

APPENDIX 12a



Murrieta Residential

TRAFFIC ANALYSIS

CITY OF MURRIETA

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LIST OF ABBREVIATED TERMS

(1)	Reference
ADT	Average Daily Traffic
APN	Assessor's Parcel Number
CA MUTCD	California Manual on Uniform Traffic Control Devices
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
DIF	Development Impact Fee
OYC	Opening Year Cumulative
GHG	Greenhouse Gas
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level of Service
NP	Without Project
OPR	Office of Planning and Research
PCE	Passenger Car Equivalents
PHF	Peak Hour Factor
Project	Murrieta Residential
RTP	Regional Transportation Plan
RCTA	Riverside County Transportation Authority
SCS	Sustainable Communities Strategy
sf	Square Feet
TA	Traffic Analysis
v/c	Volume to Capacity
VMT	Vehicle Miles Traveled
vphgpl	Vehicles per Hour Green per Lane
WP	With Project

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1 SUMMARY OF FINDINGS

This report presents the results of the traffic analysis (TA) for the proposed Murrieta Residential (“Project”), which is located at the southeast corner of Whitewood Road and Clinton Keith Road in the City of Murrieta. The Project’s location in relation to the surrounding area is shown on Exhibit 1-1.

The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project, and where necessary recommend improvements to achieve acceptable operations consistent with General Plan level of service goals and policies. This TA has been prepared in accordance with the City of Murrieta’s Traffic Impact Analysis Preparation Guidelines (May2020). (1) The City approved Project Traffic Study Scoping agreement is provided in Appendix 1.1 of this TA.

1.1 SUMMARY OF FINDINGS

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

- Project to install a stop control on the westbound approach (Project Driveway) and construct a westbound right turn lane at Whitewood Road and Murrieta High School Driveway/Driveway 1. Driveway to be restricted to right-in/right-out access only. Project to restripe the school driveway on Whitewood Road to provide an eastbound right turn only (restricted by the installation of a raised median along Whitewood Road). Project to construct a northbound shared through-right turn lane.
- Project to install a stop control on the northbound approach (Project Driveway) and construct a northbound right turn lane and eastbound right turn lane at Arendt Lane/Driveway 2 and Clinton Keith Road. Driveway to be restricted to right-in/right-out access only.
 - Project Alternative: Project to install a traffic signal and construct a northbound shared left-through-right turn lane, eastbound right turn lane at Arendt Lane/Driveway 2 and Clinton Keith Road, and westbound left turn lane. Driveway will allow for full access (no left turn restrictions).
- Project to construct a 2nd northbound left turn lane and 2nd southbound left turn lane at Whitewood Road & Clinton Keith Road.
- Project to construct Whitewood Road at its ultimate half-width as a Major Highway (100-foot right-of-way) from Clinton Keith Road to the southern Project boundary consistent with the City’s standards. Project to construct a raised median along Whitewood Road along the Project’s frontage.
- Clinton Keith Road is currently constructed to its ultimate half-section width along the Project’s frontage from Whitewood Road to the eastern Project boundary. However, the Project should improve the curb and gutter, sidewalk, and landscaping as needed to accommodate site access.

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

EXHIBIT 1-1: LOCATION MAP

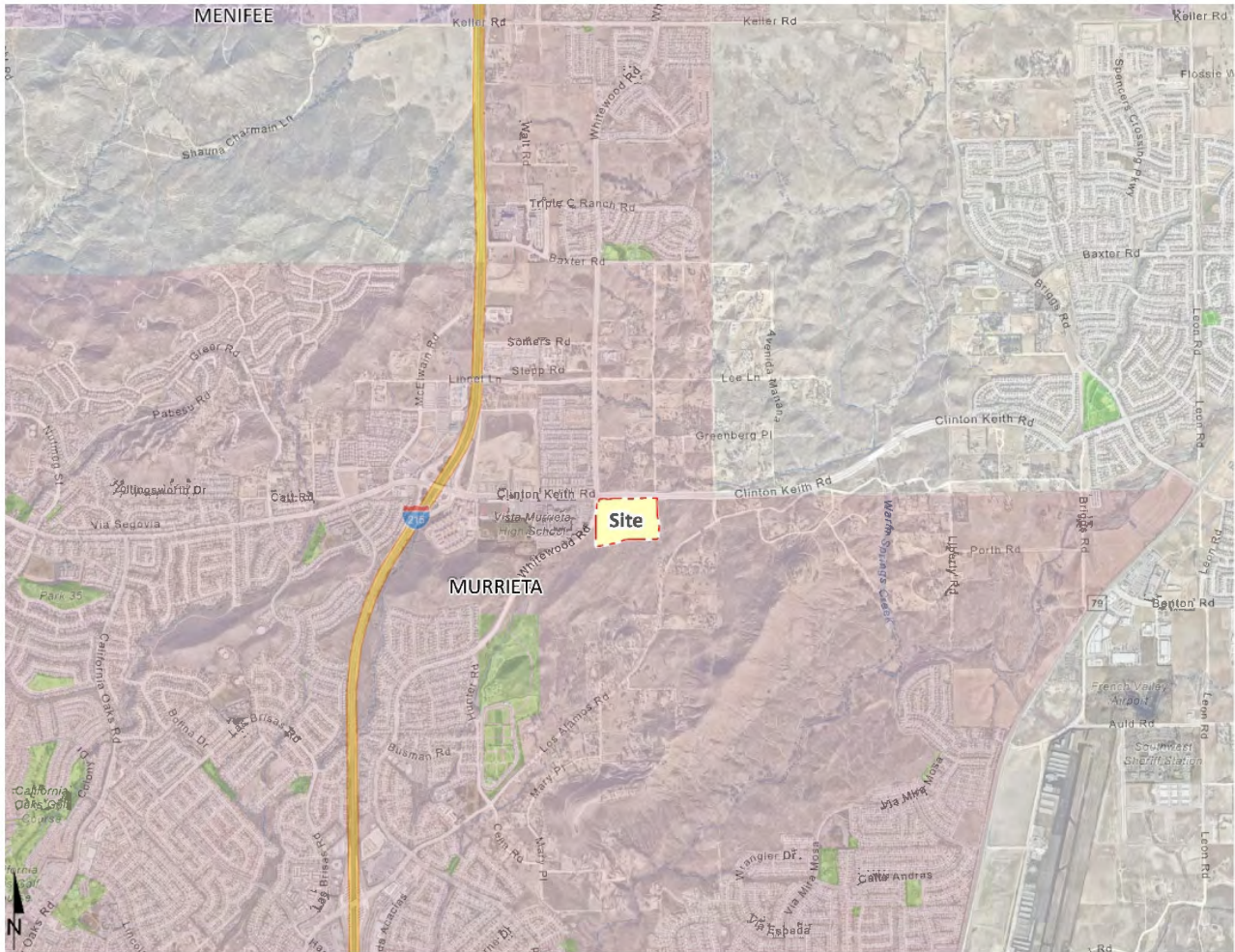


TABLE 1-1: SUMMARY OF IMPROVEMENTS AND ROUGH ORDER OF MAGNITUDE COSTS

#	Intersection Location	Jurisdiction	Analysis Scenarios Opening Year Cumulative (2023) With Project	Improvements included in Fee Program? ¹	Project Responsibility ²	Fair Share % ³
2	California Oaks Rd. & Clinton Keith Rd.	Murrieta	Modify the traffic signal to implement overlap phasing for the NB right turn lane	No	Fair Share	8.9%
6	Whitewood Rd. & Clinton Keith Rd.	Murrieta	Add 2nd NB left turn lane (restripe to increase pocket storage to 400-feet) and NB right turn lane Restripe to accommodate 2nd SB left turn lane, SB through, and SB shared through-right turn lane Modify the median on Clinton Keith Road to accommodate a 340-feet of EB left turn storage Modify the median on Clinton Keith Road to accommodate a 240-feet of WB left turn storage	No	Fair Share	13.5%
6	Whitewood Rd. & Clinton Keith Rd. (Alternative)	Murrieta	Add 2nd NB left turn lane (restripe to increase pocket storage to 340-feet) and NB right turn lane Restripe to accommodate 2nd SB left turn lane, SB through, and SB shared through-right turn lane Modify the median on Clinton Keith Road to accommodate a 340-feet of EB left turn storage Modify the median on Clinton Keith Road to accommodate a 175-feet of WB left turn storage	No	Fair Share	12.7%
#	Roadway Segment	Jurisdiction	Analysis Scenarios Opening Year Cumulative (2023) With Project	Improvements included in Fee Program? ¹	Project Responsibility ²	Fair Share % ³
2	Clinton Keith Road between Warm Springs & Whitewood	Murrieta	Restripe to accommodate a 3rd EB through lane thereby completing the 6-lane ultimate cross-section	Yes	TUMF	16.5%

¹ Improvements included in the City of Murrieta DIF program or WRCOG TUMF program.

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

³ Program improvements constructed may be eligible for fee credit, at discretion of City. See Table 6-1 for Fair Share Calculations.

The Project Applicant's responsibility for the Project's contributions towards off-site intersection deficiencies is fulfilled through construction, payment of fair share, and/or participation in the pre-existing fee programs that would be assigned to construction of the identified recommended improvements (see Table 1-1). The Project Applicant would be required to pay requisite fair share contributions and fee payments consistent with the City's requirements (see Section 8 *Local and Regional Funding Mechanisms*).

1.2 PROJECT OVERVIEW

Exhibit 1-2 illustrates the preliminary Project site plan. The Project is proposed to consist of 153 multifamily (low-rise) housing units (condo) and 330 multifamily (mid-rise) housing units (apartments). It is anticipated that the Project would be developed in a single phase with an anticipated Opening Year of 2023. For the purpose of this analysis, the following driveways will be assumed to provide access to the Project site:

- Driveway 1 on Whitewood Road – Right-in/Right-out Only Access
- Driveway 2 on Clinton Keith Road – Right-in/Right-out Only Access

Regional access to the Project site will be provided by the I-215 Freeway via Clinton Keith Road.

EXHIBIT 1-2: PRELIMINARY SITE PLAN



In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017) for the following land use codes (2):

- Multifamily Housing (Low-Rise) (ITE Land Use Code 220)
- Multifamily Housing (Mid-Rise) (ITE Land Use Code 221)

The proposed Project is anticipated to generate 2,916 two-way trips per day, with 189 AM peak hour trips and 232 PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.3 ANALYSIS SCENARIOS

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

- Existing (2021)
- Opening Year Cumulative (2023) Without Project Conditions
- Opening Year Cumulative (2023) With Project Conditions

1.3.1 EXISTING (2021) CONDITIONS

Information for Existing (2021) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. Due to the currently ongoing COVID-19 pandemic, schools and businesses within the study area were closed or operating at less than full capacity at the time this study was prepared. As such, historic 2018 and 2019 traffic counts were utilized in conjunction with a 2% per year growth rate (compounded annually) to reflect 2021 conditions.

1.3.2 OPENING YEAR CUMULATIVE (2023) CONDITIONS

The Opening Year Cumulative (OYC) conditions analysis determines the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects in conjunction with an ambient growth from Existing (2021) conditions of 4.04% is included for Opening Year Cumulative (2023) traffic. This list of cumulative development projects was compiled from information provided by the City of Murrieta and is consistent with other recent studies in the study area.

1.4 STUDY AREA

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

1.4.1 INTERSECTIONS

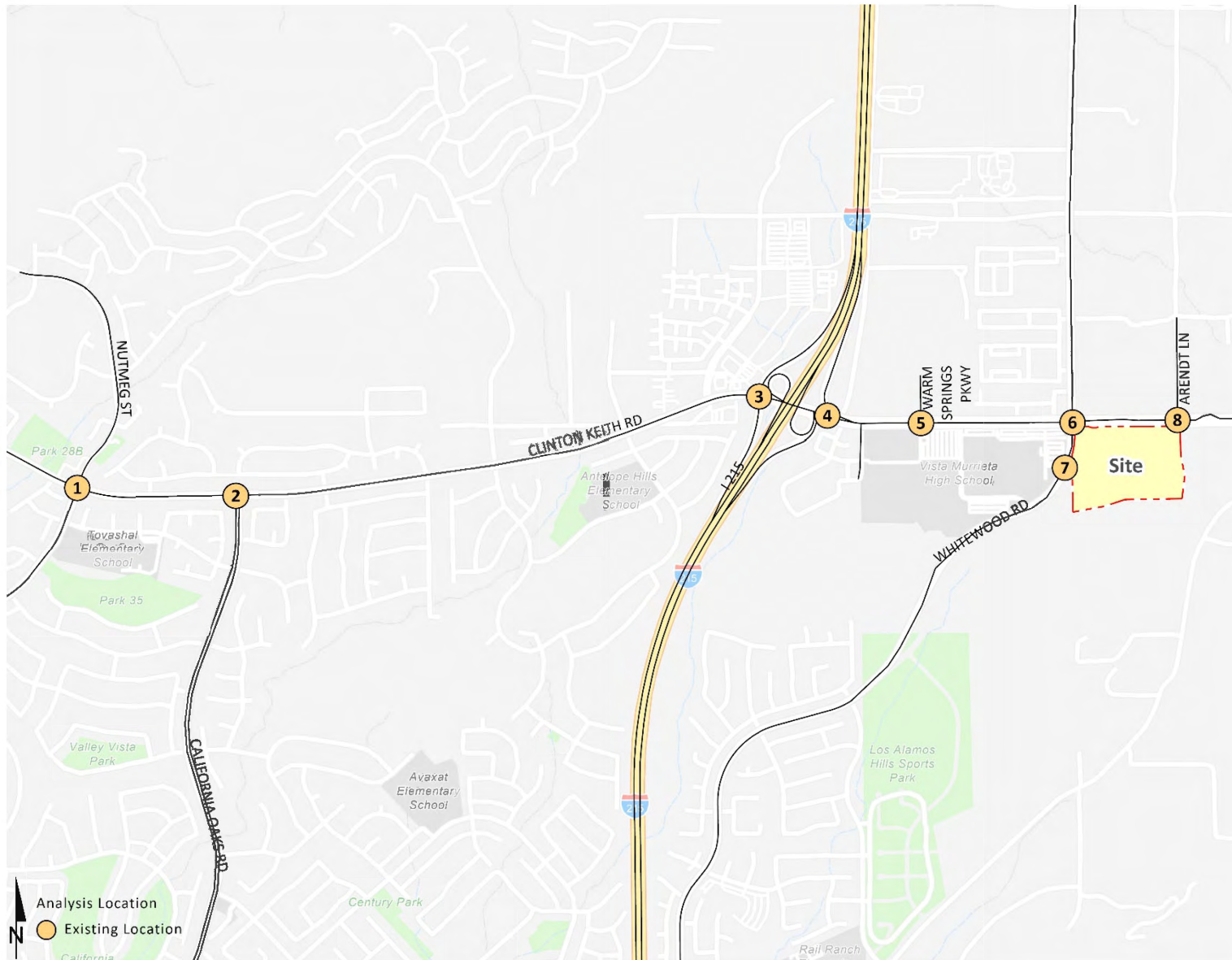
The following 8 study area intersections shown on Exhibit 1-2 and listed on Table 1-1 were selected for this TA based on consultation with City of Murrieta staff. The “50 peak hour trip” criterion generally represents a minimum number of trips at which a typical intersection would have the potential to be affected by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area of influence (i.e., study area).

TABLE 1-1: INTERSECTION ANALYSIS LOCATIONS

ID	Intersection	Jurisdiction	CMP?
1	Nutmeg St. & Clinton Keith Rd.	Murrieta	No
2	California Oaks Rd. & Clinton Keith Rd.	Murrieta	No
3	I-215 SB Ramps & Clinton Keith Rd.	Murrieta, Caltrans	No
4	I-215 NB Ramps & Clinton Keith Rd.	Murrieta, Caltrans	No
5	Whitewood Rd. & Clinton Keith Rd.	Murrieta	No
6	Whitewood Rd. & Murrieta High School Driveway/Driveway 1	Murrieta	No
7	Warm Springs Pkwy. & Clinton Keith Rd.	Murrieta	No
8	Whitewood Rd. & Arendt Ln./Driveway 2	Murrieta	No

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

EXHIBIT 1-3: STUDY AREA



1.4.2 ROADWAY SEGMENTS

The following 3 study area roadway segments listed in Table 1-2 were selected for this TA at the request of City of Murrieta staff during the scoping process.

TABLE 1-2: ROADWAY SEGMENT ANALYSIS LOCATIONS

ID	Roadway	Segment Limits
1	Whitewood Rd.	Clinton Keith Rd. to Driveway 1
2	Clinton Keith Rd.	Warm Springs Pkwy. to Whitewood Rd.
3	Clinton Keith Rd.	Whitewood Rd. to Arendt Ln.

1.5 DEFICIENCIES

This section provides a summary of deficiencies by analysis scenario. Section 2 *Methodologies* provides information on the methodologies used in the analysis and Section 3 *Area Conditions* and Section 5 *Opening Year Cumulative (2023) Traffic Conditions* includes the detailed analysis. A summary of LOS results for all analysis scenarios is presented on Table 1-3.

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

#	Intersection	Existing (2021)		OYC (2023) NP		OYC (2023) WP	
		AM	PM	AM	PM	AM	PM
1	Nutmeg St. & Clinton Keith Rd.	●	●	●	●	●	●
2	California Oaks Rd. & Clinton Keith Rd.	●	●	●	●	●	●
3	I-215 SB Ramps & Clinton Keith Rd.	●	●	●	●	●	●
4	I-215 NB Ramps & Clinton Keith Rd.	●	●	●	●	●	●
5	Warm Springs Pkwy. & Clinton Keith Rd.	●	●	●	●	●	●
6	Whitewood Rd. & Clinton Keith Rd.	●	●	●	●	●	●
7	Whitewood Rd. & Murrieta High School/Driveway	●	●	●	●	●	●
8	Whitewood Rd. & Arendt Ln./Driveway 2	●	●	●	●	●	●

● = A - D ● = E ● = F

1.5.1 EXISTING (2021) CONDITIONS

Intersections

The study area intersections currently operate at an acceptable LOS under Existing (2021) traffic conditions.

Roadway Segments

The study area roadway segments currently operate at an acceptable LOS under Existing (2021) traffic conditions based on the City's planning level daily roadway capacity thresholds and minimum LOS criteria.

Queues

The following movements currently experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for Existing (2021) traffic conditions:

- Whitewood Road & Clinton Keith Road (#6) EBL– PM peak hour only
- Whitewood Road & Clinton Keith Road (#6) SBL– AM and PM peak hours

1.5.2 OPENING YEAR CUMULATIVE (2023) CONDITIONS

Intersections

The following study area intersections are anticipated to operate at an unacceptable LOS during one or more peak hours under Opening Year Cumulative (2023) Without Project traffic conditions:

- California Oaks Road & Clinton Keith Road (#2) – LOS E AM peak hour; LOS F PM peak hour
- Whitewood Road & Clinton Keith Road (#6) – LOS F AM and PM peak hours

There are no additional study area intersections anticipated to operate at an unacceptable LOS under Opening Year Cumulative (2023) With Project traffic conditions.

Roadway Segments

The study area roadway segments are anticipated to operate at an acceptable LOS under Opening Year Cumulative (2023) Without Project and With Project traffic conditions based on the City's planning level daily roadway capacity thresholds and minimum LOS criteria.

Queues

The following movements are anticipated to experience queuing issues during the weekday AM or weekday PM peak 95th percentile traffic flows for OYC (2023) NP traffic conditions:

- Whitewood Road & Clinton Keith Road (#6) EBL– AM and PM peak hours
- Whitewood Road & Clinton Keith Road (#6) NBL– AM and PM peak hours
- Whitewood Road & Clinton Keith Road (#6) SBL– AM and PM peak hours

1.6 RECOMMENDATIONS

1.6.1 RIGHT TURN LANE / DECELERATION LANE ASSESSMENT

Per the City's traffic study guidelines, right-turn/deceleration lanes shall be installed at any intersection or driveway where the following conditions exist:

- Per Municipal Code Section 16.10.030.B.3.b, developments with more than 200 parking stalls, that are located on an Arterial or larger street shall provide deceleration lanes adjacent to their major entry per City standards.

Based on these guidelines, the Project shall install an eastbound right turn pocket at Driveway 2 with a minimum of 100-feet of storage. The storage length has been determined based on a peak

hour queuing analysis of the Project driveways. Since Whitewood Road is classified as a Major roadway it is exempt from this requirement and a right turn pocket has not been recommended.

1.6.2 SITE ADJACENT AND SITE ACCESS RECOMMENDATIONS

The following recommendations are based on the improvements needed to accommodate site access. The site adjacent recommendations are shown on Exhibit 1-4. The site adjacent queuing analysis results for the site adjacent study area intersections are provided in Appendix 1.3.

Recommendation 1 – Whitewood Road & Clinton Keith Road (#6) – The following improvements are necessary to accommodate site access:

- Project to construct a 2nd northbound left turn lane with a minimum of 400-feet of storage.
- Project to construct a 2nd southbound left turn lane with a minimum of 230-feet of storage.

Recommendation 2 – Whitewood Road & Murrieta High School Driveway/Driveway 1 (#7) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the westbound approach (Project Driveway) and construct a westbound right turn lane. Driveway to be restricted to right-in/right-out access only.
- Project to construct a northbound shared through-right turn lane.
- Project to construct a raised median along Whitewood Road along the Project's frontage.
- Project to restripe the eastbound approach to provide a right turn lane. The school driveway to be restricted to right-in/right-out access only (restricted by the installation of a raised median along Whitewood Road). Project to coordinate with the Murrieta Valley Unified School District regarding the restricted access. It should be noted, the northbound left turn lane will remain.

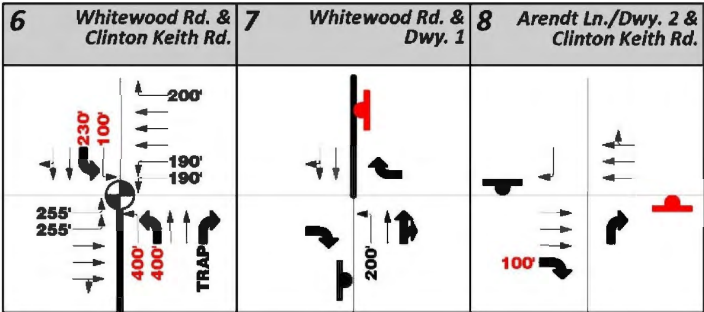
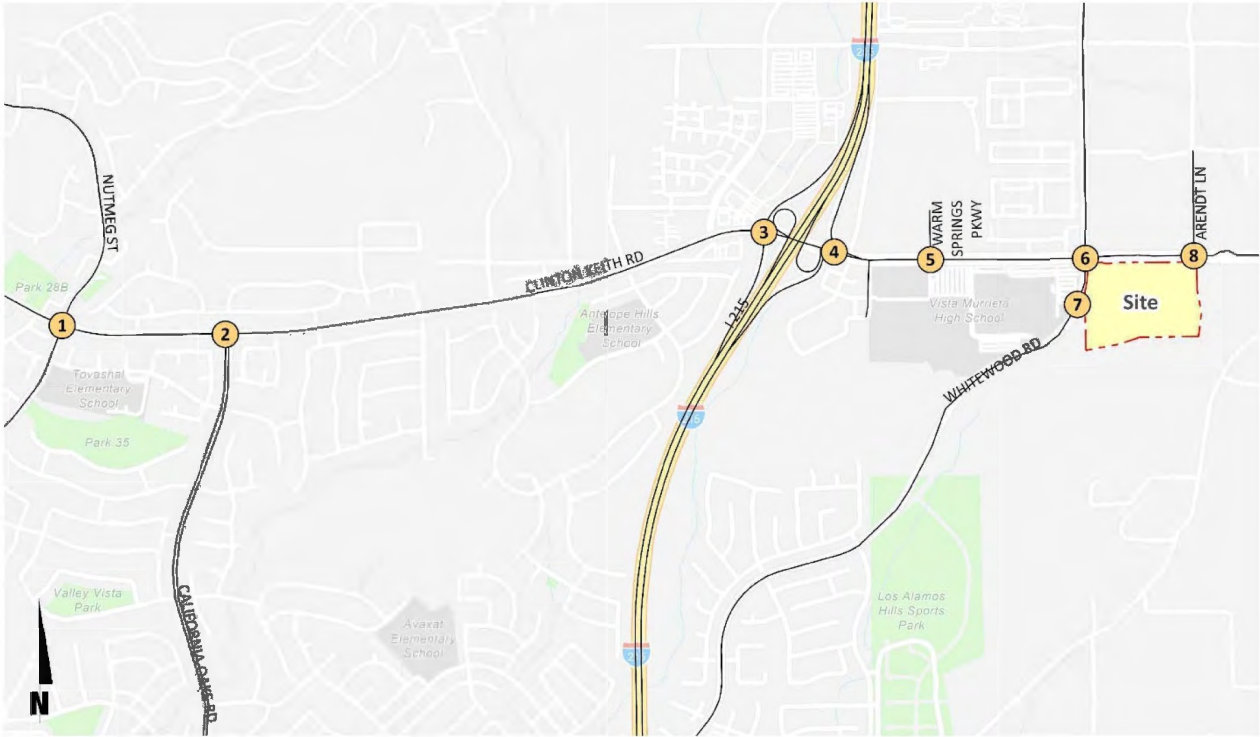
Recommendation 3 – Clinton Keith Road & Arendt Lane/Driveway 2 (#8) – The following improvements are necessary to accommodate site access:

- Project to install a stop control on the northbound approach (Project Driveway) and construct a northbound right turn lane. Driveway to be restricted to right-in/right-out access only.
- Project to construct an eastbound right turn lane with a minimum of 100-feet of storage.

Recommendation 3 (Alternative) – Clinton Keith Road & Arendt Lane/Driveway 2 (#8) – The following improvements are necessary to accommodate site access:

- Project to install a traffic signal and construct a northbound shared left-through-right turn lane. Driveway will allow for full access (no left turn restrictions).
- Project to construct an eastbound right turn lane with a minimum of 150-feet of storage.
- Project to construct a westbound left turn lane with a minimum of 150-feet of storage.

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



- = Traffic Signal
- = New Traffic Signal
- = Stop Sign
- = Stop Sign Improvement
- = Existing Lane
- = Lane Improvement
- = Recommended Turn Pocket Length
- = Minimum Turn Pocket Length
- = Trap Lane
- = Raised Median

Access Alternative
(Full Access)

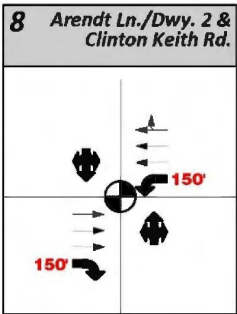


TABLE 1-4: PEAK HOUR QUEUING SUMMARY FOR OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet) ²	2023 With Project			
			95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
Whitewood Rd. & Driveway 1	WBR	<u>100</u>	56	52	Yes	Yes
Arendt Ln. / Driveway 2 & Clinton Keith Rd.	EBR	<u>100</u>	0	0	Yes	Yes
	NBR	<u>120</u>	55	42	Yes	Yes
Alternative:						
Whitewood Rd. & Driveway 1	WBR	<u>100</u>	48	40	Yes	Yes
Arendt Ln. / Driveway 2 & Clinton Keith Rd.	EBR	<u>150</u>	111	154	Yes	Yes
	WBL	<u>100</u>	33	83	Yes	Yes
	NBL/T/R	<u>120</u>	85	59	Yes	Yes

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

² 100 = Improvement

Recommendation 4 – Whitewood Road is a north-south oriented roadway located on the Project's western boundary. Project to construct Whitewood Road at its ultimate half-width as a Major Highway (100-foot right-of-way) from Clinton Keith Road to the southern Project boundary consistent with the City's standards. Project to construct a raised median along Whitewood Road along the Project's frontage.

Clinton Keith Road is currently constructed to its ultimate half-section width along the Project's frontage from Whitewood Road to the eastern Project boundary. However, the Project should improve the curb and gutter, sidewalk, and landscaping as needed to accommodate site access.

Appendix 1.2 includes peak hour queuing analysis at the Project driveways for both the right-in/right-out and full access alternative at Driveway 2. The queuing analysis results are summarized on Table 1-4.

1.6.3 OFF-SITE RECOMMENDATIONS

The recommended improvements needed to address the cumulative deficiencies are summarized in Table 1-5. For those improvements listed in Table 1-5 and not constructed as part of the Project, the Project Applicant's responsibility for the Project's contributions towards deficient intersections is fulfilled through payment of fees or fair share that would be assigned to construction of the identified recommended improvements. As noted, the Project should also contribute its fair share toward improvements such as restriping, median modifications, and restriping for the roadway segment improvement (see Table 1-5 for details).

TABLE 1-5: SUMMARY OF IMPROVEMENTS AND ROUGH ORDER OF MAGNITUDE COSTS

#	Intersection Location	Jurisdiction	Analysis Scenarios	Improvements	Project	Fair
			Opening Year Cumulative (2023) With Project	included in Fee Program? ¹	Responsibility ²	Share % ³
2	California Oaks Rd. & Clinton Keith Rd.	Murrieta	Modify the traffic signal to implement overlap phasing for the NB right turn lane	No	Construct	--
6	Whitewood Rd. & Clinton Keith Rd.	Murrieta	Add 2nd NB left turn lane (restripe to increase pocket storage to 400-feet) and NB right turn lane Restripe to accommodate 2nd SB left turn lane, SB through, and SB shared through-right turn lane Modify the median on Clinton Keith Road to accommodate a 365-feet of EB left turn storage Restripe the WB left turn turn pocket to accommodate a 200-feet of storage	No	Construct	--
6	Whitewood Rd. & Clinton Keith Rd. (Alternative)	Murrieta	Add 2nd NB left turn lane (restripe to increase pocket storage to 300-feet) and NB right turn lane Restripe to accommodate 2nd SB left turn lane, SB through, and SB shared through-right turn lane Modify the median on Clinton Keith Road to accommodate a 340-feet of EB left turn storage	No	Construct	--
#	Roadway Segment	Jurisdiction	Analysis Scenarios	Improvements	Project	Fair
			Opening Year Cumulative (2023) With Project	included in Fee Program? ¹	Responsibility ²	Share % ³
2	Clinton Keith Road between Warm Springs & Whitewood	Murrieta	Restripe to accommodate a 3rd EB through lane thereby completing the 6-lane ultimate cross-section	No	Fair Share	16.5%

¹ Improvements included in the City of Murrieta DIF program or WRCOG TUMF program.

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

³ Program improvements constructed may be eligible for fee credit, at discretion of City. See Table 6-1 for Fair Share Calculations.

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2 METHODOLOGIES

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

2.1 LEVEL OF SERVICE

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

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The 6th Edition Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (3) The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Murrieta requires signalized intersection operations analysis based on the methodology described in the HCM. (3) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is directly related to the average control delay per vehicle and is correlated to a LOS designation as described on Table 2-1. Consistent with City of Murrieta traffic study guidelines, a saturation flow rate of 1900 in vehicles per hour green per lane (vphgpl) has been utilized in the traffic analysis for signalized intersections.

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

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

Source: HCM (6th Edition)

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

The peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g., $PHF = [\text{Hourly Volume}] / [4 \times \text{Peak 15-minute Flow Rate}]$). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (3)

California Department of Transportation (Caltrans)

The traffic modeling and signal timing optimization software package Synchro (Version 11) has also been utilized to analyze signalized intersections under Caltrans' jurisdiction, which include interchange to arterial ramps (i.e., I-215 Freeway ramps at Clinton Keith Road). Signal timing for the freeway arterial-to-ramp intersections has been obtained from Caltrans. It should be noted that for the purposes of this analysis, no optimization of signal timing has been performed for the LOS analysis unless noted otherwise (for improvements).

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Murrieta require the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (3) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

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

Source: HCM (6th Edition)

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

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or ascertain the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the latest edition of the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD). (4)

Driveway 1 on Whitewood Road and Driveway 2 on Clinton Keith Road are both proposed for restricted access (i.e., right-in/right-out access only). As such, traffic signal warrant analysis has not been performed for these unsignalized study area intersections since it is unlikely a traffic signal would be installed at these locations. Traffic signal warrant analysis has been performed for Driveway 2 on Clinton Keith Road only for the full access alternative.

2.4 ROADWAY SEGMENT CAPACITY ANALYSIS

Roadway segment operations have been evaluated using the City of Murrieta Roadway Capacity Thresholds provided in the City's Traffic Study Guidelines. (1) Per the City's Traffic Study Guidelines, roadway segments within the study area should maintain LOS C capacities along roadways. As an exception, LOS D may be allowed in the North Murrieta Business Corridor, Clinton Keith/Mitchell, Golden Triangle North (Central Murrieta), South Murrieta Business Corridor, or other Focus Areas, or other employment centers. These roadway capacities are "rule of thumb" estimates for planning purposes and are affected by such factors as intersections (spacing, configuration and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic) and pedestrian bicycle traffic. In other words, while using average daily traffic (ADT) for planning purposes is suitable with regards to evaluating potential volume to capacity with future forecasts, it is not suitable for operational analysis because it does not account for the factors listed previously. As such, where the ADT based roadway segment analysis indicates a deficiency (unacceptable LOS), a review of the more detailed peak hour intersection analysis and progression analysis are undertaken. The more detailed peak hour intersection analysis explicitly accounts for factors that affect roadway capacity.

Any roadway segment that operates unacceptably in the Without Project scenario where the project is anticipated to add traffic in excess of 5% of the roadway capacity (e.g., a volume-to-capacity increase of more than 0.05) should identify improvements to add capacity to the segment.

2.5 QUEUING ANALYSIS

A queuing analysis has been performed for the I-215 Freeway & Clinton Keith Road interchange and the study area intersection of Whitewood Road & Clinton Keith Road. The 95th percentile queuing of vehicles has been assessed at the off-ramps to determine potential queuing deficiencies at the intersection and the interchange identified above. Specifically, the queuing analysis is utilized to identify any potential queuing and "spill back" onto the I-215 Freeway mainline from the off-ramps or out of the turn pockets.

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

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

2.6 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

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

2.6.1 CITY OF MURRIETA

Per the City of Murrieta General Plan, the City of Murrieta's current LOS standard for intersections is LOS D for peak hour intersection operations, and LOS E at freeway interchanges.

2.6.2 CALTRANS

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

2.6.3 RIVERSIDE COUNTY CMP

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

2.7 DEFICIENCY CRITERIA

This section outlines the methodology used in this analysis related to identifying circulation system deficiencies. Consistent with the City's TIA Guidelines, the following criteria will be applied for the traffic analysis.

SIGNALIZED INTERSECTION OPERATING REQUIREMENTS

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

UNSIGNALIZED INTERSECTION GENERAL PLAN CONSISTENCY REQUIREMENTS

An operational improvement would be required if the study determines that either section a) or both sections b) and c) occur:

- a) The addition of project related traffic causes the intersection to degrade from an acceptable LOS D or better to LOS E or F.
OR
- b) The project adds 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at a LOS E or F,
AND
- c) The intersection meets the peak hour traffic signal warrant after the addition of project traffic.

If the conditions above are satisfied, improvements should be identified that achieve the following:

- LOS D or better for case a) above or to pre-project LOS and delay for case b) above.

ROADWAY SEGMENT GENERAL PLAN CONSISTENCY REQUIREMENTS

Consistent with the acceptable LOS for the City, the following roadway segment requirements should be considered, and improvements recommended if the project exceeds the noted operational goals:

- Any study roadway segment operating at a LOS C or better without project traffic in which the addition of project traffic causes the segment to degrade to an LOS E or F should identify improvements to achieve LOS C.
- As an exception, LOS “D” may be allowed in the North Murrieta Business Corridor, Clinton Keith/Mitchell, Golden Triangle North (Central Murrieta), South Murrieta Business Corridor, or other Focus Areas, or other employment centers
- Any roadway segment that operates unacceptably in the no project scenario where the project adds traffic in excess of 5% of the roadway capacity (e.g., a volume-to-capacity ratio increase of 0.05) should identify improvements to add capacity to the segment.

QUEUING ANALYSIS REQUIREMENTS

Consistent with the City’s Guidelines:

A queuing deficiency is identified in the Without Project condition if the calculated 95th percentile queue length exceeds the storage length by more than 25 feet (the average storage length for one additional vehicle) since the bay taper can typically store at least one vehicle. A significant queuing impact is determined if the Project causes the calculated 95th percentile queue length to exceed the existing or planned storage capacity at a signalized intersection by more than 25 feet. If storage lanes that are already deficient without the Project, a significant queuing impact is determined if the Project increases the calculated 95th percentile queue length by at least 25 feet. Where left-turn lanes connect to two-way left-turn lanes, although the calculated queue may exceed the length of the painted left-turn pocket, the presence of the two-way left-turn lane provides additional storage and allows the queue to avoid spilling into through lanes. Therefore,

queues exceeding the painted storage length in these situations are not highlighted as existing deficiencies because they do not contribute to operational problems.

2.8 PROJECT FAIR SHARE CALCULATION METHODOLOGY

In cases where this TA identifies that the Project would contribute additional traffic volumes to traffic deficiencies, Project fair share costs of improvements necessary to address deficiencies have been identified. The Project's fair share cost of improvements is determined based on the following equation, which is the ratio of Project traffic to new future traffic, and new future traffic is project traffic plus future development traffic:

$$\text{Project Fair Share \%} = \text{Project AM/PM Traffic} / (\text{Project AM/PM Traffic} + \text{Future Development Traffic})$$

The project fair share percentage has been calculated for both the AM peak hour and PM peak hour and the highest of the two has been selected. The Project fair share contribution calculations are presented in Section 6 *Local and Regional Funding Mechanisms* of this TA.

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3 AREA CONDITIONS

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

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with City of Murrieta staff (Appendix 1.1), the study area includes a total of 8 existing and future intersections as shown previously on Exhibit 1-3. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF MURRIETA GENERAL PLAN CIRCULATION ELEMENT

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

3.3 TRUCK ROUTES

The City of Murrieta's truck routes are shown on Exhibit 3-4. There are no identified truck routes in the study area.

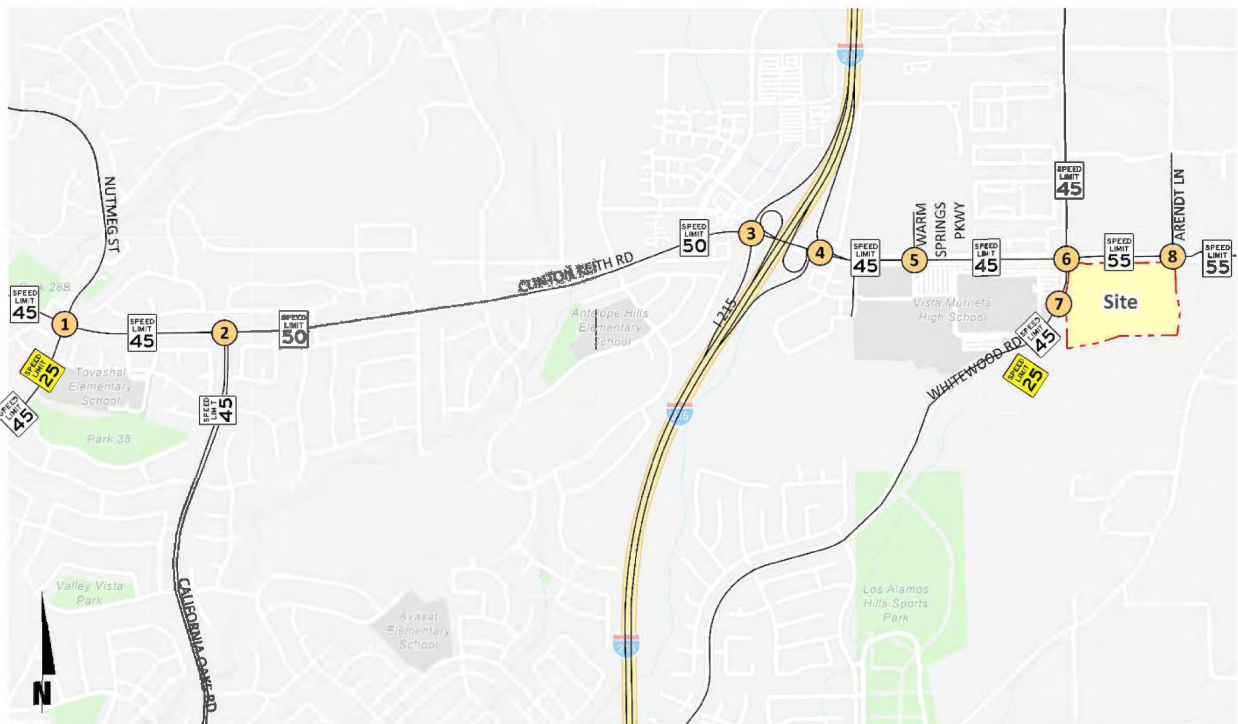
3.4 TRANSIT SERVICE

The study area is currently served by Riverside Transit Agency (RTA) with bus service along Clinton Keith Road west of the I-215 Freeway to Whitewood Road, south of Clinton Keith Road. RTA Route 61 runs along Whitewood Road to the west of the Project. The existing transit routes within the study area are shown on Exhibit 3-5. RTA Route 61 could potentially serve the Project. An existing bus stop exists along Clinton Keith Road in front of Murrieta High School. Transit service is reviewed and updated by RTA periodically to address ridership, budget, and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate.

3.5 BICYCLE & PEDESTRIAN FACILITIES

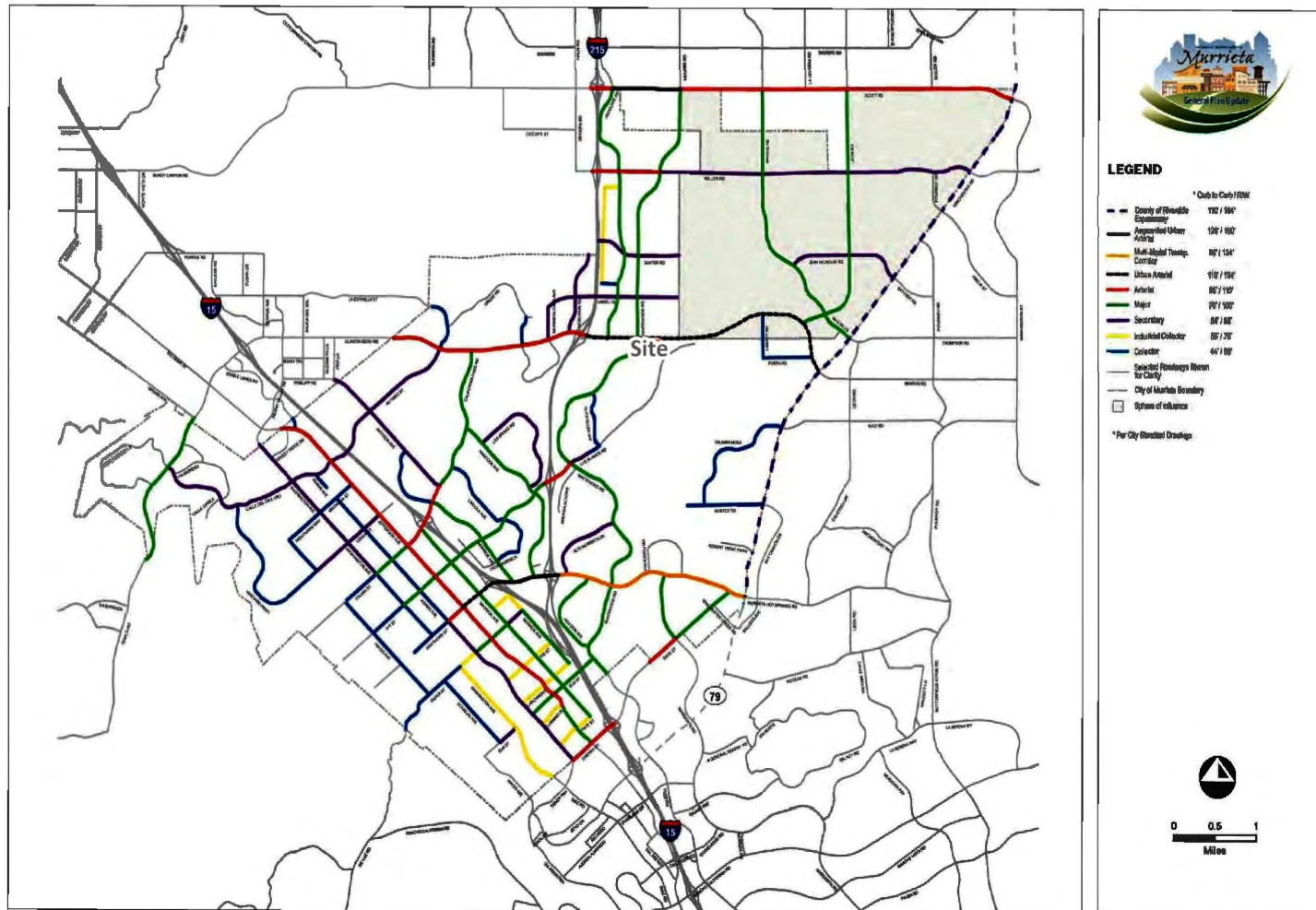
The City of Murrieta's bicycle facilities are shown on Exhibit 3-6. There are Class II (striped, on-road) bike lanes along Clinton Keith Road and Whitewood Road is proposed to be striped with Class II bike lanes in the future along the Project's frontage. Based on Exhibit 3-6, there is also a proposed multipurpose trail located along the Project's frontage on Clinton Keith Road and Whitewood Road. As shown on Exhibit 3-7, pedestrian facilities are built out around intersections along Clinton Keith Road. Field observations indicate nominal pedestrian and bicycle activity within the study area.

