 → 57 24 55	10 → 29 126	10 → 14 56
0 11 0 → 0 0 0	0 11 0 → 0 0 0	0 57 → 39 49	57 27 9 → 27 0 7	75 27 → 34	94 →

N

FIGURE 4-F

PROJECT ONLY PM PEAK HOUR INTERSECTION VOLUMES
WITH CLINTON KEITH EXTENSION BETWEEN LEON AND WINCHESTER (ALTERNATIVE 1)



1. I-215 SB Ramps / Scott Rd.	2. I-215 NB Ramps / Scott Rd.
0 0 0 → ; ← 0 0	← 0 0
0 → 0 ; ←	0 → 0 ; ← 0 0 0

3. I-215 SB Ramps / Clinton Keith Rd.	4. I-215 NB Ramps / Clinton Keith Rd.
0 0 50 → ; ← 108 54	← 54 162
50 → 0 ; ←	101 → 0 ; ← 0 101

5. Winchester Rd. (SR79) / Scott Rd.	6. Winchester Rd. (SR79) / Keller Rd.	7. Winchester Rd. (SR79) / Abella St.
0 → 50 0 ; ← 0 0 50	0 → 101 0 ; ← 0 0 0	0 → 101 0 ; ← 0 0 50
0 0 0 → ; ← 54 54 54	0 0 0 → ; ← 0 108 0	0 0 0 → ; ← 0 108 54

8. Winchester Rd. (SR79) / Pourroy Rd.	9. Winchester Rd. (SR79) / Thompson Rd.	10. Winchester Rd. (SR79) / Benton Rd.
0 → 151 0 ; ← 0 0 0	120 → 31 0 ; ← 0 80 21	52 → 0 0 ; ← 0 101 0
0 0 0 → ; ← 0 162 0	129 → 86 0 ; ← 0 33 22	55 → 108 270 ; ← 252 0 0

11. Winchester Rd. (SR79) / Briggs Rd.	12. Winchester Rd. (SR79) / Auld Rd.	13. Winchester Rd. (SR79) / Hunter Rd.
INTERSECTION REMOVED WITH PROJECT	0 → 162 108 ; ← 101 0 0	22 → 141 0 ; ← 0 0 0
	0 0 0 → ; ← 0 151 0	20 → 0 0 ; ← 0 131 0

14. Winchester Rd. (SR79) / Murrieta Hot Springs Rd.	15. Winchester Rd. (SR79) / Willows Av.	17. Winchester Rd. (SR79) / Nicolas Rd.	18. Winchester Rd. (SR79) / Roripaugh Rd.	19. Briggs Rd. / Leon Rd.
32 → 54 54 ; ← 50 0 0	0 → 32 22 ; ← 20 0 0	0 → 11 11 ; ← 10 0 0	0 → 0 11 ; ← 10 0 0	10 → 40 0 ; ← 0 31 120
30 → 0 0 ; ← 0 50 0	10 → 0 0 ; ← 0 20 0	0 0 0 → ; ← 0 10 0	0 0 0 → ; ← 0 0 0	11 → 33 0 ; ← 0 43 129

20. Margarita Rd. / Murrieta Hot Springs Rd.	21. Whitewood Rd. / Murrieta Hot Springs Rd.	22. N. Project Dwy. / Max Gillis Bl.	23. Central Dwy. / Clinton Keith Rd.	24. Whitewood Rd. / Murrieta Hot Springs Rd.	25. Whitewood Rd. / Murrieta Hot Springs Rd.
0 0 0 → ; ← 0 32 0	0 0 0 → ; ← 0 32 0	← 0 201	86 → 0 301 ; ← 160 83 124	43 → ; ← 80 325	43 → ; ← 40 217
0 → 30 0 ; ← 0 0 0	0 → 30 0 ; ← 0 0 0	0 → 160 ; ← 172 215	160 → 62 21 ; ← 88 0 22	323 → 62 ; ← 110	243 → ; ←

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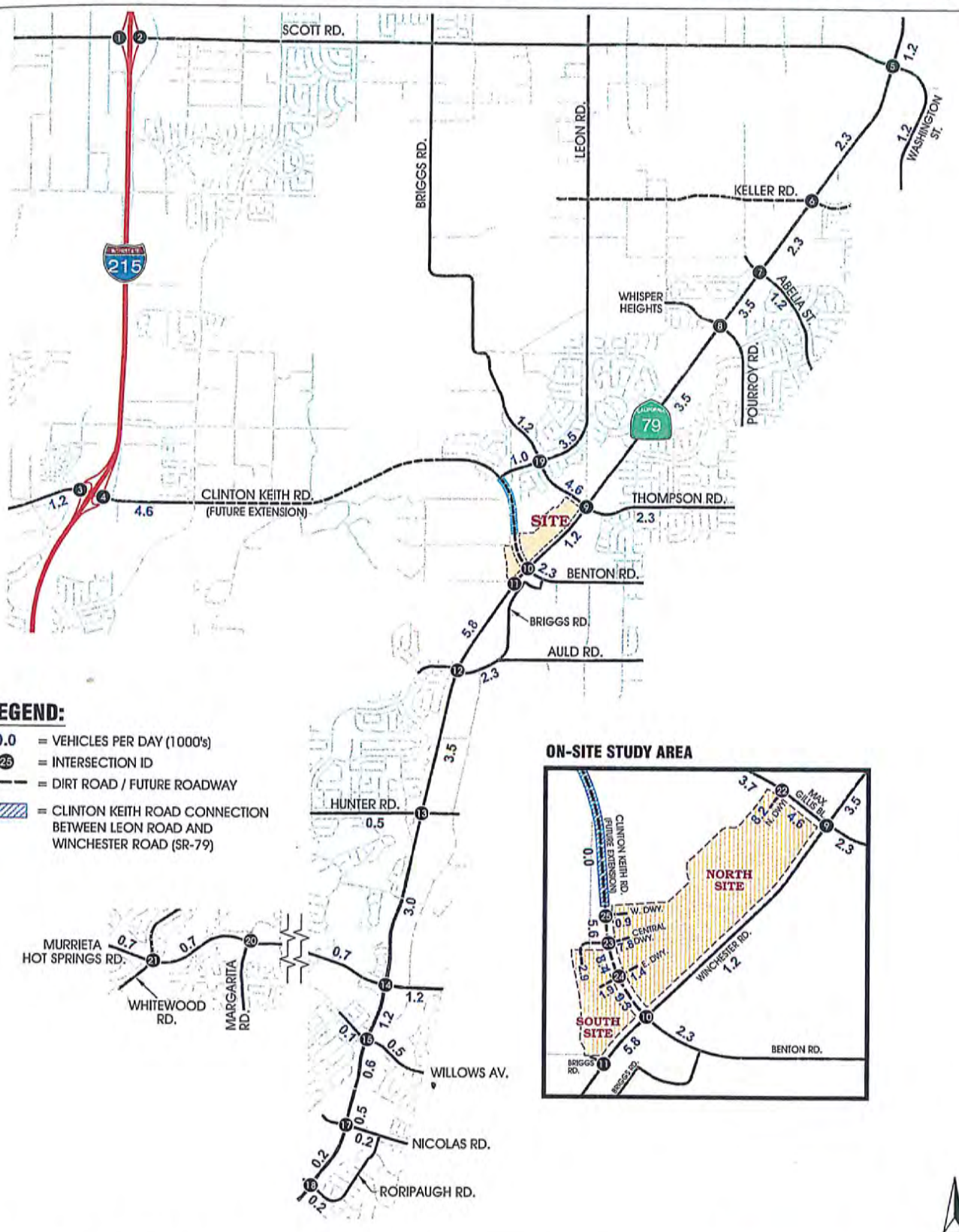
FIGURE 4-G
PROJECT ONLY AVERAGE DAILY TRAFFIC (ADT)
WITH CLINTON KEITH EXTENSION BETWEEN LEON AND WINCHESTER (ALTERNATIVE 1)

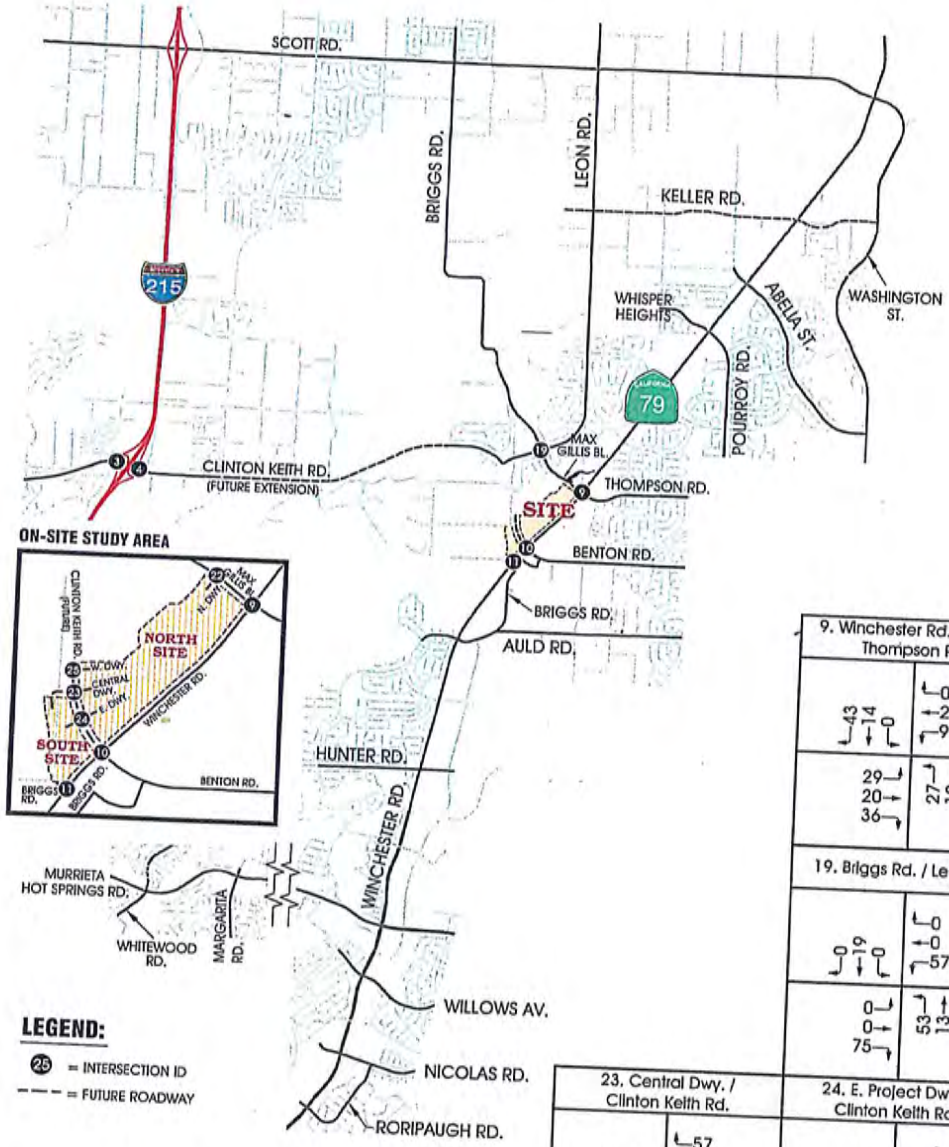


Murrieta Marketplace Traffic Impact Analysis
City of Murrieta, CA (0265-0001:02 - volumes.dwg)

TRAMES SOLUTIONS INC.