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



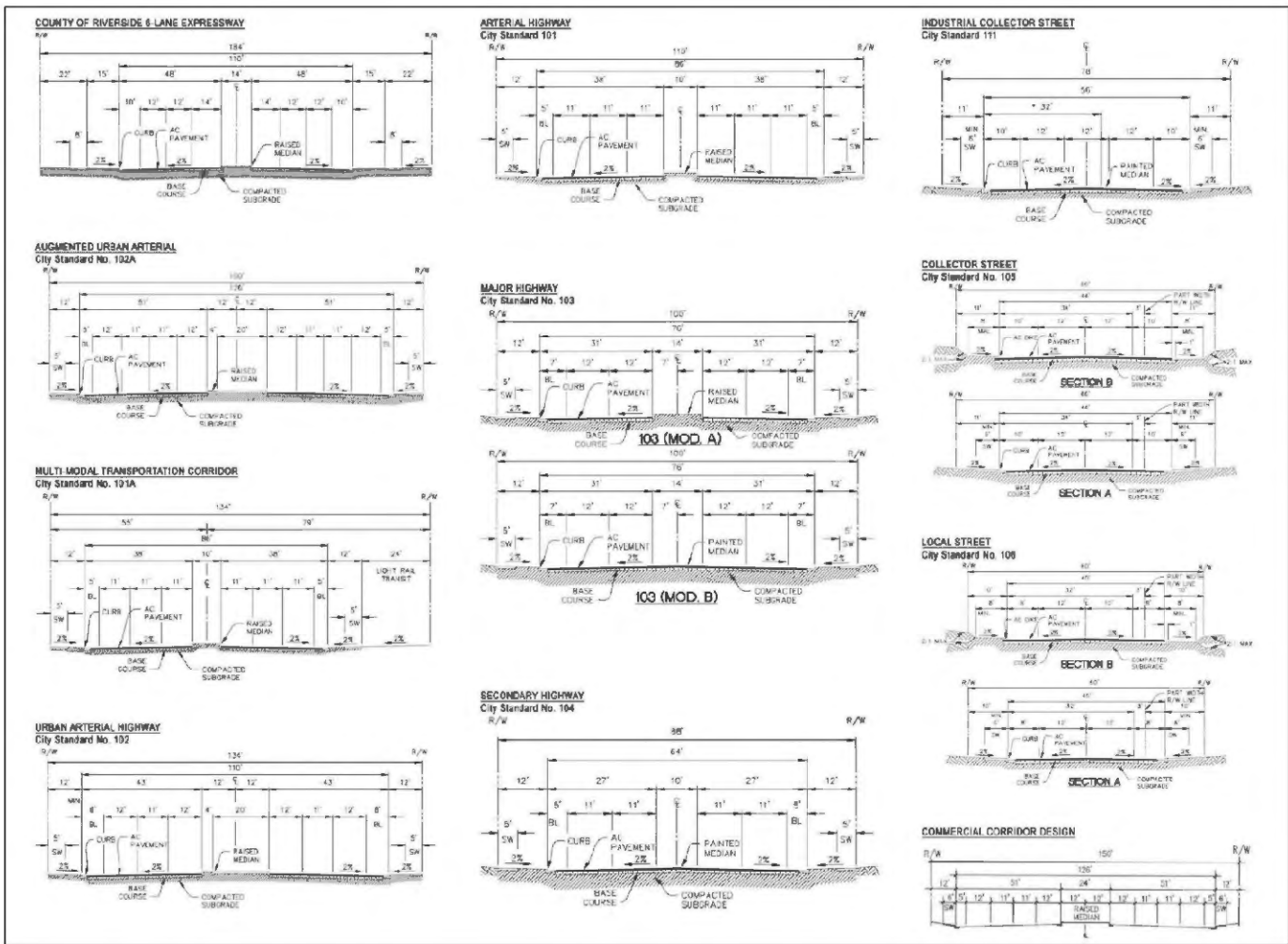
1 Nutmeg St. & Clinton Keith Rd.	2 California Oaks Rd. & Clinton Keith Rd.	3 I-215 SB Ramps & Clinton Keith Rd.	4 I-215 NB Ramps & Clinton Keith Rd.	5 Warm Springs Pkwy. / Bronco Ct. & Clinton Keith Rd.
6 Whitewood Rd. & Clinton Keith Rd.	7 Whitewood Rd. & Dwy. 1	8 Arendt Ln. / Dwy. 2 & Clinton Keith Rd.	 = Traffic Signal = Stop Sign 4 = Number of Lanes D = Divided U = Undivided DEF = Defacto Right Turn RTO = Right Turn Overlap = Free Right Turn = Speed Limit (MPH) = School Speed Limit (MPH)	
		Future Intersection		

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



General Plan 2035 Circulation Map
Exhibit 3-2

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



- STREET SECTIONS SHOWN**
- County of Riverside 6-Lane Expressway
 - Augmented Urban Arterial
 - Multi-Modal Transportation Corridor
 - Urban Arterial Highway
 - Arterial Highway
 - Major Highway
 - Secondary Highway
 - Industrial Collector Street
 - Collector Street
 - Local Street
 - Commercial Corridor Design

Source: City of Murrieta, Department of Public Works, Standard Drawings, Section 100, Typical Street Sections, Ordinance No. 429-09, Effective January 14, 2010.

EXHIBIT 3-4: CITY OF MURRIETA TRUCK ROUTES

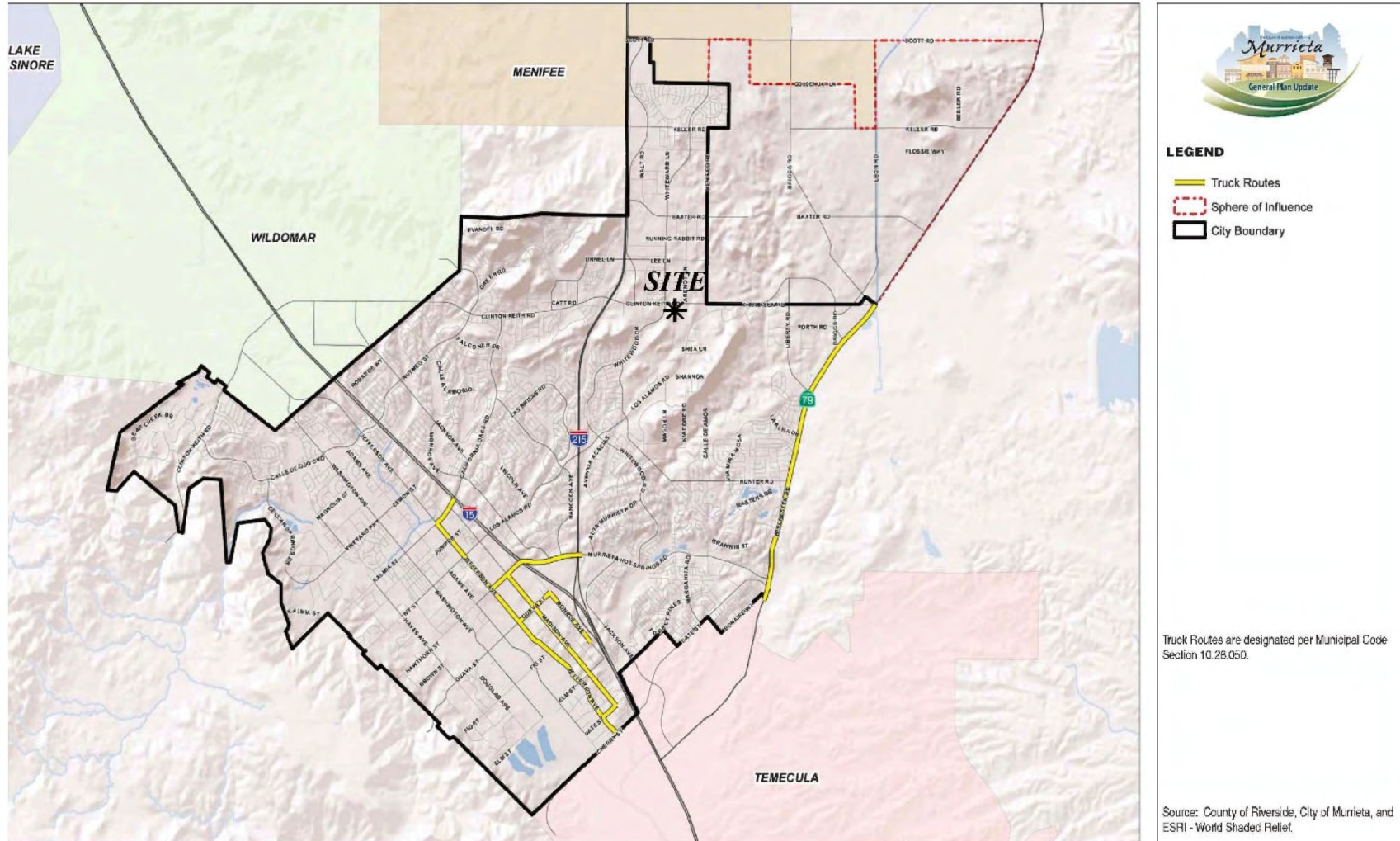
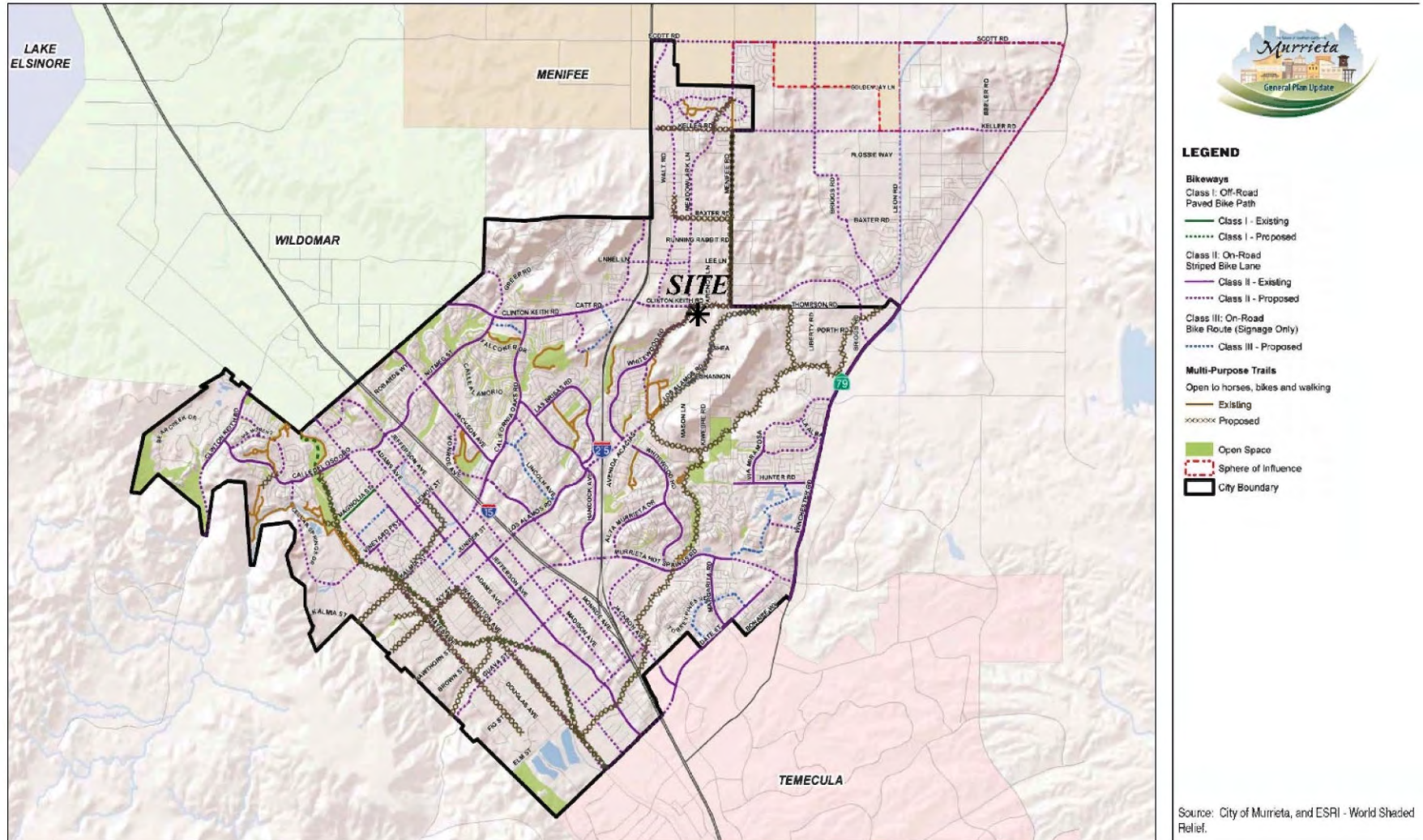


EXHIBIT 3-5: EXISTING TRANSIT ROUTES



EXHIBIT 3-6: CITY OF MURRIETA BICYCLE FACILITIES



3.6 EXISTING (2021) TRAFFIC COUNTS

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

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

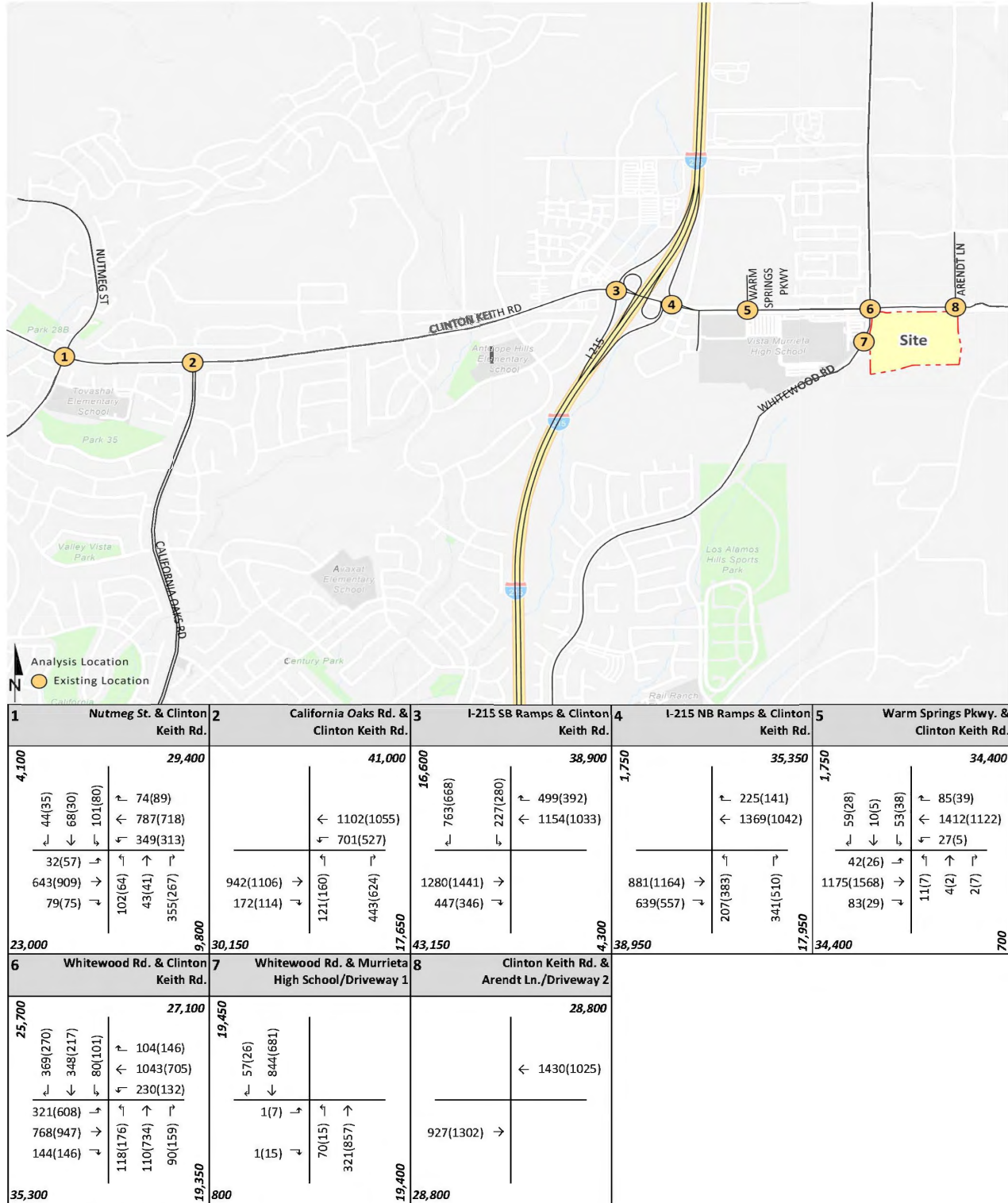
Due to the currently ongoing COVID-19 pandemic, schools and businesses within the study area were closed or operating at less than full capacity at the time this study was prepared. As such, historic 2018 and 2019 traffic counts were utilized in conjunction with a 2% per year growth rate (compounded annually) to reflect 2021 conditions. The 2018 and 2019 weekday AM and weekday PM peak hour count data is representative of typical weekday peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity or detour routes and near-by schools were in session and operating on normal schedules.

Existing weekday ADT volumes are shown on Exhibit 3-8. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 12.37 = \text{Leg Volume}$$

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 8.08 percent. As such, the above equation utilizing a factor of 12.37 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 8.08 percent (i.e., $1/0.0808 = 12.37$) and was assumed to sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses. Existing weekday AM and weekday PM peak hour intersection volumes are also shown on Exhibit 3-8.

EXHIBIT 3-8: EXISTING (2021) TRAFFIC VOLUMES



###(###) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

3.7 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized on Table 3-1, which indicates that the existing study area intersections are currently operating at an acceptable LOS during the peak hours. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

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

#	Intersection	Traffic Control ²	Delay ¹ (secs.)		Level of Service	
			AM	PM	AM	PM
1	Nutmeg St. & Clinton Keith Rd.	TS	15.9	16.5	B	B
2	California Oaks Rd. & Clinton Keith Rd.	TS	31.6	46.4	C	D
3	I-215 SB Ramps & Clinton Keith Rd.	TS	16.3	17.0	B	B
4	I-215 NB Ramps & Clinton Keith Rd.	TS	8.9	25.7	A	C
5	Warm Springs Pkwy. & Clinton Keith Rd.	TS	3.9	2.5	A	A
6	Whitewood Rd. & Clinton Keith Rd.	TS	36.7	42.0	D	D
7	Whitewood Rd. & Murrieta High School/Driveway 1	CSS	18.7	14.7	C	B
8	Clinton Keith Rd. & Arendt Ln.	CSS	0.0	0.0	A	A

* **BOLD** = Unacceptable LOS

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

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

3.8 ROADWAY SEGMENT CAPACITY ANALYSIS

The City of Murrieta Traffic Study Guidelines provide roadway volume capacity values. These roadway segment capacities are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table 3-2 provides a summary of the Existing (2021) conditions roadway segment capacity analysis based on the City of Murrieta Roadway Capacity Thresholds. As shown in Table 3-2, all study area roadway segments currently operate at an acceptable LOS based on the City's planning level daily roadway capacity thresholds and minimum LOS criteria.

TABLE 3-2: ROADWAY SEGMENT ANALYSIS FOR EXISTING (2021) CONDITIONS

#	Roadway	Segment Limits	GP Classification	Roadway Section	LOS E Capacity ^{1,4}	Existing 2021	V/C ²	LOS ³
1	Whitewood Rd.	Clinton Keith Rd. to Driveway 1	Major Arterial	3D	25,575	19,435	0.76	C
2	Clinton Keith Rd.	Warm Springs Pkwy. to Whitewood Rd.	Urban Arterial	5D	44,917	35,285	0.79	C
3		Whitewood Rd. to Arendt Ln.	Urban Arterial	6D	53,900	28,789	0.53	A

¹ These maximum roadway capacities have been extracted from the following source: City of Murrieta General Plan 2035 Update (Table 4.2-2)

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

⁴ There is no roadway capacity for a 5-lane divided urban arterial. As such, capacity has been estimated by using 83.3% of the capacity for a 6-lane Urban Arterial.

3.9 QUEUING ANALYSIS

Queuing analysis findings are presented on Table 3-3. It is important to note that available stacking lengths are consistent with the measured distance between the intersection and the freeway mainline or the intersection turn pockets. As shown on Table 3-3, the following movements currently experience queuing issues during the weekday PM peak 95th percentile traffic flows:

- Whitewood Road & Clinton Keith Road (#5) EBL– PM peak hour only
- Whitewood Road & Clinton Keith Road (#5) SBL–PM peak hour only

Worksheets for Existing traffic conditions queuing analysis are provided in Appendix 3.4.

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

Intersection	Movement	Available Stacking Distance (Feet)	95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak	PM Peak	AM	PM
I-215 SB Ramps & Clinton Keith Rd.	SBL/T	960	169	234	Yes	Yes
	SBR	1,185	314	266	Yes	Yes
I-215 NB Ramps & Clinton Keith Rd.	NBL	960	258	377	Yes	Yes
	NBR	1,525	194	358	Yes	Yes
Whitewood Rd. & Clinton Keith Rd.	EBL	255	190 ²	366 ²	Yes	No
	WBL	190	142 ²	80	Yes	Yes
	WBR	195	42	48	Yes	Yes
	NBL	295	170 ²	270 ²	Yes	Yes
	SBL	100	112	151 ²	Yes	No

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

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network. The Project is proposed to consist of the development of 153 condominiums and 330 apartments. It is anticipated that the Project would be developed in a single phase with an anticipated Opening Year of 2023. Access to the Project site will be provided to Whitewood Road and Clinton Keith Road via two proposed driveways. Regional access to the Project site will be provided by the I-215 Freeway via Clinton Keith Road.

4.1 PROJECT TRIP GENERATION

4.1.1 PROPOSED PROJECT

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the ITE Trip Generation Manual (10th Edition, 2017) for the following land use codes (2):

- Multifamily Housing (Low-Rise) (ITE Land Use Code 220)
- Multifamily Housing (Mid-Rise) (ITE Land Use Code 221)

As shown in Table 4-1, the proposed Project is anticipated to generate 2,916 two-way trips per day, with 189 AM peak hour trips and 232 PM peak hour trips.

TABLE 4-1: PROJECT TRIP GENERATION RATES

Land Use ¹	ITE LU Code	Units ²	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Multifamily Housing (Low-Rise)	220	DU	0.11	0.35	0.46	0.35	0.21	0.56	7.32
Multifamily Housing (Mid-Rise)	221	DU	0.09	0.27	0.36	0.27	0.17	0.44	5.44

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

² DU = Dwelling Units

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Multifamily Housing (Low-Rise)	153 DU	16	54	70	54	32	86	1,120
Multifamily Housing (Mid-Rise)	330 DU	31	88	119	89	57	146	1,796
Total		47	142	189	143	89	232	2,916

¹ DU = Dwelling Units

4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution represents the directional orientation of traffic to and from the Project site. Trip distribution is the process of identifying the probable destinations, directions or traffic routes that will be utilized by Project traffic. The potential interaction between the planned land uses and surrounding regional access routes are considered to identify the route where the Project traffic would distribute. Distribution patterns are based on existing and planned land uses in the area along with the planned circulation system. Exhibit 4-1 illustrates the trip distribution patterns for the Project. Note that the Project's on-site circulation has been designed in such a way that Project traffic can access different components of the Project from both Whitewood Road and Clinton Keith Road.

As an alternative, Project Driveway 2 has also been evaluated assuming full access (no left turn restrictions) to determine the improvement needs that might be required with full access. Trip distribution patterns with full access at Driveway 2 is shown on Exhibit 4-2.

4.3 MODAL SPLIT

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

4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-3. Project ADT and peak hour intersection volumes for the full access alternative at Driveway 2 is shown on Exhibit 4-4 (for the affected intersections only as all other locations are consistent with Exhibit 4-3).

4.5 BACKGROUND TRAFFIC

Future year traffic forecasts have been based upon background (ambient) growth at 2.0% per year, compounded annually. The total ambient growth is 4.04% for 2023 traffic. The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications have been filed and are under consideration by governing agencies. The traffic generated by the proposed Project is manually added to the base volume to determine Opening Year Cumulative forecasts.

EXHIBIT 4-1: PROJECT TRIP DISTRIBUTION

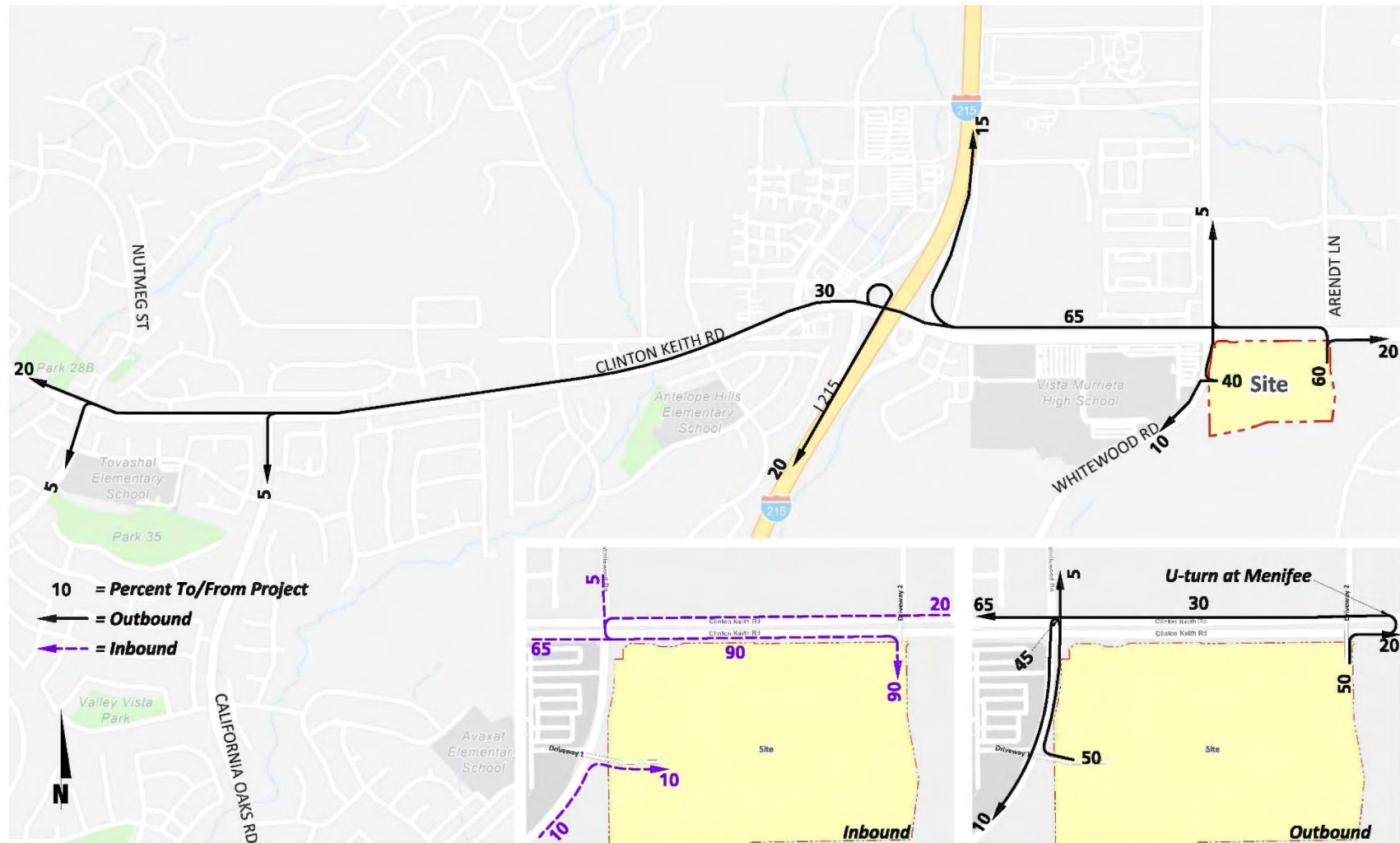


EXHIBIT 4-2: PROJECT TRIP DISTRIBUTION (ALTERNATIVE)

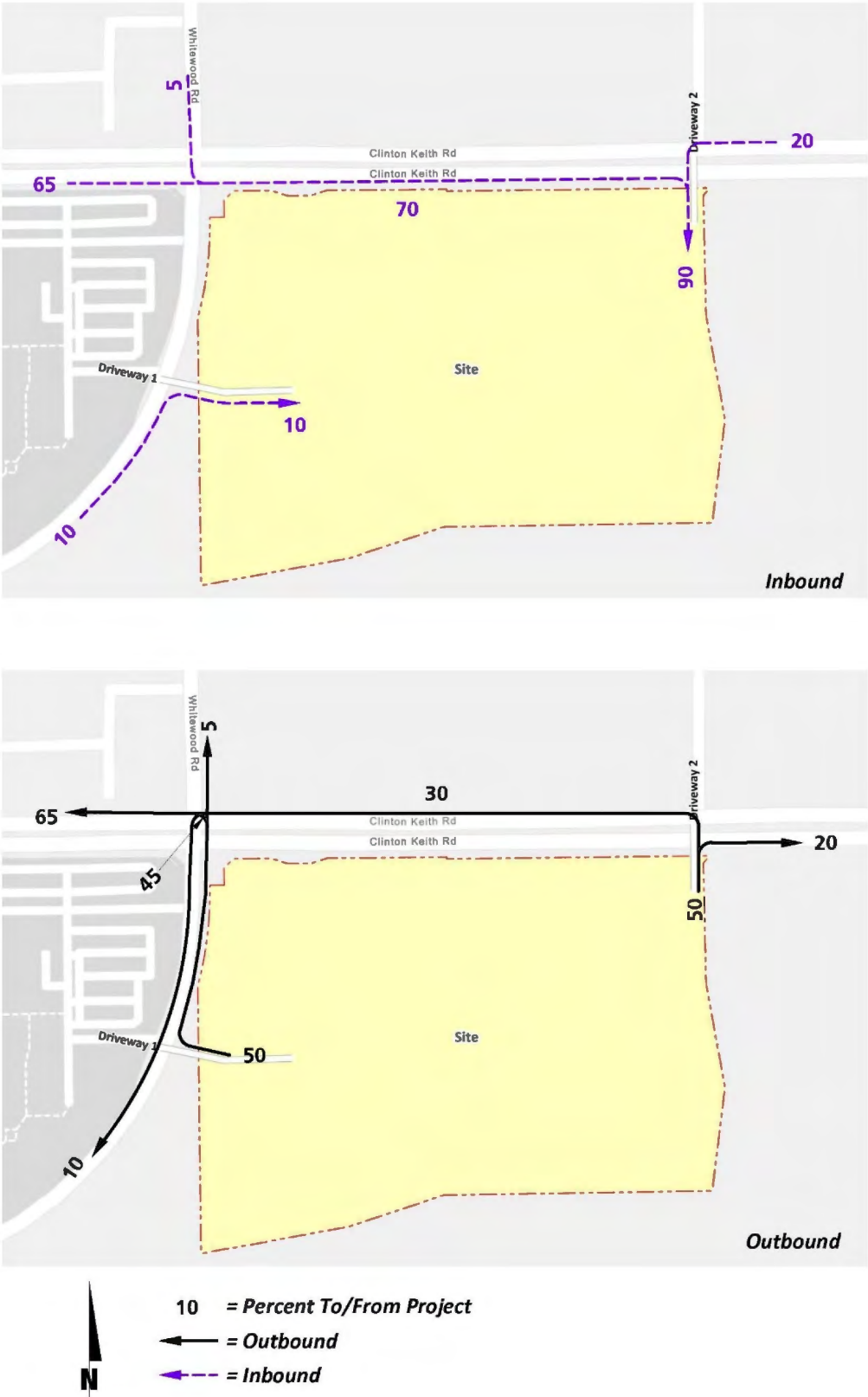
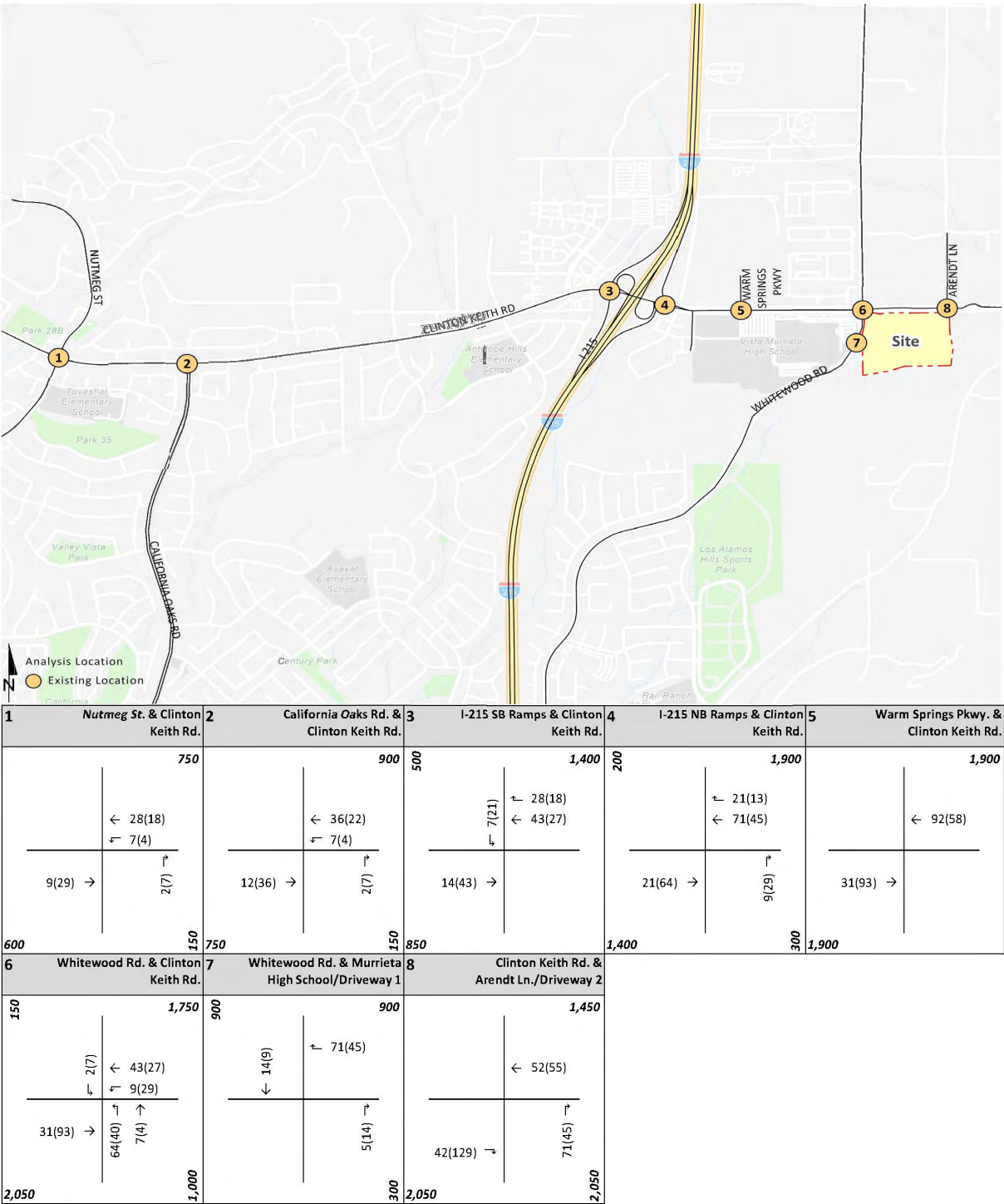


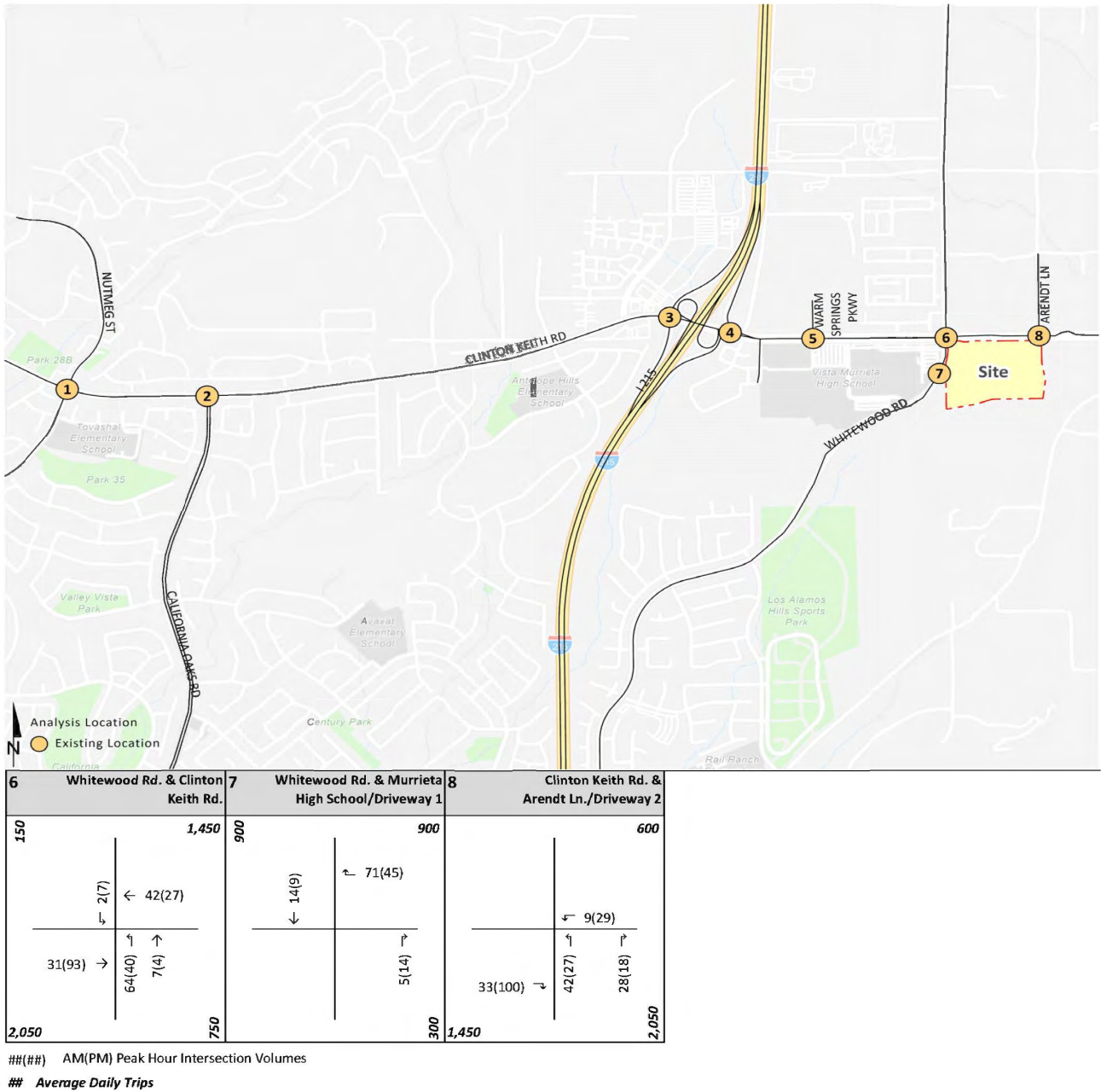
EXHIBIT 4-3: PROJECT ONLY TRAFFIC VOLUMES



##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

EXHIBIT 4-4: PROJECT ONLY TRAFFIC VOLUMES (ALTERNATIVE)



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

- Opening Year Cumulative (2023) Without Project
 - Adjusted Existing 2021 volumes
 - Ambient growth traffic (4.04%)
 - Cumulative Development traffic
- Opening Year Cumulative (2023) With Project
 - Adjusted Existing 2021 volumes
 - Ambient growth traffic (4.04%)
 - Cumulative Development traffic
 - Project Traffic

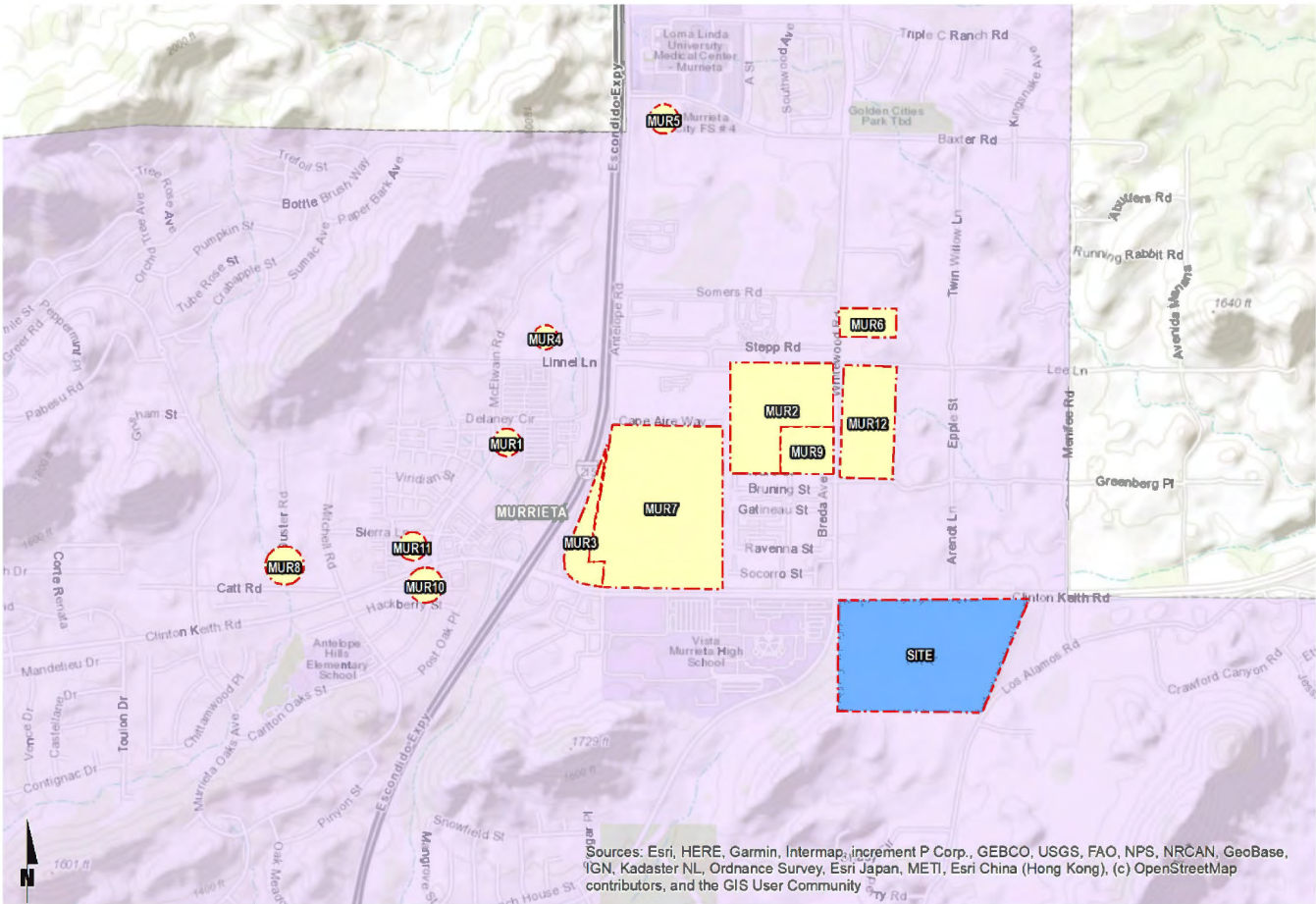
4.6 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Murrieta. The cumulative projects listed are those that would generate traffic and would contribute traffic to study area intersections. Exhibit 4-5 illustrates the cumulative development location map. A summary of cumulative development projects and their proposed land uses are shown on Table 4-2. If applicable, the traffic generated by individual cumulative projects was manually added to the Opening Year Cumulative (2023) forecasts to ensure that traffic generated by the listed cumulative development projects on Table 4-2 is reflected as part of the background traffic. In an effort to conduct a conservative analysis, the cumulative projects are added in conjunction with the ambient growth identified in Section 4.5 *Background Traffic*. Cumulative ADT and peak hour intersection turning movement volumes are shown on Exhibit 4-6 for near-term traffic conditions. Appendix 4.1 includes the trip generation summary for the cumulative projects.