FIGURE 4-H

PROJECT ONLY AM PEAK HOUR INTERSECTION VOLUMES
WITHOUT CLINTON KEITH EXTENSION BETWEEN LEON & WINCHESTER (ALTERNATIVE 2)



9. Winchester Rd. (SR79) / Thompson Rd.		10. Winchester Rd. (SR79) / Benton Rd.	
43 ← 14 ← 0	0 → 29 → 9	59 ← 0 ← 0	0 → 38 → 0
29 → 20 → 36	27 ← 10 ← 7	44 → 26 → 66	94 ← 0 ← 0

19. Briggs Rd. / Leon Rd.		22. N. Project Dwy. / Max Gillis Bl.	
0 ← 19 ← 0	0 → 0 → 57		→ 27 → 72
0 → 0 → 75	53 ← 13 ← 39	36 → 114	78 ← 49

23. Central Dwy. / Clinton Keith Rd.		24. E. Project Dwy. / Clinton Keith Rd.		25. W. Project Dwy. / Clinton Keith Rd.	
0 → 0 → 69	57 → 14 → 91	0	29 → 163	0	14 → 0
0 → 0 → 0	0 ← 0 ← 10	79 → 0	57	0 →	

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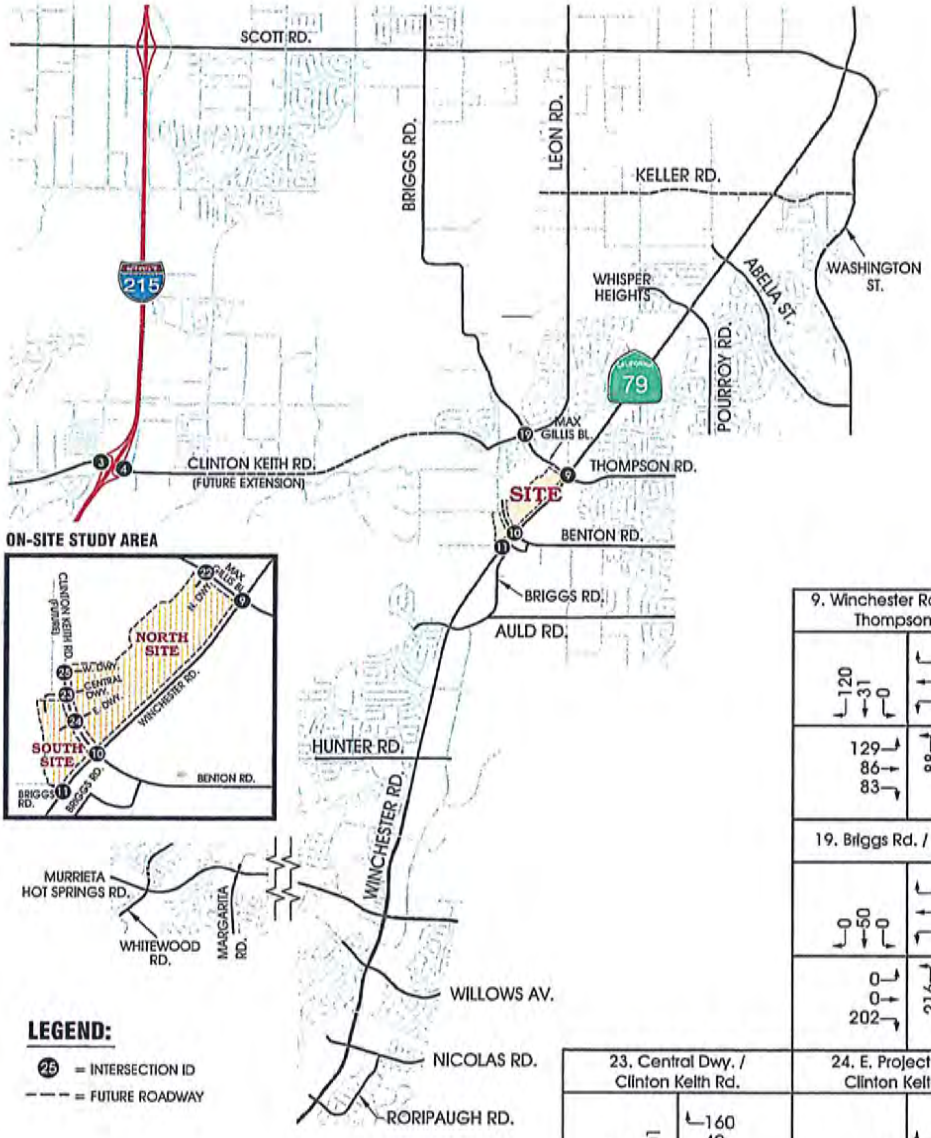
FIGURE 4-I

PROJECT ONLY PM PEAK HOUR INTERSECTION VOLUMES

WITHOUT CLINTON KEITH EXTENSION BETWEEN LEON & WINCHESTER (ALTERNATIVE 2)



9. Winchester Rd. (SR79) / Thompson Rd.		10. Winchester Rd. (SR79) / Benton Rd.	
120 ← 31 ← 0	0 → 80 → 21	135 ← 0 ← 0	0 → 101 → 0
129 → 86 → 83	88 ← 33 ← 22	143 → 108 → 270	252 ← 0 ← 0

19. Briggs Rd. / Leon Rd.		22. N. Project Dwy. / Max Gillis Bl.	
0 ← 50 ← 0	0 → 0 → 151		→ 88 → 201
0 → 0 → 202	216 ← 54 ← 162	83 → 321	344 ← 215

23. Central Dwy. / Clinton Keith Rd.		24. E. Project Dwy. / Clinton Keith Rd.		25. W. Project Dwy. / Clinton Keith Rd.	
0 → 0 → 301	160 ← 40 ← 207	0	80 → 408	0	40 → 0
0 → 0 → 0	0 ← 0 ← 33	334 → 0	187	0 →	

Exhibit B

SCOPING AGREEMENT FOR TRAFFIC IMPACT ANALYSIS

This letter acknowledges the City of Murrieta Engineering Department requirements for traffic impact analysis of the following project. The analysis must follow the City of Murrieta Public Works Department Traffic Study Guidelines dated October 2013.

Case No. (Required for submittal) Not Available Yet
Related Cases -
SP No.
EIR No.
GPA No.
CZ No.
Project Name: Murrieta Apartments
Project Address: South of Old Date Street, North of Rising Hills Drive
Project Description: 238 Apartment Dwelling Units

	Consultant	Developer
Name:	TJW Engineering, Inc.	Tierra Nova Consulting, Inc.
Address:	6 Venture Suite 225 Irvine CA 92618	31938 Temecula Pkwy Suite A369, Temecula
Telephone:	949-878-3509	951-297-8120

A. Trip Generation Source: (ITE ~~9th~~ 10th Edition or other)

Current GP Land Use: C — Proposed Land Use: MFR
Current Zoning: NC — Proposed Zoning: MF-3

	Current Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	0	0	0	25	84	109
PM Trips	0	0	0	84	49	133

Internal Trip Allowance ☐Yes ☒No (% Trip Discount)
Pass-By Trip Allowance ☐Yes ☒No (% Trip Discount)

A pass-by trip discount of up to 25% is allowed for appropriate land uses. The pass-by trips at adjacent study area intersections and project driveways shall be indicated on a report figure.

B. Trip Geographic Distribution: N 45% S 32% E 8 % W 15%
(attach exhibit for detailed assignment)

C. Background Traffic
Project Build-out Year: 2020 Annual Ambient Growth Rate: % 2%

Phase Year(s) _____
Other area projects to be analyzed: A list of cumulative projects will be provided by City staff to be included in the analysis.

Model/Forecast methodology: Manual trip assignment.

D. Study intersections: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.)

1. Margarita St/Murrieta Hot Springs Road
2. Delhaven St/Date St
3. Delhaven St/Murrieta Hot Springs Road
4. Winchester Rd (SR-79)/Murrieta Hot Springs Rd
5. Winchester Rd (SR-79)/Nicholas Rd
6. All project dwys
7. _____
8. _____
9. _____
10. _____

E. Study Roadway Segments: (NOTE: Subject to revision after other projects, trip generation and distribution are determined, or comments from other agencies.) – Machine counts required

1. MHS Rd between Margarita & Delhaven st
2. MHS Rd between Delhaven & Winchester
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

F. Site Plan (please attach reduced copy)

G. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline) (To be filled out by Engineering Department)

H. Existing Conditions
Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.
Date of counts _____

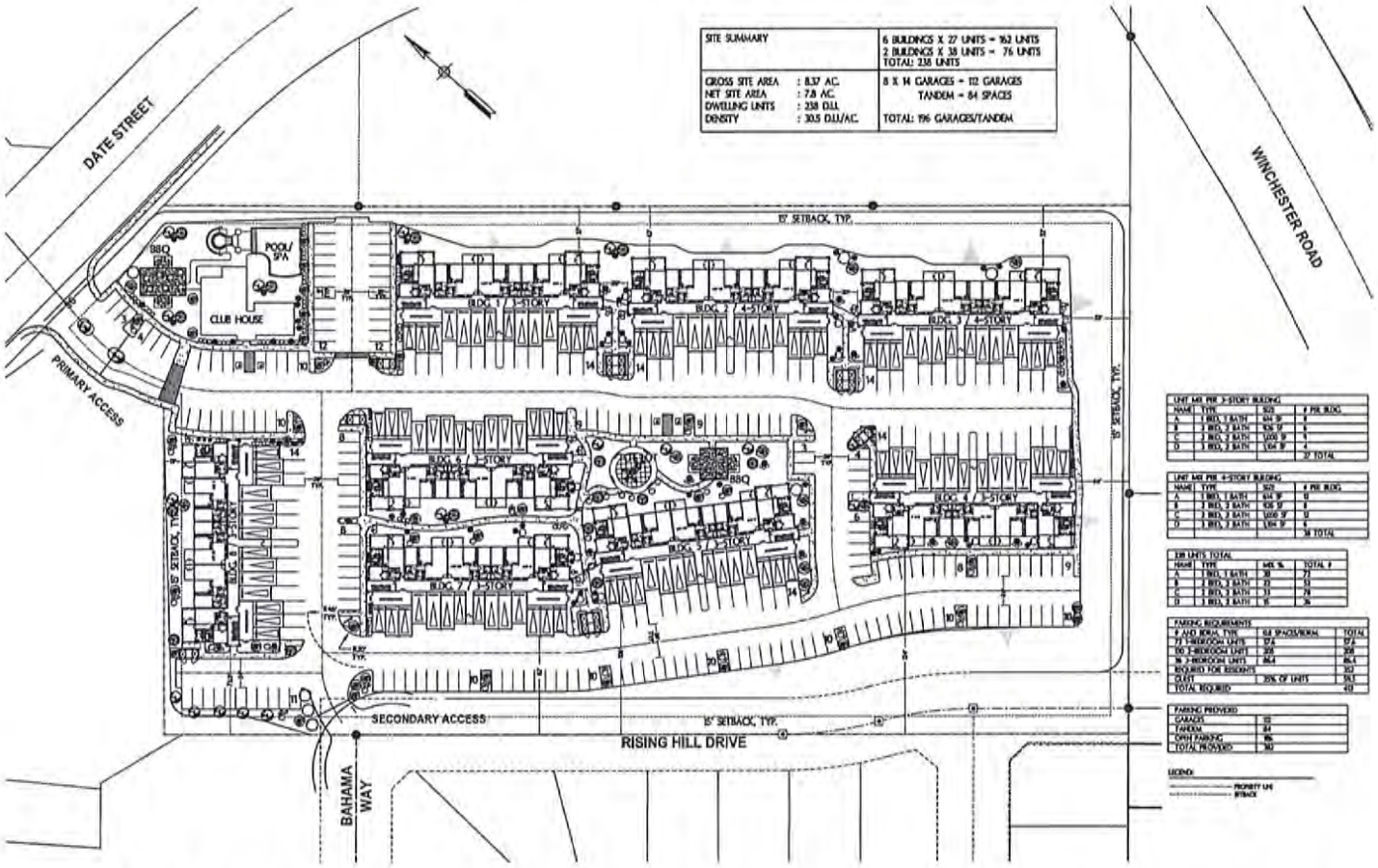
Recommended by:
Thomas Wheat, PE, TE — May 5, 2018
Consultant's Representative — Date

Scoping Agreement Submitted on May 5, 2018

Revised on _____

Approved Scoping Agreement:
* Arda Edgington — 5/17/18
City Of Murrieta Engineering Department — Date

* With Edits



MURRIETA APARTMENTS

MURRIETA, CA

PRELIMINARY SITE PLAN

SCALE 1" = 30'-0"

5/4/18

18007

TIERRA NOVA CONSULTING, INC.
31938 TEMECULA PARKWAY, SUITE A369
TEMECULA, CALIFORNIA 92592

FLAIR ARCHITECTS

FLAIR ARCHITECTS, INC.

1.1

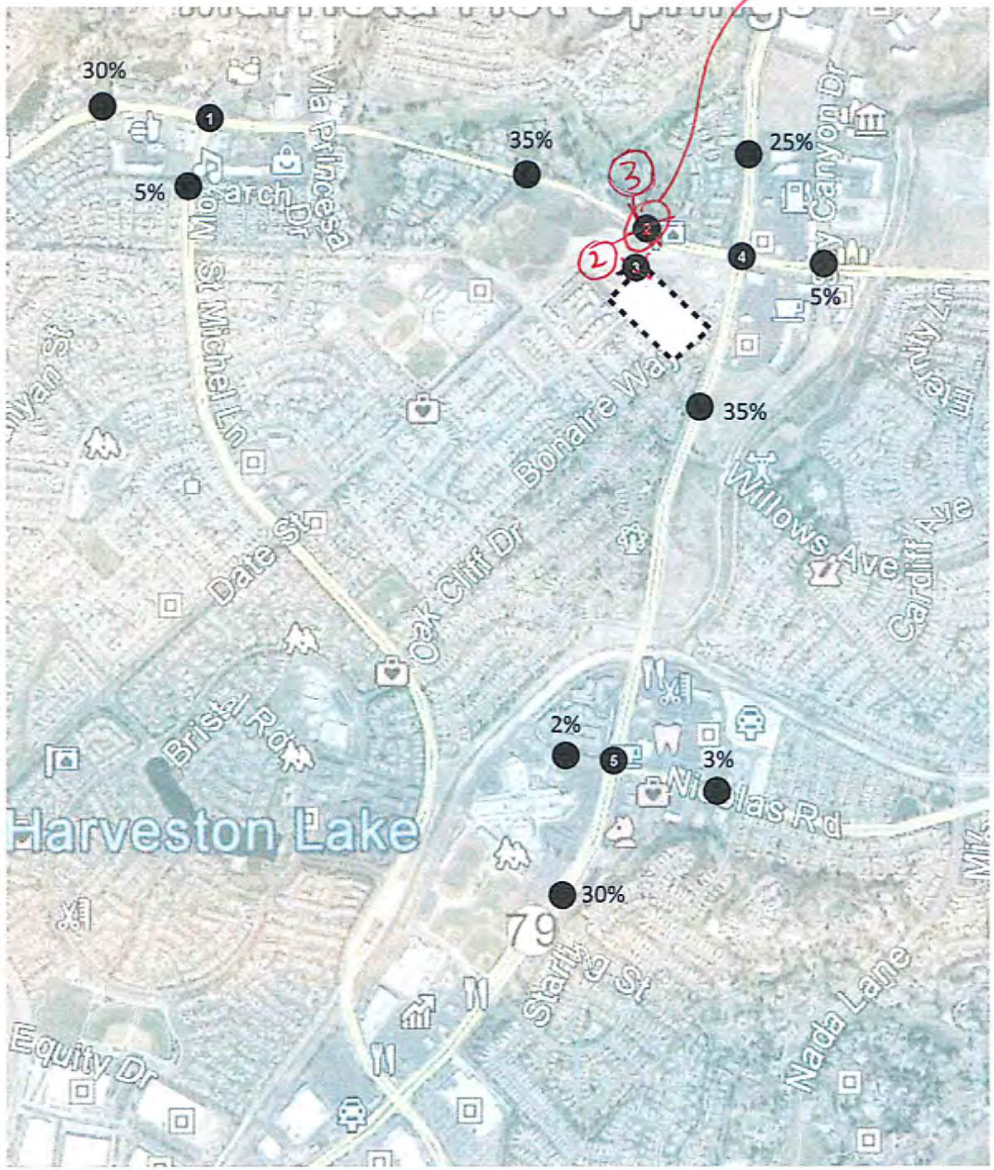
Murrieta Apartments Trip Generation

Proposed Land Use[1]	Size	Daily Trip Ends (ADTs)		AM Peak Hour					PM Peak Hour				
		Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
						In	Out	Total			In	Out	Total
Apartments (220)	238 DU	7.32	1742	0.46	23:77	25	84	109	0.56	63:37	84	49	133

1: Rates from ITE Trip Generation (10th Edition, 2017)

DU =dwelling unit

R in/R out access only @ Dellhaven/MHS due to upcoming MHS Rd widening project restricting left turn access



Legend:

XX% Percent Trip Distribution

Project Site

Study Intersection Location

Exhibit A: Projected Trip Distribution of Proposed Project Trips

TNC-18-001 Murrieta Apartments Traffic Impact Analysis

Not to Scale

Traffic Engineering & Transportation Planning Consultants - 6 Venture, Suite 225 - Irvine, CA 92618 - P: (949) 878-3509 - F: (949) 878-3593 - www.tjwengineering.com

KUNZMAN ASSOCIATES, INC.

MURRIETA 180

TRAFFIC IMPACT ANALYSIS

May 21, 2013

Prepared by:

Giancarlo Ganddini, P.E.,
Carl Ballard, LEED GA, and
William Kunzman, P.E.

1111 Town & Country Road, Suite 34
Orange, California 92868
(714) 973-8383

www.traffic-engineer.com

5373

Murrieta 180

Traffic Impact Analysis

This revised report contains the traffic impact analysis for the proposed Murrieta 180 project. The project site is located south of Murrieta Hot Springs Road, approximately 250 feet east of Via Princesa [East], in the City of Murrieta. The project site is proposed to be developed with 196 apartment dwelling units.