4.7 NEAR-TERM CONDITIONS

The “buildup” approach has been utilized which combines existing traffic counts with a background ambient growth factor to forecast the Opening Year Cumulative (2023) traffic conditions. An ambient growth factor of 4.04% accounts for background (area-wide) traffic increases that occur over time up to the year 2023 from the year 2021 (2 percent over a 2-year period). Project traffic is added to assess Opening Year Cumulative (2023) With Project traffic conditions. Traffic volumes generated by cumulative development projects are included to assess the Opening Year Cumulative (2023) Without Project and With Project traffic conditions. The 2023 roadway networks are similar to the existing conditions roadway network with the exception of future intersections and driveways proposed to be developed by the Project.

EXHIBIT 4-5: CUMULATIVE DEVELOPMENT LOCATION MAP



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TABLE 4-2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

#	Project Name	Land Use ¹	Quantity Units ¹
MUR1	The Orchard (DPO-03-161)	Shopping Center	186.000 TSF
MUR2	Vineyard Shopping Center (DPO-2012-3260)	Shopping Center	78.489 TSF
		Hotel	91 RM
		Automobile Parts/Service Center	4.000 TSF
		Tire Store	5.000 TSF
MUR3	Curci Property (DP-2018-1691)	Shopping Center	11.650 TSF
		High Turnover (Sit-Down) Restaurant	3.000 TSF
		Fast-Food with Drive-Thru Window	5.000 TSF
		Drive-in Bank	5.000 TSF
MUR4	McElwain and Linnel (DP-2019-1846)	Hotel	120 RM
		Medical Office	116.200 TSF
MUR5	Makena Hills (EA-2017-1315)	High Turnover (Sit-Down) Restaurant	9.300 TSF
		Hotel	206 RM
MUR6	Murrieta-Whitewood Skilled Nursing Facility (DP-2015-708)	Nursing Facility	74.613 TSF
		Warehouse	153.362 TSF
MUR7	Costco (DP-2018-1652)	Gas Station/Car-Wash	32.000 FS
		Shopping Center	79.900 TSF
MUR8	Murrieta Senior Living (DP-2017-1333)	Assisted Living	97.275 TSF
MUR9	Meadowlark (DP-2018-1624)	Multi-Family Condominiums	83 DU
MUR10	76 Gas Station/C-Store (DP-2019-1846)	Gas Station/Car-Wash	3.600 TSF
		Convenience Store	3.560 TSF
MUR11	Express Carwash and Learning Center (CUP-2020-2179)	Daycare	10.000 TSF
		Car-Wash	4.100 TSF
MUR12	Whitewood Multifamily (PRE-2020-2261)	Multi-Family Residential	324 DU

¹ DU = Dwelling Units; TSF = Thousand Square Feet; RM = Rooms

5 OPENING YEAR CUMULATIVE (2023) TRAFFIC CONDITIONS

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

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for OYC (2023) With Project conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways). Note that Driveway 2 on Clinton Keith Road has been evaluated with right-in/right-out access and full access (alternative).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for Opening Year Cumulative conditions only (e.g., intersection and roadway improvements along the cumulative developments' frontages).

5.2 TRAFFIC VOLUME FORECASTS

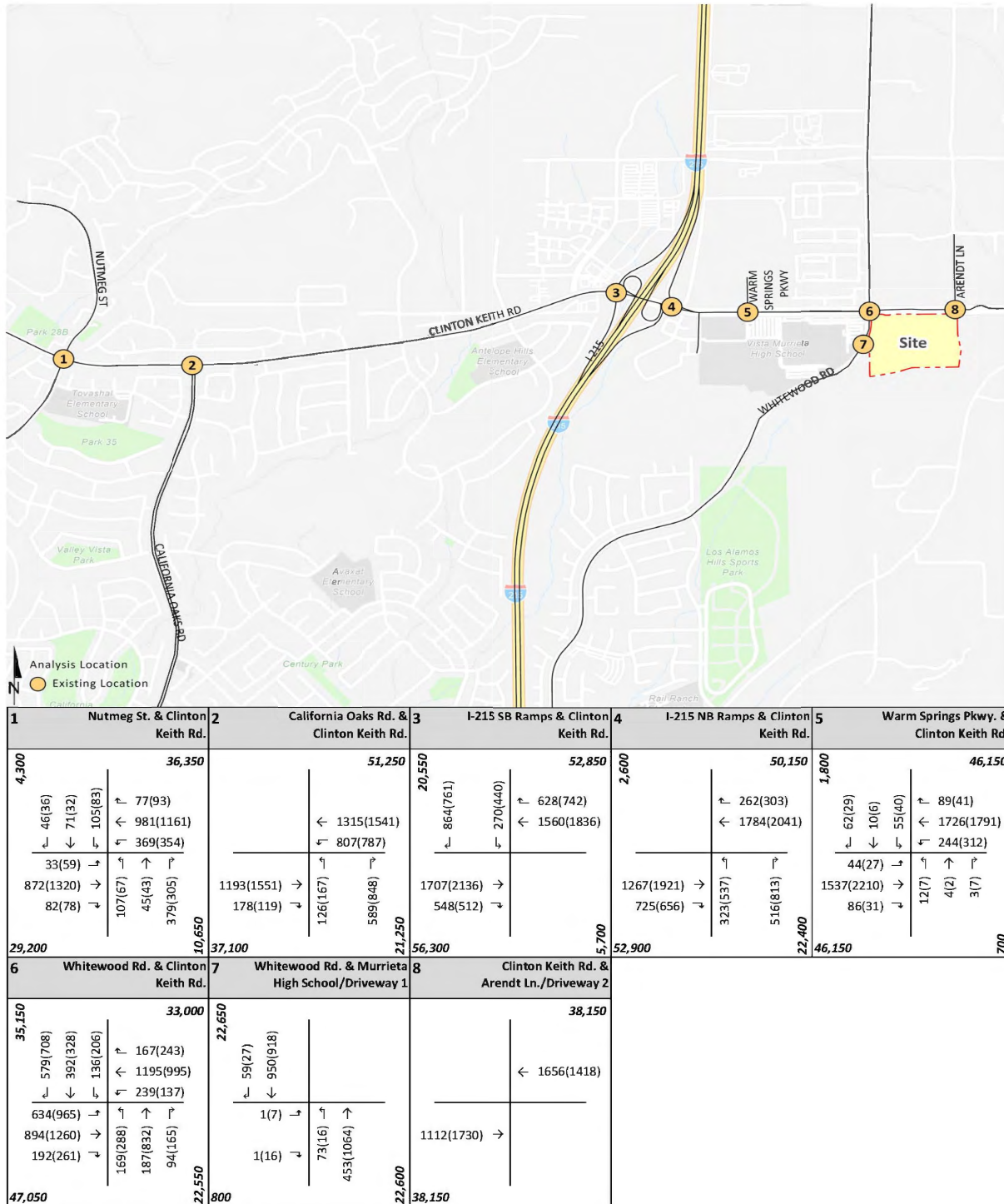
5.2.1 OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT

This scenario includes Existing traffic volumes plus an ambient growth factor of 4.04% and the addition of cumulative development traffic. The weekday ADT, weekday AM, and PM peak hour volumes which can be expected for Opening Year Cumulative (2023) Without Project traffic conditions are shown on Exhibit 5-1.

5.2.2 OPENING YEAR CUMULATIVE (2023) WITH PROJECT

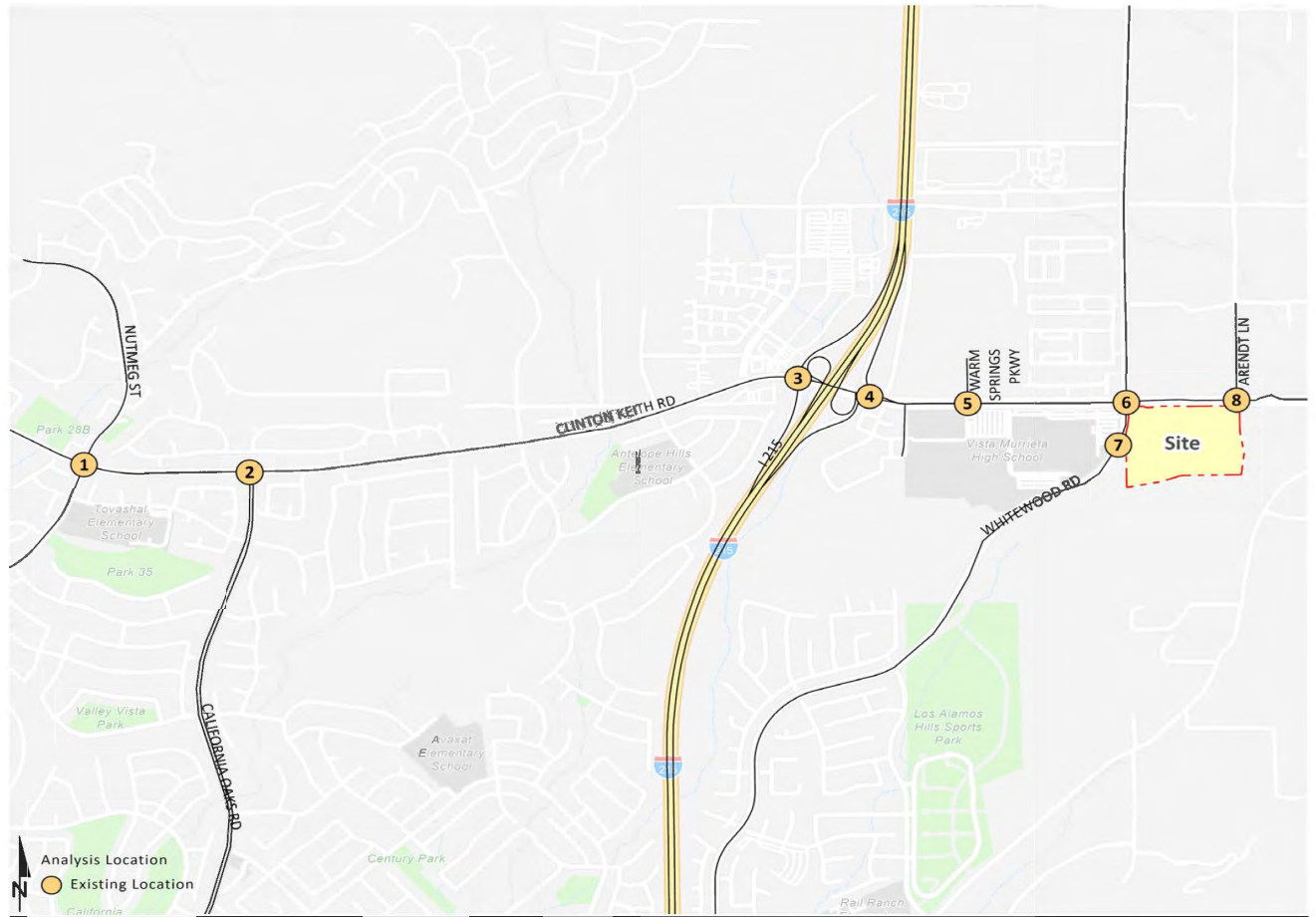
This scenario includes Existing traffic volumes plus an ambient growth factor of 4.04%, the addition of cumulative development traffic, and the addition of Project traffic. The weekday ADT, weekday AM, and PM peak hour volumes which can be expected for Opening Year Cumulative (2023) With Project traffic conditions are shown on Exhibit 5-2. Exhibit 5-3 shows the weekday ADT, weekday AM and PM peak hour volumes which can be expected for Opening Year Cumulative (2023) With Project traffic conditions with the proposed full access at Driveway 2 on Clinton Keith Road.

EXHIBIT 5-1: OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT TRAFFIC VOLUMES



##(##) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

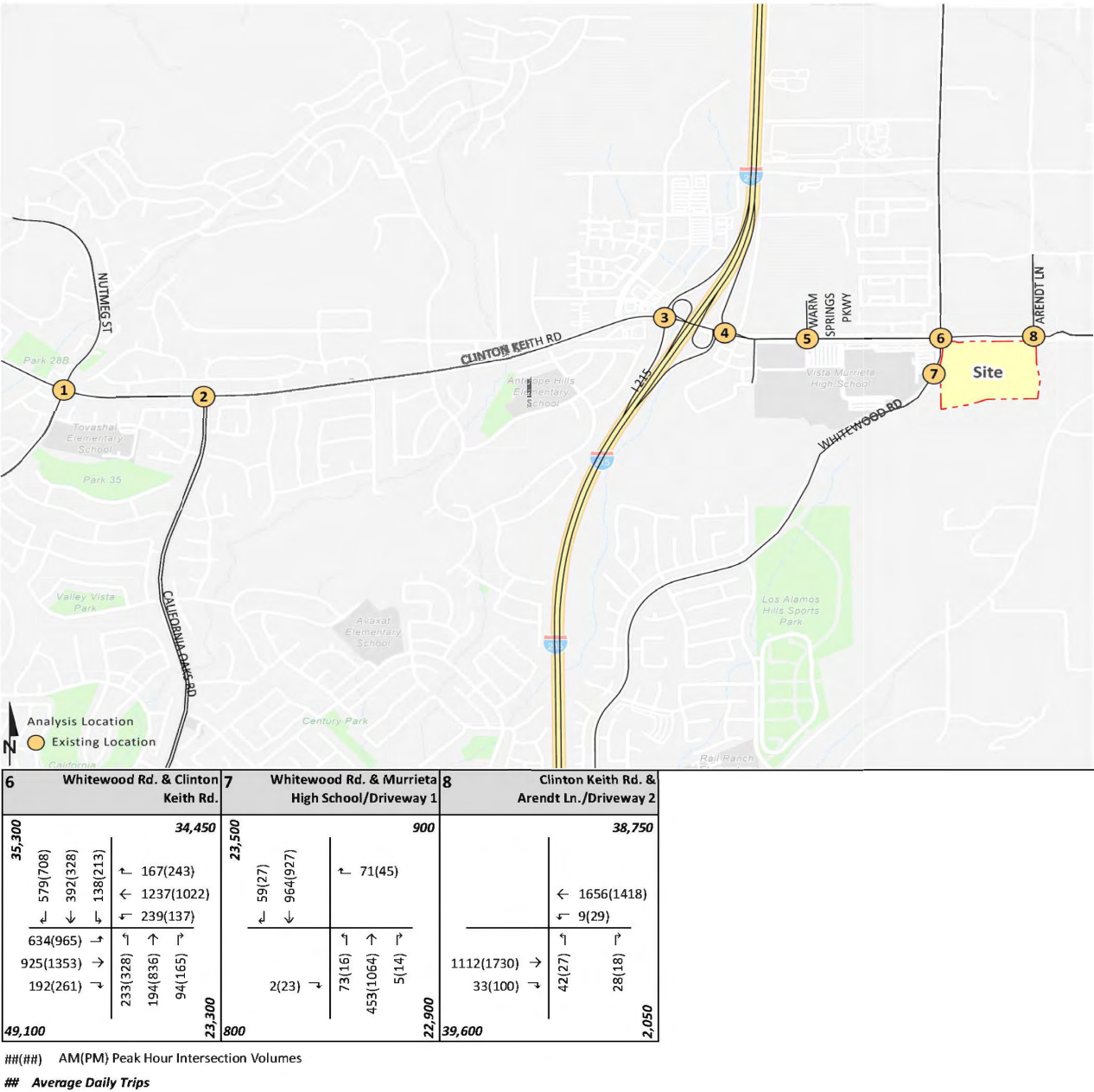
EXHIBIT 5-2: OPENING YEAR CUMULATIVE (2023) WITH PROJECT TRAFFIC VOLUMES

1 Nutmeg St. & Clinton Keith Rd.	2 California Oaks Rd. & Clinton Keith Rd.	3 I-215 SB Ramps & Clinton Keith Rd.	4 I-215 NB Ramps & Clinton Keith Rd.	5 Warm Springs Pkwy. & Clinton Keith Rd.
4,300 37,050 46(36) 71(32) 105(83) 77(93) 1009(1179) 376(358) 33(59) 881(1349) 82(78) 107(67) 45(43) 381(312) 29,800	52,150 1351(1563) 814(791) 1205(1587) 178(119) 126(167) 591(855) 37,850	21,050 54,250 864(761) 277(461) 656(760) 1603(1863) 1721(2179) 548(512) 57,150	2,800 52,050 283(316) 1855(2086) 1288(1985) 725(656) 323(537) 525(842) 54,250	1,800 48,050 62(29) 10(6) 55(40) 89(41) 1818(1849) 244(312) 44(27) 1568(2303) 86(31) 12(7) 4(2) 3(7) 48,050
6 Whitewood Rd. & Clinton Keith Rd.	7 Whitewood Rd. & Murrieta High School/Driveway 1	8 Clinton Keith Rd. & Arendt Ln./Driveway 2		
35,300 34,750 579(708) 392(328) 138(213) 167(243) 1238(1022) 248(166) 634(965) 925(1353) 192(261) 233(328) 194(836) 94(165) 49,100	23,500 900 59(27) 964(927) 71(45) 2(23) 73(16) 453(1064) 5(14) 800	39,650 1708(1473) 1112(1730) 42(129) 71(45) 40,200		

###(###) AM(PM) Peak Hour Intersection Volumes

Average Daily Trips

EXHIBIT 5-3: OPENING YEAR CUMULATIVE (2023) WITH PROJECT TRAFFIC VOLUMES (ALTERNATIVE)



5.3 INTERSECTION OPERATIONS ANALYSIS

LOS calculations were conducted for the study intersections to evaluate their operations under Opening Year Cumulative (2023) traffic conditions with roadway and intersection geometrics consistent with Section 5.1 *Roadway Improvements*. The intersection analysis results are summarized on Table 5-1 for Opening Year Cumulative (2023) Without Project traffic conditions, which indicates that the following study area intersections are anticipated to operate at an unacceptable LOS during one or more peak hours:

- California Oaks Road & Clinton Keith Road (#2) – LOS E AM peak hour; LOS F PM peak hour
- Whitewood Road & Clinton Keith Road (#6) – LOS F AM and PM peak hours

With the addition of Project traffic, there are no additional study area intersections anticipated to operate at an unacceptable LOS during the peak hours under Opening Year Cumulative (2023) With Project traffic conditions. The intersection operations analysis worksheets for Opening Year Cumulative (2023) Without Project and With Project traffic conditions are included in Appendices 5.1 and 5.2, respectively.

TABLE 5-1: INTERSECTION ANALYSIS FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS

#	Intersection	Traffic Control ²	2023 Without Project				2023 With Project				Difference in Delay ³	
			Delay ¹ (secs.)		Level of Service		Delay ¹ (secs.)		Level of Service		AM	PM
			AM	PM	AM	PM	AM	PM	AM	PM		
1	Nutmeg St. & Clinton Keith Rd.	TS	18.8	22.4	B	C	19.0	24.0	B	C	--	--
2	California Oaks Rd. & Clinton Keith Rd.	TS	66.0	179.3	E	F	67.9	186.3	E	F	1.9	7.0
3	I-215 SB Ramps & Clinton Keith Rd.	TS	17.7	30.3	B	C	18.3	31.5	B	C	--	--
4	I-215 NB Ramps & Clinton Keith Rd.	TS	9.7	51.2	A	D	9.8	52.3	A	C	--	--
5	Warm Springs Pkwy. & Clinton Keith Rd.	TS	5.7	29.3	A	C	6.3	31.6	A	C	--	--
6	Whitewood Rd. & Clinton Keith Rd.	TS	83.5	128.4	F	F	93.0	133.2	F	F	9.5	4.8
	Alternative Access		Not Applicable				90.8	132.1	F	F	7.3	3.7
7	Whitewood Rd. & Murrieta High School/Driveway 1	CSS	21.7	17.9	C	C	13.6	13.8	B	B	--	--
	Alternative Access		Not Applicable				13.7	13.8	B	B		
8	Clinton Keith Rd. & Arendt Ln.	CSS	0.0	0.0	A	A	17.3	24.4	C	C	--	--
	Alternative Access	TS	Not Applicable				7.5	9.3	A	A		

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

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

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

³ Per the City of Murrieta traffic study guidelines, increase in delay is only calculated for intersections operating at a deficient LOS under pre-project conditions.

5.4 ROADWAY SEGMENT CAPACITY ANALYSIS

The City of Murrieta Traffic Study Guidelines provide roadway volume capacity values. These roadway segment capacities are approximate figures only and are used at the General Plan level to assist in determining the roadway functional classification (number of through lanes) needed to meet traffic demand. Table 5-2 provides a summary of the Opening Year Cumulative (2023) Without Project conditions roadway segment capacity analysis based on the City of Murrieta Roadway Capacity Thresholds. As shown on Table 5-2, Warm Springs Parkway to Whitewood Road is expected to operate at an unacceptable LOS. However, the addition of Project traffic is anticipated to increase the v/c by less than 0.05.

TABLE 5-2: ROADWAY SEGMENT ANALYSIS FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS

#	Roadway	Segment Limits	GP Classification	Roadway Section ⁴	LOS E Capacity ^{1,5}	2023 Without Project	V/C ²	LOS ³	2023 With Project	V/C ²	LOS ³	Increase in V/C ⁶
1	Whitewood Rd.	Clinton Keith Rd. to Driveway 1	Major Arterial	3D/4D	25,575/34,100	22,630	0.88	D	23,505	0.69	B	--
2	Clinton Keith Rd.	Warm Springs Pkwy. to Whitewood Rd.	Urban Arterial	5D	44,917	47,073	1.05	F	49,114	1.09	F	0.045
3		Whitewood Rd. to Arendt Ln.	Urban Arterial	6D	53,900	38,168	0.71	C	40,209	0.75	C	--

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

¹ These maximum roadway capacities have been extracted from the following source: City of Murrieta General Plan 2035 Update (Table 4.2-2)

² V/C = Volume to Capacity Ratio

³ LOS = Level of Service

⁴ 4D = Improvement. There is no roadway capacity for a 5-lane divided urban arterial. As such, capacity has been estimated by using 83.3% of the capacity for a 6-lane Urban Arterial.

⁵ 34,100 = Improvement

⁶ Per the City of Murrieta traffic study guidelines, Project deficiency is to occur if the addition of traffic increases v/c by more than 0.05.

5.5 QUEUING ANALYSIS

Queuing analysis findings for Opening Year Cumulative (2023) Without Project are presented on Table 5-3. As shown on Table 5-3, the following movements are anticipated to experience queuing issues during the weekday PM peak 95th percentile traffic flows:

- Whitewood Road & Clinton Keith Road (#6) EBL– AM and PM peak hours
- Whitewood Road & Clinton Keith Road (#6) NBL– AM and PM peak hours
- Whitewood Road & Clinton Keith Road (#6) SBL– AM and PM peak hours

Although there are no new movements that are anticipated to exceed peak hour queues, the NBL turn movement is anticipated to exceed the 95th percentile queues in the AM peak hour as well with the addition of Project traffic. Worksheets for Opening Year Cumulative (2023) Without Project and With Project traffic conditions queuing analysis are provided in Appendices 5.3 and 5.4, respectively.

TABLE 5-3: PEAK HOUR QUEUING SUMMARY FOR OPENING YEAR CUMULATIVE (2023) CONDITIONS

Intersection	Movement	Available Stacking Distance (Feet)	2023 Without Project				2023 With Project			
			95th Percentile Queue (Feet)		Acceptable? ¹		95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM	AM Peak Hour	PM Peak Hour	AM	PM
I-215 SB Ramps & Clinton Keith Rd.	SBL/T	1,185	211	436 ²	Yes	Yes	211	436 ²	Yes	Yes
	SBR	960	386	363	Yes	Yes	386	363	Yes	Yes
I-215 NB Ramps & Clinton Keith Rd.	NBL	960	380	794 ²	Yes	Yes	380	794 ²	Yes	Yes
	NBR	1,525	368	797 ²	Yes	Yes	368	797 ²	Yes	Yes
Whitewood Rd. & Clinton Keith Rd.	EBL	255	438 ²	527 ^{2,3}	No	No	438 ²	527 ^{2,3}	No	No
	WBL	190	160 ²	118 ²	Yes	Yes	144 ²	85 ²	Yes	Yes
	WBR	195	55	81	Yes	Yes	87	130	Yes	Yes
	NBL	295	405 ²	537 ²	No	No	405 ²	537 ²	No	No
	SBL	100	244 ²	340 ²	No	No	244 ²	340 ²	No	No

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

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ Volume for 95th percentile queue is metered by upstream signal.

5.6 TRAFFIC SIGNAL WARRANTS ANALYSIS

There are no unsignalized study area intersections that exist without the Project. As such, no traffic signal warrant analyses have been performed for Opening Year Cumulative (2023) Without Project traffic conditions. A traffic signal warrant analysis has been conducted for the intersection of Driveway 2 and Clinton Keith Road for Opening Year Cumulative (2023) With Project traffic conditions for the full access alternative only (see Appendix 5.5). The intersection is anticipated to meet Condition B for the planning level, daily volume-based traffic signal warrant.

5.7 PROJECT DEFICIENCIES AND RECOMMENDED IMPROVEMENTS

5.7.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of the recommended improvement strategies to address Opening Year Cumulative (2023) traffic deficiencies are presented on Table 5-4. Worksheets for Opening Year Cumulative (2023) With Project conditions, with improvements, HCM calculation worksheets are provided in Appendix 5.6. Improvements to the intersection of Whitewood Road at Clinton Keith Road include median modifications to accommodate additional turn pockets and restriping (of the southbound approach), which the Project will construct. The same improvements are needed at Whitewood Road and Clinton Keith Road for both access alternatives at Driveway 2.

TABLE 5-4: INTERSECTION ANALYSIS FOR OYC (2023) CONDITIONS WITH IMPROVEMENTS

#	Intersection	Traffic Control ³	Intersection Approach Lanes ¹												Delay ² (secs.)		Level of Service	
			Northbound			Southbound			Eastbound			Westbound			AM	PM	AM	PM
			L	T	R	L	T	R	L	T	R	L	T	R				
2	California Oaks Rd. & Clinton Keith Rd.																	
	- Pre-Project	TS	2	0	1	0	0	0	0	2	1	1	2	0	66.0	179.3	E	F
	- Without Improvements	TS	2	0	1	0	0	0	0	2	1	1	2	0	67.9	186.3	E	F
	- With Improvements	TS	2	0	<u>1</u> >	0	0	0	0	2	1	1	2	0	43.6	166.9	D	F
6	Whitewood Rd. & Clinton Keith Rd.																	
	- Pre-Project	TS	1	2	0	1	2	0	2	2	1	2	3	1	83.5	128.4	F	F
	- Without Improvements	TS	1	2	0	1	2	0	2	2	1	2	3	1	93.0	133.2	F	F
	- With Improvements	TS	<u>2</u>	2	<u>1</u>	<u>2</u>	2	0	2	2	1	2	3	1	52.4	75.9	D	E
6	Whitewood Rd. & Clinton Keith Rd. (Alternative)																	
	- Pre-Project	TS	1	2	0	1	2	0	2	2	1	2	3	1	83.5	128.4	F	F
	- Without Improvements	TS	1	2	0	1	2	0	2	2	1	2	3	1	90.8	132.1	F	F
	- With Improvements	TS	<u>2</u>	2	<u>1</u>	<u>2</u>	2	0	2	2	1	2	3	1	49.7	76.5	D	E

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; 1 = Improvement

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

³ TS = Traffic Signal

5.7.2 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES ON ROADWAY SEGMENTS

Although the segment of Clinton Keith Road, from Warm Springs Parkway to Whitewood Road, is anticipated to operate at an unacceptable LOS under Opening Year Cumulative (2023) traffic conditions, the addition of Project is anticipated to increase the v/c ratio by less than 0.05. It should also be noted that the roadway segment LOS will improve with the completion of the widening/striping to accommodate the ultimate cross-section of Clinton Keith Road. As such, improvements have not been identified for the study area roadway segment as the more detailed peak hour intersection operations analysis does not identify the need to widen the segment. However, the Project should contribute its fair share towards the future restriping the segment to its ultimate General Plan roadway classification. The Project's fair share is 16.5% (see Table 6-1).

5.7.3 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES FOR QUEUES

Table 5-5 shows the peak hour queuing summary, assuming the intersection improvements identified in Table 5-4. The effectiveness of the recommended improvement strategies to address Opening Year Cumulative (2023) With Project 95th percentile queue deficiencies are presented on Table 5-5. Improvements accounted for in Table 5-5 include restriping and modifications to turn pocket widths. Worksheets for Opening Year Cumulative (2023) With Project traffic conditions, with improvements, queuing analysis are provided in Appendix 5.7. As shown on Table 5-5, the Project shall contribute its fair share towards the left-turn storage improvements, including but not limited to median modifications and restriping. Exhibit 5-4 illustrates the potential lane improvements for the southbound approach on Whitewood Road.

TABLE 5-5: PEAK HOUR QUEUING SUMMARY WITH IMPROVEMENTS

Intersection	Movement ³	Available Stacking Distance (Feet) ³	2023 With Project			
			95th Percentile Queue (Feet)		Acceptable? ¹	
			AM Peak Hour	PM Peak Hour	AM	PM
Whitewood Rd. & Clinton Keith Rd.	EBL	<u>365</u>	322	366	Yes	Yes
	WBL	190	169	184	Yes	Yes
	WBR	<u>275</u>	264	155	Yes	Yes
	NBL	<u>400</u>	143	392	Yes	Yes
	SBL	<u>100</u>	95	141 ⁴	Yes	Yes
	SBL	<u>280</u>	189	197	Yes	Yes
Alternative:						
Whitewood Rd. & Clinton Keith Rd.	EBL	<u>365</u>	333	365	Yes	Yes
	WBL	<u>250</u>	252	98	Yes	Yes
	WBR	<u>275</u>	276	158	Yes	Yes
	NBL	<u>300</u>	164	297	Yes	Yes
	SBL	<u>100</u>	82	154 ⁴	Yes	Yes
	SBL	<u>280</u>	191	195	Yes	Yes

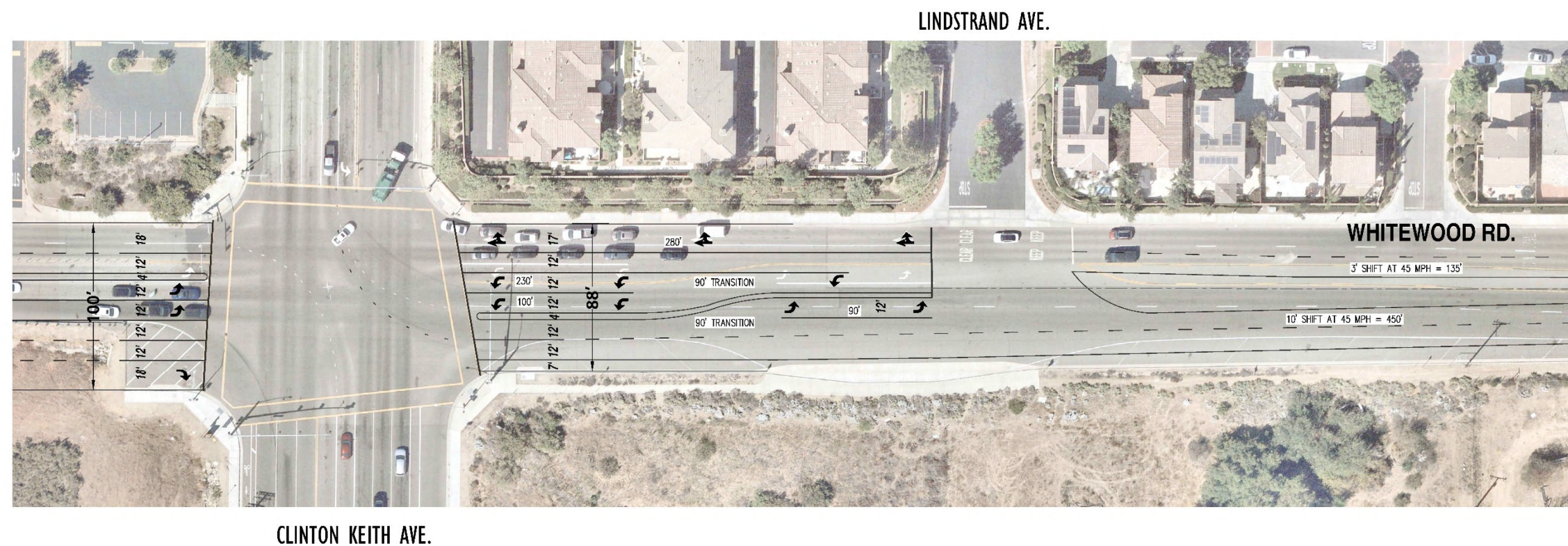
¹ Stacking Distance is acceptable if the required stacking distance is less than or equal to the stacking distance provided. An additional 15 feet of stacking which is assumed to be provided in the transition for turn pockets is reflected in the stacking distance

² 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

³ 365 = Improvement

⁴ Although 95th percentile queue is anticipated to exceed the available storage for the turn lane, the adjacent left turn lane has sufficient storage to accommodate any spillover without spilling back and affecting the through southbound traffic on Whitewood Road.

EXHIBIT 5-4: CONCEPTUAL LAYOUT FOR WHITEWOOD ROAD & CLINTON KEITH ROAD



SCALE: 1" = 30" (ON 24" x 36" SHEET)

CONCEPT STRIPING PLAN WHITEWOOD ROAD. & CLINTON KEITH AVENUE



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TELEPHONE: 949-660-1111

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6 LOCAL AND REGIONAL FUNDING MECHANISMS

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

6.1 CITY OF MURRIETA DEVELOPMENT IMPACT FEE PROGRAM

In 2006, the City of Murrieta adopted their DIF program incorporating the regional component of Measure I. The fee schedule was updated in June 2020. Fees from new residential, commercial, and industrial development are collected to fund Measure I compliant regional facilities. Under the City's DIF program, the City may grant to developers a credit against specific components of fees when those developers construct certain facilities and landscaped medians identified in the list of improvements funded by the DIF program.

After the City's DIF fees are collected, they are placed in a separate interest-bearing account pursuant to the requirements of Government Code sections 66000 *et seq.* The timing to use the DIF fees is established through periodic capital improvement programs which are overseen by the City's Public Works Department. Periodic traffic counts, review of traffic accidents, and a review of traffic trends throughout the City are also periodically performed by City staff and consultants. The City uses this data to determine the timing of the improvements listed in its facilities list.

6.2 MEASURE "I" FUNDS

In 2004, the voters of Riverside County approved the 30-year extension of Measure "I", a one-half of one percent sales tax on retail transactions, through the year 2040, for transportation projects including, but not limited to, infrastructure improvements, commuter rail, public transit, and other identified improvements. The Measure "I" extension requires that a regional traffic impact fee be created to ensure development is paying its fair share. A regional Nexus study was prepared by the RCTA and concluded that each jurisdiction should include a regional fee component in their local programs in order to meet the Measure "I" requirement. The regional component assigns specific facilities and cost sharing formulas to each jurisdiction and was most recently updated in November 2011. Revenues collected through these programs are used in tandem with Measure "I" funds to deliver projects identified in the Nexus Study. While Measure "I" is a self-executing sales tax administered by RCTA, it bears discussion here because the funds raised through Measure "I" have funded in the past and will continue to fund new transportation facilities in Riverside County.

6.3 FAIR SHARE CONTRIBUTION

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

When off-site improvements are identified with a minor share of responsibility assigned to proposed development, the approving jurisdiction may elect to collect a fair share contribution or require the development to construct improvements. Detailed fair share calculations have been provided on Table 6-1 for the applicable identified improvements.

TABLE 6-1: PROJECT FAIR SHARE CALCULATIONS

#	Roadway Segment	Project	Cumulative	Project % of New Traffic ¹
2	Clinton Keith Rd., Warm Springs Rd. to Whitewood Rd. (Restripe to accommodate a 3rd EB through lane)			
	ADT:	2,041	10,362	16.5%

¹ New Traffic is Project + Cumulative traffic only.

7 REFERENCES

1. **City of Murrieta.** *Traffic Impact Analysis Preparation Guidelines*. Murrieta : s.n., May 2020.
2. **Institute of Transportation Engineers.** *Trip Generation Manual*. 10th Edition. 2017.
3. **Transportation Research Board.** *Highway Capacity Manual (HCM)*. 6th Edition. s.l. : National Academy of Sciences, 2016.
4. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CA MUTCD)*. 2014.

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APPENDIX 1.1:

APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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Exhibit A

SCOPING AGREEMENT FOR TRAFFIC IMPACT ANALYSIS

This letter acknowledges the City of Murrieta Public Works/Engineering Department requirements for traffic impact analysis of the following project. The analysis must follow the City Traffic Impact Analysis Preparation Guidelines dated May 2020.

Case No. (Required for submittal) _____
Related Cases - _____
SP No. _____
EIR No. _____
GPA No. _____
CZ No. _____
Project Name: Murrieta Residential
Project Address: SEC of Whitewood Road and Clinton Keith Road
Project Description: 150 condos and 324 apartments

	Consultant	Developer
Name:	<u>Urban Crossroads, Inc. - Charlene So</u>	<u>Corman Leigh</u>
Address:	<u>1133 Camelback St. #8329, Newport Beach, CA 92658</u>	<u>32823 Temecula Pkwy, Temecula, CA 92592</u>
Telephone:	<u>949-861-0177</u>	_____

A. Trip Generation Source: (ITE 9th Edition or other) 10th Edition, 2017

Current GP Land Use	<u>Multifamily Residential</u>	Proposed Land Use	<u>Multifamily Residential</u>
Current Zoning	<u>Multifamily 2</u>	Proposed Zoning	<u>Multifamily 2</u>

	Current Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	_____	_____	_____	46	139	185
PM Trips	_____	_____	_____	140	87	227

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 20 % S 40 % E 20 % W 20 %
(attach exhibit for detailed assignment)

C. Background Traffic

Project Build-out Year: 2023 Annual Ambient Growth Rate: % 2.0

Phase Year(s) Not Applicable

Other area projects to be analyzed: See Table 3 and Exhibit 5

Model/Forecast methodology: Not Applicable

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

1. Nutmeg St. & Clinton Keith Rd.
2. California Oaks Rd. & Clinton Keith Rd.
3. I-215 SB Ramps & Clinton Keith Rd.
4. I-215 NB Ramps & Clinton Keith Rd.
5. Warm Springs Pkwy. & Clinton Keith Rd.

6. Whitewood Rd. & Clinton Keith Rd.
7. Whitewood Rd. & Driveway 1
8. Arendt Ln./Driveway 2 & Clinton Keith Rd.
9. _____
10. _____

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

1. Whitewood Rd., south of Clinton Keith Rd.
2. Clinton Keith Rd., east of Whitewood Rd.
3. Clinton Keith Rd., west of Whitewood Rd.
4. _____
5. _____

6. _____
7. _____
8. _____
9. _____
10. _____

F. Site Plan (please attach reduced copy) See Exhibit 2

G. Specific issues to be addressed in the Study (in addition to the standard analysis described in the Guideline): Coordinated timing along Clinton Keith Road and right turn lane analysis per City guidelines.

H. Existing Conditions

Traffic count data must be new or recent. Provide traffic count dates if using other than new counts.

Date of counts UC will conduct new counts and adjust accordingly (see scope for additional discussion)

I. Potential Screening Checks

Is your project screened from specific analyses (see Pages 6-13 of the guidelines related to LOS assessment and Pages 14-18 related to VMT assessment)

Is the project screened from LOS assessment? ☐ Yes ☒ No

LOS screening justification (see Pages 6-13 of the guidelines):

Is the project screened from VMT assessment? ☐ Yes ☒ No

VMT screening justification (see Pages 14-18 of the guidelines):

Land use is consistent with the General Plan so should result in a less-than-significant impact

J. VMT Scoping

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used: _____
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)

Recommended by:

Charlene S.
Consultant's Representative

May 24, 2021

Date

Scoping Agreement Submitted on April 27, 2021

Revised on May 24, 2021

Approved Scoping Agreement:

Arda Edgiptr
City Of Murrieta Engineering
Department

5/26/21

Date

* Approved w/ Edits to cumulative projects list



May 24, 2021

Mr. Brian Stephenson
City of Murrieta
1 Town Square
Murrieta, CA 92562

SUBJECT: MURRIETA RESIDENTIAL FOCUSED TRAFFIC IMPACT ANALYSIS SCOPING AGREEMENT

Dear Mr. Brian Stephenson:

Urban Crossroads, Inc. is pleased to submit this scoping letter to City of Murrieta regarding the Focused Traffic Impact Analysis for the proposed Murrieta Residential development (**Project**), which is located on the southeast corner of Whitewood Road and Clinton Keith Road in the City of Murrieta (see Exhibit 1 for Location Map). The Project is to consist of 150 multifamily (low-rise) housing units (condo) and 324 multifamily (mid-rise) housing units (apartments). The following scope of work has been prepared in accordance with the City's Traffic Impact Analysis Preparation Guidelines (dated May 2020, **City's TIA Guidelines**).

A site plan for the proposed Project is shown on Exhibit 2. For purposes of the traffic impact analysis the Project's opening year is anticipated to be 2023. Access to the Project site will be provided via a right-in/right-out access driveway along Whitewood Road and a right-in/-right-out access driveway along Clinton Keith Road.

ANALYSIS SCENARIOS

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

- Existing (2021) Conditions
- Opening Year Cumulative (2023) Without Project Conditions
- Opening Year Cumulative (2023) With Project Conditions

STUDY AREA INTERSECTIONS

Based on the Project's anticipated travel patterns and trip generation characteristics, the following study area intersection locations shown on Exhibit 3 and listed below were selected for analysis:

#	Intersection
1	Nutmeg St. & Clinton Keith Rd.
2	California Oaks Rd. & Clinton Keith Rd.
3	I-215 SB Ramps & Clinton Keith Rd.
4	I-215 NB Ramps & Clinton Keith Rd.
5	Whitewood Rd. & Clinton Keith Rd.
6	Whitewood Rd. & Murrieta High School Driveway/Driveway 1
7	Warm Springs Pkwy. & Clinton Keith Rd.
8	Whitewood Rd. & Arendt Ln./Driveway 2

STUDY AREA ROADWAY SEGMENTS

The following study area roadway segments listed below were selected for analysis:

- Whitewood Road, south of Clinton Keith Road
- Clinton Keith Road, east of Whitewood Road
- Clinton Keith Road, west of Whitewood Road

EXISTING COUNT DATA

Due to the currently ongoing COVID-19 pandemic, new traffic counts will be collected at the study area intersections and an adjustment factor will be applied to reflect non-COVID conditions. In order to develop an adjustment factor, the historic traffic counts will be compared to the current traffic count collected at the same location. The historic count will first be adjusted to 2021 traffic conditions through the application of a 2% per year growth rate. The calculated average growth for the overall intersection (all turning movements) between the current and adjusted historic count will be applied to other existing traffic counts collected in order to reflect and evaluate pre-COVID traffic conditions.

TRIP GENERATION

In order to estimate the traffic characteristics of the proposed Project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition, 2017) were used for the proposed land uses. Multifamily Housing (Low-Rise, 2 floors) (ITE Land Use Code 220) and Multifamily Housing (Mid-Rise, 3-10 floors) (ITE Land Use Code 221) have been used for the purposes of estimating the Project's trip generation. Table 1 presents the trip generation rates and resulting trips generated by the proposed Project. As shown in Table 2, the proposed Project is anticipated to generate a total of 2,862 two-way vehicle trips per day, with 185 AM peak hour trips and 227 PM peak hour trips.

TABLE 1: TRIP GENERATION RATES

Land Use ¹	ITE LU Code	Units ²	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
Multifamily Housing (Low-Rise)	220	DU	0.11	0.35	0.46	0.35	0.21	0.56	7.32
Multifamily Housing (Mid-Rise)	221	DU	0.09	0.27	0.36	0.27	0.17	0.44	5.44

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

² DU = Dwelling Units

TABLE 2: PROJECT TRIP GENERATION SUMMARY

Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Multifamily Housing (Low-Rise)	153 DU	16	54	70	54	32	86	1,120
Multifamily Housing (Mid-Rise)	330 DU	31	88	119	89	57	146	1,796
Total		47	142	189	143	89	232	2,916

¹ DU = Dwelling Units

TRIP DISTRIBUTION

Exhibit 4 illustrates the Project trip distribution patterns.

GENERAL PLAN CONSISTENCY REQUIREMENTS

Consistent with the City's TIA Guidelines, the following criteria will be applied for the traffic analysis.

SIGNALIZED INTERSECTION OPERATING REQUIREMENTS

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

UNSIGNALIZED INTERSECTION GENERAL PLAN CONSISTENCY REQUIREMENTS

An operational improvement would be required if the study determines that either section a) or both sections b) and c) occur:

- a) The addition of project related traffic causes the intersection to degrade from an acceptable LOS D or better to LOS E or F.

OR

- b) The project adds 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at a LOS E or F,
AND
- c) The intersection meets the peak hour traffic signal warrant after the addition of project traffic.

If the conditions above are satisfied, improvements should be identified that achieve the following:

- LOS D or better for case a) above or to pre-project LOS and delay for case b) above.

ROADWAY SEGMENT GENERAL PLAN CONSISTENCY REQUIREMENTS

Consistent with the acceptable LOS for the City, the following roadway segment requirements should be considered and improvements recommended if the project exceeds the noted operational goals:

- Any study roadway segment operating at a LOS C or better without project traffic in which the addition of project traffic causes the segment to degrade to an LOS E or F should identify improvements to achieve LOS C.
- As an exception, LOS "D" may be allowed in the North Murrieta Business Corridor, Clinton Keith/Mitchell, Golden Triangle North (Central Murrieta), South Murrieta Business Corridor, or other Focus Areas, or other employment centers
- Any roadway segment that operates unacceptably in the no project scenario where the project adds traffic in excess of 5% of the roadway capacity (e.g. a volume-to-capacity ratio increase of 0.05) should identify improvements to add capacity to the segment.

AMBIENT GROWTH

Consistent with other studies performed in the area, an ambient growth rate of 2.0% per year is proposed for the study area intersections to approximate background traffic growth not identified by nearby cumulative development projects. The rate will be compounded over a two-year period (i.e., $1.02^{2\text{years}} = 1.0404$ or 4.04% for 2023).

SPECIAL ISSUES

The following special issues will also be addressed as part of the focused traffic assessment:

- Conduct traffic signal warrant analysis for all existing and future unsignalized study area intersections.
- Provide a queuing analysis for Project driveways and the site adjacent intersection of Whitewood Road & Clinton Keith Road.

Mr. Brian Stephenson
City of Murrieta
May 24, 2021
Page 5 of 6

- Driveway 1 on Whitewood Avenue will be restricted to right-in/right-out access only.
- Driveway 2 on Clinton Keith Road will be restricted to right-in/right-out access only.
- Right-turn lane analysis will be evaluated for both driveways based on the City's guidelines to determine whether dedicated lanes are necessary.

CUMULATIVE DEVELOPMENT PROJECTS

The cumulative projects are listed on Table 3 and are shown graphically on Exhibit 5. It is requested that the City provide an updated list of cumulative development projects for inclusion in the traffic study.

SIGNAL TIMING

It is requested that the City provide any signal timing that should be considered for signalized study area intersections within the City.

If you have any questions, please contact me directly at (949) 861-0177.

Respectfully submitted,

URBAN CROSSROADS, INC.



Charlene So, PE

Associate Principal

186,000 tsf
remaining to be
built

TABLE 3: SUMMARY OF CUMULATIVE DEVELOPMENT PROJECTS

#	Project Name	Land Use ¹	Quantity Units ¹
MUR1	Pacific Landing (DP2008-2668)	Apartments	400 DU
MUR2	CVS	Pharmacy w/ Drive-Thru	14,576 TSF
MUR3	Sierra Lane	Commercial Center	28,709 TSF
MUR4	Mitchell Crossing (DP-2014-864) (Melia Homes)	Multifamily Residential	331 DU
MUR5	Health South Rehab Hospital (DP-2015-571)	Specialty Retail	50,000 TSF
MUR6	The Orchard (DPO-03-161)	Hospital	50 Beds
MUR7	Murrieta Fields II (TR32718)	Shopping Center	215,850 TSF
MUR8	Vineyard Shopping Center (DPO-2012-3260)	Single Family Residential	207 DU
MUR9	Phase 1 Kaiser (DP-2014-348)	Shopping Center	78,489 TSF
MUR10	Physician Hospital (Phase 2)	Hotel	91 RM
MUR11	Golden Cities Tract 28532 (SCO-004-066)	Medical Office	80,000 TSF
MUR12	Tire Store	Hospital & Medical Office Building	124 Beds
MUR13	Curci Property (DP-2018-1691)	Single Family Residential	486 DU
MUR14	McElwain and Linnel (DP-2019-1846)	Automobile Parts/Service Center	4,000 TSF
MUR15	Makena Hills (EA-2017-1315)	High Turnover (Sit-Down) Restaurant	3,000 TSF
MUR16	Express Carwash and Learning Center (CUP-2020-2179)	Fast-Food with Drive-Thru Window	5,000 TSF
MUR17	Whitewood Multifamily (PRE-2020-2261)	Drive-in Bank	5,000 TSF
MUR18	Murrieta Senior Living (DP-2017-1333)	Hotel	120 RM
MUR19	Meadowlark (DP-2018-1624)	Medical Office	116,200 TSF
MUR20	Costco (DP-2018-1652)	High Turnover (Sit-Down) Restaurant	9,300 TSF
MUR21	Murrieta-Whitewood Skilled Nursing Facility (DP-2015-708)	Hotel	206 RM

¹ DU = Dwelling Units; TSF = Thousand Square Feet; RM = Rooms

Please include (as provided by City on 05/05):

- Murrieta-Whitewood Skilled Nursing Facility (DP-2015-708)
- Costco (DP-2018-1652)
- Murrieta Senior Living (DP-2017-1333)
- Meadowlark (DP-2018-1624)
- 76 Gas Station/C-Store (DP-2019-1846)
- Express Carwash and Learning Center (CUP-2020-2179)
- Whitewood Multifamily (PRE-2020-2261)

EXHIBIT 1: LOCATION MAP

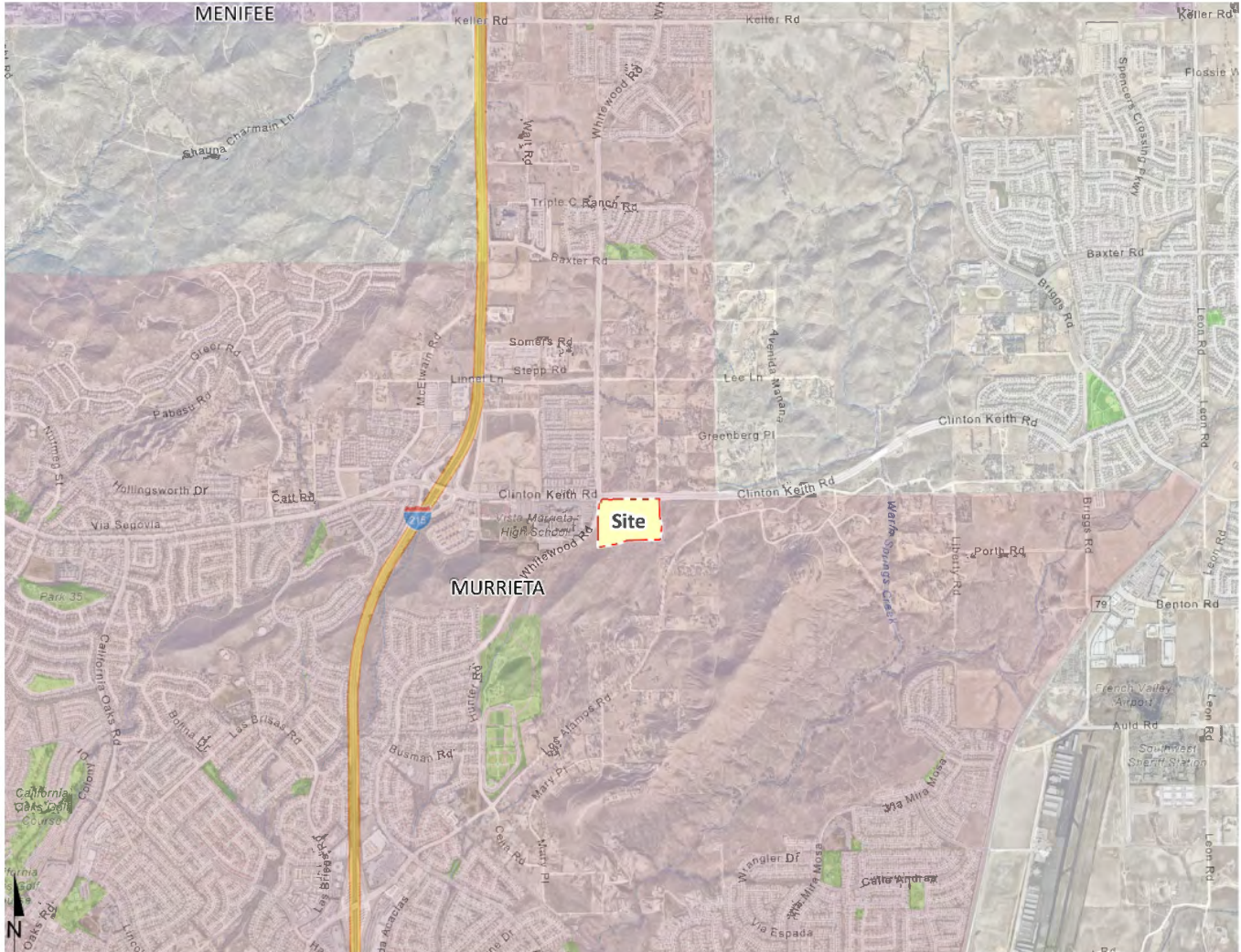


EXHIBIT 2: PRELIMINARY SITE PLAN



EXHIBIT 3: STUDY AREA

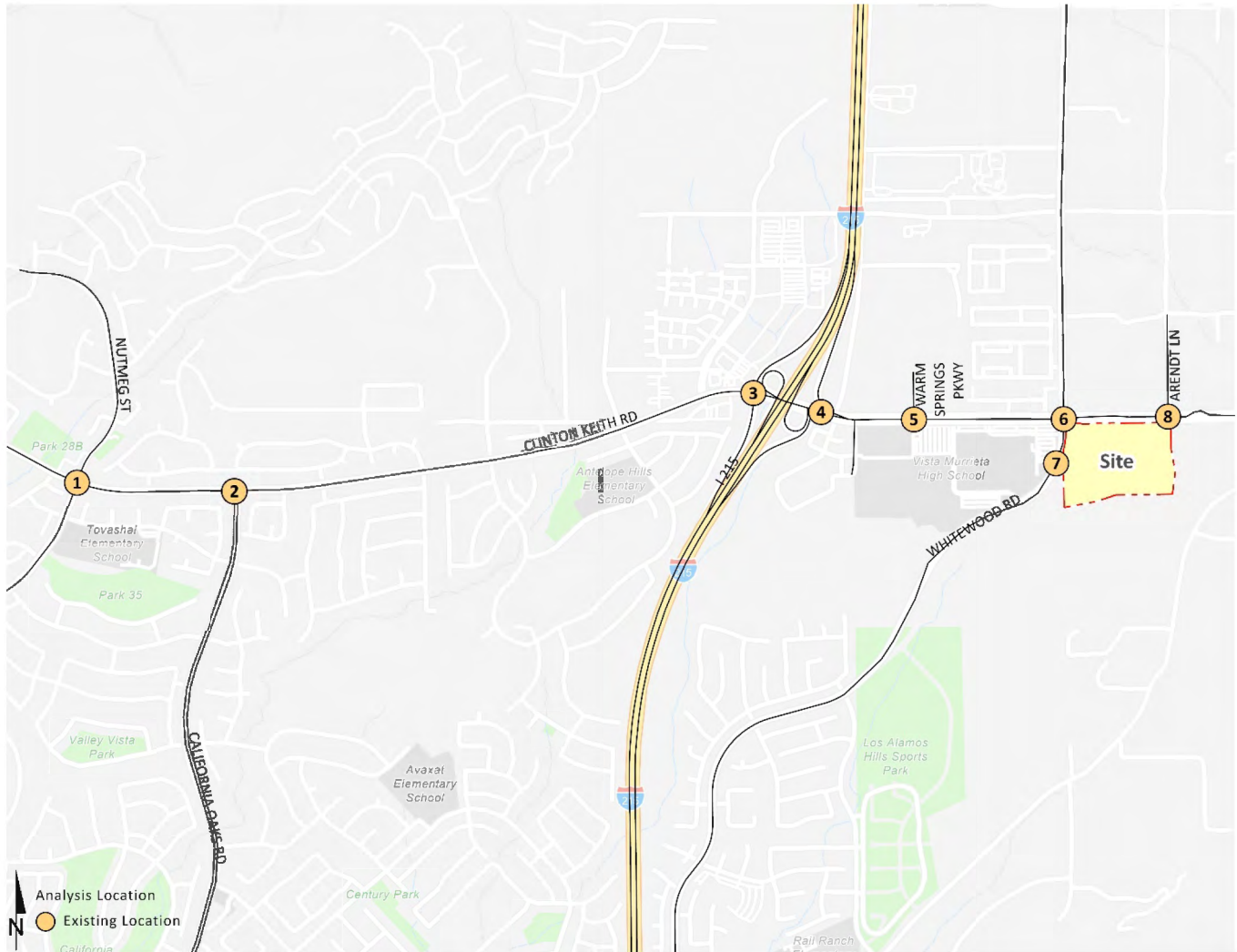


EXHIBIT 4: PROJECT TRIP DISTRIBUTION

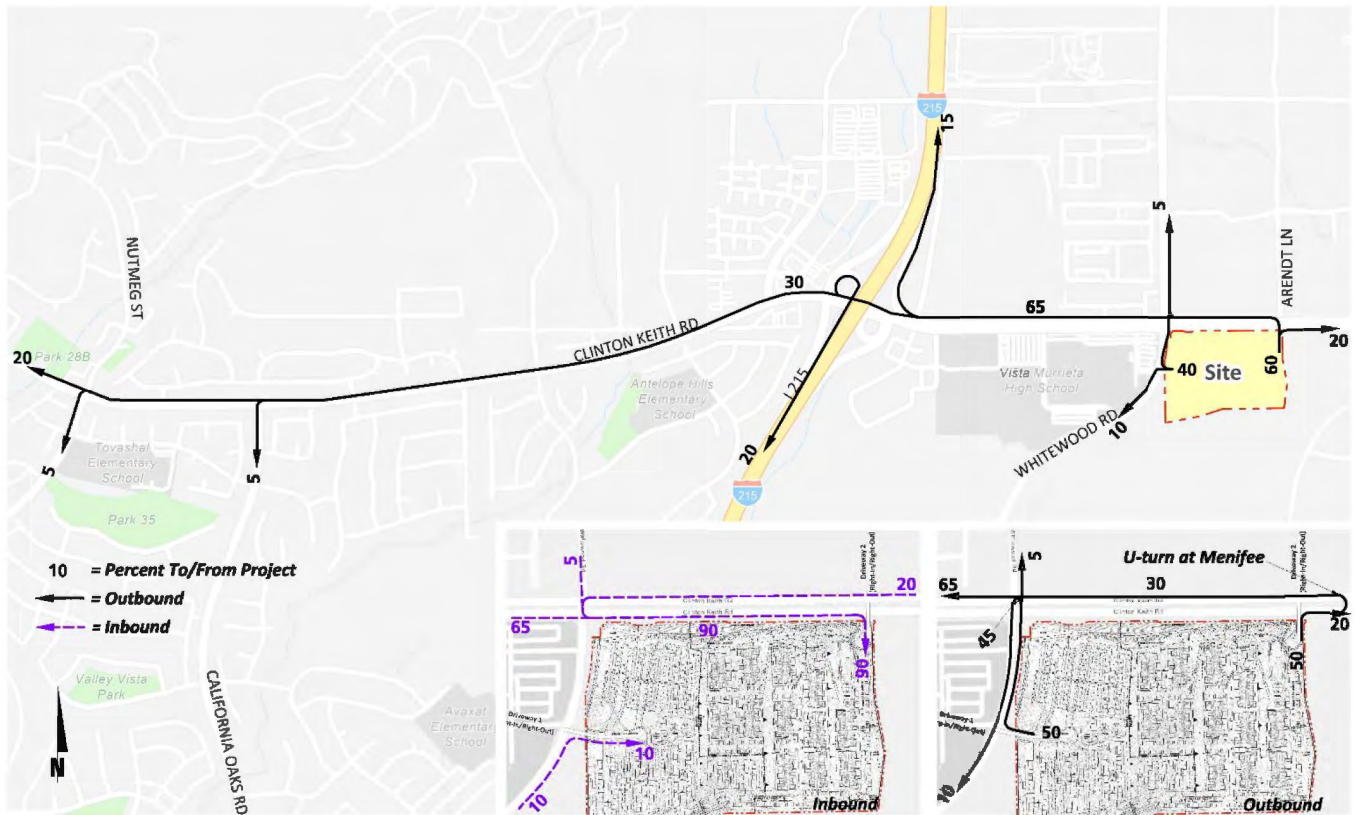
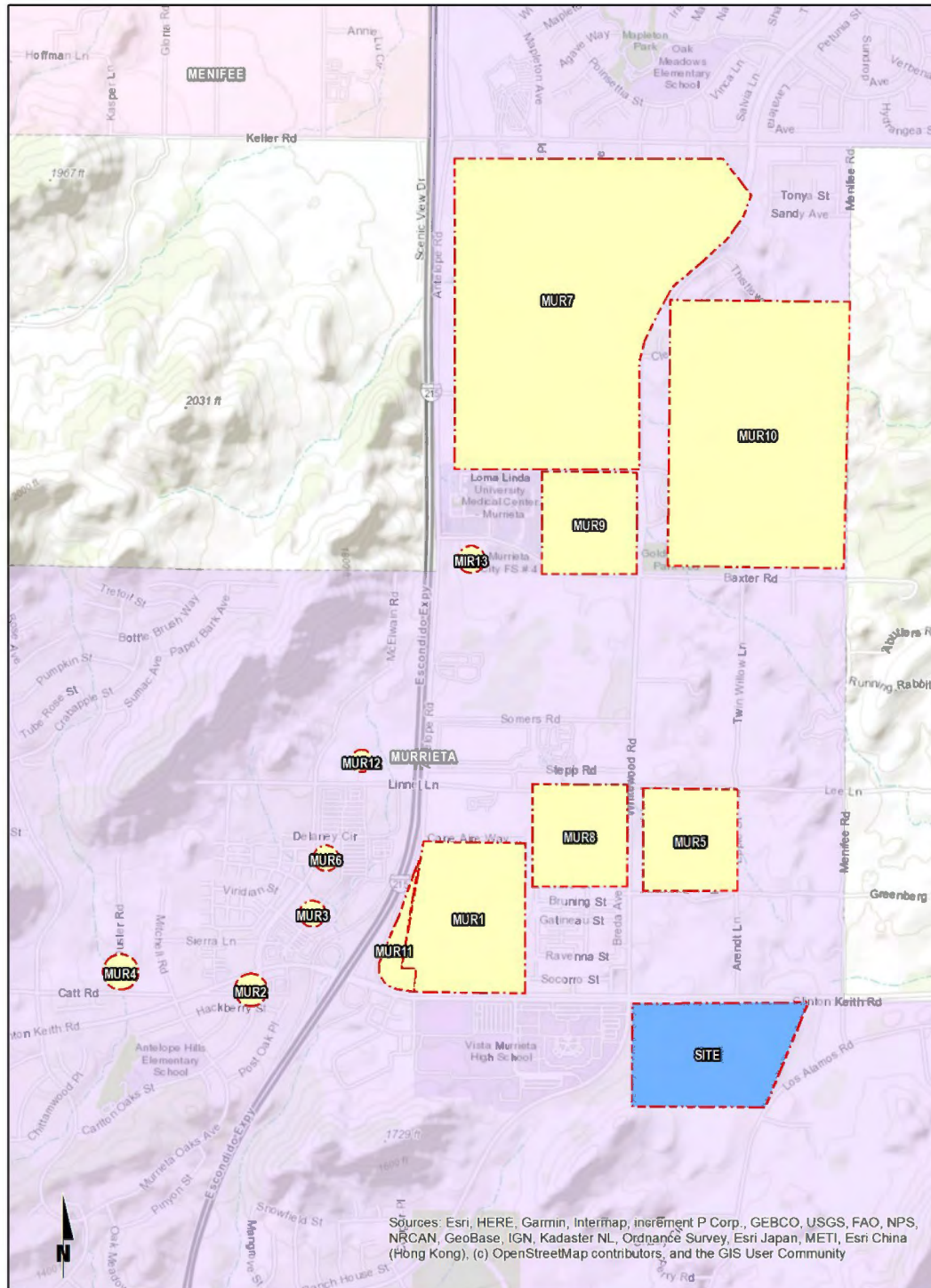


EXHIBIT 5: CUMULATIVE DEVELOPMENT LOCATION MAP



APPENDIX 1.2:

SITE ADJACENT QUEUES

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Queuing and Blocking Report

Opening Year Cumulative (2023) With Project- AM Peak Hour WITH IMPROVEMENTS03/16/2022

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	T	R	L
Maximum Queue (ft)	350	364	447	331	404	220	265	477	429	414	375	139
Average Queue (ft)	218	233	178	195	233	87	167	284	281	271	110	66
95th Queue (ft)	312	322	282	297	357	169	298	444	426	395	264	118
Link Distance (ft)			1786	1786	1786			1246	1246	1246		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	340	340				240	240				350	400
Storage Blk Time (%)	0	2				0	0	17		4	0	
Queuing Penalty (veh)	0	5				0	1	43		7	0	

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	174	89	102	68	130	164	610	786
Average Queue (ft)	84	40	49	29	44	111	270	414
95th Queue (ft)	143	76	89	57	95	189	484	609
Link Distance (ft)		441	441	441			2504	2504
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	400				140	140		
Storage Blk Time (%)					0	0	17	
Queuing Penalty (veh)					0	0	23	

Intersection: 7: Whitewood Rd. & Driveway 1

Movement	WB	NB
Directions Served	R	L
Maximum Queue (ft)	76	56
Average Queue (ft)	25	14
95th Queue (ft)	56	35
Link Distance (ft)	436	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		240
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Opening Year Cumulative (2023) With Project- AM Peak Hour WITH IMPROVEMENTS03/16/2022

Intersection: 8: Clinton Keith Rd. & Arendt Ln.

Movement	NB
Directions Served	R
Maximum Queue (ft)	88
Average Queue (ft)	29
95th Queue (ft)	55
Link Distance (ft)	409
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 78

Queuing and Blocking Report

Opening Year Cumulative (2023) With Project- PM Peak Hour WITH IMPROVEMENTS03/16/2022

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	T	R	L
Maximum Queue (ft)	352	365	1801	1798	1826	133	263	341	309	327	171	407
Average Queue (ft)	351	364	1673	1210	921	63	99	205	213	185	95	277
95th Queue (ft)	354	366	2101	2289	2090	124	184	293	292	271	155	380
Link Distance (ft)			1786	1786	1786			1246	1246	1246		
Upstream Blk Time (%)			13	1	1							
Queuing Penalty (veh)			100	5	10							
Storage Bay Dist (ft)	340	340				240	240				350	400
Storage Blk Time (%)	12	62	0					3				0
Queuing Penalty (veh)	56	281	1					6				0

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	422	363	285	148	148	165	1634	1708
Average Queue (ft)	286	183	188	45	76	131	1084	1235
95th Queue (ft)	392	279	261	97	141	197	1644	1702
Link Distance (ft)		441	441	441			2504	2504
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)	400				140	140		
Storage Blk Time (%)	0				0	2	24	
Queuing Penalty (veh)	1				0	3	51	

Intersection: 7: Whitewood Rd. & Driveway 1

Movement	EB	WB	NB
Directions Served	LTR	R	L
Maximum Queue (ft)	28	70	15
Average Queue (ft)	20	26	4
95th Queue (ft)	38	52	15
Link Distance (ft)	301	436	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			240
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report

Opening Year Cumulative (2023) With Project- PM Peak Hour WITH IMPROVEMENTS03/16/2022

Intersection: 8: Clinton Keith Rd. & Arendt Ln.

Movement	NB
Directions Served	R
Maximum Queue (ft)	44
Average Queue (ft)	19
95th Queue (ft)	42
Link Distance (ft)	409
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 513

Queuing and Blocking Report

Opening Year Cumulative (2023) With Project - AM Peak Hour (Alternative) WITH IMPROVEMENTS

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	T	R	L
Maximum Queue (ft)	351	361	306	331	404	141	264	456	450	456	375	176
Average Queue (ft)	234	253	148	211	251	84	128	227	246	254	112	96
95th Queue (ft)	320	333	247	306	380	139	252	373	384	400	276	164
Link Distance (ft)			1786	1786	1786			1247	1247	1247		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	340	340				240	240				350	400
Storage Blk Time (%)	0	1						7		2	0	
Queuing Penalty (veh)	0	3						16		4	0	

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	162	108	111	55	151	165	503	544
Average Queue (ft)	103	54	59	29	36	113	232	412
95th Queue (ft)	156	94	102	55	82	191	400	557
Link Distance (ft)		438	438	438			2504	2504
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	400				140	140		
Storage Blk Time (%)					0	0	20	
Queuing Penalty (veh)					0	0	28	

Intersection: 7: Whitewood Rd. & Driveway 1

Movement	EB	WB	NB
Directions Served	LTR	R	L
Maximum Queue (ft)	27	52	40
Average Queue (ft)	5	25	19
95th Queue (ft)	21	48	39
Link Distance (ft)	301	436	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			240
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report

Opening Year Cumulative (2023) With Project - AM Peak Hour (Alternative) WITH IMPROVEMENTS

Intersection: 8: Clinton Keith Rd. & Arendt Ln.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	T	T	R	L	T	T	TR	LTR
Maximum Queue (ft)	257	253	210	150	31	206	223	190	119
Average Queue (ft)	132	145	138	34	11	150	125	92	35
95th Queue (ft)	222	231	218	111	33	197	186	153	85
Link Distance (ft)	1247	1247	1247			1836	1836	1836	403
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				100	100				
Storage Blk Time (%)			13			16			
Queuing Penalty (veh)			4			1			

Zone Summary

Zone wide Queuing Penalty: 57

Queuing and Blocking Report

Opening Year Cumulative (2023) With Project- PM Peak Hour (Alternative) WITH IMPROVEMENTS

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	T	R	L
Maximum Queue (ft)	352	365	1799	1803	1820	101	115	201	225	212	168	325
Average Queue (ft)	350	364	1644	1026	750	45	62	139	161	152	90	198
95th Queue (ft)	356	365	2100	2117	1786	86	98	195	214	202	158	287
Link Distance (ft)			1786	1786	1786			1247	1247	1247		
Upstream Blk Time (%)			8	0	0							
Queuing Penalty (veh)			63	2	2							
Storage Bay Dist (ft)	340	340				240	240				350	400
Storage Blk Time (%)	13	61	0									
Queuing Penalty (veh)	59	274	3									

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	308	358	353	113	152	165	1712	1788
Average Queue (ft)	206	242	243	59	79	135	1263	1395
95th Queue (ft)	297	350	348	101	164	195	1685	1719
Link Distance (ft)		438	438	438			2504	2504
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	400				140	140		
Storage Blk Time (%)					0	12	26	
Queuing Penalty (veh)					0	20	55	

Intersection: 7: Whitewood Rd. & Driveway 1

Movement	EB	WB	NB
Directions Served	LTR	R	L
Maximum Queue (ft)	28	29	15
Average Queue (ft)	15	25	4
95th Queue (ft)	36	40	15
Link Distance (ft)	301	436	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			240
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report

Opening Year Cumulative (2023) With Project- PM Peak Hour (Alternative) WITH IMPROVEMENTS

Intersection: 8: Clinton Keith Rd. & Arendt Ln.

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB
Directions Served	T	T	T	R	L	T	T	TR	LTR
Maximum Queue (ft)	299	311	309	150	96	214	184	199	103
Average Queue (ft)	170	183	176	60	37	126	109	94	21
95th Queue (ft)	281	304	296	154	83	189	171	164	59
Link Distance (ft)	1247	1247	1247			1836	1836	1836	403
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				100	100				
Storage Blk Time (%)			18	0	1	11			
Queuing Penalty (veh)			18	0	3	3			

Zone Summary

Zone wide Queuing Penalty: 504

APPENDIX 3.1:

EXISTING TRAFFIC COUNTS

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City of Murrieta
N/S: Nutmeg Street
E/W: Clinton Keith Road
Weather: Clear

File Name : 01_MUR_Nutmeg_CK AM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 1

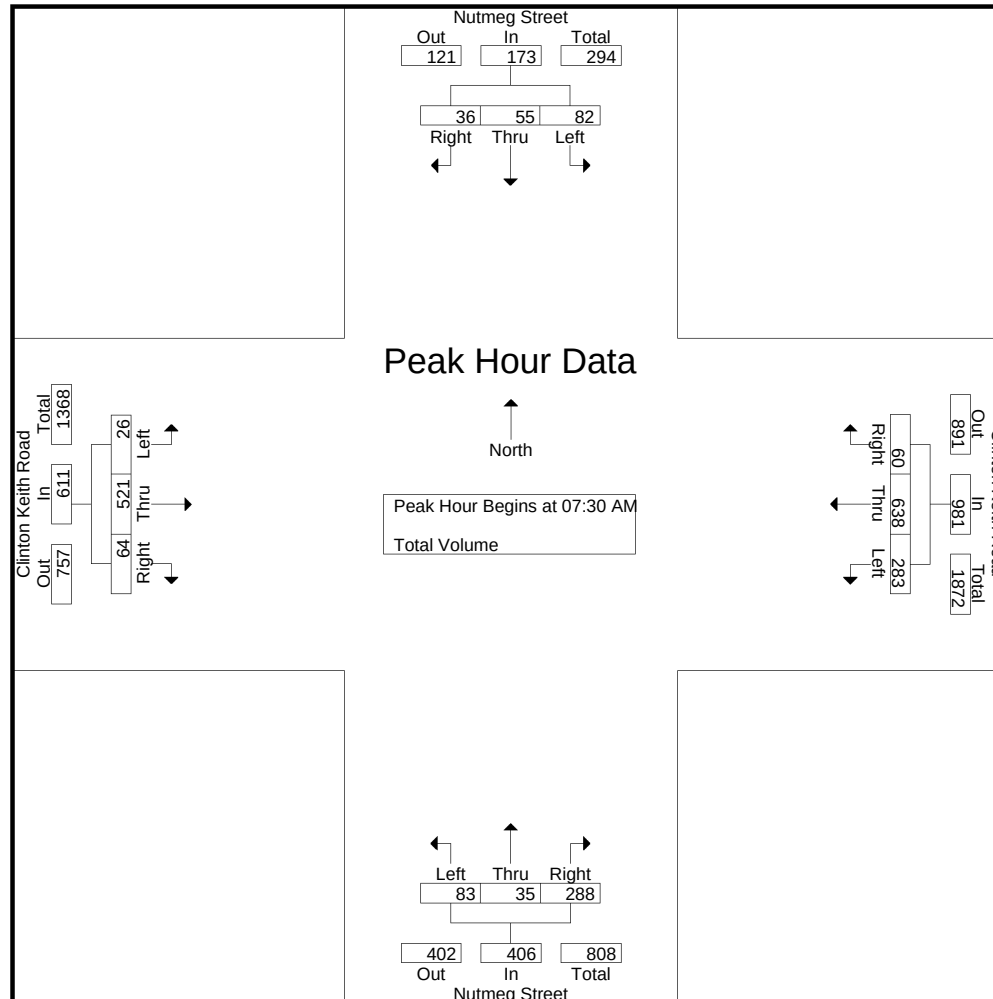
Groups Printed- Total Volume

	Nutmeg Street Southbound					Clinton Keith Road Westbound					Nutmeg Street Northbound					Clinton Keith Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	25	9	9	1	43	56	98	8	1	162	11	1	78	49	90	0	126	6	1	132	52	427	479
07:15 AM	11	25	7	0	43	60	146	11	4	217	8	3	73	38	84	10	110	22	12	142	54	486	540
07:30 AM	21	14	14	1	49	62	146	16	4	224	10	7	92	42	109	3	148	12	5	163	52	545	597
07:45 AM	21	17	4	1	42	87	158	13	3	258	16	8	62	27	86	8	133	22	10	163	41	549	590
Total	78	65	34	3	177	265	548	48	12	861	45	19	305	156	369	21	517	62	28	600	199	2007	2206
08:00 AM	23	16	11	1	50	74	126	9	5	209	28	16	74	26	118	7	131	23	7	161	39	538	577
08:15 AM	17	8	7	1	32	60	208	22	7	290	29	4	60	35	93	8	109	7	3	124	46	539	585
08:30 AM	19	9	5	1	33	38	163	15	3	216	14	6	53	26	73	5	94	9	4	108	34	430	464
08:45 AM	22	8	5	0	35	50	127	10	5	187	11	5	48	25	64	2	122	13	6	137	36	423	459
Total	81	41	28	3	150	222	624	56	20	902	82	31	235	112	348	22	456	52	20	530	155	1930	2085
Grand Total	159	106	62	6	327	487	1172	104	32	1763	127	50	540	268	717	43	973	114	48	1130	354	3937	4291
Apprch %	48.6	32.4	19			27.6	66.5	5.9			17.7	7	75.3			3.8	86.1	10.1					
Total %	4	2.7	1.6		8.3	12.4	29.8	2.6		44.8	3.2	1.3	13.7		18.2	1.1	24.7	2.9		28.7	8.2	91.8	

	Nutmeg Street Southbound				Clinton Keith Road Westbound				Nutmeg Street Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	21	14	14	49	62	146	16	224	10	7	92	109	3	148	12	163	545
07:45 AM	21	17	4	42	87	158	13	258	16	8	62	86	8	133	22	163	549
08:00 AM	23	16	11	50	74	126	9	209	28	16	74	118	7	131	23	161	538
08:15 AM	17	8	7	32	60	208	22	290	29	4	60	93	8	109	7	124	539
Total Volume	82	55	36	173	283	638	60	981	83	35	288	406	26	521	64	611	2171
% App. Total	47.4	31.8	20.8		28.8	65	6.1		20.4	8.6	70.9		4.3	85.3	10.5		
PHF	.891	.809	.643	.865	.813	.767	.682	.846	.716	.547	.783	.860	.813	.880	.696	.937	.989

City of Murrieta
 N/S: Nutmeg Street
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 01_MUR_Nutmeg_CK AM
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City of Murrieta
N/S: Nutmeg Street
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	Nutmeg Street Southbound				Clinton Keith Road Westbound				Nutmeg Street Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:30 AM				07:30 AM				07:15 AM				
+0 mins.	11	25	7	43	62	146	16	224	10	7	92	109	10	110	22	142	
+15 mins.	21	14	14	49	87	158	13	258	16	8	62	86	3	148	12	163	
+30 mins.	21	17	4	42	74	126	9	209	28	16	74	118	8	133	22	163	
+45 mins.	23	16	11	50	60	208	22	290	29	4	60	93	7	131	23	161	
Total Volume	76	72	36	184	283	638	60	981	83	35	288	406	28	522	79	629	
% App. Total	41.3	39.1	19.6		28.8	65	6.1		20.4	8.6	70.9		4.5	83	12.6		
PHF	.826	.720	.643	.920	.813	.767	.682	.846	.716	.547	.783	.860	.700	.882	.859	.965	

City of Murrieta
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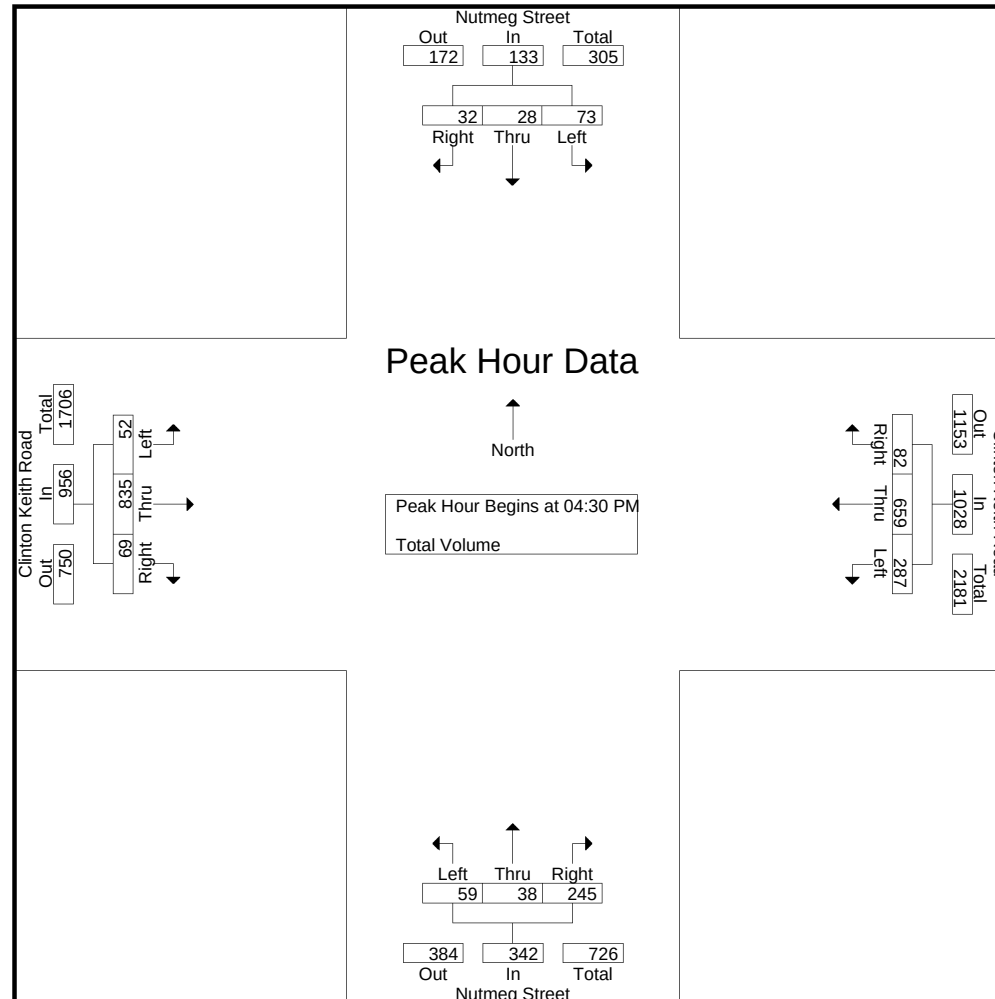
Groups Printed- Total Volume

	Nutmeg Street Southbound					Clinton Keith Road Westbound					Nutmeg Street Northbound					Clinton Keith Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	13	17	6	1	36	113	178	20	6	311	11	11	67	21	89	14	206	9	2	229	30	665	695
04:15 PM	19	8	9	3	36	89	123	22	7	234	14	16	69	24	99	11	151	9	3	171	37	540	577
04:30 PM	21	7	10	1	38	62	161	19	7	242	14	11	67	30	92	17	214	15	6	246	44	618	662
04:45 PM	15	5	6	1	26	78	178	27	8	283	13	8	53	29	74	11	198	15	4	224	42	607	649
Total	68	37	31	6	136	342	640	88	28	1070	52	46	256	104	354	53	769	48	15	870	153	2430	2583
05:00 PM	18	10	10	2	38	69	145	17	4	231	18	11	62	23	91	11	200	23	5	234	34	594	628
05:15 PM	19	6	6	0	31	78	175	19	5	272	14	8	63	35	85	13	223	16	6	252	46	640	686
05:30 PM	14	4	7	3	25	73	172	22	6	267	16	10	61	36	87	13	177	20	3	210	48	589	637
05:45 PM	21	4	4	0	29	77	136	18	7	231	8	15	75	32	98	14	187	19	7	220	46	578	624
Total	72	24	27	5	123	297	628	76	22	1001	56	44	261	126	361	51	787	78	21	916	174	2401	2575
Grand Total	140	61	58	11	259	639	1268	164	50	2071	108	90	517	230	715	104	1556	126	36	1786	327	4831	5158
Apprch %	54.1	23.6	22.4			30.9	61.2	7.9			15.1	12.6	72.3			5.8	87.1	7.1					
Total %	2.9	1.3	1.2		5.4	13.2	26.2	3.4		42.9	2.2	1.9	10.7		14.8	2.2	32.2	2.6		37	6.3	93.7	

	Nutmeg Street Southbound				Clinton Keith Road Westbound				Nutmeg Street Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	21	7	10	38	62	161	19	242	14	11	67	92	17	214	15	246	618
04:45 PM	15	5	6	26	78	178	27	283	13	8	53	74	11	198	15	224	607
05:00 PM	18	10	10	38	69	145	17	231	18	11	62	91	11	200	23	234	594
05:15 PM	19	6	6	31	78	175	19	272	14	8	63	85	13	223	16	252	640
Total Volume	73	28	32	133	287	659	82	1028	59	38	245	342	52	835	69	956	2459
% App. Total	54.9	21.1	24.1		27.9	64.1	8		17.3	11.1	71.6		5.4	87.3	7.2		
PHF	.869	.700	.800	.875	.920	.926	.759	.908	.819	.864	.914	.929	.765	.936	.750	.948	.961