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

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

II. Project Description

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

A. Location

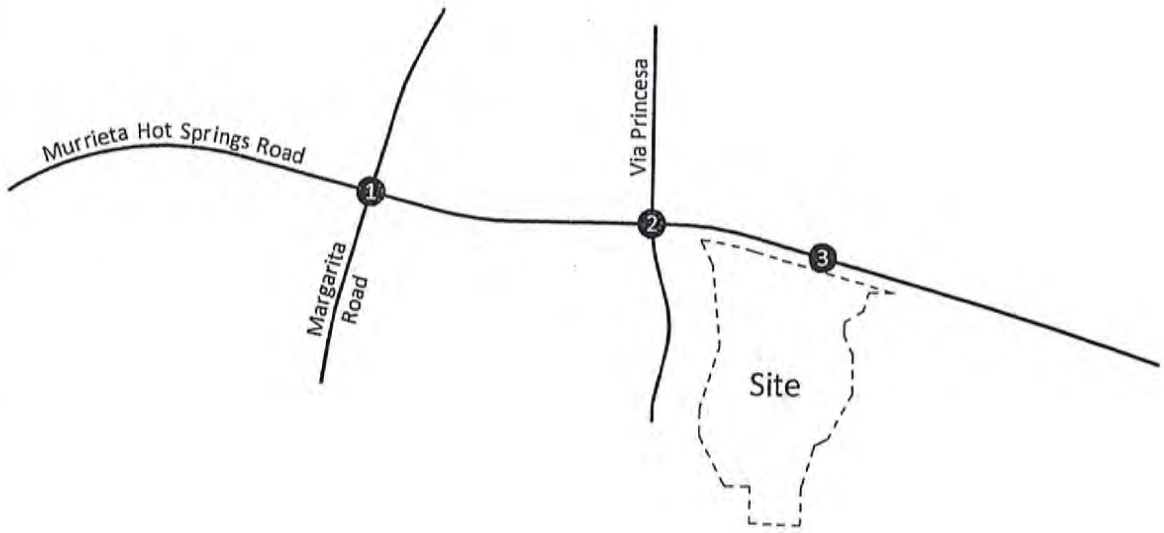
The project site is located south of Murrieta Hot Springs Road, approximately 250 feet east of Via Princesa [East], in the City of Murrieta.

B. Proposed Development

The project site is proposed to be developed with 196 apartment dwelling units.

The project is anticipated to be completed in Year 2014, but for purposes of this traffic impact analysis, the opening year is analyzed as Year 2015 so that the project is occupied and fully generating traffic. This is a worst-case condition because one additional year of background traffic growth has been assumed.

Figure 1
Project Location Map



Legend

1 = Intersection reference Number

N

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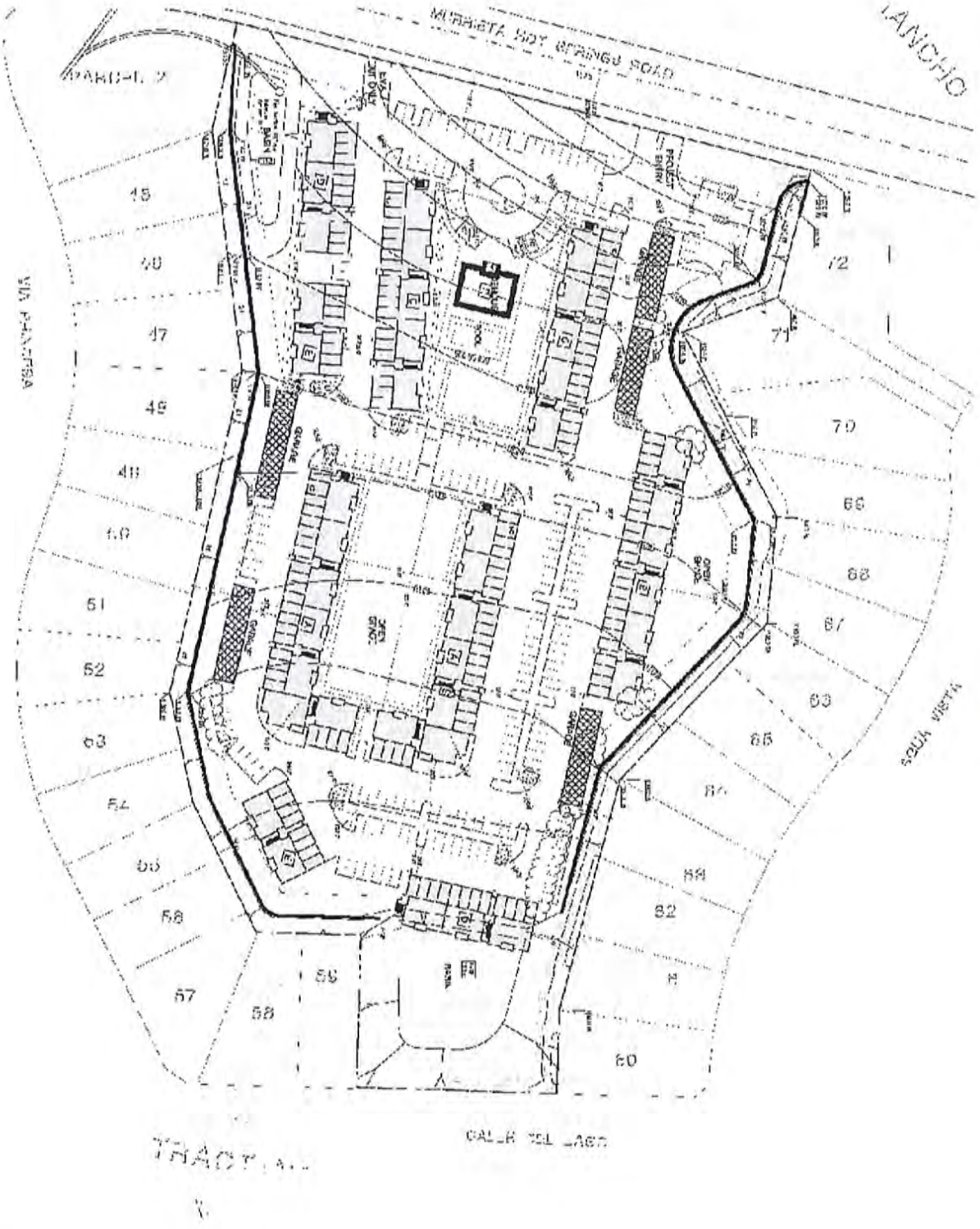
OVER 35 YEARS OF EXCELLENT SERVICE

5373/1

Figure 2
Site Plan



NTS

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OVER 35 YEARS OF EXCELLENT SERVICE

Table 2

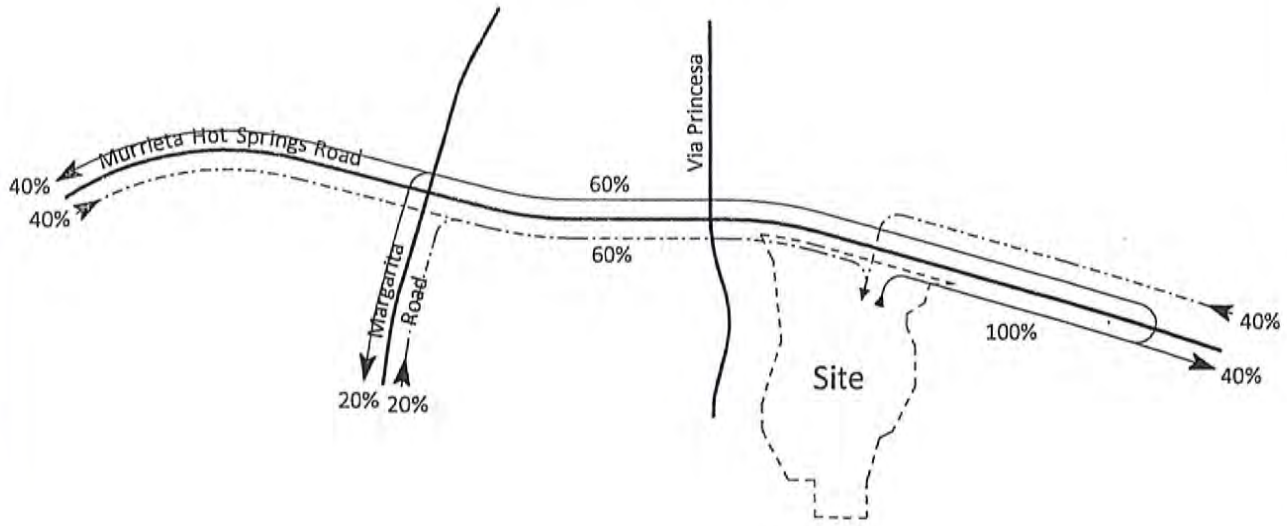
Project Trip Generation[1]

Land Use	Quantity	Units[2]	Peak Hour						Daily
			Morning			Evening			
			Inbound	Outbound	Total	Inbound	Outbound	Total	
Trip Generation Rates									
Apartments	-	DU	0.10	0.41	0.51	0.40	0.22	0.62	6.65
Trips Generated									
Apartments	196	DU	20	80	100	78	43	121	1,303

[1] Source: Institute of Transportation Engineers, Trip Generation, 9th Edition, 2012, Land Use Category 220.

[2] DU = Dwelling Units

Figure 9
Project Trip Distribution



Legend

10% ← = Percent From Project
10% ←·· = Percent To Project

N

NTS

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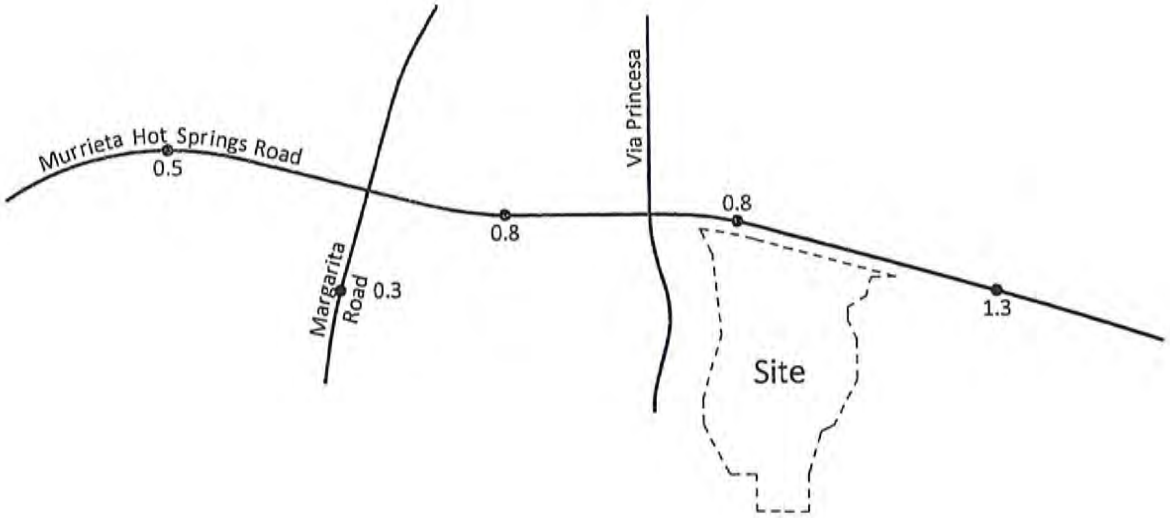
OVER 35 YEARS OF EXCELLENT SERVICE