City of Murrieta
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City of Murrieta
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	Nutmeg Street Southbound				Clinton Keith Road Westbound				Nutmeg Street Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:15 PM				04:00 PM				05:00 PM				04:30 PM				
+0 mins.	19	8	9	36	113	178	20	311	18	11	62	91	17	214	15	246	
+15 mins.	21	7	10	38	89	123	22	234	14	8	63	85	11	198	15	224	
+30 mins.	15	5	6	26	62	161	19	242	16	10	61	87	11	200	23	234	
+45 mins.	18	10	10	38	78	178	27	283	8	15	75	98	13	223	16	252	
Total Volume	73	30	35	138	342	640	88	1070	56	44	261	361	52	835	69	956	
% App. Total	52.9	21.7	25.4		32	59.8	8.2		15.5	12.2	72.3		5.4	87.3	7.2		
PHF	.869	.750	.875	.908	.757	.899	.815	.860	.778	.733	.870	.921	.765	.936	.750	.948	

Location: Murrieta
 N/S: Nutmeg Street
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

PEDESTRIANS

	North Leg Nutmeg Street Pedestrians	East Leg Clinton Keith Road Pedestrians	South Leg Nutmeg Street Pedestrians	West Leg Clinton Keith Road Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	1	1	0	2
7:30 AM	0	0	0	0	0
7:45 AM	0	1	1	0	2
8:00 AM	0	0	0	0	0
8:15 AM	0	1	0	0	1
8:30 AM	2	3	1	0	6
8:45 AM	1	2	0	0	3
TOTAL VOLUMES:	3	8	3	0	14

	North Leg Nutmeg Street Pedestrians	East Leg Clinton Keith Road Pedestrians	South Leg Nutmeg Street Pedestrians	West Leg Clinton Keith Road Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	1	1	0	2
4:30 PM	0	0	1	0	1
4:45 PM	0	0	0	0	0
5:00 PM	2	0	0	0	2
5:15 PM	0	0	0	0	0
5:30 PM	0	0	2	0	2
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	2	1	4	0	7

Location: Murrieta
 N/S: Nutmeg Street
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

BICYCLES

	Southbound Nutmeg Street			Westbound Clinton Keith Road			Northbound Nutmeg Street			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1
7:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	1	0	2	0	0	0	3

	Southbound Nutmeg Street			Westbound Clinton Keith Road			Northbound Nutmeg Street			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	1	0	0	0	0	0	1	0	3
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	1	0	0	0	4	0	0	0	0	0	3	0	8

City of Murrieta
N/S: California Oaks Road
E/W: Clinton Keith Road
Weather: Clear

File Name : 02_MUR_Cal Oaks_CK AM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 1

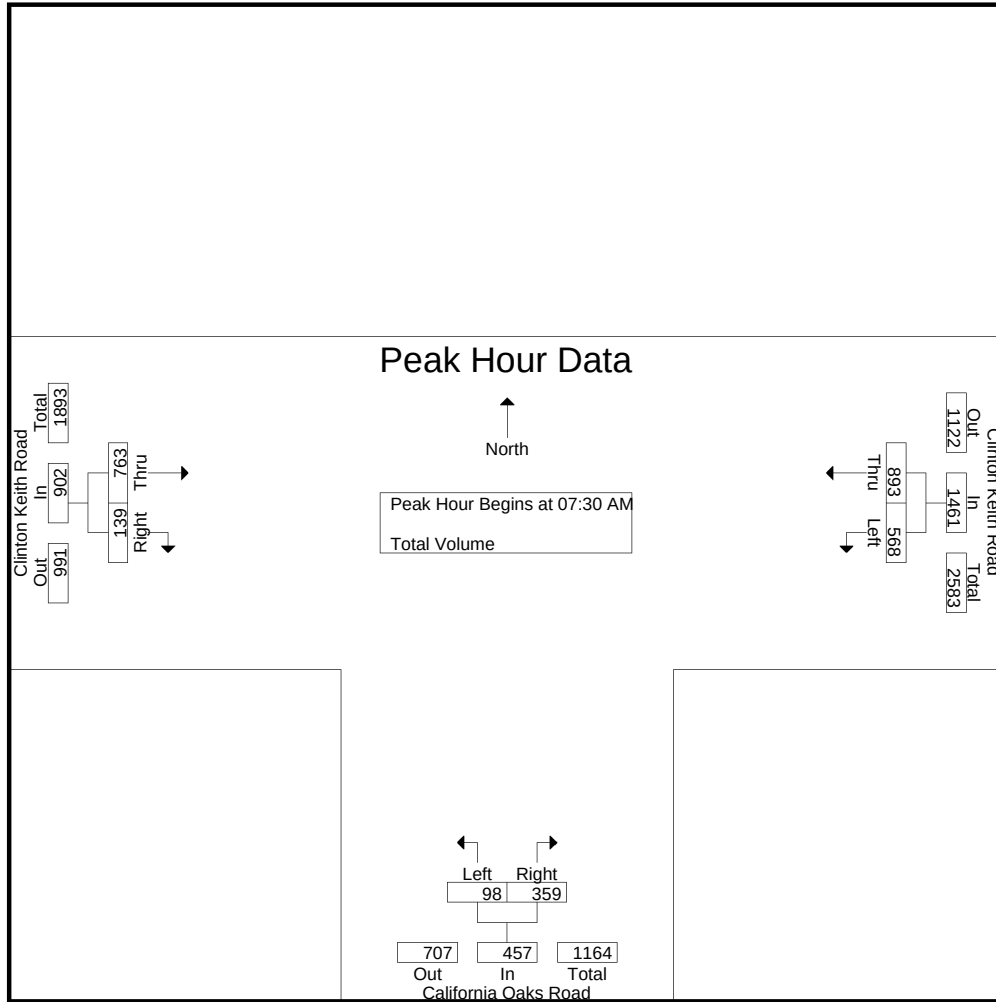
Groups Printed- Total Volume

	Clinton Keith Road Westbound			California Oaks Road Northbound				Clinton Keith Road Eastbound						
Start Time	Left	Thru	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	55	153	208	10	57	31	67	209	13	4	222	35	497	532
07:15 AM	127	209	336	15	71	46	86	190	18	3	208	49	630	679
07:30 AM	139	200	339	26	61	37	87	230	29	9	259	46	685	731
07:45 AM	157	246	403	24	91	48	115	172	26	9	198	57	716	773
Total	478	808	1286	75	280	162	355	801	86	25	887	187	2528	2715
08:00 AM	143	217	360	16	96	54	112	192	49	22	241	76	713	789
08:15 AM	129	230	359	32	111	40	143	169	35	15	204	55	706	761
08:30 AM	95	212	307	14	78	40	92	144	19	6	163	46	562	608
08:45 AM	91	170	261	23	76	33	99	159	37	12	196	45	556	601
Total	458	829	1287	85	361	167	446	664	140	55	804	222	2537	2759
Grand Total	936	1637	2573	160	641	329	801	1465	226	80	1691	409	5065	5474
Apprch %	36.4	63.6		20	80			86.6	13.4					
Total %	18.5	32.3	50.8	3.2	12.7		15.8	28.9	4.5		33.4	7.5	92.5	

	Clinton Keith Road Westbound			California Oaks Road Northbound			Clinton Keith Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	139	200	339	26	61	87	230	29	259	685
07:45 AM	157	246	403	24	91	115	172	26	198	716
08:00 AM	143	217	360	16	96	112	192	49	241	713
08:15 AM	129	230	359	32	111	143	169	35	204	706
Total Volume	568	893	1461	98	359	457	763	139	902	2820
% App. Total	38.9	61.1		21.4	78.6		84.6	15.4		
PHF	.904	.908	.906	.766	.809	.799	.829	.709	.871	.985

City of Murrieta
N/S: California Oaks Road
E/W: Clinton Keith Road
Weather: Clear

File Name : 02_MUR_Cal Oaks_CK AM
Site Code : 05121192
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:45 AM			07:15 AM		
+0 mins.	139	200	339	24	91	115	190	18	208
+15 mins.	157	246	403	16	96	112	230	29	259
+30 mins.	143	217	360	32	111	143	172	26	198
+45 mins.	129	230	359	14	78	92	192	49	241
Total Volume	568	893	1461	86	376	462	784	122	906
% App. Total	38.9	61.1		18.6	81.4		86.5	13.5	
PHF	.904	.908	.906	.672	.847	.808	.852	.622	.875

City of Murrieta
N/S: California Oaks Road
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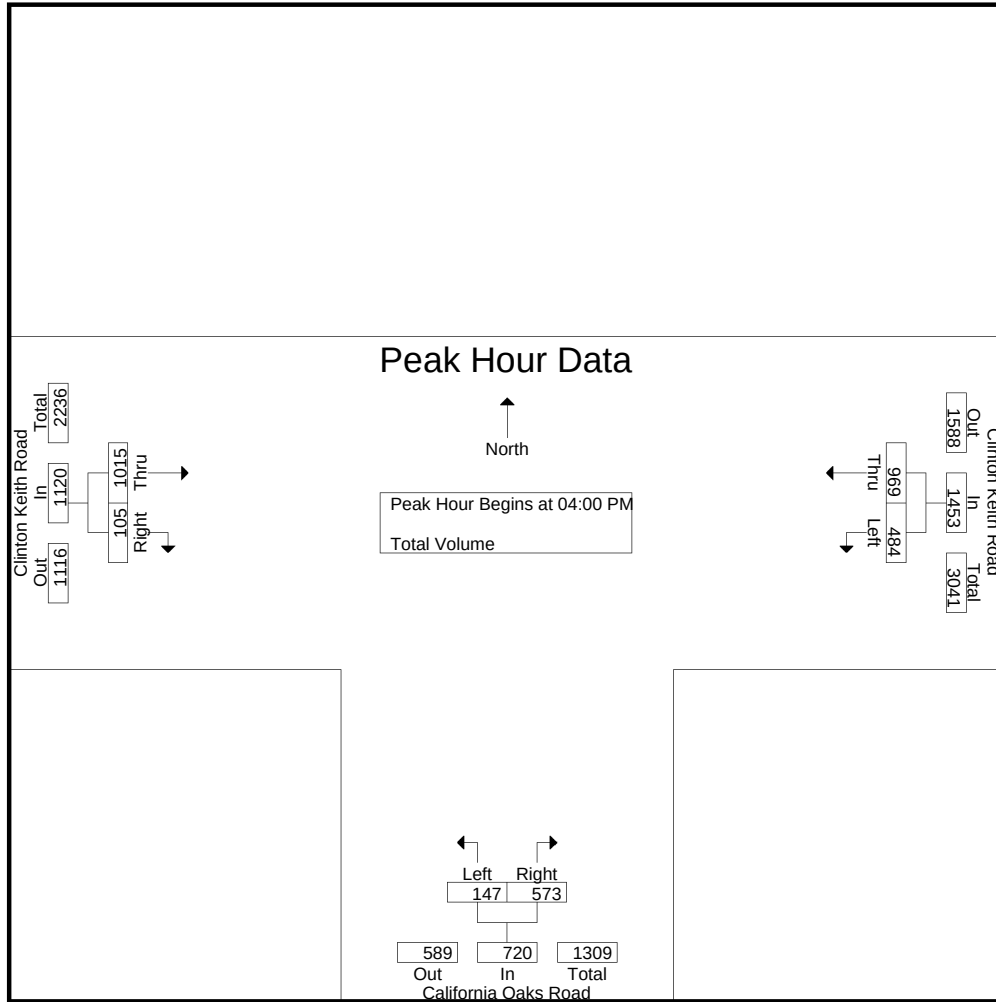
Groups Printed- Total Volume

	Clinton Keith Road Westbound			California Oaks Road Northbound				Clinton Keith Road Eastbound						
Start Time	Left	Thru	App. Total	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	140	291	431	32	154	49	186	259	30	19	289	68	906	974
04:15 PM	133	226	359	32	147	68	179	217	24	11	241	79	779	858
04:30 PM	99	201	300	36	140	35	176	282	26	9	308	44	784	828
04:45 PM	112	251	363	47	132	65	179	257	25	10	282	75	824	899
Total	484	969	1453	147	573	217	720	1015	105	49	1120	266	3293	3559
05:00 PM	90	209	299	41	165	45	206	254	30	9	284	54	789	843
05:15 PM	102	232	334	37	161	30	198	266	31	13	297	43	829	872
05:30 PM	98	225	323	43	137	56	180	248	20	7	268	63	771	834
05:45 PM	102	198	300	25	140	49	165	260	20	13	280	62	745	807
Total	392	864	1256	146	603	180	749	1028	101	42	1129	222	3134	3356
Grand Total	876	1833	2709	293	1176	397	1469	2043	206	91	2249	488	6427	6915
Apprch %	32.3	67.7		19.9	80.1			90.8	9.2					
Total %	13.6	28.5	42.2	4.6	18.3		22.9	31.8	3.2		35	7.1	92.9	

	Clinton Keith Road Westbound			California Oaks Road Northbound			Clinton Keith Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	140	291	431	32	154	186	259	30	289	906
04:15 PM	133	226	359	32	147	179	217	24	241	779
04:30 PM	99	201	300	36	140	176	282	26	308	784
04:45 PM	112	251	363	47	132	179	257	25	282	824
Total Volume	484	969	1453	147	573	720	1015	105	1120	3293
% App. Total	33.3	66.7		20.4	79.6		90.6	9.4		
PHF	.864	.832	.843	.782	.930	.968	.900	.875	.909	.909

City of Murrieta
N/S: California Oaks Road
E/W: Clinton Keith Road
Weather: Clear

File Name : 02_MUR_Cal Oaks_CK PM
Site Code : 05121192
Start Date : 5/4/2021
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:45 PM			04:30 PM		
+0 mins.	140	291	431	47	132	179	282	26	308
+15 mins.	133	226	359	41	165	206	257	25	282
+30 mins.	99	201	300	37	161	198	254	30	284
+45 mins.	112	251	363	43	137	180	266	31	297
Total Volume	484	969	1453	168	595	763	1059	112	1171
% App. Total	33.3	66.7		22	78		90.4	9.6	
PHF	.864	.832	.843	.894	.902	.926	.939	.903	.950

Location: Murrieta
 N/S: California Oaks Road
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

PEDESTRIANS

	North Leg California Oaks Road Pedestrians	East Leg Clinton Keith Road Pedestrians	South Leg California Oaks Road Pedestrians	West Leg Clinton Keith Road Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	1	1	2
7:30 AM	0	0	0	0	0
7:45 AM	0	0	1	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	1	0	1
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	3	1	4

	North Leg California Oaks Road Pedestrians	East Leg Clinton Keith Road Pedestrians	South Leg California Oaks Road Pedestrians	West Leg Clinton Keith Road Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	2	0	2
TOTAL VOLUMES:	0	0	3	0	3

Location: Murrieta
 N/S: California Oaks Road
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

BICYCLES

		Southbound California Oaks Road			Westbound Clinton Keith Road			Northbound California Oaks Road			Eastbound Clinton Keith Road			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	1
	7:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:		0	0	0	1	0	0	0	0	0	0	0	1	2

		Southbound California Oaks Road			Westbound Clinton Keith Road			Northbound California Oaks Road			Eastbound Clinton Keith Road			
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
	4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
	4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	1
	5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:		0	0	0	1	3	0	0	0	0	0	1	0	5

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK AM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 1

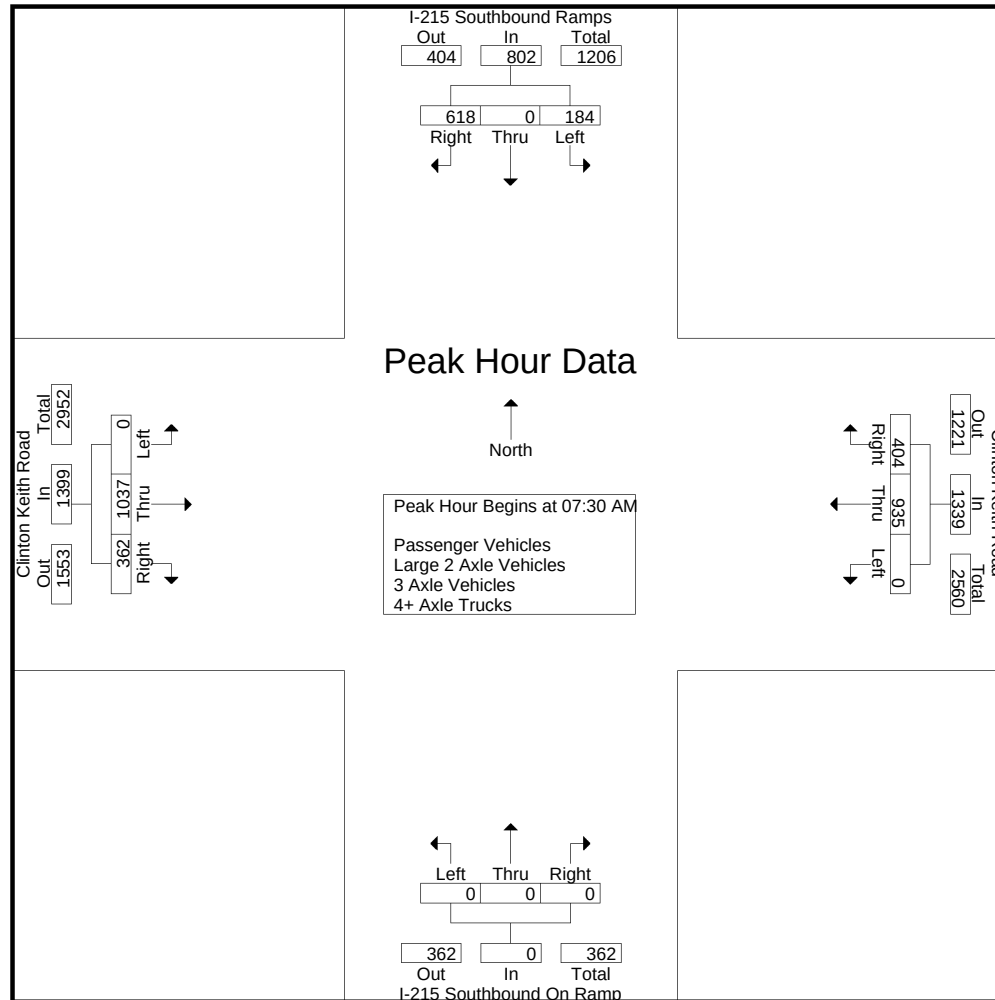
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	42	0	93	59	135	0	122	74	0	196	0	0	0	0	0	0	255	76	18	331	77	662	739
07:15 AM	59	0	133	83	192	0	168	119	0	287	0	0	0	0	0	0	260	85	20	345	103	824	927
07:30 AM	36	0	125	82	161	0	202	108	0	310	0	0	0	0	0	0	278	90	12	368	94	839	933
07:45 AM	49	0	157	100	206	0	260	81	0	341	0	0	0	0	0	0	232	75	21	307	121	854	975
Total	186	0	508	324	694	0	752	382	0	1134	0	0	0	0	0	0	1025	326	71	1351	395	3179	3574
08:00 AM	56	0	191	84	247	0	244	100	0	344	0	0	0	0	0	0	253	94	21	347	105	938	1043
08:15 AM	43	0	145	48	188	0	229	115	0	344	0	0	0	0	0	0	274	103	24	377	72	909	981
08:30 AM	36	0	96	50	132	0	237	107	0	344	0	0	0	0	0	0	182	97	15	279	65	755	820
08:45 AM	23	0	118	86	141	0	201	112	0	313	0	0	0	0	0	0	191	95	17	286	103	740	843
Total	158	0	550	268	708	0	911	434	0	1345	0	0	0	0	0	0	900	389	77	1289	345	3342	3687
Grand Total	344	0	1058	592	1402	0	1663	816	0	2479	0	0	0	0	0	0	1925	715	148	2640	740	6521	7261
Apprch %	24.5	0	75.5			0	67.1	32.9			0	0	0			0	72.9	27.1					
Total %	5.3	0	16.2		21.5	0	25.5	12.5		38	0	0	0		0	0	29.5	11		40.5	10.2	89.8	
Passenger Vehicles	319	0	1010		1897	0	1632	785		2417	0	0	0		0	0	1890	687		2716	0	0	7030
% Passenger Vehicles	92.7	0	95.5	95.9	95.1	0	98.1	96.2	0	97.5	0	0	0	0	0	0	98.2	96.1	93.9	97.4	0	0	96.8
Large 2 Axle Vehicles	14	0	38		73	0	18	16		34	0	0	0		0	0	27	12		43	0	0	150
% Large 2 Axle Vehicles	4.1	0	3.6	3.5	3.7	0	1.1	2	0	1.4	0	0	0	0	0	0	1.4	1.7	2.7	1.5	0	0	2.1
3 Axle Vehicles	6	0	7		14	0	9	12		21	0	0	0		0	0	5	5		12	0	0	47
% 3 Axle Vehicles	1.7	0	0.7	0.2	0.7	0	0.5	1.5	0	0.8	0	0	0	0	0	0	0.3	0.7	1.4	0.4	0	0	0.6
4+ Axle Trucks	5	0	3		10	0	4	3		7	0	0	0		0	0	3	11		17	0	0	34
% 4+ Axle Trucks	1.5	0	0.3	0.3	0.5	0	0.2	0.4	0	0.3	0	0	0	0	0	0	0.2	1.5	2	0.6	0	0	0.5

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	36	0	125	161	0	202	108	310	0	0	0	0	0	278	90	368	839
07:45 AM	49	0	157	206	0	260	81	341	0	0	0	0	0	232	75	307	854
08:00 AM	56	0	191	247	0	244	100	344	0	0	0	0	0	253	94	347	938
08:15 AM	43	0	145	188	0	229	115	344	0	0	0	0	0	274	103	377	909
Total Volume	184	0	618	802	0	935	404	1339	0	0	0	0	0	1037	362	1399	3540
% App. Total	22.9	0	77.1		0	69.8	30.2		0	0	0		0	74.1	25.9		
PHF	.821	.000	.809	.812	.000	.899	.878	.973	.000	.000	.000	.000	.000	.933	.879	.928	.943

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
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City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK AM
Site Code : 05121192
Start Date : 5/4/2021
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	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:45 AM				07:00 AM				07:30 AM				
+0 mins.	59	0	133	192	0	260	81	341	0	0	0	0	0	278	90	368	
+15 mins.	36	0	125	161	0	244	100	344	0	0	0	0	0	232	75	307	
+30 mins.	49	0	157	206	0	229	115	344	0	0	0	0	0	253	94	347	
+45 mins.	56	0	191	247	0	237	107	344	0	0	0	0	0	274	103	377	
Total Volume	200	0	606	806	0	970	403	1373	0	0	0	0	0	1037	362	1399	
% App. Total	24.8	0	75.2		0	70.6	29.4		0	0	0		0	74.1	25.9		
PHF	.847	.000	.793	.816	.000	.933	.876	.998	.000	.000	.000	.000	.000	.933	.879	.928	

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK AM
Site Code : 05121192
Start Date : 5/4/2021
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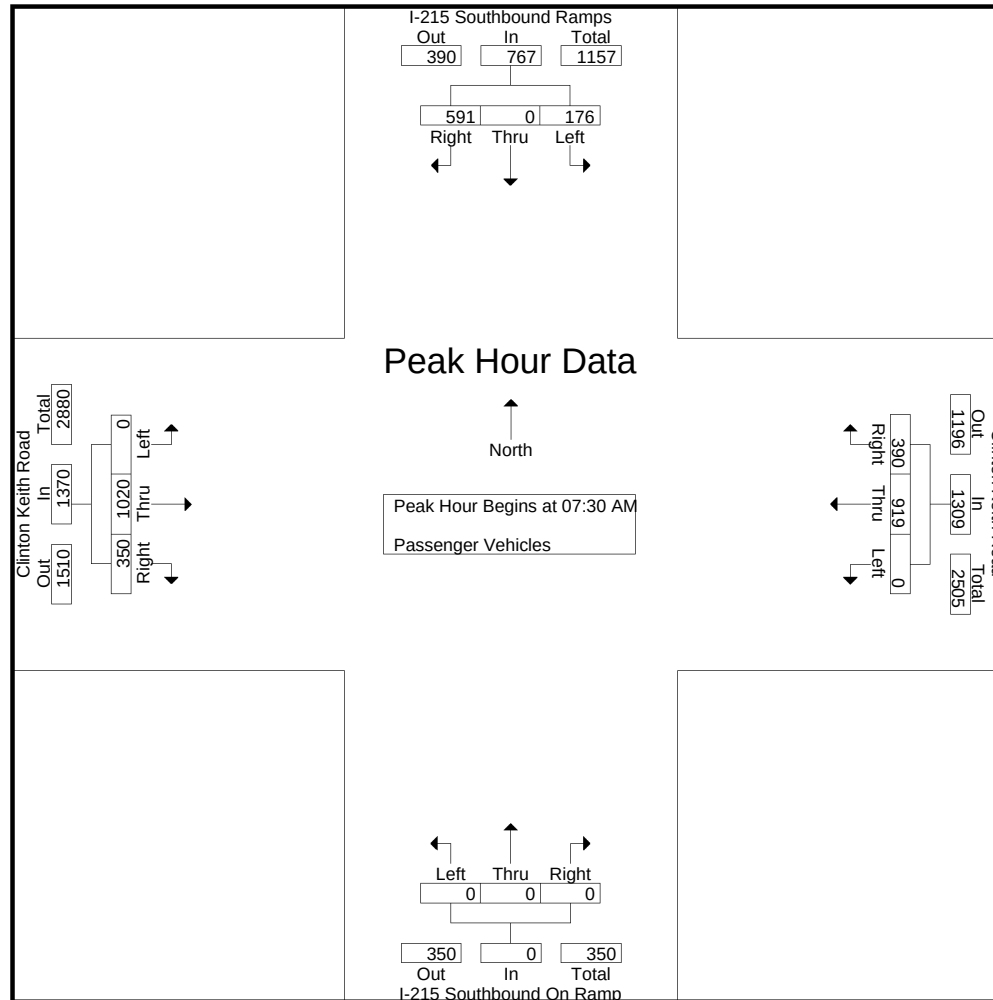
Groups Printed- Passenger Vehicles

	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	36	0	87	57	123	0	122	71	0	193	0	0	0	0	0	0	252	69	15	321	72	637	709
07:15 AM	54	0	126	79	180	0	162	118	0	280	0	0	0	0	0	0	253	83	19	336	98	796	894
07:30 AM	36	0	121	79	157	0	200	104	0	304	0	0	0	0	0	0	274	87	12	361	91	822	913
07:45 AM	45	0	154	98	199	0	257	77	0	334	0	0	0	0	0	0	229	74	21	303	119	836	955
Total	171	0	488	313	659	0	741	370	0	1111	0	0	0	0	0	0	1008	313	67	1321	380	3091	3471
08:00 AM	53	0	177	81	230	0	235	96	0	331	0	0	0	0	0	0	248	94	21	342	102	903	1005
08:15 AM	42	0	139	46	181	0	227	113	0	340	0	0	0	0	0	0	269	95	21	364	67	885	952
08:30 AM	32	0	94	48	126	0	233	102	0	335	0	0	0	0	0	0	180	93	13	273	61	734	795
08:45 AM	21	0	112	80	133	0	196	104	0	300	0	0	0	0	0	0	185	92	17	277	97	710	807
Total	148	0	522	255	670	0	891	415	0	1306	0	0	0	0	0	0	882	374	72	1256	327	3232	3559
Grand Total	319	0	1010	568	1329	0	1632	785	0	2417	0	0	0	0	0	0	1890	687	139	2577	707	6323	7030
Apprch %	24	0	76			0	67.5	32.5			0	0	0			0	73.3	26.7					
Total %	5	0	16		21	0	25.8	12.4		38.2	0	0	0		0	0	29.9	10.9		40.8	10.1	89.9	

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	36	0	121	157	0	200	104	304	0	0	0	0	0	274	87	361	822
07:45 AM	45	0	154	199	0	257	77	334	0	0	0	0	0	229	74	303	836
08:00 AM	53	0	177	230	0	235	96	331	0	0	0	0	0	248	94	342	903
08:15 AM	42	0	139	181	0	227	113	340	0	0	0	0	0	269	95	364	885
Total Volume	176	0	591	767	0	919	390	1309	0	0	0	0	0	1020	350	1370	3446
% App. Total	22.9	0	77.1		0	70.2	29.8		0	0	0		0	74.5	25.5		
PHF	.830	.000	.835	.834	.000	.894	.863	.963	.000	.000	.000	.000	.000	.931	.921	.941	.954

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_215S_CK AM
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City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK AM
Site Code : 05121192
Start Date : 5/4/2021
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	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	36	0	121	157	0	200	104	304	0	0	0	0	0	274	87	361	
+15 mins.	45	0	154	199	0	257	77	334	0	0	0	0	0	229	74	303	
+30 mins.	53	0	177	230	0	235	96	331	0	0	0	0	0	248	94	342	
+45 mins.	42	0	139	181	0	227	113	340	0	0	0	0	0	269	95	364	
Total Volume	176	0	591	767	0	919	390	1309	0	0	0	0	0	1020	350	1370	
% App. Total	22.9	0	77.1		0	70.2	29.8		0	0	0		0	74.5	25.5		
PHF	.830	.000	.835	.834	.000	.894	.863	.963	.000	.000	.000	.000	.000	.931	.921	.941	

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK AM
Site Code : 05121192
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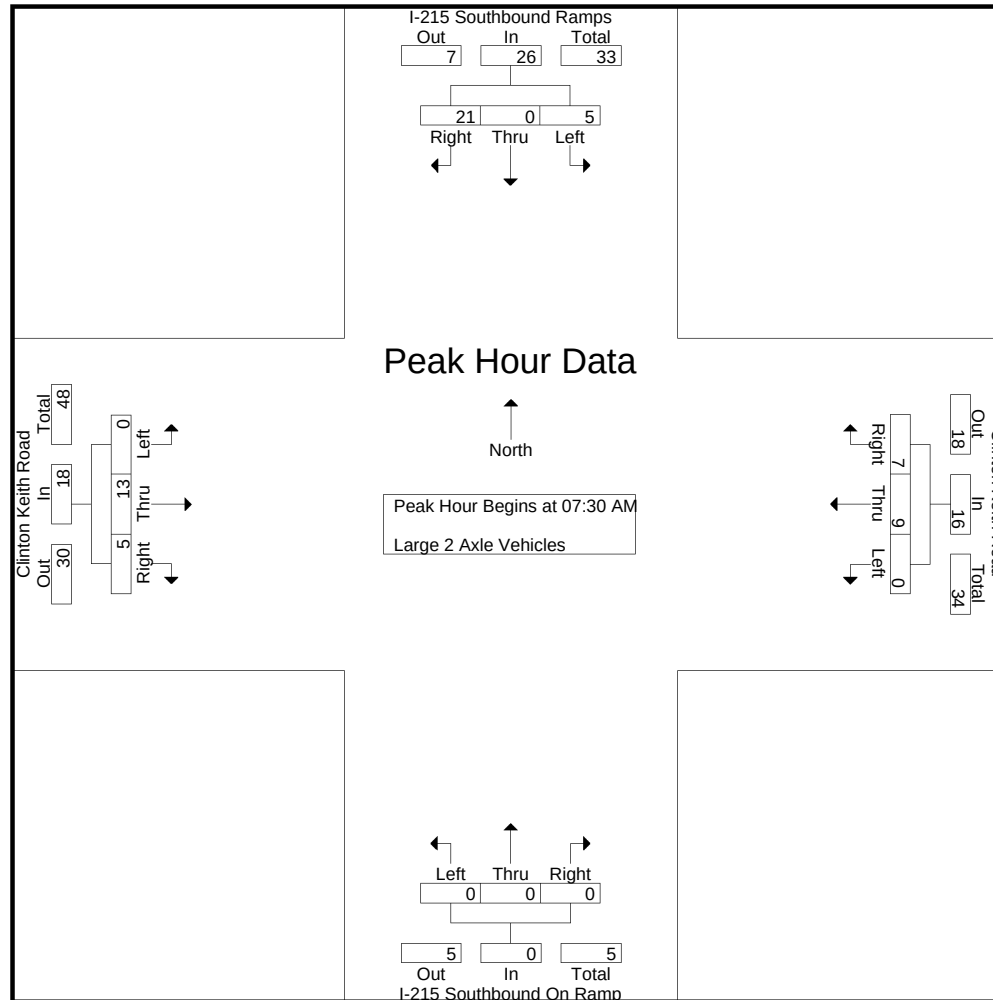
Groups Printed- Large 2 Axle Vehicles

	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	3	0	4	2	7	0	0	2	0	2	0	0	0	0	0	0	1	3	2	4	4	13	17
07:15 AM	3	0	6	3	9	0	4	1	0	5	0	0	0	0	0	0	5	1	0	6	3	20	23
07:30 AM	0	0	3	2	3	0	2	3	0	5	0	0	0	0	0	0	4	2	0	6	2	14	16
07:45 AM	3	0	3	2	6	0	2	2	0	4	0	0	0	0	0	0	2	1	0	3	2	13	15
Total	9	0	16	9	25	0	8	8	0	16	0	0	0	0	0	0	12	7	2	19	11	60	71
08:00 AM	1	0	9	3	10	0	3	1	0	4	0	0	0	0	0	0	2	0	0	2	3	16	19
08:15 AM	1	0	6	2	7	0	2	1	0	3	0	0	0	0	0	0	5	2	1	7	3	17	20
08:30 AM	2	0	1	1	3	0	4	3	0	7	0	0	0	0	0	0	2	3	1	5	2	15	17
08:45 AM	1	0	6	6	7	0	1	3	0	4	0	0	0	0	0	0	6	0	0	6	6	17	23
Total	5	0	22	12	27	0	10	8	0	18	0	0	0	0	0	0	15	5	2	20	14	65	79
Grand Total	14	0	38	21	52	0	18	16	0	34	0	0	0	0	0	0	27	12	4	39	25	125	150
Apprch %	26.9	0	73.1			0	52.9	47.1			0	0	0			0	69.2	30.8					
Total %	11.2	0	30.4		41.6	0	14.4	12.8		27.2	0	0	0		0	0	21.6	9.6		31.2	16.7	83.3	

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	3	3	0	2	3	5	0	0	0	0	0	4	2	6	14
07:45 AM	3	0	3	6	0	2	2	4	0	0	0	0	0	2	1	3	13
08:00 AM	1	0	9	10	0	3	1	4	0	0	0	0	0	2	0	2	16
08:15 AM	1	0	6	7	0	2	1	3	0	0	0	0	0	5	2	7	17
Total Volume	5	0	21	26	0	9	7	16	0	0	0	0	0	13	5	18	60
% App. Total	19.2	0	80.8		0	56.2	43.8		0	0	0		0	72.2	27.8		
PHF	.417	.000	.583	.650	.000	.750	.583	.800	.000	.000	.000	.000	.000	.650	.625	.643	.882

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
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City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK AM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 3

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	0	3	3	0	2	3	5	0	0	0	0	0	4	2	6	
+15 mins.	3	0	3	6	0	2	2	4	0	0	0	0	0	2	1	3	
+30 mins.	1	0	9	10	0	3	1	4	0	0	0	0	0	2	0	2	
+45 mins.	1	0	6	7	0	2	1	3	0	0	0	0	0	5	2	7	
Total Volume	5	0	21	26	0	9	7	16	0	0	0	0	0	13	5	18	
% App. Total	19.2	0	80.8		0	56.2	43.8		0	0	0		0	72.2	27.8		
PHF	.417	.000	.583	.650	.000	.750	.583	.800	.000	.000	.000	.000	.000	.650	.625	.643	

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK AM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 1

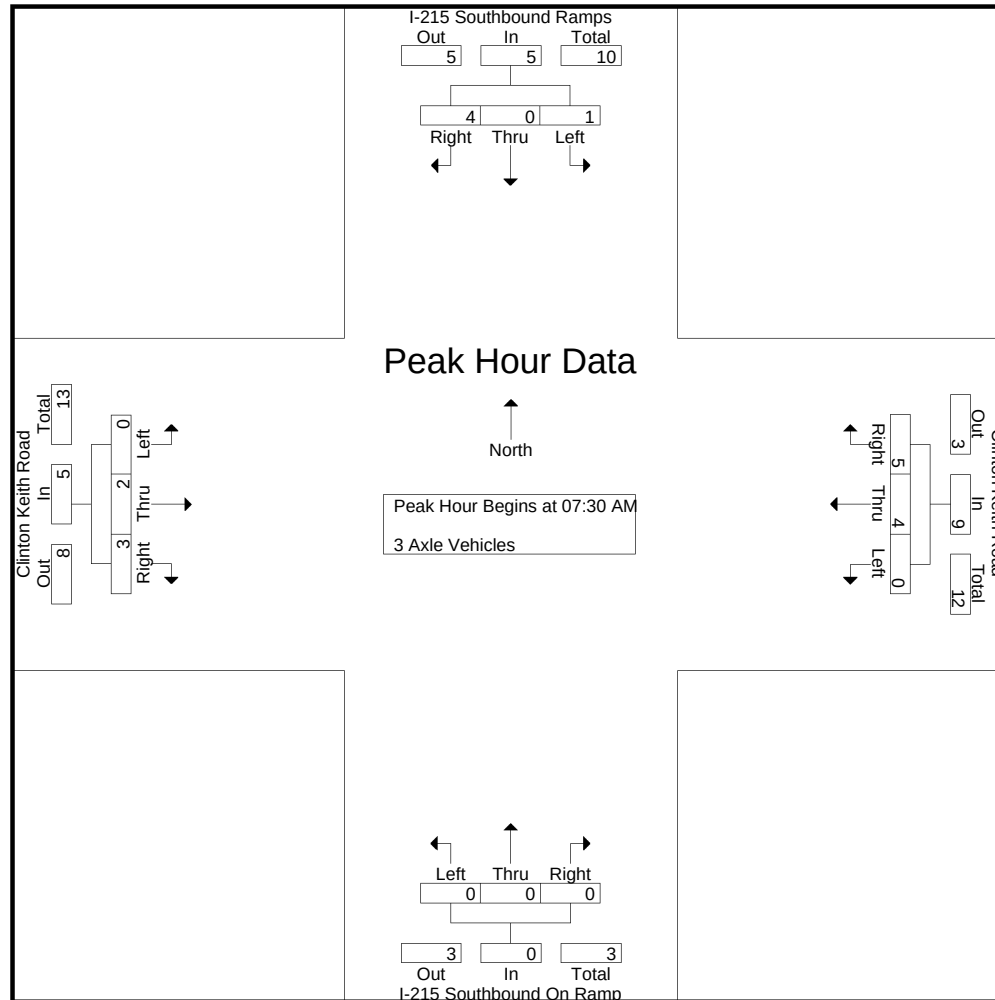
Groups Printed- 3 Axle Vehicles

	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	2	0	2	0	4	0	0	1	0	1	0	0	0	0	0	0	1	1	1	2	1	7	8
07:15 AM	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0	2	1	1	3	1	6	7
07:30 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	2	2
07:45 AM	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	0	4	4
Total	4	0	2	0	6	0	3	3	0	6	0	0	0	0	0	0	4	3	2	7	2	19	21
08:00 AM	0	0	4	0	4	0	3	2	0	5	0	0	0	0	0	0	1	0	0	1	0	10	10
08:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	2	0	3	3
08:30 AM	2	0	1	1	3	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	5	6
08:45 AM	0	0	0	0	0	0	3	4	0	7	0	0	0	0	0	0	0	0	0	0	0	7	7
Total	2	0	5	1	7	0	6	9	0	15	0	0	0	0	0	0	1	2	0	3	1	25	26
Grand Total	6	0	7	1	13	0	9	12	0	21	0	0	0	0	0	0	5	5	2	10	3	44	47
Apprch %	46.2	0	53.8			0	42.9	57.1			0	0	0			0	50	50					
Total %	13.6	0	15.9		29.5	0	20.5	27.3		47.7	0	0	0		0	0	11.4	11.4		22.7	6.4	93.6	

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	2
07:45 AM	1	0	0	1	0	1	1	2	0	0	0	0	0	1	0	1	4
08:00 AM	0	0	4	4	0	3	2	5	0	0	0	0	0	1	0	1	10
08:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	2	3
Total Volume	1	0	4	5	0	4	5	9	0	0	0	0	0	2	3	5	19
% App. Total	20	0	80		0	44.4	55.6		0	0	0		0	40	60		
PHF	.250	.000	.250	.313	.000	.333	.625	.450	.000	.000	.000	.000	.000	.500	.375	.625	.475

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
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City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK AM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 3

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	
+15 mins.	1	0	0	1	0	1	1	2	0	0	0	0	0	1	0	1	
+30 mins.	0	0	4	4	0	3	2	5	0	0	0	0	0	1	0	1	
+45 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	2	
Total Volume	1	0	4	5	0	4	5	9	0	0	0	0	0	2	3	5	
% App. Total	20	0	80		0	44.4	55.6		0	0	0		0	40	60		
PHF	.250	.000	.250	.313	.000	.333	.625	.450	.000	.000	.000	.000	.000	.500	.375	.625	

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK AM
Site Code : 05121192
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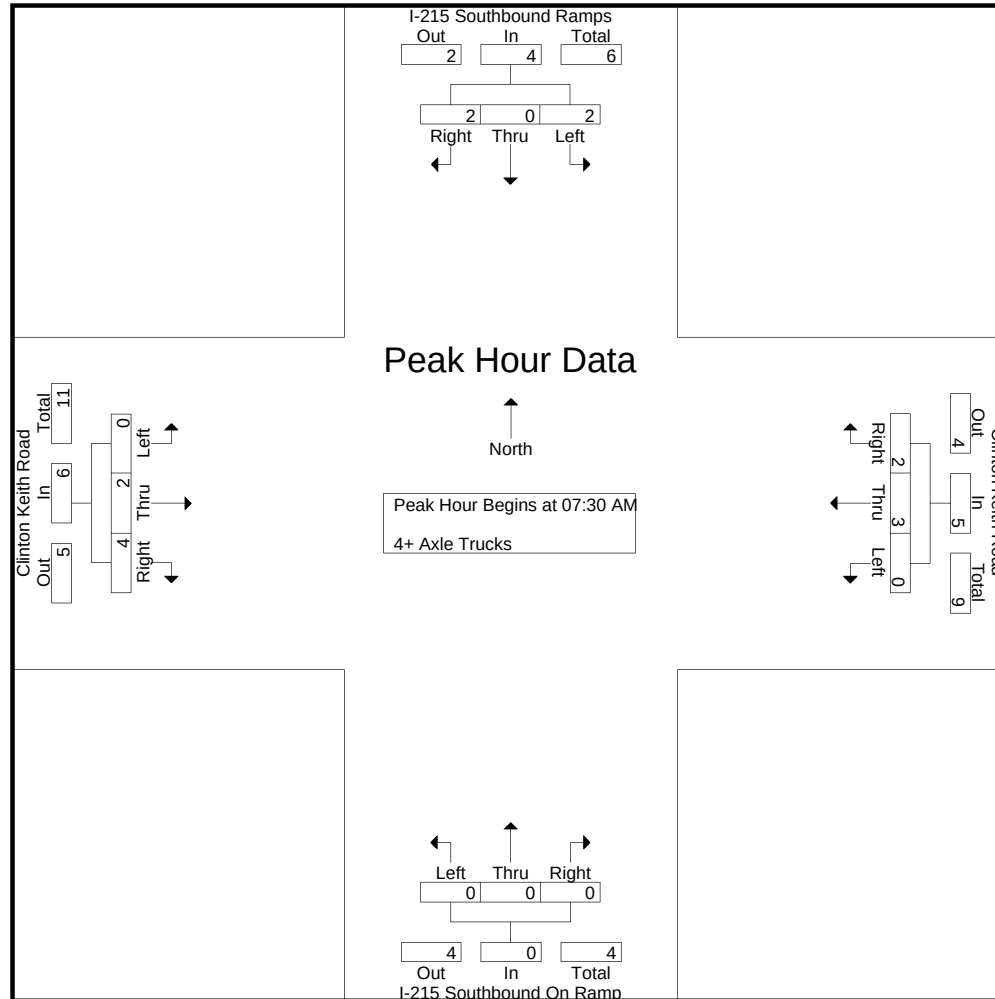
Groups Printed- 4+ Axle Trucks

	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	0	5	5
07:15 AM	1	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3
07:30 AM	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
07:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	2	0	2	2	4	0	0	1	0	1	0	0	0	0	0	0	1	3	0	4	2	9	11
08:00 AM	2	0	1	0	3	0	3	1	0	4	0	0	0	0	0	0	2	0	0	2	0	9	9
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2	4	2	4	6
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	2
08:45 AM	1	0	0	0	1	0	1	1	0	2	0	0	0	0	0	0	0	3	0	3	0	6	6
Total	3	0	1	0	4	0	4	2	0	6	0	0	0	0	0	0	2	8	3	10	3	20	23
Grand Total	5	0	3	2	8	0	4	3	0	7	0	0	0	0	0	0	3	11	3	14	5	29	34
Apprch %	62.5	0	37.5			0	57.1	42.9			0	0	0			0	21.4	78.6					
Total %	17.2	0	10.3		27.6	0	13.8	10.3		24.1	0	0	0		0	0	10.3	37.9		48.3	14.7	85.3	

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
08:00 AM	2	0	1	3	0	3	1	4	0	0	0	0	0	2	0	2	9
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4
Total Volume	2	0	2	4	0	3	2	5	0	0	0	0	0	2	4	6	15
% App. Total	50	0	50		0	60	40		0	0	0		0	33.3	66.7		
PHF	.250	.000	.500	.333	.000	.250	.500	.313	.000	.000	.000	.000	.000	.250	.250	.375	.417

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_215S_CK AM
 Site Code : 05121192
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City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

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	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
+0 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
+30 mins.	2	0	1	3	0	3	1	4	0	0	0	0	0	2	0	2	2
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4
Total Volume	2	0	2	4	0	3	2	5	0	0	0	0	0	2	4	6	6
% App. Total	50	0	50		0	60	40		0	0	0		0	33.3	66.7		
PHF	.250	.000	.500	.333	.000	.250	.500	.313	.000	.000	.000	.000	.000	.250	.250	.375	

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK PM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 1

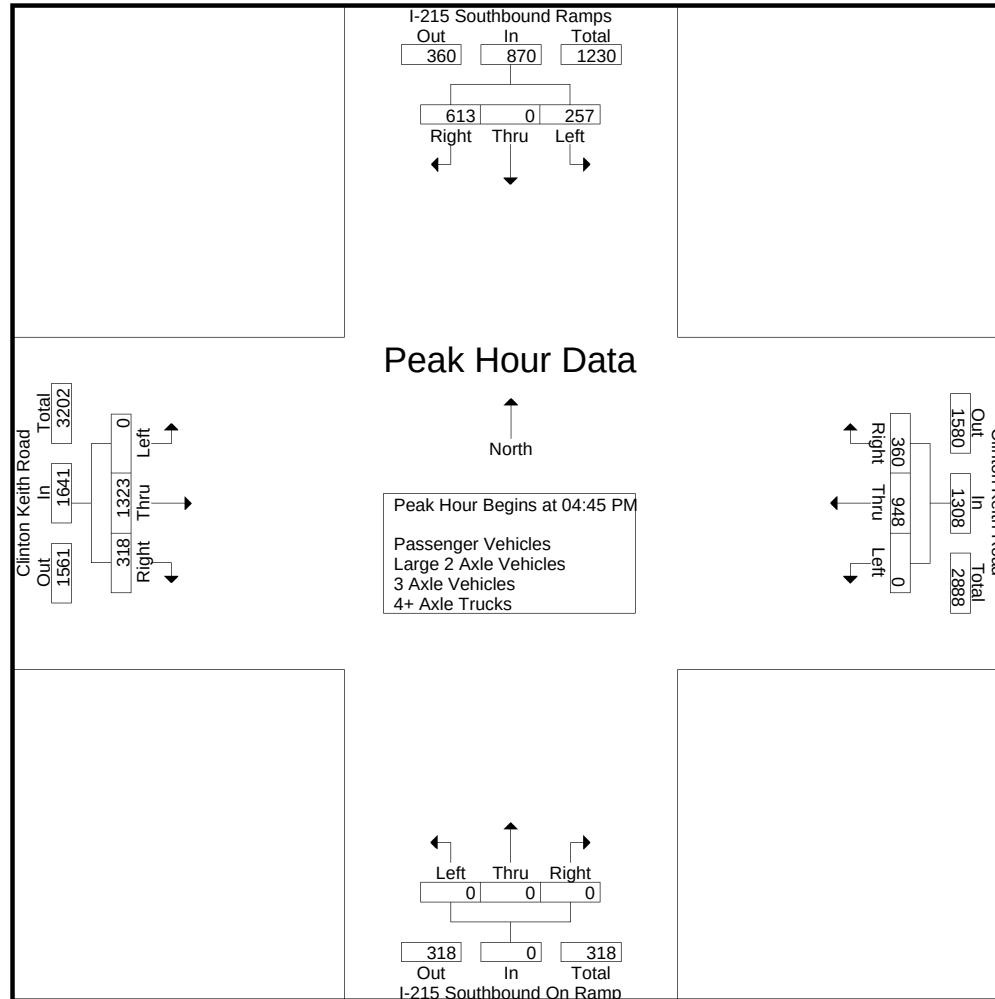
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	97	0	251	68	348	0	208	43	0	251	0	0	0	0	0	0	358	69	14	427	82	1026	1108
04:15 PM	53	0	133	63	186	0	233	59	0	292	0	0	0	0	0	0	338	72	16	410	79	888	967
04:30 PM	51	0	145	91	196	0	258	63	0	321	0	0	0	0	0	0	308	78	11	386	102	903	1005
04:45 PM	66	0	171	81	237	0	255	83	0	338	0	0	0	0	0	0	342	80	10	422	91	997	1088
Total	267	0	700	303	967	0	954	248	0	1202	0	0	0	0	0	0	1346	299	51	1645	354	3814	4168
05:00 PM	49	0	132	83	181	0	240	99	0	339	0	0	0	0	0	0	311	73	8	384	91	904	995
05:15 PM	63	0	177	116	240	0	221	103	0	324	0	0	0	0	0	0	350	78	17	428	133	992	1125
05:30 PM	79	0	133	81	212	0	232	75	0	307	0	0	0	0	0	0	320	87	15	407	96	926	1022
05:45 PM	63	0	144	92	207	0	245	85	0	330	0	0	0	0	0	0	313	73	6	386	98	923	1021
Total	254	0	586	372	840	0	938	362	0	1300	0	0	0	0	0	0	1294	311	46	1605	418	3745	4163
Grand Total	521	0	1286	675	1807	0	1892	610	0	2502	0	0	0	0	0	0	2640	610	97	3250	772	7559	8331
Apprch %	28.8	0	71.2			0	75.6	24.4			0	0	0			0	81.2	18.8					
Total %	6.9	0	17		23.9	0	25	8.1		33.1	0	0	0		0	0	34.9	8.1		43	9.3	90.7	
Passenger Vehicles	511	0	1275		2458	0	1879	604		2483	0	0	0		0	0	2605	605		3307	0	0	8248
% Passenger Vehicles	98.1	0	99.1	99.6	99	0	99.3	99	0	99.2	0	0	0	0	0	0	98.7	99.2	100	98.8	0	0	99
Large 2 Axle Vehicles	9	0	9		20	0	12	4		16	0	0	0		0	0	30	4		34	0	0	70
% Large 2 Axle Vehicles	1.7	0	0.7	0.3	0.8	0	0.6	0.7	0	0.6	0	0	0	0	0	0	1.1	0.7	0	1	0	0	0.8
3 Axle Vehicles	1	0	1		2	0	1	2		3	0	0	0		0	0	5	1		6	0	0	11
% 3 Axle Vehicles	0.2	0	0.1	0	0.1	0	0.1	0.3	0	0.1	0	0	0	0	0	0	0.2	0.2	0	0.2	0	0	0.1
4+ Axle Trucks	0	0	1		2	0	0	0		0	0	0	0		0	0	0	0		0	0	0	2
% 4+ Axle Trucks	0	0	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	66	0	171	237	0	255	83	338	0	0	0	0	0	342	80	422	997
05:00 PM	49	0	132	181	0	240	99	339	0	0	0	0	0	311	73	384	904
05:15 PM	63	0	177	240	0	221	103	324	0	0	0	0	0	350	78	428	992
05:30 PM	79	0	133	212	0	232	75	307	0	0	0	0	0	320	87	407	926
Total Volume	257	0	613	870	0	948	360	1308	0	0	0	0	0	1323	318	1641	3819
% App. Total	29.5	0	70.5		0	72.5	27.5		0	0	0		0	80.6	19.4		
PHF	.813	.000	.866	.906	.000	.929	.874	.965	.000	.000	.000	.000	.000	.945	.914	.959	.958

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK PM
Site Code : 05121192
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City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK PM
Site Code : 05121192
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	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:30 PM				04:00 PM				04:00 PM				
+0 mins.	97	0	251	348	0	258	63	321	0	0	0	0	0	358	69	427	
+15 mins.	53	0	133	186	0	255	83	338	0	0	0	0	0	338	72	410	
+30 mins.	51	0	145	196	0	240	99	339	0	0	0	0	0	308	78	386	
+45 mins.	66	0	171	237	0	221	103	324	0	0	0	0	0	342	80	422	
Total Volume	267	0	700	967	0	974	348	1322	0	0	0	0	0	1346	299	1645	
% App. Total	27.6	0	72.4		0	73.7	26.3		0	0	0		0	81.8	18.2		
PHF	.688	.000	.697	.695	.000	.944	.845	.975	.000	.000	.000	.000	.000	.940	.934	.963	

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
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File Name : 03_MUR_215S_CK PM
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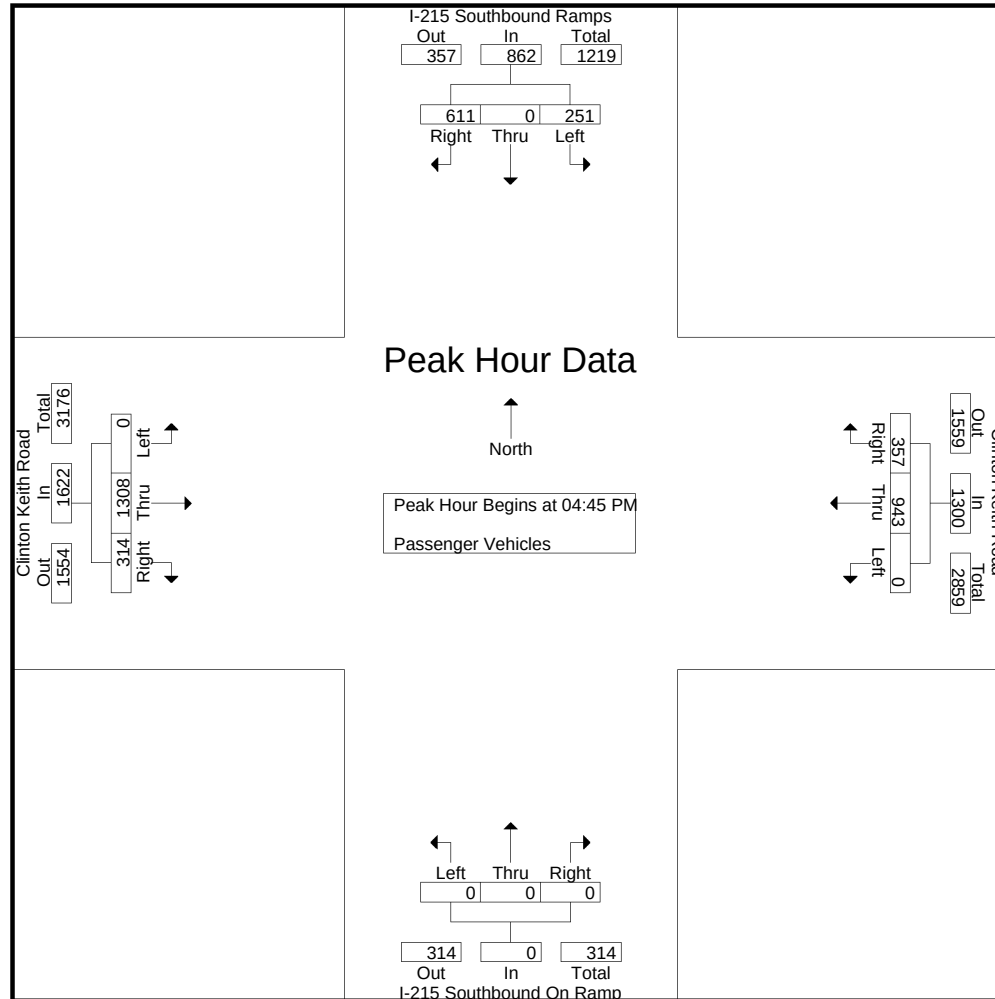
Groups Printed- Passenger Vehicles

	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	95	0	244	68	339	0	207	43	0	250	0	0	0	0	0	0	355	68	14	423	82	1012	1094
04:15 PM	53	0	133	63	186	0	231	57	0	288	0	0	0	0	0	0	335	72	16	407	79	881	960
04:30 PM	49	0	144	90	193	0	254	63	0	317	0	0	0	0	0	0	300	78	11	378	101	888	989
04:45 PM	66	0	170	81	236	0	253	83	0	336	0	0	0	0	0	0	336	79	10	415	91	987	1078
Total	263	0	691	302	954	0	945	246	0	1191	0	0	0	0	0	0	1326	297	51	1623	353	3768	4121
05:00 PM	47	0	131	82	178	0	238	98	0	336	0	0	0	0	0	0	309	72	8	381	90	895	985
05:15 PM	61	0	177	116	238	0	220	102	0	322	0	0	0	0	0	0	346	76	17	422	133	982	1115
05:30 PM	77	0	133	81	210	0	232	74	0	306	0	0	0	0	0	0	317	87	15	404	96	920	1016
05:45 PM	63	0	143	91	206	0	244	84	0	328	0	0	0	0	0	0	307	73	6	380	97	914	1011
Total	248	0	584	370	832	0	934	358	0	1292	0	0	0	0	0	0	1279	308	46	1587	416	3711	4127
Grand Total	511	0	1275	672	1786	0	1879	604	0	2483	0	0	0	0	0	0	2605	605	97	3210	769	7479	8248
Apprch %	28.6	0	71.4			0	75.7	24.3			0	0	0			0	81.2	18.8					
Total %	6.8	0	17		23.9	0	25.1	8.1		33.2	0	0	0		0	0	34.8	8.1		42.9	9.3	90.7	

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	66	0	170	236	0	253	83	336	0	0	0	0	0	336	79	415	987
05:00 PM	47	0	131	178	0	238	98	336	0	0	0	0	0	309	72	381	895
05:15 PM	61	0	177	238	0	220	102	322	0	0	0	0	0	346	76	422	982
05:30 PM	77	0	133	210	0	232	74	306	0	0	0	0	0	317	87	404	920
Total Volume	251	0	611	862	0	943	357	1300	0	0	0	0	0	1308	314	1622	3784
% App. Total	29.1	0	70.9		0	72.5	27.5		0	0	0		0	80.6	19.4		
PHF	.815	.000	.863	.905	.000	.932	.875	.967	.000	.000	.000	.000	.000	.945	.902	.961	.958

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK PM
Site Code : 05121192
Start Date : 5/4/2021
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City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK PM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 3

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	66	0	170	236	0	253	83	336	0	0	0	0	0	336	79	415	
+15 mins.	47	0	131	178	0	238	98	336	0	0	0	0	0	309	72	381	
+30 mins.	61	0	177	238	0	220	102	322	0	0	0	0	0	346	76	422	
+45 mins.	77	0	133	210	0	232	74	306	0	0	0	0	0	317	87	404	
Total Volume	251	0	611	862	0	943	357	1300	0	0	0	0	0	1308	314	1622	
% App. Total	29.1	0	70.9		0	72.5	27.5		0	0	0		0	80.6	19.4		
PHF	.815	.000	.863	.905	.000	.932	.875	.967	.000	.000	.000	.000	.000	.945	.902	.961	

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK PM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 1

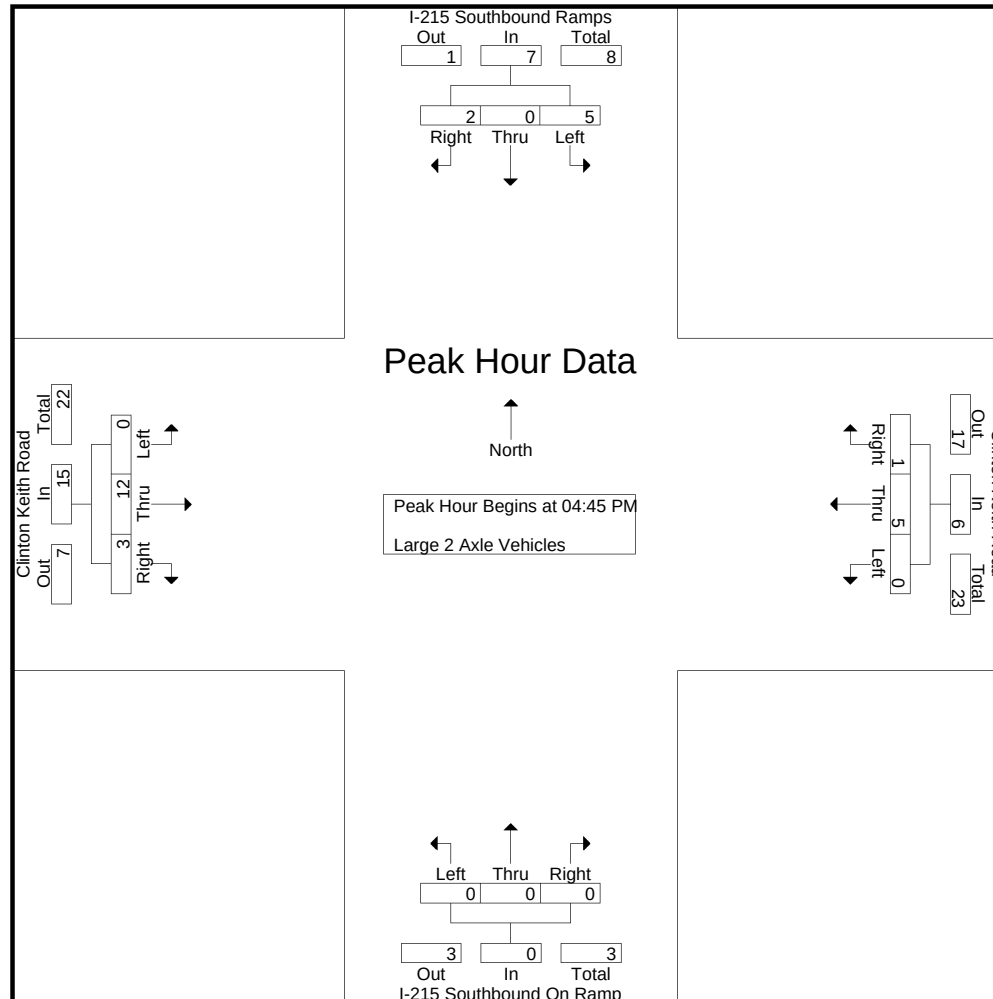
Groups Printed- Large 2 Axle Vehicles

	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	2	0	6	0	8	0	1	0	0	1	0	0	0	0	0	0	3	1	0	4	0	13	13
04:15 PM	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	2	0	0	2	0	6	6
04:30 PM	2	0	1	1	3	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	1	13	14
04:45 PM	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	0	7	7
Total	4	0	8	1	12	0	8	2	0	10	0	0	0	0	0	0	16	1	0	17	1	39	40
05:00 PM	2	0	1	1	3	0	2	0	0	2	0	0	0	0	0	0	1	1	0	2	1	7	8
05:15 PM	2	0	0	0	2	0	1	1	0	2	0	0	0	0	0	0	4	2	0	6	0	10	10
05:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	4	4
05:45 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	6	0	0	6	0	8	8
Total	5	0	1	1	6	0	4	2	0	6	0	0	0	0	0	0	14	3	0	17	1	29	30
Grand Total	9	0	9	2	18	0	12	4	0	16	0	0	0	0	0	0	30	4	0	34	2	68	70
Apprch %	50	0	50			0	75	25			0	0	0			0	88.2	11.8					
Total %	13.2	0	13.2		26.5	0	17.6	5.9		23.5	0	0	0		0	0	44.1	5.9		50	2.9	97.1	

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	1	1	0	2	0	2	0	0	0	0	0	4	0	4	7
05:00 PM	2	0	1	3	0	2	0	2	0	0	0	0	0	1	1	2	7
05:15 PM	2	0	0	2	0	1	1	2	0	0	0	0	0	4	2	6	10
05:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	3	0	3	4
Total Volume	5	0	2	7	0	5	1	6	0	0	0	0	0	12	3	15	28
% App. Total	71.4	0	28.6		0	83.3	16.7		0	0	0		0	80	20		
PHF	.625	.000	.500	.583	.000	.625	.250	.750	.000	.000	.000	.000	.000	.750	.375	.625	.700

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
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City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK PM
Site Code : 05121192
Start Date : 5/4/2021
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	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	0	1	1	0	2	0	2	0	0	0	0	0	4	0	4	
+15 mins.	2	0	1	3	0	2	0	2	0	0	0	0	0	1	1	2	
+30 mins.	2	0	0	2	0	1	1	2	0	0	0	0	0	4	2	6	
+45 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	3	0	3	
Total Volume	5	0	2	7	0	5	1	6	0	0	0	0	0	12	3	15	
% App. Total	71.4	0	28.6		0	83.3	16.7		0	0	0		0	80	20		
PHF	.625	.000	.500	.583	.000	.625	.250	.750	.000	.000	.000	.000	.000	.750	.375	.625	

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK PM
Site Code : 05121192
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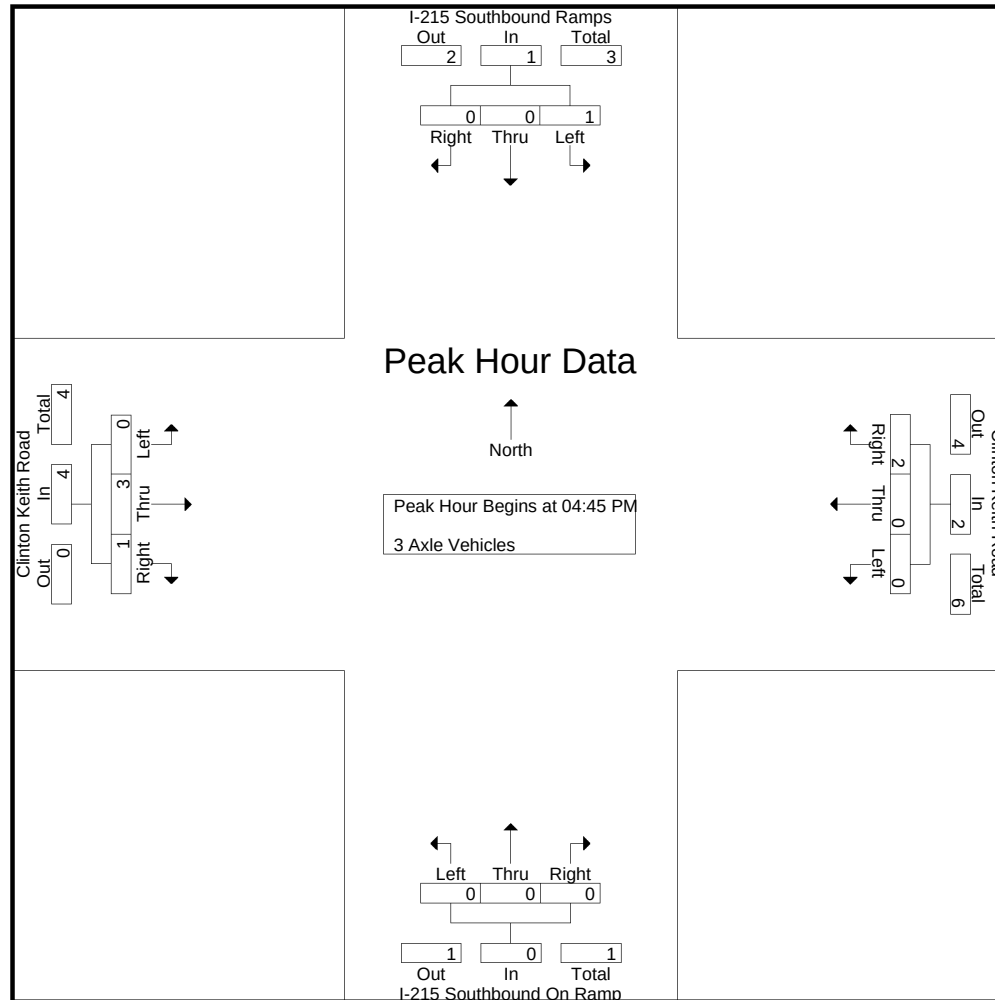
Groups Printed- 3 Axle Vehicles

	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1
04:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	3	3
Total	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	0	4	1	0	5	0	7	7
05:00 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	2	0	2	0	0	0	0	0	0	1	0	0	1	0	4	4
Grand Total	1	0	1	0	2	0	1	2	0	3	0	0	0	0	0	0	5	1	0	6	0	11	11
Apprch %	50	0	50			0	33.3	66.7			0	0	0			0	83.3	16.7			0		
Total %	9.1	0	9.1		18.2	0	9.1	18.2		27.3	0	0	0		0	0	45.5	9.1		54.5	0	100	

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	3
05:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
Total Volume	1	0	0	1	0	0	2	2	0	0	0	0	0	3	1	4	7
% App. Total	100	0	0		0	0	100		0	0	0		0	75	25		
PHF	.250	.000	.000	.250	.000	.000	.500	.500	.000	.000	.000	.000	.000	.375	.250	.333	.583

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
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City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK PM
Site Code : 05121192
Start Date : 5/4/2021
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	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	
+15 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	1	0	0	1	0	0	1	1	0	0	0	0	0	0	0	0	
Total Volume	1	0	0	1	0	0	2	2	0	0	0	0	0	3	1	4	
% App. Total	100	0	0		0	0	100		0	0	0		0	75	25		
PHF	.250	.000	.000	.250	.000	.000	.500	.500	.000	.000	.000	.000	.000	.375	.250	.333	

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK PM
Site Code : 05121192
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Page No : 1

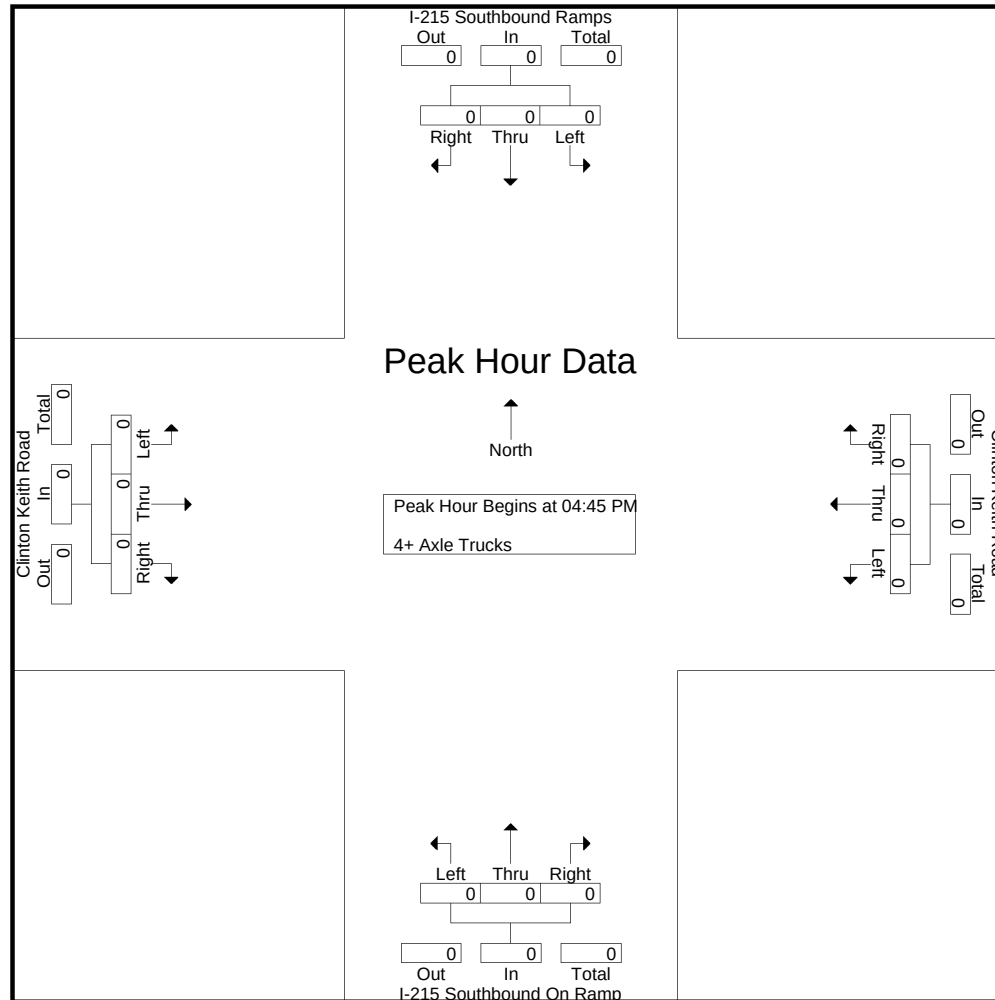
Groups Printed- 4+ Axle Trucks

	I-215 Southbound Ramps Southbound					Clinton Keith Road Westbound					I-215 Southbound On Ramp Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Grand Total	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
Apprch %	0	0	100			0	0	0			0	0	0			0	0	0			50	50	
Total %	0	0	100		100	0	0	0		0	0	0	0		0	0	0	0			50	50	

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

City of Murrieta
 N/S: I-215 Southbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 03_MUR_215S_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
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City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_215S_CK PM
Site Code : 05121192
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	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: Murrieta
 N/S: I-215 SB Ramps
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

PEDESTRIANS

	North Leg I-215 SB Ramps Pedestrians	East Leg Clinton Keith Road Pedestrians	South Leg I-215 SB Ramps Pedestrians	West Leg Clinton Keith Road Pedestrians	
7:00 AM	0	0	2	0	2
7:15 AM	0	0	0	0	0
7:30 AM	0	0	2	0	2
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	1	0	1
8:30 AM	0	0	1	0	1
8:45 AM	0	0	1	0	1
TOTAL VOLUMES:	0	0	7	0	7

	North Leg I-215 SB Ramps Pedestrians	East Leg Clinton Keith Road Pedestrians	South Leg I-215 SB Ramps Pedestrians	West Leg Clinton Keith Road Pedestrians	
4:00 PM	0	0	1	0	1
4:15 PM	0	0	1	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	3	0	3
5:00 PM	0	0	1	0	1
5:15 PM	0	0	2	0	2
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	8	0	8

Location: Murrieta
 N/S: I-215 SB Ramps
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

BICYCLES

	Southbound I-215 SB Ramps			Westbound Clinton Keith Road			Northbound I-215 SB Ramps			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	1	0	2

	Southbound I-215 SB Ramps			Westbound Clinton Keith Road			Northbound I-215 SB Ramps			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	1	0	0	0	0	0	4	0	5

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK AM
Site Code : 05121192
Start Date : 5/4/2021
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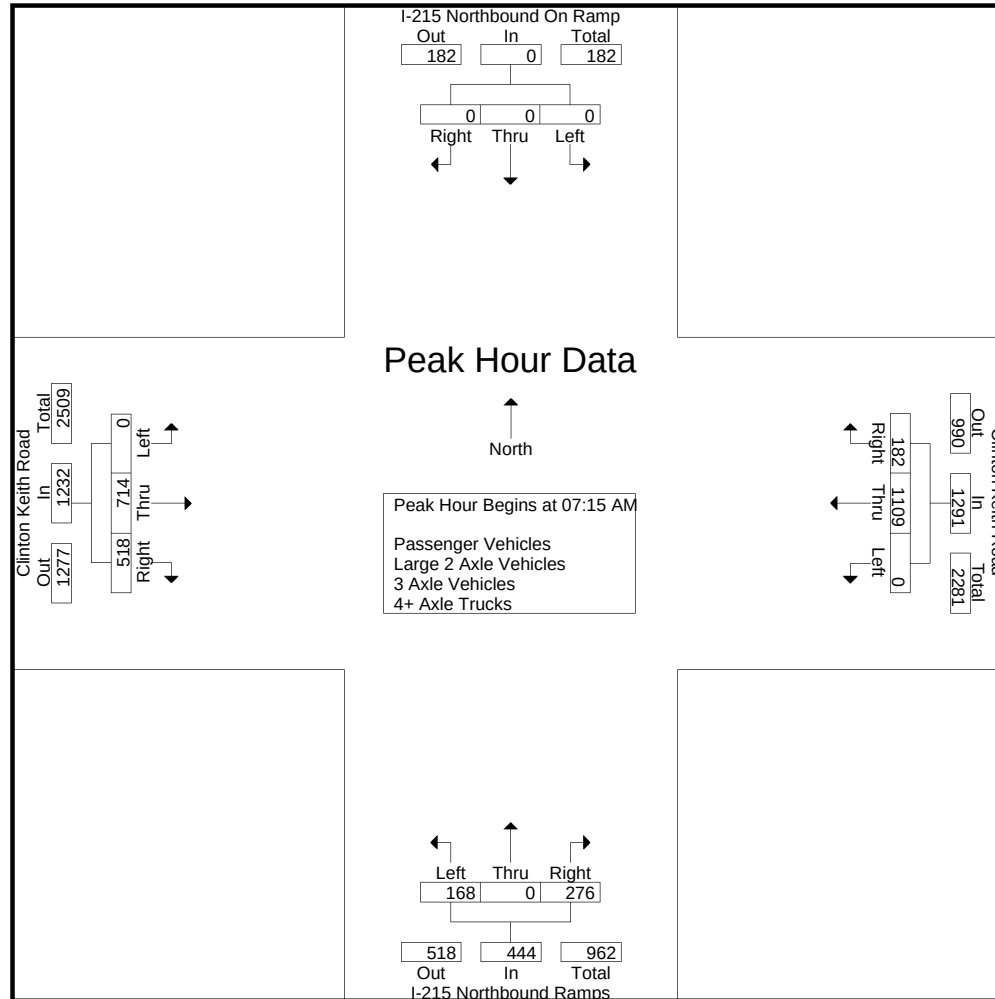
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	177	56	0	233	20	0	92	60	112	0	172	121	0	293	60	638	698
07:15 AM	0	0	0	0	0	0	260	62	0	322	29	0	94	55	123	0	201	120	0	321	55	766	821
07:30 AM	0	0	0	0	0	0	266	43	0	309	41	0	46	36	87	0	169	146	0	315	36	711	747
07:45 AM	0	0	0	0	0	0	291	40	0	331	45	0	80	54	125	0	167	121	0	288	54	744	798
Total	0	0	0	0	0	0	994	201	0	1195	135	0	312	205	447	0	709	508	0	1217	205	2859	3064
08:00 AM	0	0	0	0	0	0	292	37	0	329	53	0	56	37	109	0	177	131	0	308	37	746	783
08:15 AM	0	0	0	0	0	0	285	35	0	320	54	0	62	38	116	0	185	130	0	315	38	751	789
08:30 AM	0	0	0	0	0	0	289	51	0	340	56	0	60	42	116	0	123	95	0	218	42	674	716
08:45 AM	0	0	0	0	0	0	261	33	0	294	52	0	59	53	111	0	115	96	0	211	53	616	669
Total	0	0	0	0	0	0	1127	156	0	1283	215	0	237	170	452	0	600	452	0	1052	170	2787	2957
Grand Total	0	0	0	0	0	0	2121	357	0	2478	350	0	549	375	899	0	1309	960	0	2269	375	5646	6021
Apprch %	0	0	0			0	85.6	14.4			38.9	0	61.1			0	57.7	42.3					
Total %	0	0	0			0	37.6	6.3		43.9	6.2	0	9.7		15.9	0	23.2	17		40.2	6.2	93.8	
Passenger Vehicles	0	0	0			0	2084	349		2433	325	0	534		1226	0	1272	937		2209	0	0	5868
% Passenger Vehicles	0	0	0	0	0	0	98.3	97.8	0	98.2	92.9	0	97.3	97.9	96.2	0	97.2	97.6	0	97.4	0	0	97.5
Large 2 Axle Vehicles	0	0	0			0	26	5		31	8	0	10		23	0	26	15		41	0	0	95
% Large 2 Axle Vehicles	0	0	0	0	0	0	1.2	1.4	0	1.3	2.3	0	1.8	1.3	1.8	0	2	1.6	0	1.8	0	0	1.6
3 Axle Vehicles	0	0	0			0	9	2		11	12	0	4		18	0	6	5		11	0	0	40
% 3 Axle Vehicles	0	0	0	0	0	0	0.4	0.6	0	0.4	3.4	0	0.7	0.5	1.4	0	0.5	0.5	0	0.5	0	0	0.7
4+ Axle Trucks	0	0	0			0	2	1		3	5	0	1		7	0	5	3		8	0	0	18
% 4+ Axle Trucks	0	0	0	0	0	0	0.1	0.3	0	0.1	1.4	0	0.2	0.3	0.5	0	0.4	0.3	0	0.4	0	0	0.3

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	260	62	322	29	0	94	123	0	201	120	321	766
07:30 AM	0	0	0	0	0	266	43	309	41	0	46	87	0	169	146	315	711
07:45 AM	0	0	0	0	0	291	40	331	45	0	80	125	0	167	121	288	744
08:00 AM	0	0	0	0	0	292	37	329	53	0	56	109	0	177	131	308	746
Total Volume	0	0	0	0	0	1109	182	1291	168	0	276	444	0	714	518	1232	2967
% App. Total	0	0	0		0	85.9	14.1		37.8	0	62.2		0	58	42		
PHF	.000	.000	.000	.000	.000	.949	.734	.975	.792	.000	.734	.888	.000	.888	.887	.960	.968

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 04_MUR_215N_CK AM
 Site Code : 05121192
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City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK AM
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	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:00 AM				07:45 AM				07:45 AM				07:15 AM				
+0 mins.	0	0	0	0	0	291	40	331	45	0	80	125	0	201	120	321	
+15 mins.	0	0	0	0	0	292	37	329	53	0	56	109	0	169	146	315	
+30 mins.	0	0	0	0	0	285	35	320	54	0	62	116	0	167	121	288	
+45 mins.	0	0	0	0	0	289	51	340	56	0	60	116	0	177	131	308	
Total Volume	0	0	0	0	0	1157	163	1320	208	0	258	466	0	714	518	1232	
% App. Total	0	0	0		0	87.7	12.3		44.6	0	55.4		0	58	42		
PHF	.000	.000	.000	.000	.000	.991	.799	.971	.929	.000	.806	.932	.000	.888	.887	.960	

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
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File Name : 04_MUR_215N_CK AM
Site Code : 05121192
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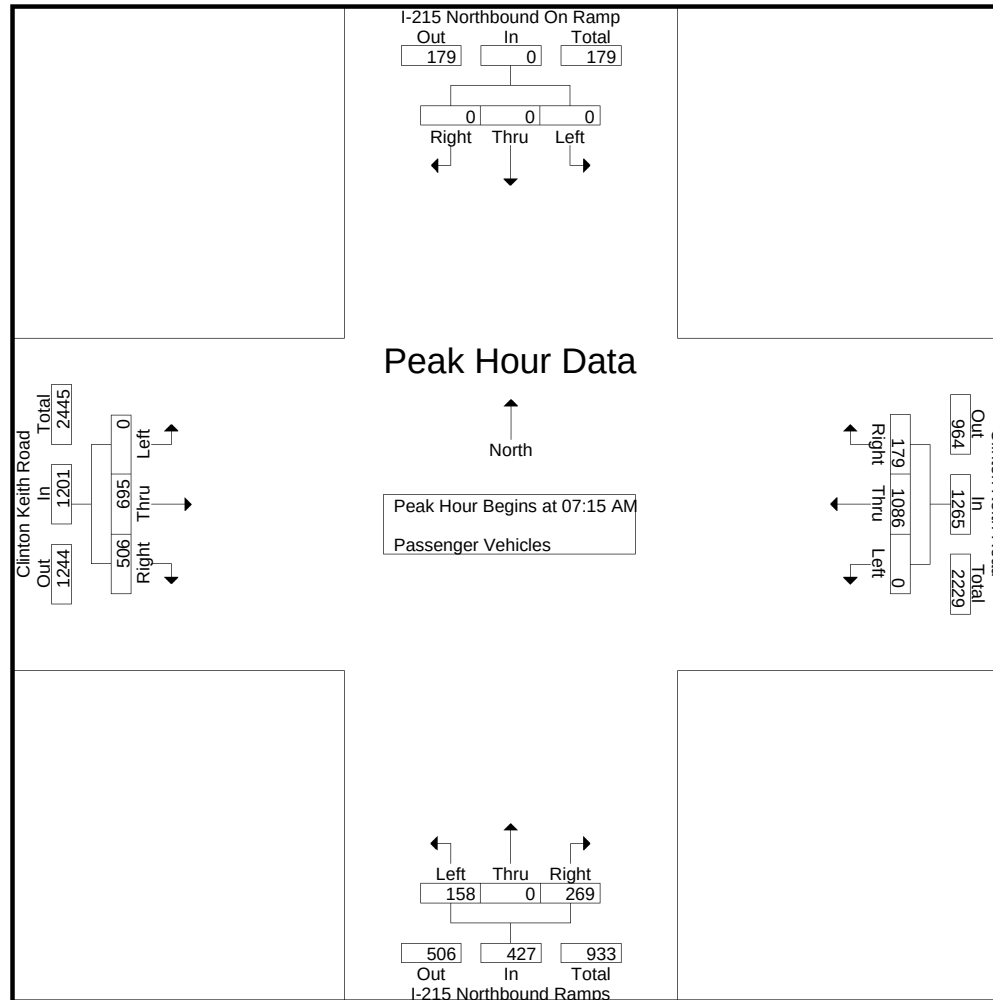
Groups Printed- Passenger Vehicles

	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	176	54	0	230	18	0	88	58	106	0	167	117	0	284	58	620	678
07:15 AM	0	0	0	0	0	0	255	61	0	316	27	0	91	54	118	0	193	116	0	309	54	743	797
07:30 AM	0	0	0	0	0	0	260	43	0	303	41	0	46	36	87	0	166	145	0	311	36	701	737
07:45 AM	0	0	0	0	0	0	287	39	0	326	42	0	78	53	120	0	163	118	0	281	53	727	780
Total	0	0	0	0	0	0	978	197	0	1175	128	0	303	201	431	0	689	496	0	1185	201	2791	2992
08:00 AM	0	0	0	0	0	0	284	36	0	320	48	0	54	36	102	0	173	127	0	300	36	722	758
08:15 AM	0	0	0	0	0	0	282	35	0	317	53	0	62	38	115	0	181	128	0	309	38	741	779
08:30 AM	0	0	0	0	0	0	284	49	0	333	52	0	58	41	110	0	120	92	0	212	41	655	696
08:45 AM	0	0	0	0	0	0	256	32	0	288	44	0	57	51	101	0	109	94	0	203	51	592	643
Total	0	0	0	0	0	0	1106	152	0	1258	197	0	231	166	428	0	583	441	0	1024	166	2710	2876
Grand Total	0	0	0	0	0	0	2084	349	0	2433	325	0	534	367	859	0	1272	937	0	2209	367	5501	5868
Apprch %	0	0	0			0	85.7	14.3			37.8	0	62.2			0	57.6	42.4					
Total %	0	0	0			0	37.9	6.3		44.2	5.9	0	9.7		15.6	0	23.1	17		40.2	6.3	93.7	