Figure 10
Project Average Daily Traffic Volumes



Legend

1.3 = Vehicles Per Day (1,000's)

N

NTS

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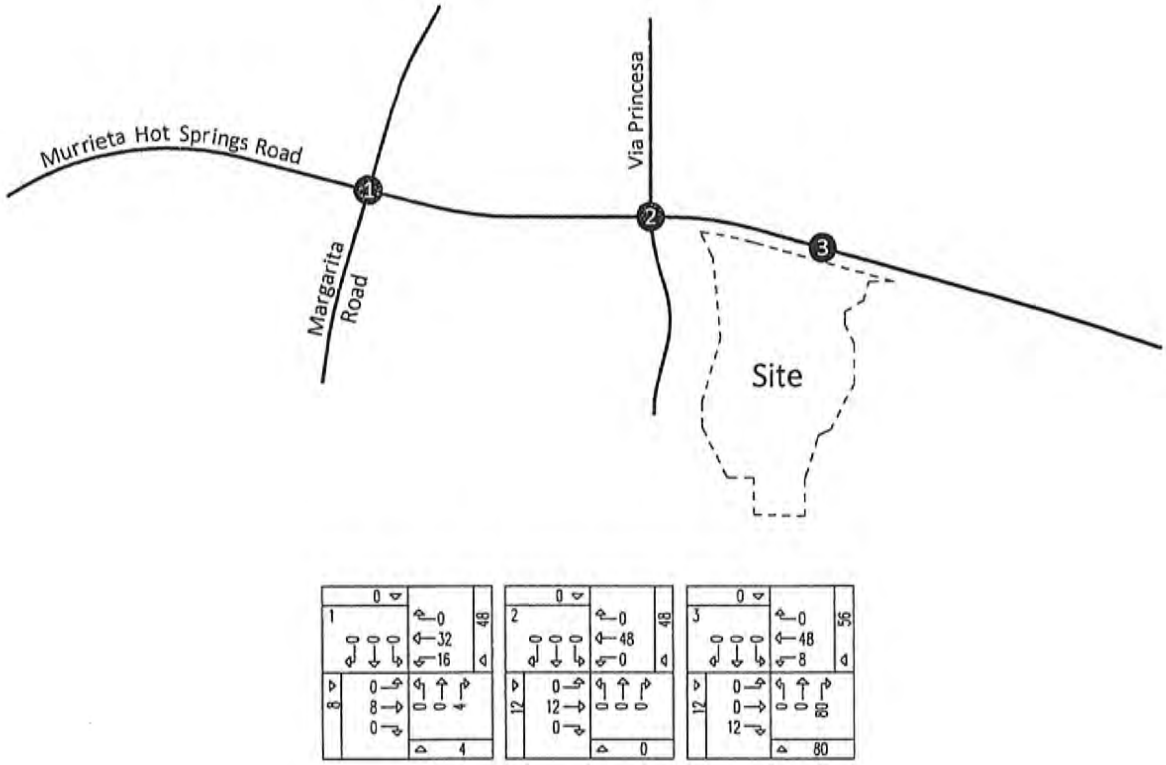
OVER 35 YEARS OF EXCELLENT SERVICE

Figure 11
Project Morning Peak Hour Intersection Turning Movement Volumes



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NTS

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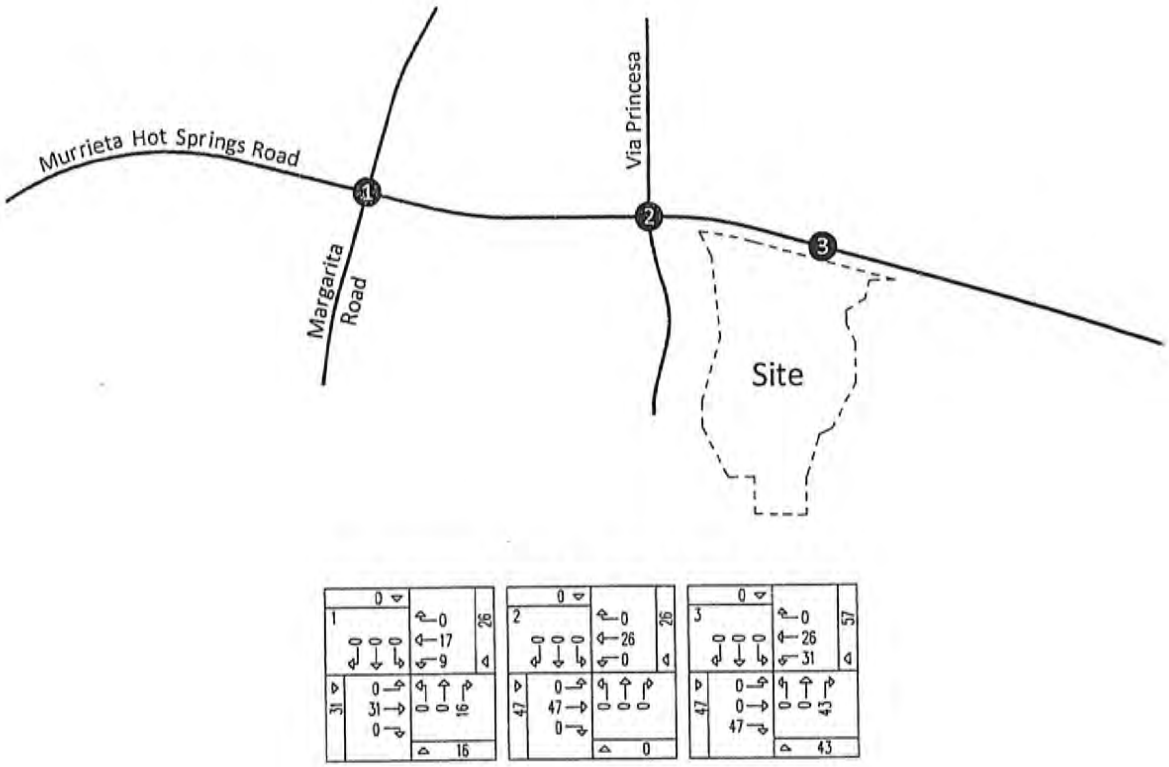
KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

Figure 12
Project Evening Peak Hour Intersection Turning Movement Volumes



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5373/12

KUNZMAN ASSOCIATES, INC. Intersection reference numbers are in upper left corner of turning movement boxes.

OVER 35 YEARS OF EXCELLENT SERVICE

FOCUSED TRAFFIC IMPACT STUDY

Date Street Shopping Center

City of Murrieta

Date: November 30, 2017 (Revised)

Prepared For:

R&B Investment

415 N. Santa Fe

Vista CA 92084

Prepared By:

K2 Traffic Engineering, Inc.

1442 Irvine Blvd, Suite 210

Tustin, CA 92780

(714) 832-2116

Focused Traffic Impact Study
For Date Street Shopping Center
City of Murrieta

Prepared under the supervision of

Jende Kay Hsu, P.E., T. E.
Lic. # T2285

TRIP GENERATION

Trip generation represents the amount of traffic attracted and produced by the project development. Based upon the recommendations from *"Trip Generation"*, 9th Edition, published by the Institute of Transportation Engineers (ITE), the trip generation rates are shown in **Table 2**.

Table 2. Trip Generation Rate

LAND USE	ITE CODE	PER	Daily	AM Peak Hour			PM Peak Hour		
				Rate	In	Out	Rate	In	Out
Shopping Center	820	1000 SQ FT	42.7	0.96	62%	38%	3.71	48%	52%

Based on ITE's Trip Generation Handbook, Second Edition, the study applies pass-by rates applicable for the proposed uses. The project will generate an equivalent of 801 daily trips, 11 inbound and 7 outbound trips in the AM peak hour, 33 inbound and 36 outbound trips in the PM peak hour. The project trips are provided in **Table 3**.

Table 3. Project Trip Generation

LAND USE	Quantity		AM Peak			PM Peak			Daily
			Total	IN	OUT	Total	IN	OUT	
Shopping Center (820)	24,874	Sq. Ft.	24	15	9	93	45	48	1068
	Pass-By Trip Deduction	25%	-6	-4	-2	-23	-11	-12	-267
	Total		18	11	7	70	33	36	801

TRIP DISTRIBUTION

Trip distribution represents the directional orientation of traffic to and from the proposed project. Directional orientation is largely influenced by the geographical location of the site, among many other factors. The trip distribution pattern for the project is illustrated on **Exhibit 4**.

TRAFFIC ASSIGNMENT

The traffic assignment to and from the Site has been based upon the results of trip generation, trip distribution, and access layouts. **Exhibit 5** illustrates the traffic assignment of the proposed project.

EXHIBIT 4. TRIP DISTRIBUTION

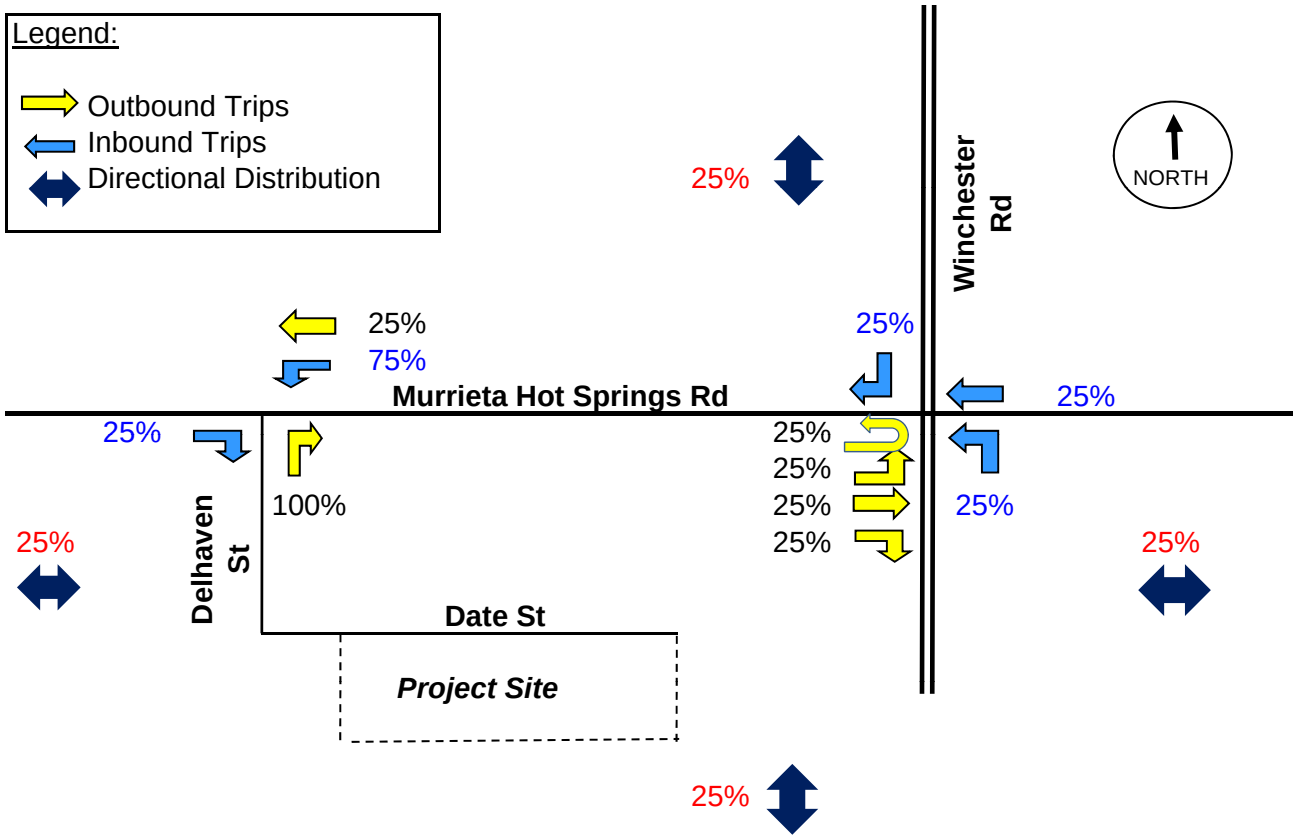
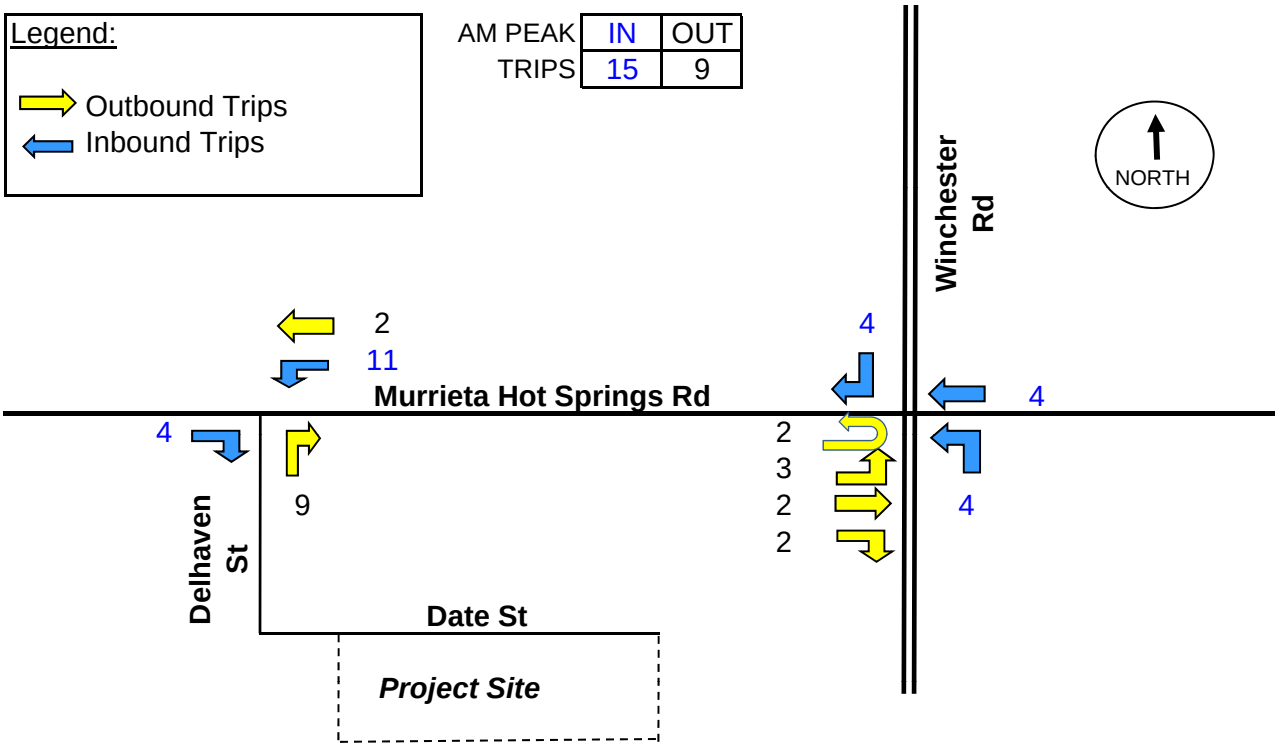
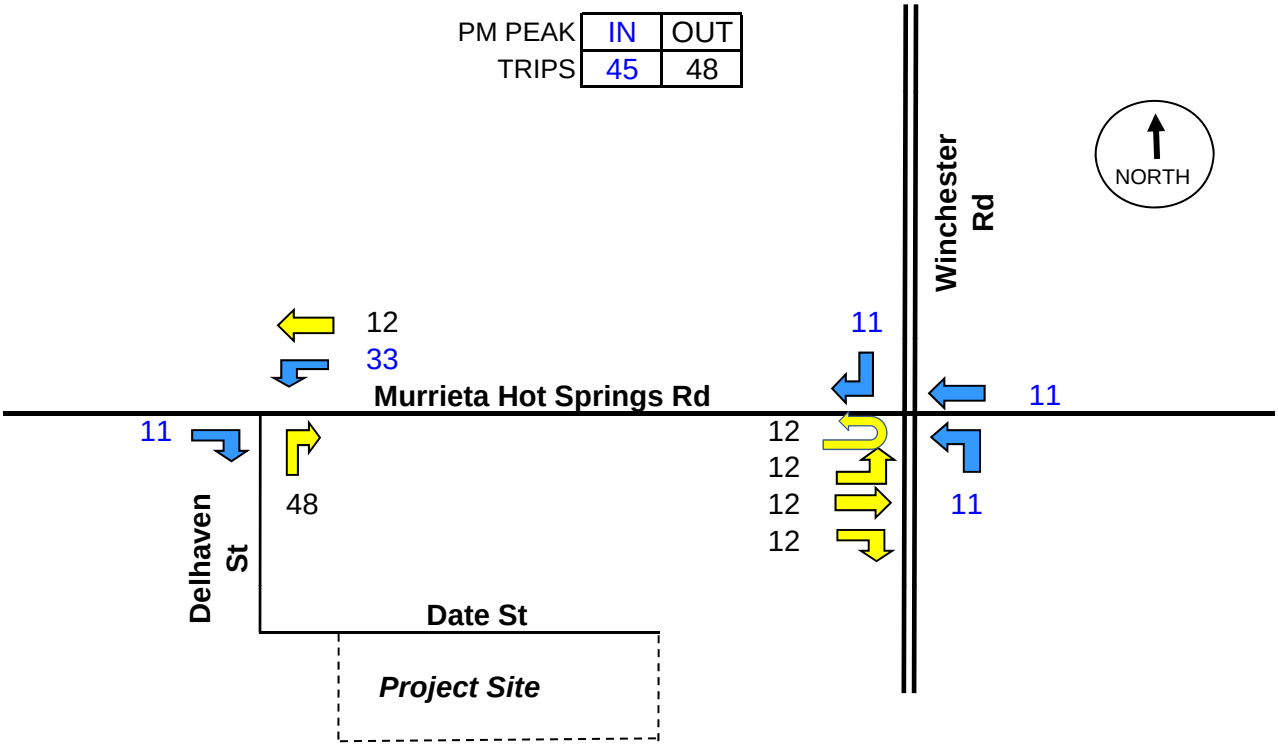


EXHIBIT 5. TRAFFIC ASSIGNMENT





MHS 2.5
TRAFFIC IMPACT ANALYSIS
CITY OF MURRIETA, CALIFORNIA

OCTOBER 7, 2019 (REVISED)
JULY 29, 2019 (REVISED)
DECEMBER 17, 2018 (REVISED)
JUNE 13, 2018

Prepared for:

Mr. Dan Long
Rancon MHS 2.5, LLC
41391 Kalmia St, Ste. 200
Murrieta, CA 92562

Prepared by:

Scott Sato, P.E.
4225 Oceanside Blvd., #354H
Oceanside, CA 92056
(760) 291-1400

TRAMES SOLUTIONS INC.

(0291-0002-02)

TABLE 4-1

PROJECT TRIP GENERATION RATES

LAND USE	ITE CODE	QUANTITY[2]	PEAK HOUR TRIP RATES[1]						DAILY
			AM			PM			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
C Store w/Pumps	853	12 VFP	10.38	10.38	20.76	11.52	11.52	23.04	322.5
Quick Lubrication Vehicle Shop	941	2 SP	2.01	0.99	3.00	2.72	2.13	4.85	40.00
Car Wash[3]	Data	130 LF	0.25	0.21	0.46	0.38	0.41	0.79	8.45

[1] Source: ITE (Institute of Transportation Engineers) Trip Generation Manual, 10th Edition.
[2] VFP = Vehicle Fueling Positions; SP = Servicing Positions; LF = Linear Feet of Tunnel
[3] Source: Empirical driveway counts at the Fast Five Express

The daily and peak hour trip generations for the proposed project are shown on Table 4-2. The proposed development is projected to generate a total of approximately 2,776 new trip-ends per day with 174 new vehicle trips per hour during the AM peak hour and 213 new vehicle trips per hour during the PM peak hour.