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	255	61	316	27	0	91	118	0	193	116	309	743
07:30 AM	0	0	0	0	0	260	43	303	41	0	46	87	0	166	145	311	701
07:45 AM	0	0	0	0	0	287	39	326	42	0	78	120	0	163	118	281	727
08:00 AM	0	0	0	0	0	284	36	320	48	0	54	102	0	173	127	300	722
Total Volume	0	0	0	0	0	1086	179	1265	158	0	269	427	0	695	506	1201	2893
% App. Total	0	0	0	0	0	85.8	14.2		37	0	63		0	57.9	42.1		
PHF	.000	.000	.000	.000	.000	.946	.734	.970	.823	.000	.739	.890	.000	.900	.872	.965	.973

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK AM
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City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK AM
Site Code : 05121192
Start Date : 5/4/2021
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	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:15 AM				07:15 AM				07:15 AM				
+0 mins.	0	0	0	0	0	255	61	316	27	0	91	118	0	193	116	309	
+15 mins.	0	0	0	0	0	260	43	303	41	0	46	87	0	166	145	311	
+30 mins.	0	0	0	0	0	287	39	326	42	0	78	120	0	163	118	281	
+45 mins.	0	0	0	0	0	284	36	320	48	0	54	102	0	173	127	300	
Total Volume	0	0	0	0	0	1086	179	1265	158	0	269	427	0	695	506	1201	
% App. Total	0	0	0		0	85.8	14.2		37	0	63		0	57.9	42.1		
PHF	.000	.000	.000	.000	.000	.946	.734	.970	.823	.000	.739	.890	.000	.900	.872	.965	

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK AM
Site Code : 05121192
Start Date : 5/4/2021
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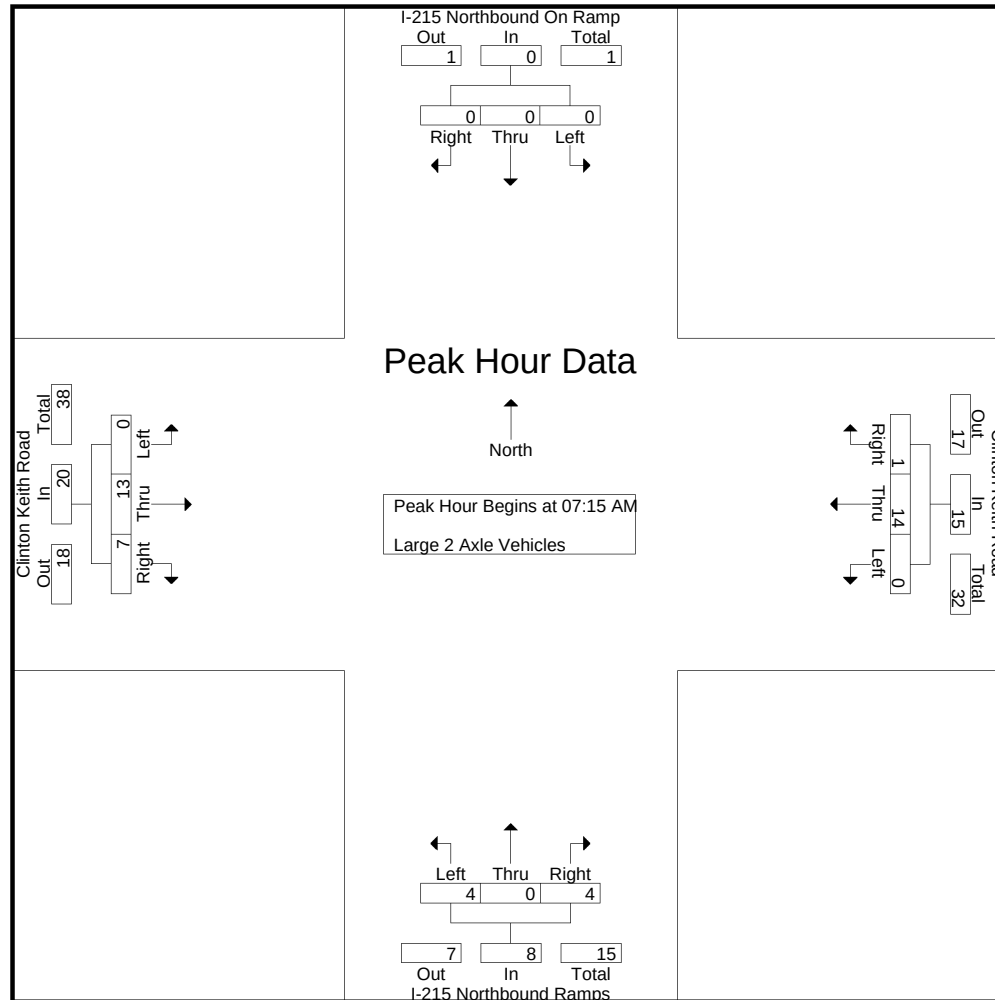
Groups Printed- Large 2 Axle Vehicles

	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	0	0	0	0	0	0	1	1	0	2	1	0	4	2	5	0	2	2	0	4	2	11	13
07:15 AM	0	0	0	0	0	0	3	0	0	3	2	0	2	0	4	0	6	2	0	8	0	15	15
07:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	3	1	0	4	0	9	9
07:45 AM	0	0	0	0	0	0	3	0	0	3	1	0	1	0	2	0	2	3	0	5	0	10	10
Total	0	0	0	0	0	0	12	1	0	13	4	0	7	2	11	0	13	8	0	21	2	45	47
08:00 AM	0	0	0	0	0	0	3	1	0	4	1	0	1	1	2	0	2	1	0	3	1	9	10
08:15 AM	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	2	0	6	0	9	9
08:30 AM	0	0	0	0	0	0	5	2	0	7	2	0	1	1	3	0	2	2	0	4	1	14	15
08:45 AM	0	0	0	0	0	0	3	1	0	4	1	0	1	1	2	0	5	2	0	7	1	13	14
Total	0	0	0	0	0	0	14	4	0	18	4	0	3	3	7	0	13	7	0	20	3	45	48
Grand Total	0	0	0	0	0	0	26	5	0	31	8	0	10	5	18	0	26	15	0	41	5	90	95
Apprch %	0	0	0			0	83.9	16.1			44.4	0	55.6			0	63.4	36.6					
Total %	0	0	0			0	28.9	5.6		34.4	8.9	0	11.1		20	0	28.9	16.7		45.6	5.3	94.7	

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	3	0	3	2	0	2	4	0	6	2	8	15
07:30 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	3	1	4	9
07:45 AM	0	0	0	0	0	3	0	3	1	0	1	2	0	2	3	5	10
08:00 AM	0	0	0	0	0	3	1	4	1	0	1	2	0	2	1	3	9
Total Volume	0	0	0	0	0	14	1	15	4	0	4	8	0	13	7	20	43
% App. Total	0	0	0		0	93.3	6.7		50	0	50		0	65	35		
PHF	.000	.000	.000	.000	.000	.700	.250	.750	.500	.000	.500	.500	.000	.542	.583	.625	.717

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 04_MUR_215N_CK AM
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City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK AM
Site Code : 05121192
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	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:15 AM				07:15 AM				07:15 AM				
+0 mins.	0	0	0	0	0	3	0	3	2	0	2	4	0	6	2	8	
+15 mins.	0	0	0	0	0	5	0	5	0	0	0	0	0	3	1	4	
+30 mins.	0	0	0	0	0	3	0	3	1	0	1	2	0	2	3	5	
+45 mins.	0	0	0	0	0	3	1	4	1	0	1	2	0	2	1	3	
Total Volume	0	0	0	0	0	14	1	15	4	0	4	8	0	13	7	20	
% App. Total	0	0	0		0	93.3	6.7		50	0	50		0	65	35		
PHF	.000	.000	.000	.000	.000	.700	.250	.750	.500	.000	.500	.500	.000	.542	.583	.625	

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK AM
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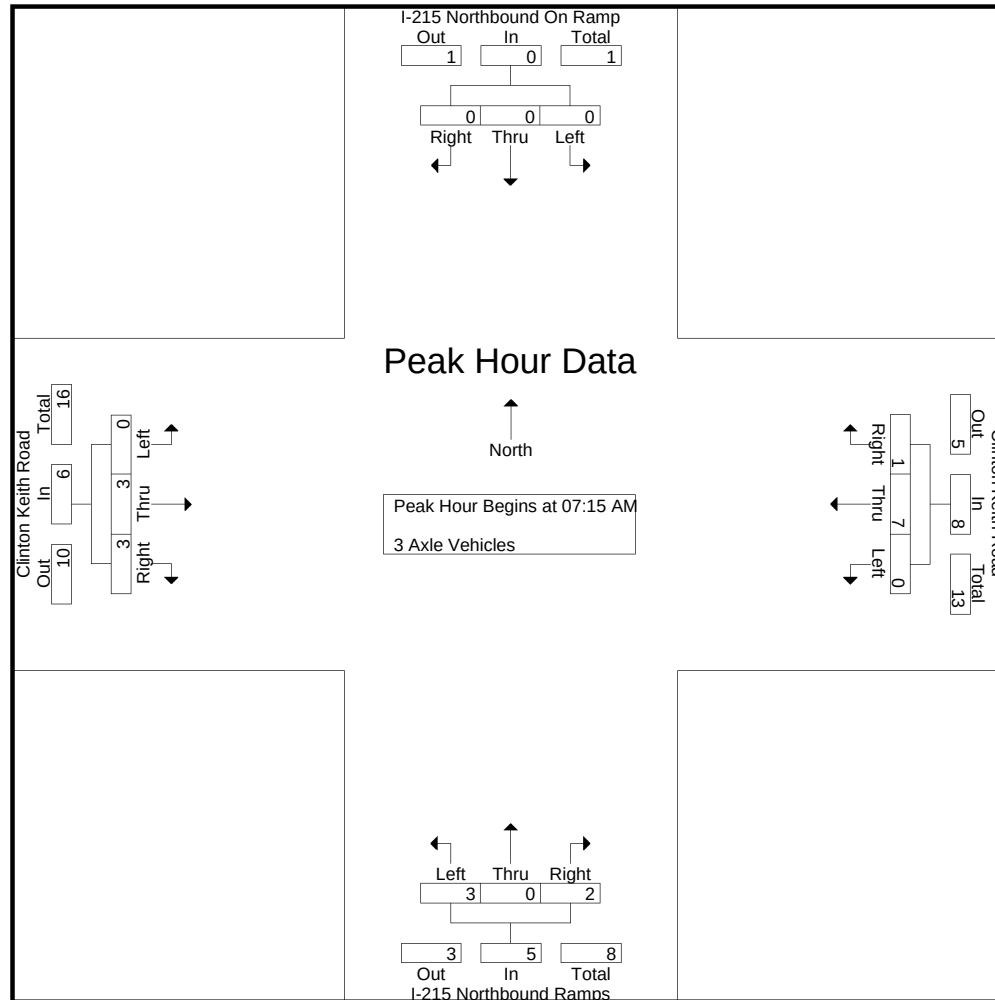
Groups Printed- 3 Axle Vehicles

	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
07:00 AM	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	2	1	0	3	0	5	5
07:15 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	2	0	3	0	5	5
07:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
07:45 AM	0	0	0	0	0	0	1	1	0	2	1	0	1	1	2	0	2	0	0	2	1	6	7
Total	0	0	0	0	0	0	4	2	0	6	2	0	1	1	3	0	5	3	0	8	1	17	18
08:00 AM	0	0	0	0	0	0	3	0	0	3	2	0	1	0	3	0	0	1	0	1	0	7	7
08:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	1	0	3	0	1	1	0	2	0	5	5
08:45 AM	0	0	0	0	0	0	2	0	0	2	5	0	1	1	6	0	0	0	0	0	1	8	9
Total	0	0	0	0	0	0	5	0	0	5	10	0	3	1	13	0	1	2	0	3	1	21	22
Grand Total	0	0	0	0	0	0	9	2	0	11	12	0	4	2	16	0	6	5	0	11	2	38	40
Apprch %	0	0	0			0	81.8	18.2			75	0	25			0	54.5	45.5					
Total %	0	0	0			0	23.7	5.3		28.9	31.6	0	10.5		42.1	0	15.8	13.2		28.9	5	95	

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	2	3	5
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	1	1	2	1	0	1	2	0	2	0	2	6
08:00 AM	0	0	0	0	0	3	0	3	2	0	1	3	0	0	1	1	7
Total Volume	0	0	0	0	0	7	1	8	3	0	2	5	0	3	3	6	19
% App. Total	0	0	0		0	87.5	12.5		60	0	40		0	50	50		
PHF	.000	.000	.000	.000	.000	.583	.250	.667	.375	.000	.500	.417	.000	.375	.375	.500	.679

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 04_MUR_215N_CK AM
 Site Code : 05121192
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City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK AM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 3

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:15 AM				07:15 AM				07:15 AM				
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	2	3	
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	1	1	2	1	0	1	2	0	2	0	2	
+45 mins.	0	0	0	0	0	3	0	3	2	0	1	3	0	0	1	1	
Total Volume	0	0	0	0	0	7	1	8	3	0	2	5	0	3	3	6	
% App. Total	0	0	0		0	87.5	12.5		60	0	40		0	50	50		
PHF	.000	.000	.000	.000	.000	.583	.250	.667	.375	.000	.500	.417	.000	.375	.375	.500	

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK AM
Site Code : 05121192
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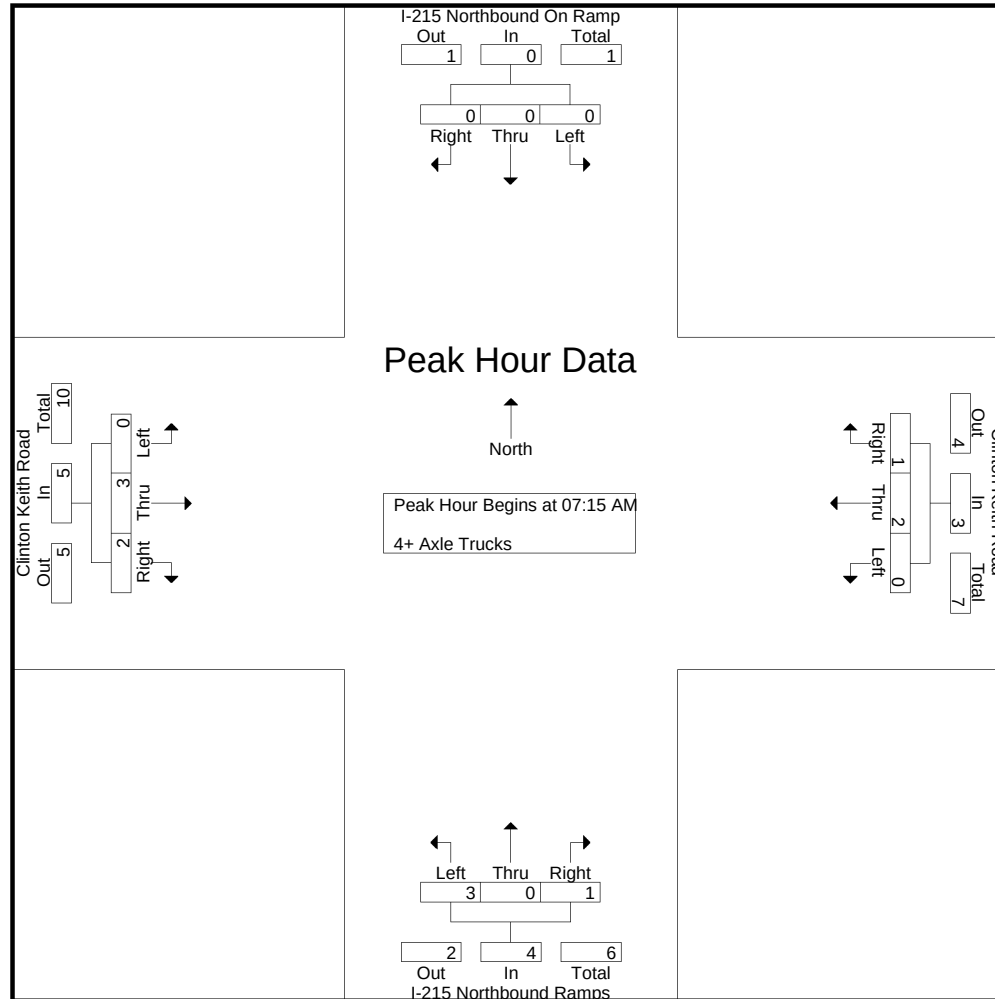
Groups Printed- 4+ Axle Trucks

	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	2	2
07:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	1	1	1	0	1	0	0	1	1	3	4
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	1	0	1	1	0	1	1	2	0	2	1	0	3	1	6	7
08:00 AM	0	0	0	0	0	0	2	0	0	2	2	0	0	0	2	0	2	2	0	4	0	8	8
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	1	0	0	1	0	3	3
Total	0	0	0	0	0	0	2	0	0	2	4	0	0	0	4	0	3	2	0	5	0	11	11
Grand Total	0	0	0	0	0	0	2	1	0	3	5	0	1	1	6	0	5	3	0	8	1	17	18
Apprch %	0	0	0			0	66.7	33.3			83.3	0	16.7			0	62.5	37.5					
Total %	0	0	0			0	11.8	5.9		17.6	29.4	0	5.9		35.3	0	29.4	17.6		47.1	5.6	94.4	

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	0	1	1	0	0	1	1	0	1	0	1	3
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:00 AM	0	0	0	0	0	2	0	2	2	0	0	2	0	2	2	4	8
Total Volume	0	0	0	0	0	2	1	3	3	0	1	4	0	3	2	5	12
% App. Total	0	0	0		0	66.7	33.3		75	0	25		0	60	40		
PHF	.000	.000	.000	.000	.000	.250	.250	.375	.375	.000	.250	.500	.000	.375	.250	.313	.375

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 04_MUR_215N_CK AM
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City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK AM
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	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	07:15 AM				07:15 AM				07:15 AM				07:15 AM				
+0 mins.	0	0	0	0	0	0	1	1	0	0	1	1	0	1	0	1	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+30 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	
+45 mins.	0	0	0	0	0	2	0	2	2	0	0	2	0	2	2	4	
Total Volume	0	0	0	0	0	2	1	3	3	0	1	4	0	3	2	5	
% App. Total	0	0	0		0	66.7	33.3		75	0	25		0	60	40		
PHF	.000	.000	.000	.000	.000	.250	.250	.375	.375	.000	.250	.500	.000	.375	.250	.313	

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK PM
Site Code : 05121192
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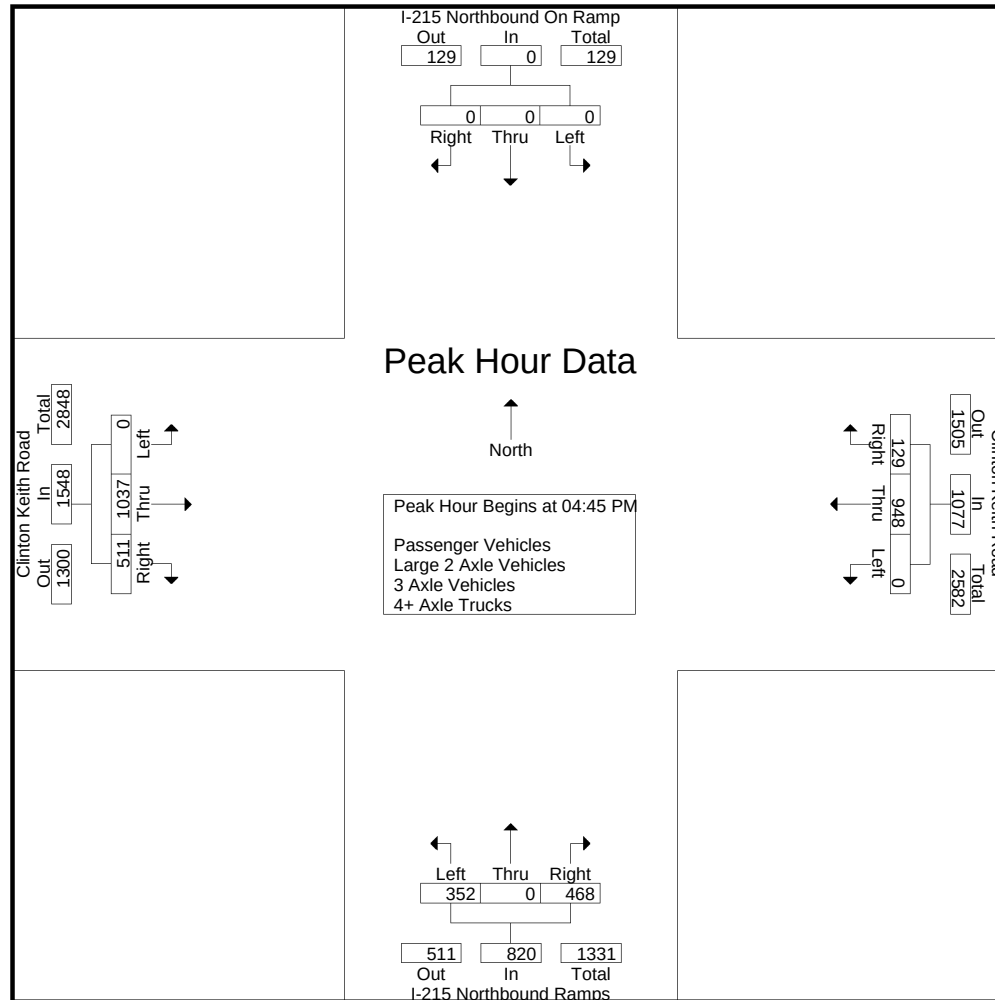
Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	191	24	0	215	60	0	79	36	139	0	296	158	0	454	36	808	844
04:15 PM	0	0	0	0	0	0	212	39	0	251	89	0	115	54	204	0	243	136	0	379	54	834	888
04:30 PM	0	0	0	0	0	0	243	37	0	280	82	0	99	42	181	0	232	120	0	352	42	813	855
04:45 PM	0	0	0	0	0	0	248	28	0	276	86	0	107	46	193	0	264	138	0	402	46	871	917
Total	0	0	0	0	0	0	894	128	0	1022	317	0	400	178	717	0	1035	552	0	1587	178	3326	3504
05:00 PM	0	0	0	0	0	0	263	33	0	296	81	0	114	56	195	0	255	98	0	353	56	844	900
05:15 PM	0	0	0	0	0	0	230	31	0	261	86	0	121	36	207	0	265	135	0	400	36	868	904
05:30 PM	0	0	0	0	0	0	207	37	0	244	99	0	126	39	225	0	253	140	0	393	39	862	901
05:45 PM	0	0	0	0	0	0	221	32	0	253	101	0	109	52	210	0	232	128	0	360	52	823	875
Total	0	0	0	0	0	0	921	133	0	1054	367	0	470	183	837	0	1005	501	0	1506	183	3397	3580
Grand Total	0	0	0	0	0	0	1815	261	0	2076	684	0	870	361	1554	0	2040	1053	0	3093	361	6723	7084
Apprch %	0	0	0			0	87.4	12.6			44	0	56			0	66	34					
Total %	0	0	0			0	27	3.9		30.9	10.2	0	12.9		23.1	0	30.3	15.7		46	5.1	94.9	
Passenger Vehicles	0	0	0			0	1799	251		2050	678	0	865		1902	0	2025	1032		3057	0	0	7009
% Passenger Vehicles	0	0	0	0	0	0	99.1	96.2	0	98.7	99.1	0	99.4	99.4	99.3	0	99.3	98	0	98.8	0	0	98.9
Large 2 Axle Vehicles	0	0	0			0	12	7		19	6	0	4		11	0	15	16		31	0	0	61
% Large 2 Axle Vehicles	0	0	0	0	0	0	0.7	2.7	0	0.9	0.9	0	0.5	0.3	0.6	0	0.7	1.5	0	1	0	0	0.9
3 Axle Vehicles	0	0	0			0	3	3		6	0	0	0		0	0	0	5		5	0	0	11
% 3 Axle Vehicles	0	0	0	0	0	0	0.2	1.1	0	0.3	0	0	0	0	0	0	0	0.5	0	0.2	0	0	0.2
4+ Axle Trucks	0	0	0			0	1	0		1	0	0	1		2	0	0	0		0	0	0	3
% 4+ Axle Trucks	0	0	0	0	0	0	0.1	0	0	0	0	0	0.1	0.3	0.1	0	0	0	0	0	0	0	0

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	248	28	276	86	0	107	193	0	264	138	402	871
05:00 PM	0	0	0	0	0	263	33	296	81	0	114	195	0	255	98	353	844
05:15 PM	0	0	0	0	0	230	31	261	86	0	121	207	0	265	135	400	868
05:30 PM	0	0	0	0	0	207	37	244	99	0	126	225	0	253	140	393	862
Total Volume	0	0	0	0	0	948	129	1077	352	0	468	820	0	1037	511	1548	3445
% App. Total	0	0	0		0	88	12		42.9	0	57.1		0	67	33		
PHF	.000	.000	.000	.000	.000	.901	.872	.910	.889	.000	.929	.911	.000	.978	.913	.963	.989

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK PM
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City of Murrieta
N/S: I-215 Northbound Ramps
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Weather: Clear

File Name : 04_MUR_215N_CK PM
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	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:00 PM				04:30 PM				05:00 PM				04:00 PM				
+0 mins.	0	0	0	0	0	243	37	280	81	0	114	195	0	296	158	454	
+15 mins.	0	0	0	0	0	248	28	276	86	0	121	207	0	243	136	379	
+30 mins.	0	0	0	0	0	263	33	296	99	0	126	225	0	232	120	352	
+45 mins.	0	0	0	0	0	230	31	261	101	0	109	210	0	264	138	402	
Total Volume	0	0	0	0	0	984	129	1113	367	0	470	837	0	1035	552	1587	
% App. Total	0	0	0		0	88.4	11.6		43.8	0	56.2		0	65.2	34.8		
PHF	.000	.000	.000	.000	.000	.935	.872	.940	.908	.000	.933	.930	.000	.874	.873	.874	

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK PM
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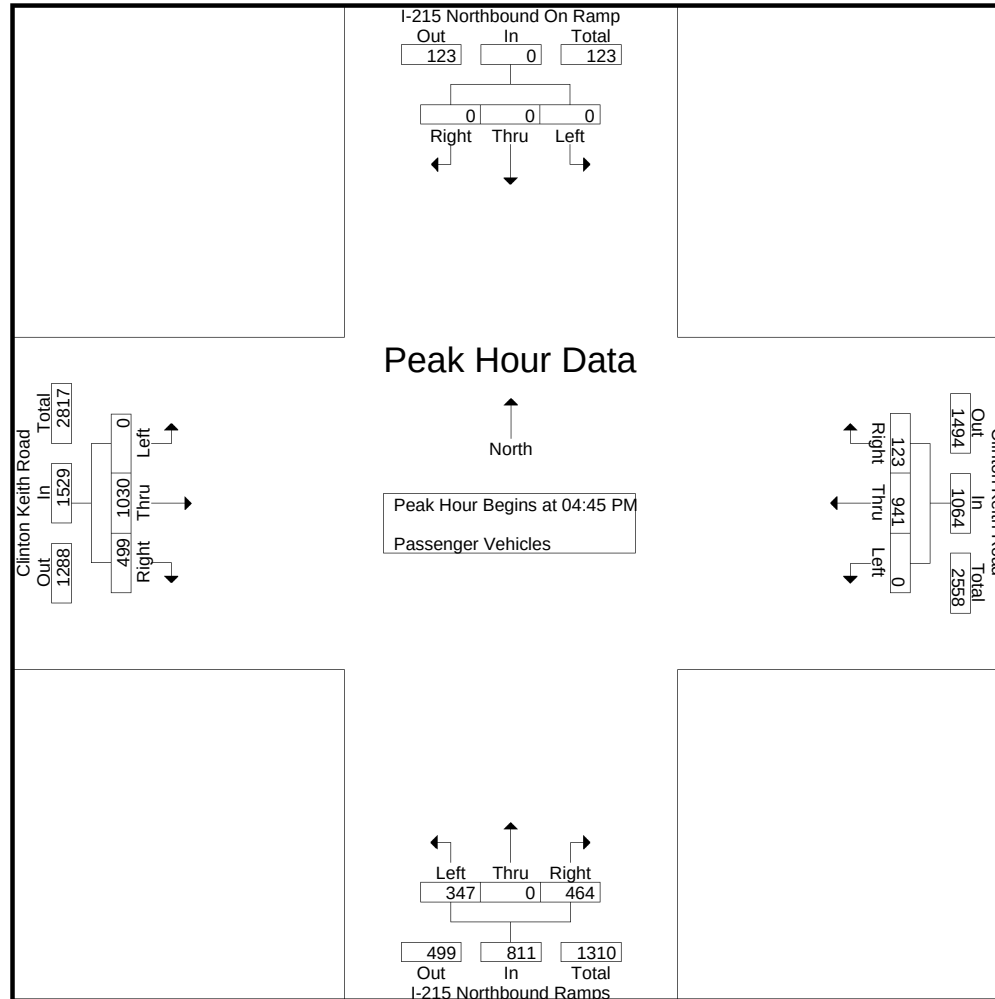
Groups Printed- Passenger Vehicles

	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound							
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Exclu. Total	Inclu. Total	Int. Total
04:00 PM	0	0	0	0	0	0	190	24	0	214	60	0	79	36	139	0	294	156	0	450	36	803	839
04:15 PM	0	0	0	0	0	0	209	37	0	246	88	0	115	54	203	0	243	133	0	376	54	825	879
04:30 PM	0	0	0	0	0	0	240	36	0	276	82	0	99	42	181	0	226	117	0	343	42	800	842
04:45 PM	0	0	0	0	0	0	246	27	0	273	86	0	107	46	193	0	262	133	0	395	46	861	907
Total	0	0	0	0	0	0	885	124	0	1009	316	0	400	178	716	0	1025	539	0	1564	178	3289	3467
05:00 PM	0	0	0	0	0	0	261	33	0	294	79	0	113	56	192	0	254	96	0	350	56	836	892
05:15 PM	0	0	0	0	0	0	229	30	0	259	85	0	119	36	204	0	262	134	0	396	36	859	895
05:30 PM	0	0	0	0	0	0	205	33	0	238	97	0	125	38	222	0	252	136	0	388	38	848	886
05:45 PM	0	0	0	0	0	0	219	31	0	250	101	0	108	51	209	0	232	127	0	359	51	818	869
Total	0	0	0	0	0	0	914	127	0	1041	362	0	465	181	827	0	1000	493	0	1493	181	3361	3542
Grand Total	0	0	0	0	0	0	1799	251	0	2050	678	0	865	359	1543	0	2025	1032	0	3057	359	6650	7009
Apprch %	0	0	0			0	87.8	12.2			43.9	0	56.1			0	66.2	33.8					
Total %	0	0	0			0	27.1	3.8		30.8	10.2	0	13		23.2	0	30.5	15.5		46	5.1	94.9	

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	246	27	273	86	0	107	193	0	262	133	395	861
05:00 PM	0	0	0	0	0	261	33	294	79	0	113	192	0	254	96	350	836
05:15 PM	0	0	0	0	0	229	30	259	85	0	119	204	0	262	134	396	859
05:30 PM	0	0	0	0	0	205	33	238	97	0	125	222	0	252	136	388	848
Total Volume	0	0	0	0	0	941	123	1064	347	0	464	811	0	1030	499	1529	3404
% App. Total	0	0	0	0	0	88.4	11.6		42.8	0	57.2		0	67.4	32.6		
PHF	.000	.000	.000	.000	.000	.901	.932	.905	.894	.000	.928	.913	.000	.983	.917	.965	.988

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

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City of Murrieta
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	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	0	0	0	0	246	27	273	86	0	107	193	0	262	133	395	
+15 mins.	0	0	0	0	0	261	33	294	79	0	113	192	0	254	96	350	
+30 mins.	0	0	0	0	0	229	30	259	85	0	119	204	0	262	134	396	
+45 mins.	0	0	0	0	0	205	33	238	97	0	125	222	0	252	136	388	
Total Volume	0	0	0	0	0	941	123	1064	347	0	464	811	0	1030	499	1529	
% App. Total	0	0	0		0	88.4	11.6		42.8	0	57.2		0	67.4	32.6		
PHF	.000	.000	.000	.000	.000	.901	.932	.905	.894	.000	.928	.913	.000	.983	.917	.965	

City of Murrieta
N/S: I-215 Northbound Ramps
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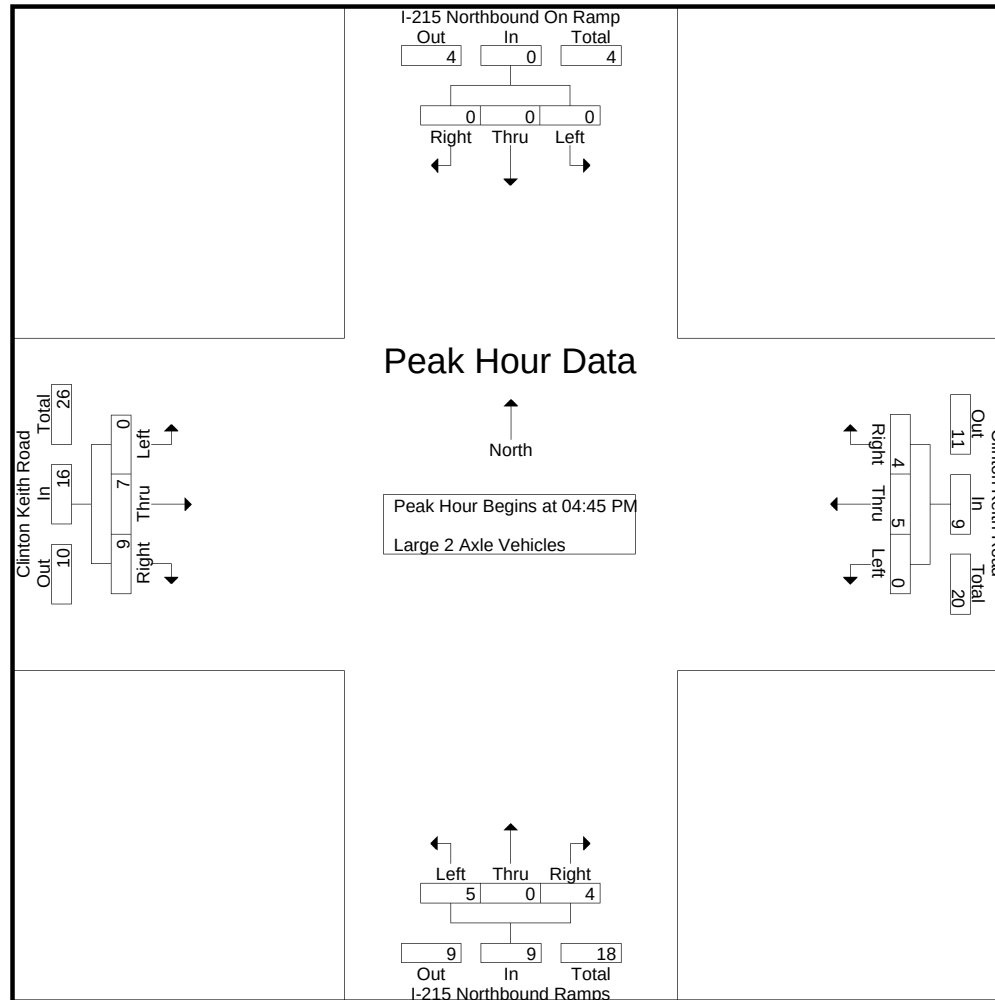
Groups Printed- Large 2 Axle Vehicles

	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	2	0	4	0	5	5
04:15 PM	0	0	0	0	0	0	3	1	0	4	1	0	0	0	1	0	0	2	0	2	0	7	7
04:30 PM	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	6	2	0	8	0	11	11
04:45 PM	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	2	3	0	5	0	8	8
Total	0	0	0	0	0	0	8	3	0	11	1	0	0	0	1	0	10	9	0	19	0	31	31
05:00 PM	0	0	0	0	0	0	1	0	0	1	2	0	1	0	3	0	1	1	0	2	0	6	6
05:15 PM	0	0	0	0	0	0	1	1	0	2	1	0	2	0	3	0	3	1	0	4	0	9	9
05:30 PM	0	0	0	0	0	0	1	2	0	3	2	0	1	1	3	0	1	4	0	5	1	11	12
05:45 PM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	1	0	1	0	3	3
Total	0	0	0	0	0	0	4	4	0	8	5	0	4	1	9	0	5	7	0	12	1	29	30
Grand Total	0	0	0	0	0	0	12	7	0	19	6	0	4	1	10	0	15	16	0	31	1	60	61
Apprch %	0	0	0			0	63.2	36.8			60	0	40			0	48.4	51.6					
Total %	0	0	0			0	20	11.7		31.7	10	0	6.7		16.7	0	25	26.7		51.7	1.6	98.4	

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	2	1	3	0	0	0	0	0	2	3	5	8
05:00 PM	0	0	0	0	0	1	0	1	2	0	1	3	0	1	1	2	6
05:15 PM	0	0	0	0	0	1	1	2	1	0	2	3	0	3	1	4	9
05:30 PM	0	0	0	0	0	1	2	3	2	0	1	3	0	1	4	5	11
Total Volume	0	0	0	0	0	5	4	9	5	0	4	9	0	7	9	16	34
% App. Total	0	0	0	0	0	55.6	44.4		55.6	0	44.4		0	43.8	56.2		
PHF	.000	.000	.000	.000	.000	.625	.500	.750	.625	.000	.500	.750	.000	.583	.563	.800	.773

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 04_MUR_215N_CK PM
 Site Code : 05121192
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City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK PM
Site Code : 05121192
Start Date : 5/4/2021
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	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	0	0	0	0	2	1	3	0	0	0	0	0	2	3	5	
+15 mins.	0	0	0	0	0	1	0	1	2	0	1	3	0	1	1	2	
+30 mins.	0	0	0	0	0	1	1	2	1	0	2	3	0	3	1	4	
+45 mins.	0	0	0	0	0	1	2	3	2	0	1	3	0	1	4	5	
Total Volume	0	0	0	0	0	5	4	9	5	0	4	9	0	7	9	16	
% App. Total	0	0	0		0	55.6	44.4		55.6	0	44.4		0	43.8	56.2		
PHF	.000	.000	.000	.000	.000	.625	.500	.750	.625	.000	.500	.750	.000	.583	.563	.800	

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK PM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 1

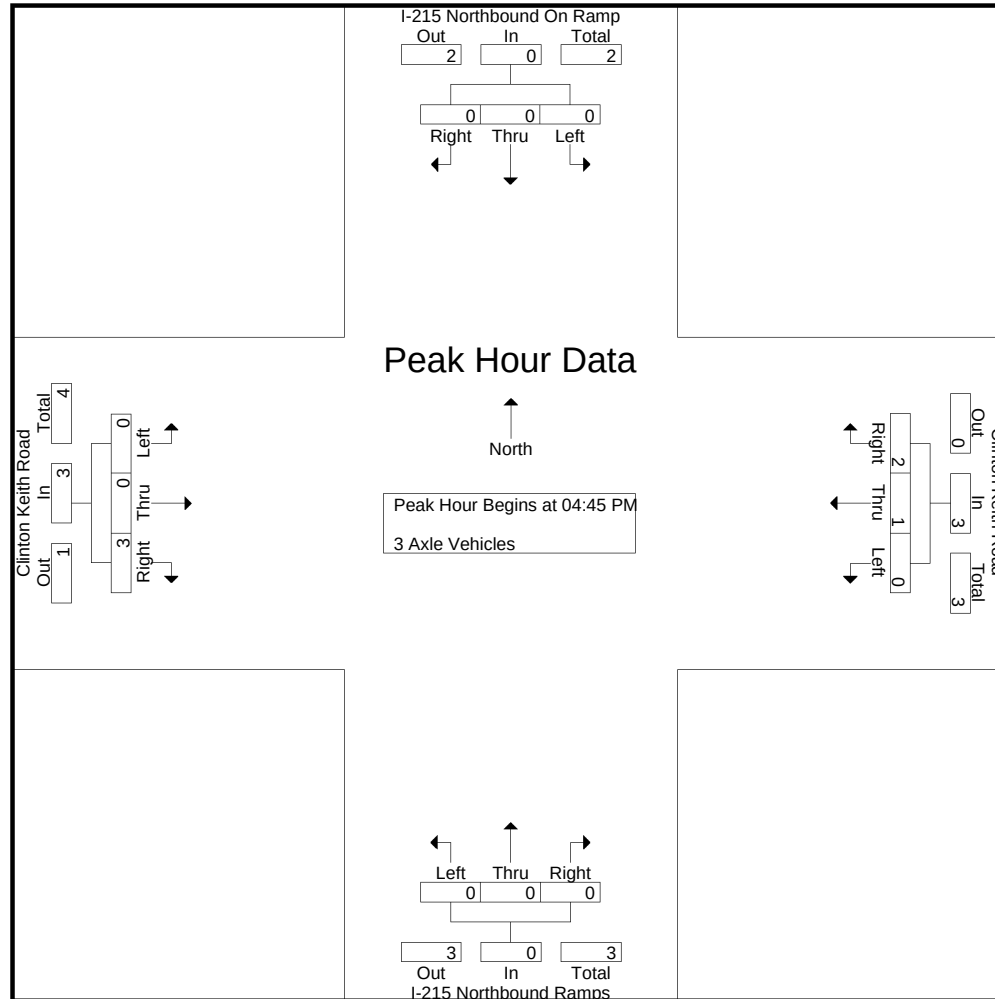
Groups Printed- 3 Axle Vehicles

	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1	0	2	2
04:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	2	2
Total	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	4	0	4	0	6	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	0	3	3
05:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	2	2	0	4	0	0	0	0	0	0	0	1	0	1	0	5	5
Grand Total	0	0	0	0	0	0	3	3	0	6	0	0	0	0	0	0	0	5	0	5	0	11	11
Apprch %	0	0	0			0	50	50			0	0	0			0	0	100			0		
Total %	0	0	0			0	27.3	27.3		54.5	0	0	0			0	0	45.5		45.5	0	100	

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	1	2	3	0	0	0	0	0	0	3	3	6
% App. Total	0	0	0		0	33.3	66.7		0	0	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.250	.250	.250	.000	.000	.000	.000	.000	.000	.375	.375	.500

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 04_MUR_215N_CK PM
 Site Code : 05121192
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City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK PM
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	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+45 mins.	0	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	
Total Volume	0	0	0	0	0	1	2	3	0	0	0	0	0	0	3	3	
% App. Total	0	0	0		0	33.3	66.7		0	0	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.250	.250	.250	.000	.000	.000	.000	.000	.000	.375	.375	