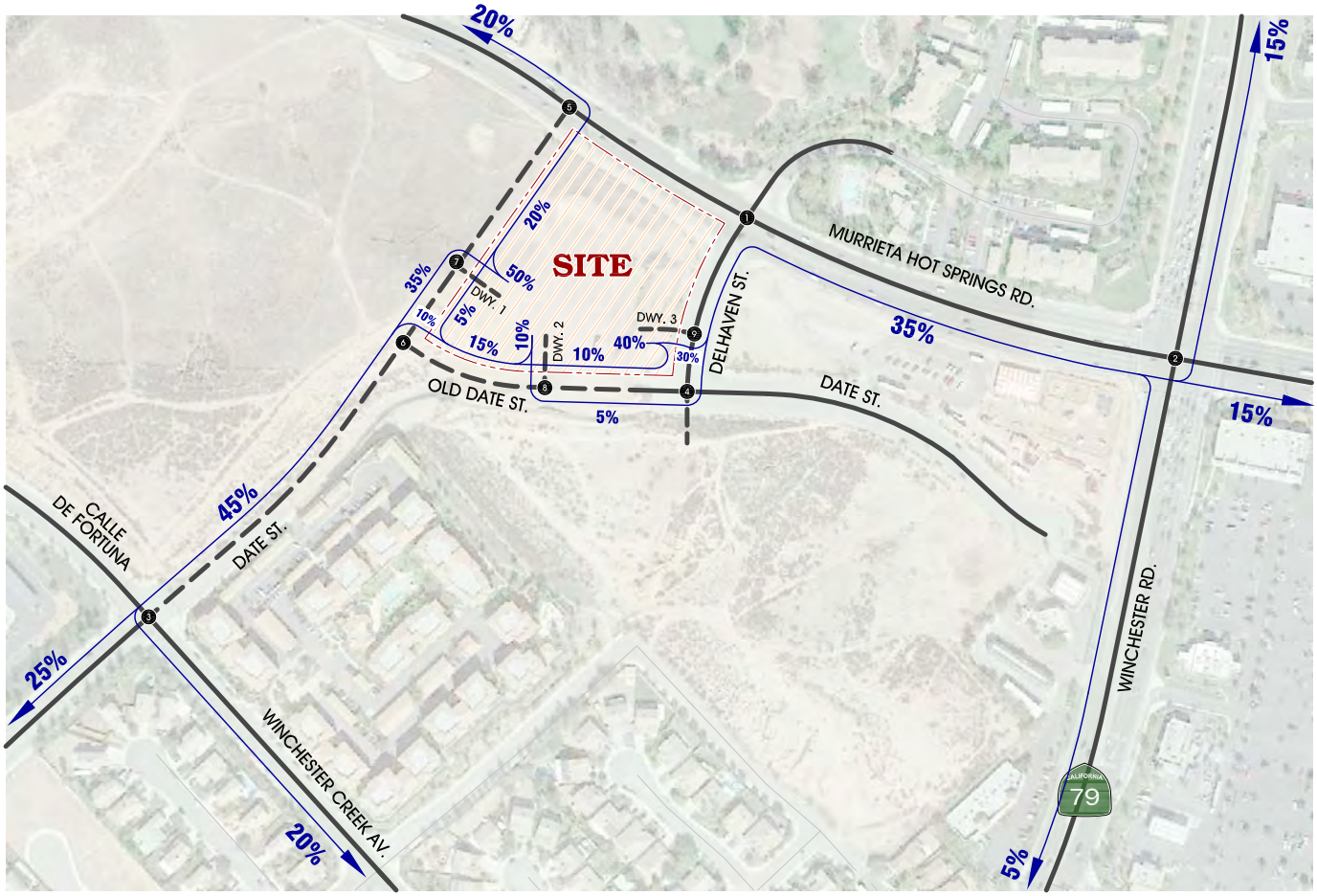
Table 4-2

Project Trip Generation Summary

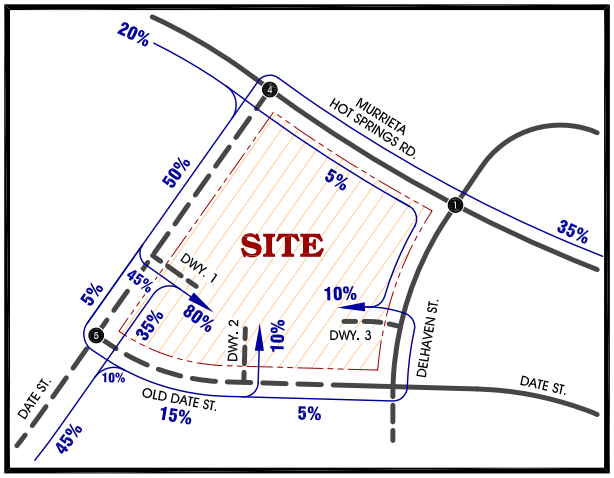
Land Use	ITE Code	Quantity[1]	Peak Hour						Daily
			AM			PM			
			In	Out	Total	In	Out	Total	
Convenience Mkt. w/Pumps	853	12 VFP	125	125	250	138	138	276	3,870
- Pass-By Reduction (25%)			*-31*	*-31*	*-62*	*-35*	*-35*	*-70*	*-968*
Quick Lubrication Vehicle Shop	941	2 SP	4	2	6	5	4	9	80
- Pass-By Reduction (25%)			*-1*	*-1*	*-2*	*-1*	*-1*	*-2*	*-20*
Car Wash	Data	130 TSF	33	28	61	49	53	102	1,099
- Pass-By Reduction (25%)			*-8*	*-8*	*-16*	*-12*	*-13*	*-25*	*-275*
Project Total Trips			*162*	*155*	*317*	*192*	*195*	*387*	*5,049*
- Internal Capture (20%)			*-32*	*-31*	*-63*	*-38*	*-39*	*-77*	*-1,010*
Project Trips w/ Internal Capture Adjustment			*130*	*124*	*254*	*154*	*156*	*310*	*4,039*
- Pass-By Reduction Total			*-40*	*-40*	*-80*	*-48*	*-49*	*-97*	*-1,263*
PROJECT TOTAL EXTERNAL TRIPS (w/ Internal Capture and Pass-By Adjustments)			90	84	174	106	107	213	2,776

[1] VFP = Vehicle Fueling Positions; SP = Servicing Position; LF = Linear Feet of Tunnel

FIGURE 4-A
PROJECT TRIP DISTRIBUTION



INBOUND ON-SITE TRIP DISTRIBUTION

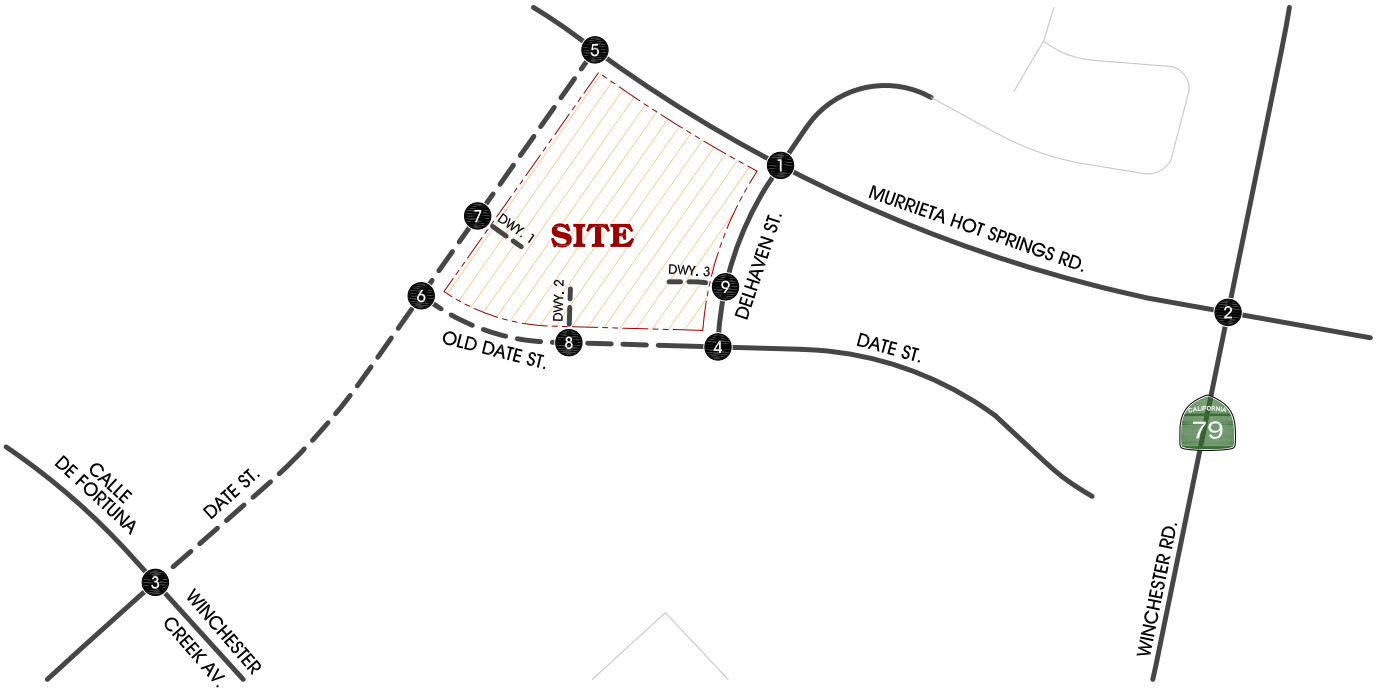


LEGEND:

- (5) = INTERSECTION ID
- = FUTURE ROAD
- 10% = PERCENT TO/FROM PROJECT

N

FIGURE 4-B
PROJECT ONLY AM PEAK HOUR INTERSECTION VOLUMES



1. Delhaven St. / Murrieta Hot Springs Rd.	2. Winchester Rd. (SR79) / Murrieta Hot Springs Rd.	3. Date St. / Winchester Creek Av.	4. Delhaven St. / Date St.
0 L, 0 T, 32 R	14 L, 0 T, 0 R; 0 L, 14 T, 0 R	0 L, 21 T, 17 R; 18 L, 0 T, 0 R	8 L, 0 T; 0 L, 0 T
0 L, 0 T, 5 R; 29 R	13 L, 13 T, 4 R; 5 L, 0 T, 0 R	0 L, 0 T, 0 R; 0 L, 23 T, 0 R	9 L, 0 T

5. Date St. / Murrieta Hot Springs Rd.	6. Date St. / Old Date St.	7. Date St. / Dwy. 1	8. Dwy. 2 / Old Date St.	9. Delhaven St. / Dwy. 3
0 L, 32 R	29 L, 5 T; 4 L, 8 T	5 L, 41 T; 13 L, 29 T	4 L, 4 T; 0 L, 8 T	5 L, 0 T
5 L, 14 T; 17 R, 0 T	32 T, 9 R	4 T, 32 T	9 L, 5 T	25 L, 8 T; 5 T, 4 T

LEGEND:

9 = INTERSECTION ID

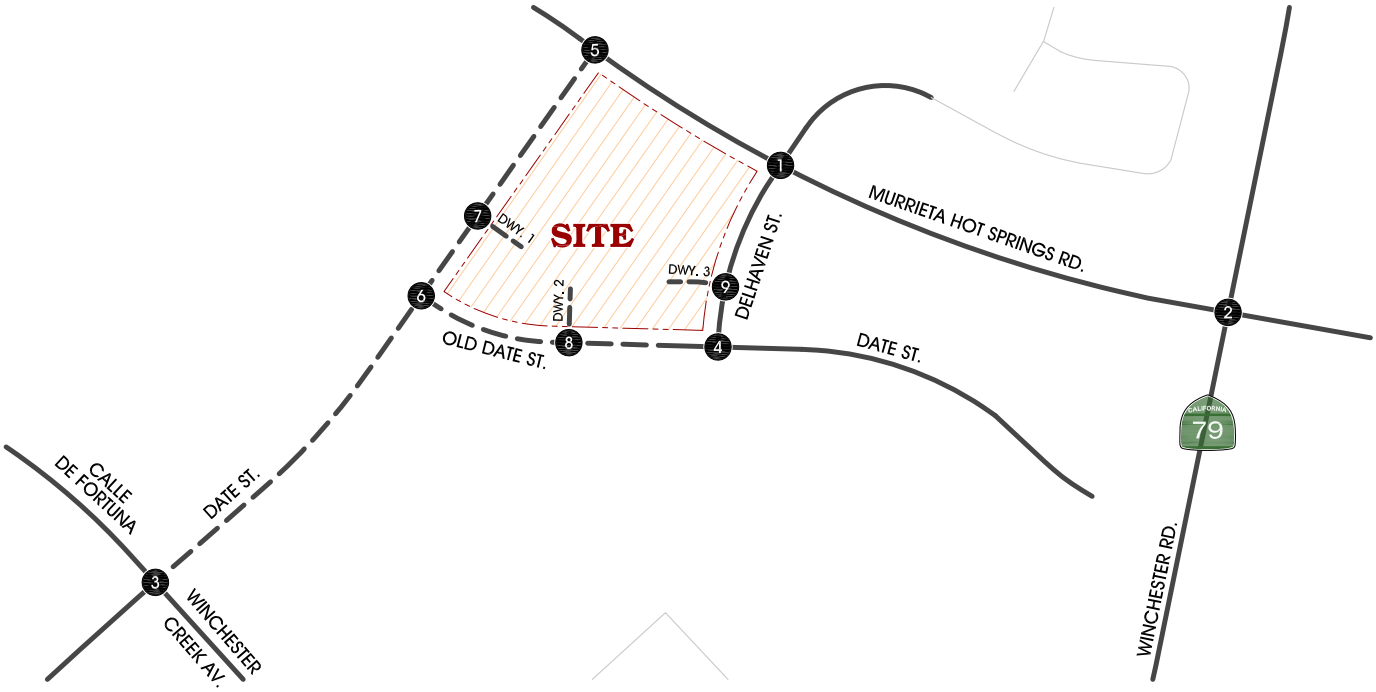
= FUTURE ROAD

PASS-BY TRIPS

1. Delhaven St. / Murrieta Hot Springs Rd.	5. Date St. / Murrieta Hot Springs Rd.	7. Date St. / Dwy. 1	9. Delhaven St. / Dwy. 3
0 L, 0 T, 0 R	22 L, 22 T	0 L, 40 T; 22 L, 0 T	0 L, 0 T
0 L, 18 T, 0 R; 18 R	18 L, 18 T; 22 R, 0 T	0 T, 0 T	18 L, 0 T; 0 T, 0 T

N

FIGURE 4-C
PROJECT ONLY PM PEAK HOUR INTERSECTION VOLUMES



1. Delhaven St. / Murrieta Hot Springs Rd.		2. Winchester Rd. (SR79) / Murrieta Hot Springs Rd.		3. Date St. / Winchester Creek Av.		4. Delhaven St. / Date St.	
0	0 37	16 0 0	0 16 0	0 27 21	21 0 0	11 0	0 0
0 0 5	37	16 16 5	5 0 0	0 0 0	0 27 0	11 0	

5. Date St. / Murrieta Hot Springs Rd.		6. Date St. / Old Date St.		7. Date St. / Dwy. 1		8. Dwy. 2 / Old Date St.		9. Delhaven St. / Dwy. 3	
	0 37	37 5	5 11	5 48	16 37	5 5	0 11	5 0	
5 16	21 0		37 11		5 37	11 5		32 11	5 5

LEGEND:

9 = INTERSECTION ID

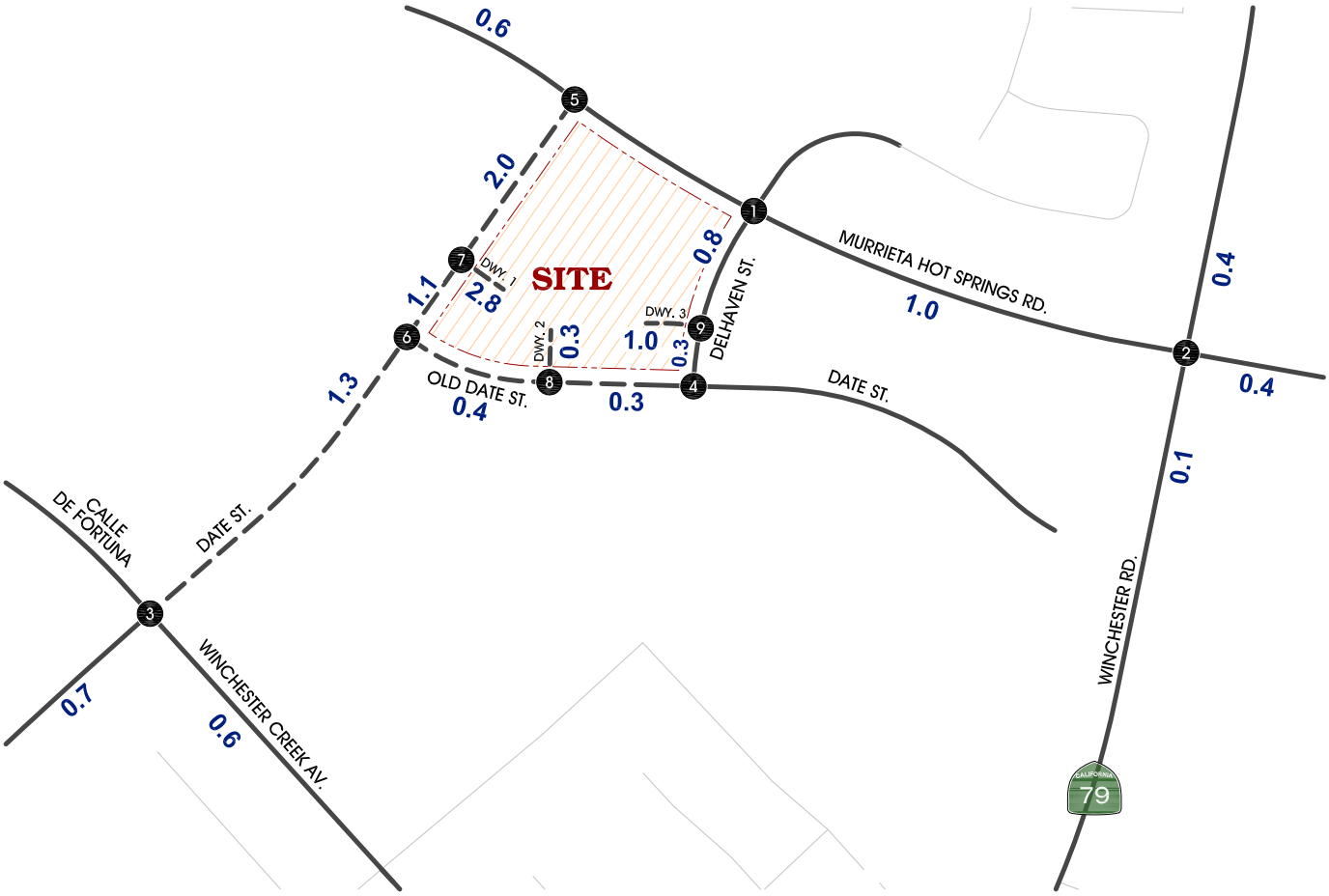
= FUTURE ROAD

PASS-BY TRIPS

1. Delhaven St. / Murrieta Hot Springs Rd.		5. Date St. / Murrieta Hot Springs Rd.		7. Date St. / Dwy. 1		9. Delhaven St. / Dwy. 3	
0	0 0		27 27	0 49	26 0	0 0	
0 -22 0	22	-22 22	26 0		0 0	22 0	0 0

N

FIGURE 4-D
PROJECT WITH PASS-BY ADJUSTMENT
AVERAGE DAILY TRAFFIC (ADT) VOLUMES



LEGEND:

9 = INTERSECTION ID

= FUTURE ROAD

10.0 = VEHICLES PER DAY (1000's)

N