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK PM
Site Code : 05121192
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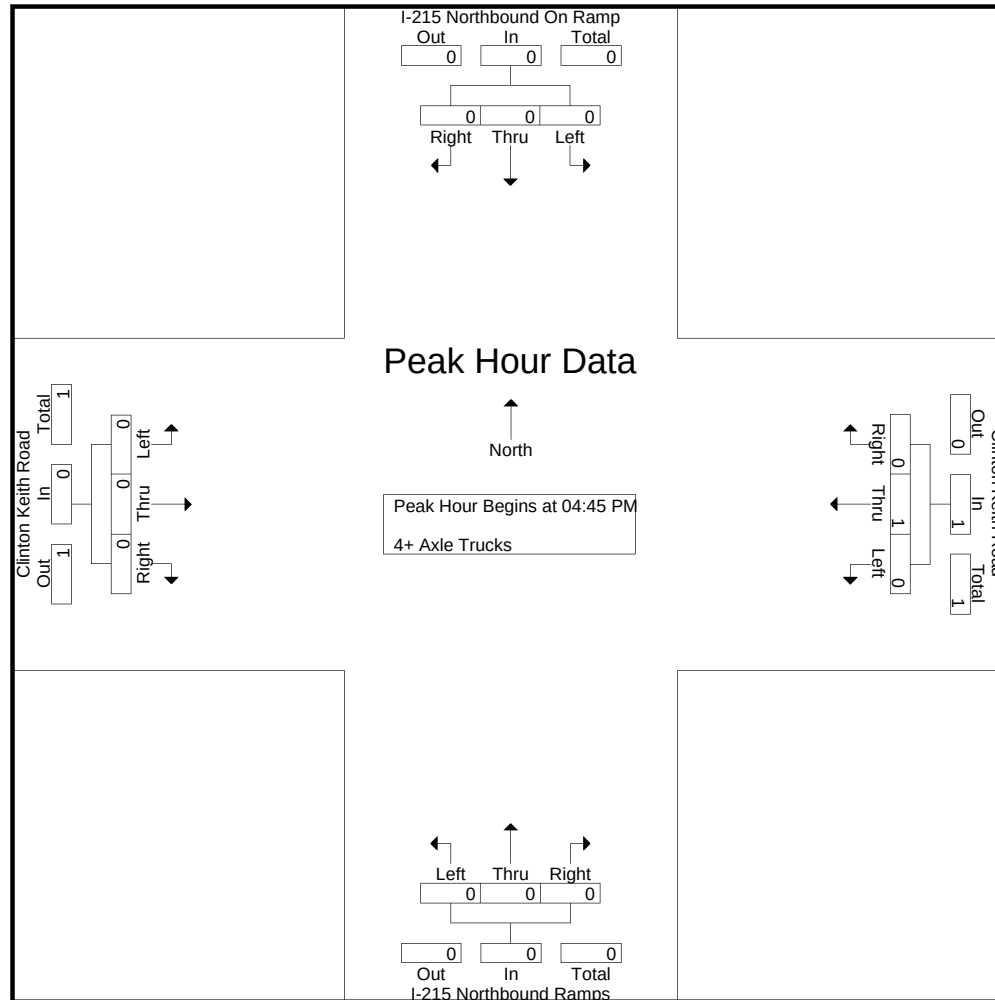
Groups Printed- 4+ Axle Trucks

	I-215 Northbound On Ramp Southbound					Clinton Keith Road Westbound					I-215 Northbound Ramps Northbound					Clinton Keith Road Eastbound					Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total	Left	Thru	Right	RTOR	App. Total			
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	1	1	2
Total	0	0	0	0	0	0	1	0	0	1	0	0	1	1	1	0	0	0	0	0	1	2	3
Grand Total	0	0	0	0	0	0	1	0	0	1	0	0	1	1	1	0	0	0	0	0	1	2	3
Apprch %	0	0	0			0	100	0			0	0	100			0	0	0					
Total %	0	0	0			0	50	0		50	0	0	50		50	0	0	0		0	33.3	66.7	

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				Int. Total
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% App. Total	0	0	0	0	0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250

City of Murrieta
 N/S: I-215 Northbound Ramps
 E/W: Clinton Keith Road
 Weather: Clear

File Name : 04_MUR_215N_CK PM
 Site Code : 05121192
 Start Date : 5/4/2021
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City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215N_CK PM
Site Code : 05121192
Start Date : 5/4/2021
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	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
	04:45 PM				04:45 PM				04:45 PM				04:45 PM				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000

Location: Murrieta
 N/S: I-215 NB Ramps
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

PEDESTRIANS

	North Leg I-215 NB Ramps Pedestrians	East Leg Clinton Keith Road Pedestrians	South Leg I-215 NB Ramps Pedestrians	West Leg Clinton Keith Road Pedestrians	
7:00 AM	0	0	2	0	2
7:15 AM	0	0	1	0	1
7:30 AM	0	0	4	0	4
7:45 AM	0	0	0	0	0
8:00 AM	0	0	1	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	8	0	8

	North Leg I-215 NB Ramps Pedestrians	East Leg Clinton Keith Road Pedestrians	South Leg I-215 NB Ramps Pedestrians	West Leg Clinton Keith Road Pedestrians	
4:00 PM	0	0	3	0	3
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	4	0	4
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	7	0	7

Location: Murrieta
 N/S: I-215 NB Ramps
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

BICYCLES

	Southbound I-215 NB Ramps			Westbound Clinton Keith Road			Northbound I-215 NB Ramps			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	1	0	0	0	1	0	2

	Southbound I-215 NB Ramps			Westbound Clinton Keith Road			Northbound I-215 NB Ramps			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	0	0	0	4	0	0	0	0	0	1	0	5

City of Murrieta
N/S: Warm Springs Parkway
E/W: Clinton Keith Road
Weather: Clear

File Name : 02_MUR_Warm_Clinton AM
Site Code : 05721179
Start Date : 4/27/2021
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Groups Printed- Total Volume

	Warm Springs Parkway Southbound				Clinton Keith Road Westbound				Vista Murrieta HS Driveway Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	8	4	7	19	3	237	18	258	1	0	0	1	14	245	30	289	567
07:15 AM	11	3	18	32	18	296	24	338	5	1	1	7	11	249	34	294	671
07:30 AM	12	1	16	29	0	358	14	372	3	2	1	6	4	202	3	209	616
07:45 AM	12	0	7	19	1	253	13	267	0	0	0	0	5	256	0	261	547
Total	43	8	48	99	22	1144	69	1235	9	3	2	14	34	952	67	1053	2401
08:00 AM	10	0	12	22	1	276	15	292	0	0	0	0	10	217	0	227	541
08:15 AM	14	0	13	27	1	239	14	254	0	0	0	0	13	198	1	212	493
08:30 AM	9	0	15	24	0	265	10	275	0	0	0	0	7	153	0	160	459
08:45 AM	4	0	7	11	0	245	13	258	0	0	0	0	10	182	1	193	462
Total	37	0	47	84	2	1025	52	1079	0	0	0	0	40	750	2	792	1955
Grand Total	80	8	95	183	24	2169	121	2314	9	3	2	14	74	1702	69	1845	4356
Apprch %	43.7	4.4	51.9		1	93.7	5.2		64.3	21.4	14.3		4	92.2	3.7		
Total %	1.8	0.2	2.2	4.2	0.6	49.8	2.8	53.1	0.2	0.1	0	0.3	1.7	39.1	1.6	42.4	

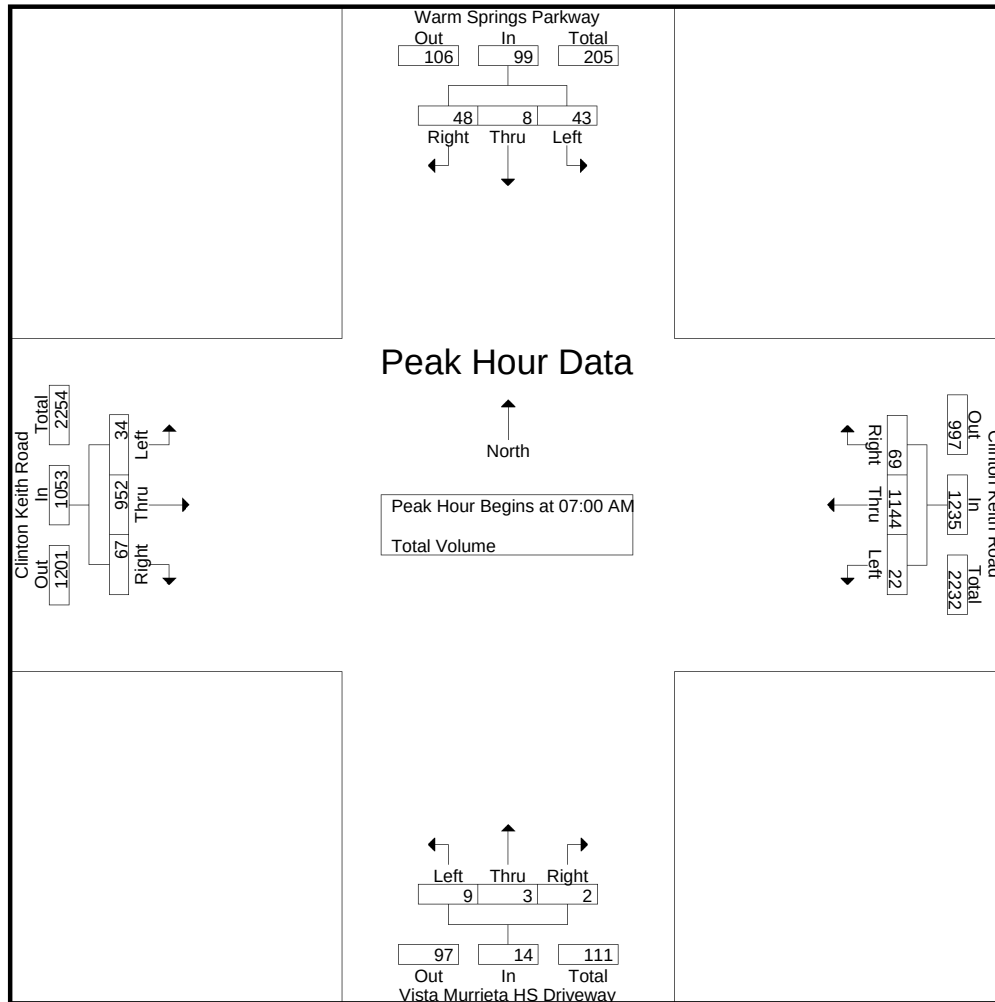
	Warm Springs Parkway Southbound				Clinton Keith Road Westbound				Vista Murrieta HS Driveway Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	8	4	7	19	3	237	18	258	1	0	0	1	14	245	30	289	567
07:15 AM	11	3	18	32	18	296	24	338	5	1	1	7	11	249	34	294	671
07:30 AM	12	1	16	29	0	358	14	372	3	2	1	6	4	202	3	209	616
07:45 AM	12	0	7	19	1	253	13	267	0	0	0	0	5	256	0	261	547
Total Volume	43	8	48	99	22	1144	69	1235	9	3	2	14	34	952	67	1053	2401
% App. Total	43.4	8.1	48.5		1.8	92.6	5.6		64.3	21.4	14.3		3.2	90.4	6.4		
PHF	.896	.500	.667	.773	.306	.799	.719	.830	.450	.375	.500	.500	.607	.930	.493	.895	.895

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

Peak Hour for Entire Intersection Begins at 07:00 AM

City of Murrieta
N/S: Warm Springs Parkway
E/W: Clinton Keith Road
Weather: Clear

File Name : 02_MUR_Warm_Clinton AM
Site Code : 05721179
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:00 AM				07:00 AM			
+0 mins.	11	3	18	32	18	296	24	338	1	0	0	1	14	245	30	289
+15 mins.	12	1	16	29	0	358	14	372	5	1	1	7	11	249	34	294
+30 mins.	12	0	7	19	1	253	13	267	3	2	1	6	4	202	3	209
+45 mins.	10	0	12	22	1	276	15	292	0	0	0	0	5	256	0	261
Total Volume	45	4	53	102	20	1183	66	1269	9	3	2	14	34	952	67	1053
% App. Total	44.1	3.9	52		1.6	93.2	5.2		64.3	21.4	14.3		3.2	90.4	6.4	
PHF	.938	.333	.736	.797	.278	.826	.688	.853	.450	.375	.500	.500	.607	.930	.493	.895

City of Murrieta
N/S: Warm Springs Parkway
E/W: Clinton Keith Road
Weather: Clear

File Name : 02_MUR_Warm_Clinton PM
Site Code : 05721179
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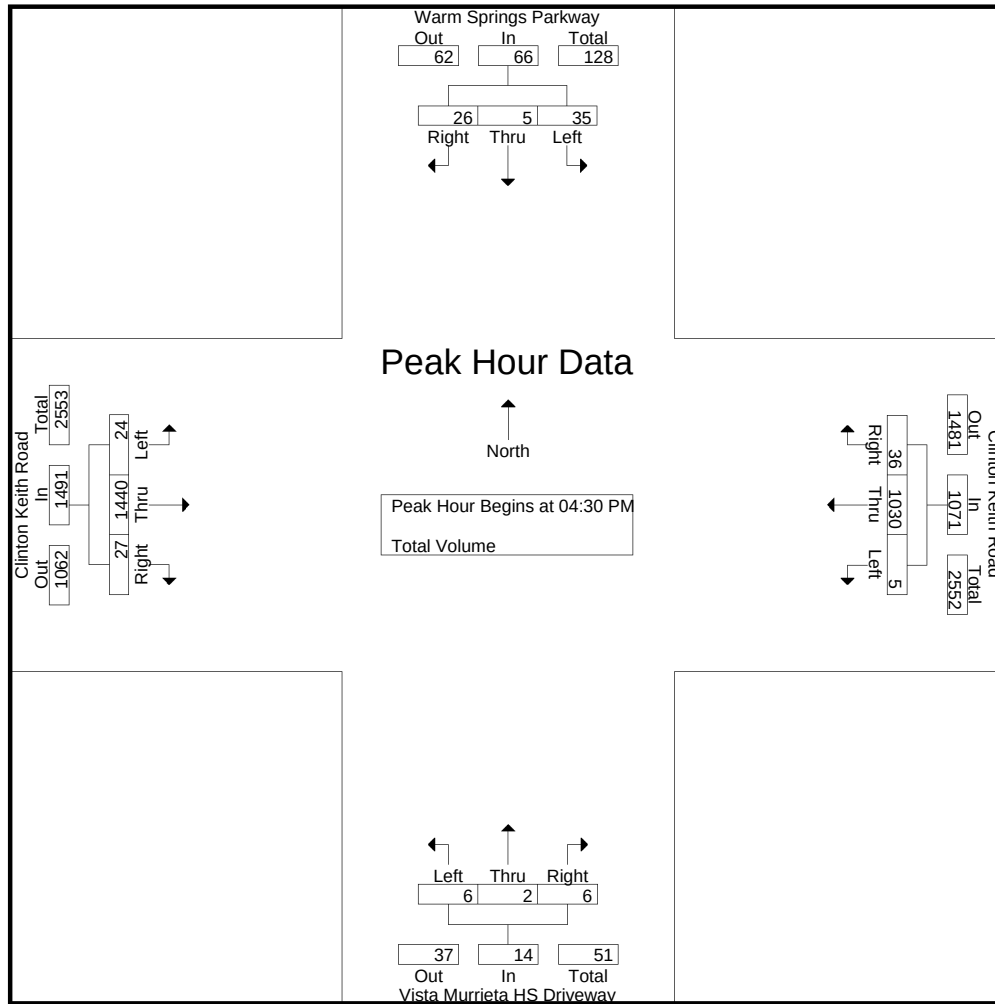
Groups Printed- Total Volume

	Warm Springs Parkway Southbound				Clinton Keith Road Westbound				Vista Murrieta HS Driveway Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	9	0	3	12	0	261	11	272	3	0	3	6	5	326	4	335	625
04:15 PM	8	0	10	18	1	257	7	265	1	5	1	7	4	334	10	348	638
04:30 PM	6	3	8	17	1	304	11	316	4	1	1	6	6	331	9	346	685
04:45 PM	9	1	4	14	2	263	11	276	1	1	2	4	5	386	4	395	689
Total	32	4	25	61	4	1085	40	1129	9	7	7	23	20	1377	27	1424	2637
05:00 PM	11	0	5	16	0	222	7	229	0	0	2	2	11	362	4	377	624
05:15 PM	9	1	9	19	2	241	7	250	1	0	1	2	2	361	10	373	644
05:30 PM	11	0	2	13	1	231	6	238	1	0	3	4	7	363	6	376	631
05:45 PM	13	0	2	15	0	185	9	194	0	0	1	1	5	332	8	345	555
Total	44	1	18	63	3	879	29	911	2	0	7	9	25	1418	28	1471	2454
Grand Total	76	5	43	124	7	1964	69	2040	11	7	14	32	45	2795	55	2895	5091
Apprch %	61.3	4	34.7		0.3	96.3	3.4		34.4	21.9	43.8		1.6	96.5	1.9		
Total %	1.5	0.1	0.8	2.4	0.1	38.6	1.4	40.1	0.2	0.1	0.3	0.6	0.9	54.9	1.1	56.9	

	Warm Springs Parkway Southbound				Clinton Keith Road Westbound				Vista Murrieta HS Driveway Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	6	3	8	17	1	304	11	316	4	1	1	6	6	331	9	346	685
04:45 PM	9	1	4	14	2	263	11	276	1	1	2	4	5	386	4	395	689
05:00 PM	11	0	5	16	0	222	7	229	0	0	2	2	11	362	4	377	624
05:15 PM	9	1	9	19	2	241	7	250	1	0	1	2	2	361	10	373	644
Total Volume	35	5	26	66	5	1030	36	1071	6	2	6	14	24	1440	27	1491	2642
% App. Total	53	7.6	39.4		0.5	96.2	3.4		42.9	14.3	42.9		1.6	96.6	1.8		
PHF	.795	.417	.722	.868	.625	.847	.818	.847	.375	.500	.750	.583	.545	.933	.675	.944	.959

City of Murrieta
N/S: Warm Springs Parkway
E/W: Clinton Keith Road
Weather: Clear

File Name : 02_MUR_Warm_Clinton PM
Site Code : 05721179
Start Date : 4/27/2021
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:00 PM				04:00 PM				04:45 PM			
+0 mins.	6	3	8	17	0	261	11	272	3	0	3	6	5	386	4	395
+15 mins.	9	1	4	14	1	257	7	265	1	5	1	7	11	362	4	377
+30 mins.	11	0	5	16	1	304	11	316	4	1	1	6	2	361	10	373
+45 mins.	9	1	9	19	2	263	11	276	1	1	2	4	7	363	6	376
Total Volume	35	5	26	66	4	1085	40	1129	9	7	7	23	25	1472	24	1521
% App. Total	53	7.6	39.4		0.4	96.1	3.5		39.1	30.4	30.4		1.6	96.8	1.6	
PHF	.795	.417	.722	.868	.500	.892	.909	.893	.563	.350	.583	.821	.568	.953	.600	.963

City of Murrieta
N/S: Whitewood Road
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_Whitewood_Clinton AM
Site Code : 05721179
Start Date : 4/27/2021
Page No : 1

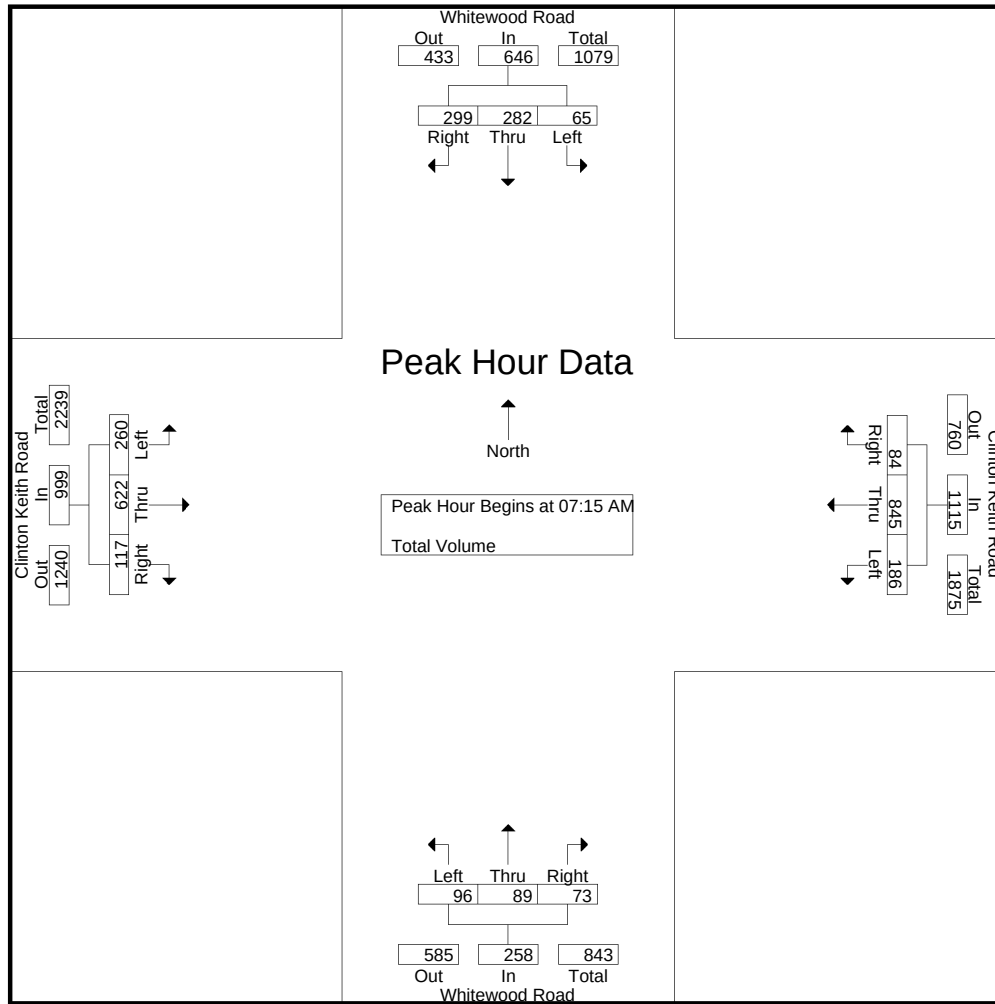
Groups Printed- Total Volume

	Whitewood Road Southbound				Clinton Keith Road Westbound				Whitewood Road Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	12	50	80	142	34	196	11	241	39	10	7	56	38	106	22	166	605
07:15 AM	12	50	90	152	55	273	19	347	49	17	10	76	55	165	42	262	837
07:30 AM	15	80	78	173	40	192	11	243	12	16	14	42	73	171	27	271	729
07:45 AM	24	88	61	173	44	195	26	265	15	29	21	65	76	155	23	254	757
Total	63	268	309	640	173	856	67	1096	115	72	52	239	242	597	114	953	2928
08:00 AM	14	64	70	148	47	185	28	260	20	27	28	75	56	131	25	212	695
08:15 AM	17	65	59	141	50	184	22	256	22	20	20	62	71	120	18	209	668
08:30 AM	15	52	53	120	39	186	25	250	13	20	15	48	48	88	13	149	567
08:45 AM	12	33	50	95	29	177	26	232	13	26	10	49	48	117	18	183	559
Total	58	214	232	504	165	732	101	998	68	93	73	234	223	456	74	753	2489
Grand Total	121	482	541	1144	338	1588	168	2094	183	165	125	473	465	1053	188	1706	5417
Apprch %	10.6	42.1	47.3		16.1	75.8	8		38.7	34.9	26.4		27.3	61.7	11		
Total %	2.2	8.9	10	21.1	6.2	29.3	3.1	38.7	3.4	3	2.3	8.7	8.6	19.4	3.5	31.5	

	Whitewood Road Southbound				Clinton Keith Road Westbound				Whitewood Road Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	12	50	90	152	55	273	19	347	49	17	10	76	55	165	42	262	837
07:30 AM	15	80	78	173	40	192	11	243	12	16	14	42	73	171	27	271	729
07:45 AM	24	88	61	173	44	195	26	265	15	29	21	65	76	155	23	254	757
08:00 AM	14	64	70	148	47	185	28	260	20	27	28	75	56	131	25	212	695
Total Volume	65	282	299	646	186	845	84	1115	96	89	73	258	260	622	117	999	3018
% App. Total	10.1	43.7	46.3		16.7	75.8	7.5		37.2	34.5	28.3		26	62.3	11.7		
PHF	.677	.801	.831	.934	.845	.774	.750	.803	.490	.767	.652	.849	.855	.909	.696	.922	.901

City of Murrieta
N/S: Whitewood Road
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_Whitewood_Clinton AM
Site Code : 05721179
Start Date : 4/27/2021
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	12	50	90	152	55	273	19	347	49	17	10	76	55	165	42	262
+15 mins.	15	80	78	173	40	192	11	243	12	16	14	42	73	171	27	271
+30 mins.	24	88	61	173	44	195	26	265	15	29	21	65	76	155	23	254
+45 mins.	14	64	70	148	47	185	28	260	20	27	28	75	56	131	25	212
Total Volume	65	282	299	646	186	845	84	1115	96	89	73	258	260	622	117	999
% App. Total	10.1	43.7	46.3		16.7	75.8	7.5		37.2	34.5	28.3		26	62.3	11.7	
PHF	.677	.801	.831	.934	.845	.774	.750	.803	.490	.767	.652	.849	.855	.909	.696	.922

City of Murrieta
N/S: Whitewood Road
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_Whitewood_Clinton PM
Site Code : 05721179
Start Date : 4/27/2021
Page No : 1

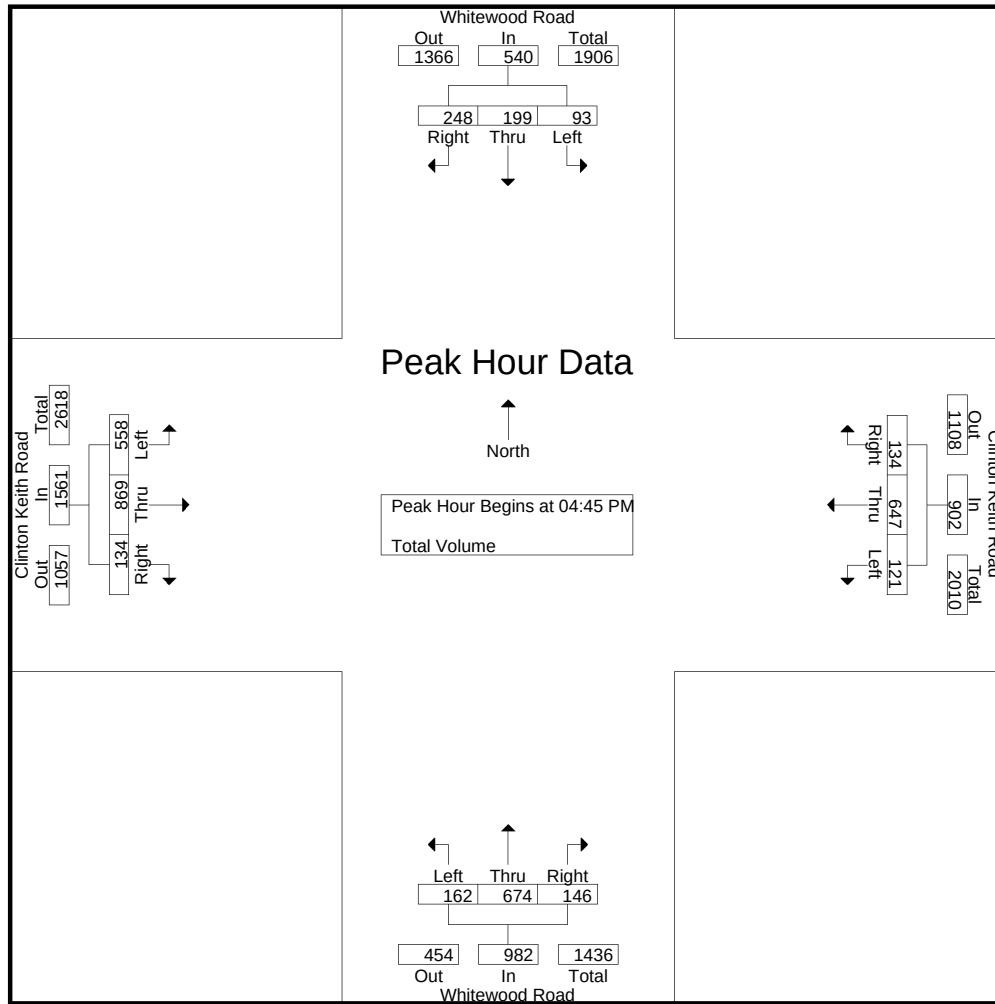
Groups Printed- Total Volume

	Whitewood Road Southbound				Clinton Keith Road Westbound				Whitewood Road Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	38	58	81	177	27	169	24	220	29	90	46	165	96	201	50	347	909
04:15 PM	33	51	57	141	40	168	16	224	41	114	56	211	100	206	42	348	924
04:30 PM	33	52	66	151	32	163	20	215	59	138	45	242	76	175	25	276	884
04:45 PM	28	58	55	141	32	167	18	217	38	157	51	246	136	200	38	374	978
Total	132	219	259	610	131	667	78	876	167	499	198	864	408	782	155	1345	3695
05:00 PM	33	64	71	168	26	146	15	187	29	155	37	221	148	237	36	421	997
05:15 PM	14	41	65	120	24	169	46	239	52	175	30	257	142	212	26	380	996
05:30 PM	18	36	57	111	39	165	55	259	43	187	28	258	132	220	34	386	1014
05:45 PM	17	42	50	109	39	119	34	192	46	174	33	253	123	224	27	374	928
Total	82	183	243	508	128	599	150	877	170	691	128	989	545	893	123	1561	3935
Grand Total	214	402	502	1118	259	1266	228	1753	337	1190	326	1853	953	1675	278	2906	7630
Apprch %	19.1	36	44.9		14.8	72.2	13		18.2	64.2	17.6		32.8	57.6	9.6		
Total %	2.8	5.3	6.6	14.7	3.4	16.6	3	23	4.4	15.6	4.3	24.3	12.5	22	3.6	38.1	

	Whitewood Road Southbound				Clinton Keith Road Westbound				Whitewood Road Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	28	58	55	141	32	167	18	217	38	157	51	246	136	200	38	374	978
05:00 PM	33	64	71	168	26	146	15	187	29	155	37	221	148	237	36	421	997
05:15 PM	14	41	65	120	24	169	46	239	52	175	30	257	142	212	26	380	996
05:30 PM	18	36	57	111	39	165	55	259	43	187	28	258	132	220	34	386	1014
Total Volume	93	199	248	540	121	647	134	902	162	674	146	982	558	869	134	1561	3985
% App. Total	17.2	36.9	45.9		13.4	71.7	14.9		16.5	68.6	14.9		35.7	55.7	8.6		
PHF	.705	.777	.873	.804	.776	.957	.609	.871	.779	.901	.716	.952	.943	.917	.882	.927	.982

City of Murrieta
N/S: Whitewood Road
E/W: Clinton Keith Road
Weather: Clear

File Name : 03_MUR_Whitewood_Clinton PM
Site Code : 05721179
Start Date : 4/27/2021
Page No : 2



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

	04:00 PM				04:45 PM				05:00 PM				04:45 PM			
+0 mins.	38	58	81	177	32	167	18	217	29	155	37	221	136	200	38	374
+15 mins.	33	51	57	141	26	146	15	187	52	175	30	257	148	237	36	421
+30 mins.	33	52	66	151	24	169	46	239	43	187	28	258	142	212	26	380
+45 mins.	28	58	55	141	39	165	55	259	46	174	33	253	132	220	34	386
Total Volume	132	219	259	610	121	647	134	902	170	691	128	989	558	869	134	1561
% App. Total	21.6	35.9	42.5		13.4	71.7	14.9		17.2	69.9	12.9		35.7	55.7	8.6	
PHF	.868	.944	.799	.862	.776	.957	.609	.871	.817	.924	.865	.958	.943	.917	.882	.927

City of Murrieta
N/S: Whitewood Road
E/W: Driveway
Weather: Clear

File Name : 07_MUR_Whitewood_DW AM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 1

Groups Printed- Total Volume

Start Time	Whitewood Road Southbound				Whitewood Road Northbound				Driveway Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total			
07:00 AM	115	21	0	136	14	61	0	75	0	1	0	1	0	212	212
07:15 AM	201	24	0	225	39	61	0	100	1	0	0	1	0	326	326
07:30 AM	177	1	0	178	4	63	0	67	0	0	0	0	0	245	245
07:45 AM	191	0	0	191	0	75	0	75	0	0	0	0	0	266	266
Total	684	46	0	730	57	260	0	317	1	1	0	2	0	1049	1049
08:00 AM	125	0	0	125	0	80	0	80	0	0	0	0	0	205	205
08:15 AM	111	0	0	111	0	69	0	69	0	0	0	0	0	180	180
08:30 AM	124	0	0	124	0	53	0	53	0	0	0	0	0	177	177
08:45 AM	87	1	0	88	0	59	0	59	1	0	0	1	0	148	148
Total	447	1	0	448	0	261	0	261	1	0	0	1	0	710	710
Grand Total	1131	47	0	1178	57	521	0	578	2	1	0	3	0	1759	1759
Apprch %	96	4			9.9	90.1			66.7	33.3					
Total %	64.3	2.7		67	3.2	29.6		32.9	0.1	0.1		0.2	0	100	

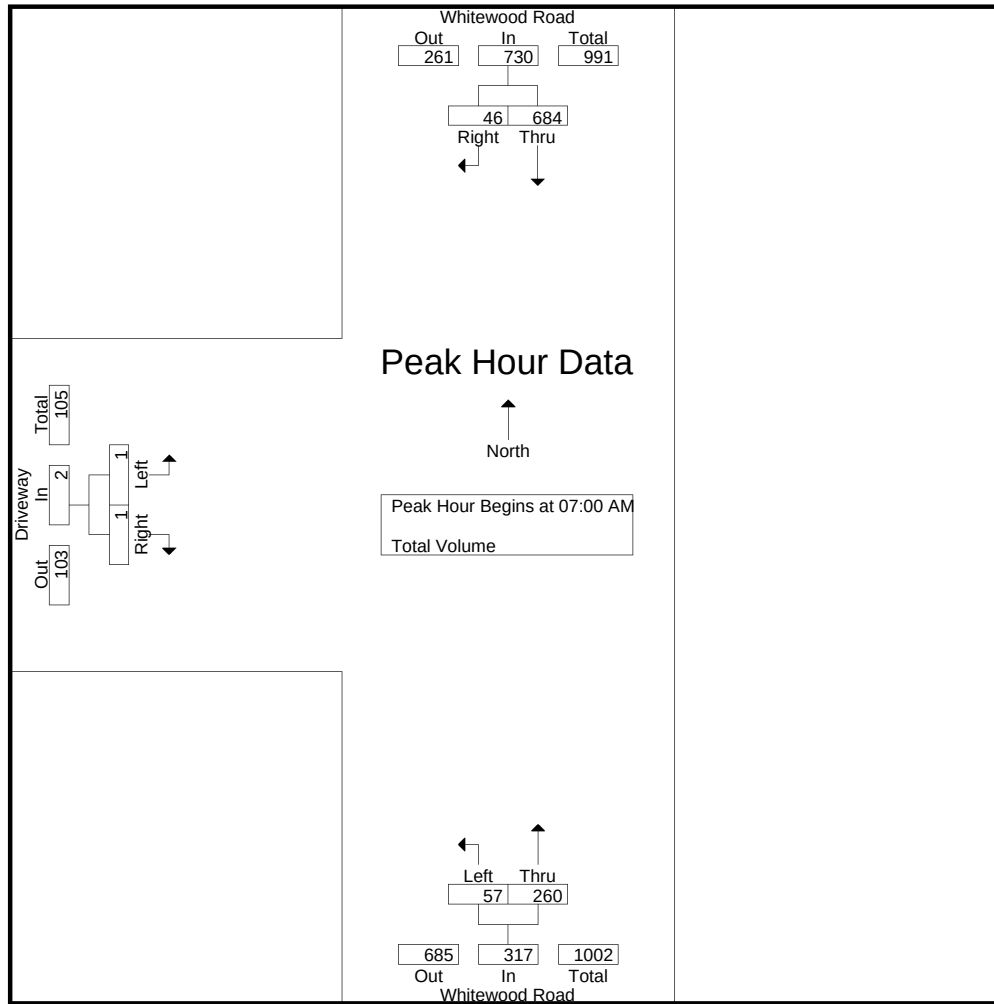
Start Time	Whitewood Road Southbound			Whitewood Road Northbound			Driveway Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
07:00 AM	115	21	136	14	61	75	0	1	1	212
07:15 AM	201	24	225	39	61	100	1	0	1	326
07:30 AM	177	1	178	4	63	67	0	0	0	245
07:45 AM	191	0	191	0	75	75	0	0	0	266
Total Volume	684	46	730	57	260	317	1	1	2	1049
% App. Total	93.7	6.3		18	82		50	50		
PHF	.851	.479	.811	.365	.867	.793	.250	.250	.500	.804

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

Peak Hour for Entire Intersection Begins at 07:00 AM

City of Murrieta
N/S: Whitewood Road
E/W: Driveway
Weather: Clear

File Name : 07_MUR_Whitewood_DW AM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 2



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

	07:00 AM			07:15 AM			07:00 AM		
+0 mins.	115	21	136	39	61	100	0	1	1
+15 mins.	201	24	225	4	63	67	1	0	1
+30 mins.	177	1	178	0	75	75	0	0	0
+45 mins.	191	0	191	0	80	80	0	0	0
Total Volume	684	46	730	43	279	322	1	1	2
% App. Total	93.7	6.3		13.4	86.6		50	50	
PHF	.851	.479	.811	.276	.872	.805	.250	.250	.500

City of Murrieta
N/S: Whitewood Road
E/W: Driveway
Weather: Clear

File Name : 07_MUR_Whitewood_DW PM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 1

Groups Printed- Total Volume

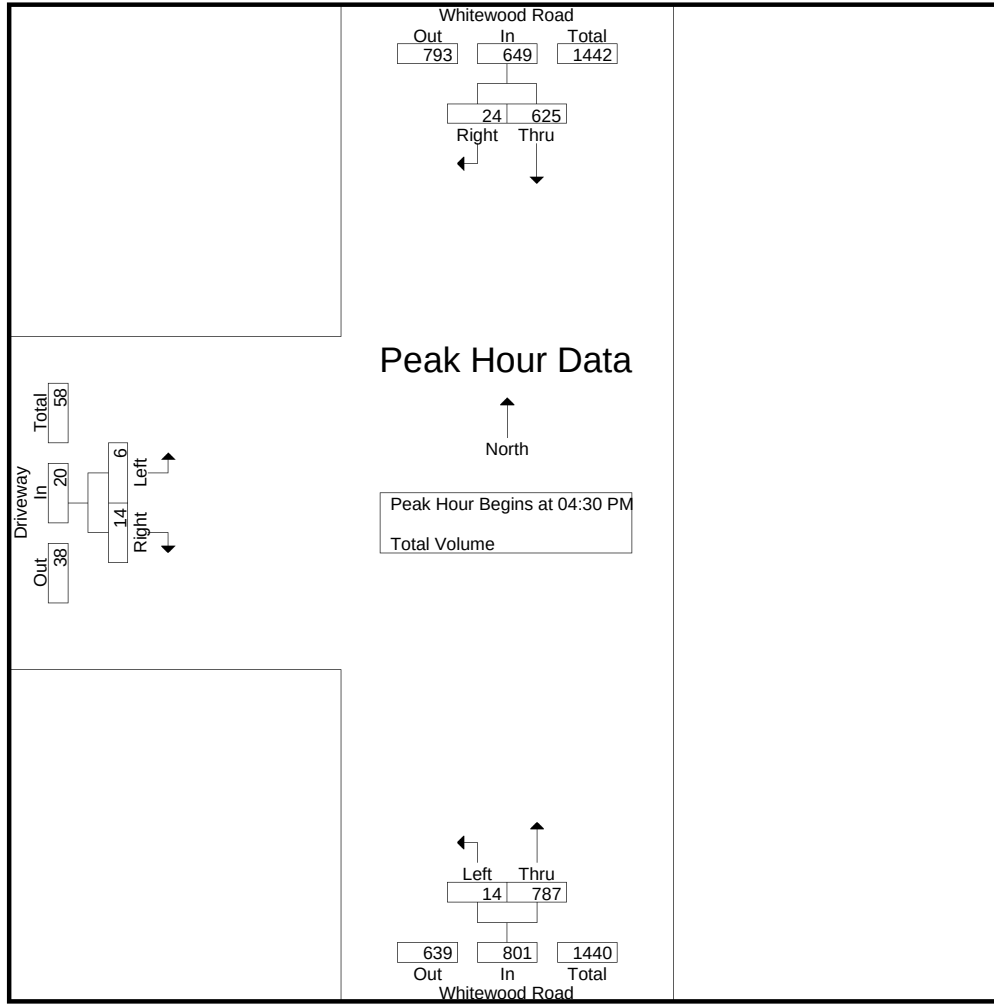
Start Time	Whitewood Road Southbound				Whitewood Road Northbound				Driveway Eastbound				Exclu. Total	Inclu. Total	Int. Total
	Thru	Right	RTOR	App. Total	Left	Thru	RTOR	App. Total	Left	Right	RTOR	App. Total			
04:00 PM	147	0	0	147	0	178	0	178	0	0	0	0	0	325	325
04:15 PM	157	0	0	157	1	166	0	167	0	1	0	1	0	325	325
04:30 PM	165	1	0	166	1	193	0	194	0	1	0	1	0	361	361
04:45 PM	166	7	0	173	3	181	0	184	0	1	0	1	0	358	358
Total	635	8	0	643	5	718	0	723	0	3	0	3	0	1369	1369
05:00 PM	125	8	0	133	5	206	0	211	4	7	0	11	0	355	355
05:15 PM	169	8	0	177	5	207	0	212	2	5	0	7	0	396	396
05:30 PM	129	3	0	132	6	195	0	201	2	6	0	8	0	341	341
05:45 PM	131	2	0	133	4	174	0	178	0	3	0	3	0	314	314
Total	554	21	0	575	20	782	0	802	8	21	0	29	0	1406	1406
Grand Total	1189	29	0	1218	25	1500	0	1525	8	24	0	32	0	2775	2775
Apprch %	97.6	2.4			1.6	98.4			25	75					
Total %	42.8	1		43.9	0.9	54.1		55	0.3	0.9		1.2	0	100	

Start Time	Whitewood Road Southbound			Whitewood Road Northbound			Driveway Eastbound			Int. Total
	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	
04:30 PM	165	1	166	1	193	194	0	1	1	361
04:45 PM	166	7	173	3	181	184	0	1	1	358
05:00 PM	125	8	133	5	206	211	4	7	11	355
05:15 PM	169	8	177	5	207	212	2	5	7	396
Total Volume	625	24	649	14	787	801	6	14	20	1470
% App. Total	96.3	3.7		1.7	98.3		30	70		
PHF	.925	.750	.917	.700	.950	.945	.375	.500	.455	.928

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 04:30 PM

City of Murrieta
N/S: Whitewood Road
E/W: Driveway
Weather: Clear

File Name : 07_MUR_Whitewood_DW PM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 2



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

	04:30 PM			04:45 PM			05:00 PM		
+0 mins.	165	1	166	3	181	184	4	7	11
+15 mins.	166	7	173	5	206	211	2	5	7
+30 mins.	125	8	133	5	207	212	2	6	8
+45 mins.	169	8	177	6	195	201	0	3	3
Total Volume	625	24	649	19	789	808	8	21	29
% App. Total	96.3	3.7		2.4	97.6		27.6	72.4	
PHF	.925	.750	.917	.792	.953	.953	.500	.750	.659

Location: Murrieta
 N/S: Whitewood Road
 E/W: Driveway



Date: 5/4/2021
 Day: Tuesday

PEDESTRIANS

	North Leg Whitewood Road Pedestrians	East Leg Driveway Pedestrians	South Leg Whitewood Road Pedestrians	West Leg Driveway Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	1	1
7:45 AM	0	0	0	2	2
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	1	1
8:45 AM	1	0	0	0	1
TOTAL VOLUMES:	1	0	0	4	5

	North Leg Whitewood Road Pedestrians	East Leg Driveway Pedestrians	South Leg Whitewood Road Pedestrians	West Leg Driveway Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	1	1
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	1	1
5:30 PM	0	0	0	1	1
5:45 PM	0	0	0	1	1
TOTAL VOLUMES:	0	0	0	5	5

Location: Murrieta
 N/S: Whitewood Road
 E/W: Driveway



Date: 5/4/2021
 Day: Tuesday

BICYCLES

	Southbound Whitewood Road			Westbound Driveway			Northbound Whitewood Road			Eastbound Driveway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	2
7:15 AM	0	2	0	0	0	0	0	2	0	0	0	0	4
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:30 AM	0	2	0	0	0	0	0	15	0	0	0	0	17
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	7	0	0	0	0	0	18	0	0	0	0	25

	Southbound Whitewood Road			Westbound Driveway			Northbound Whitewood Road			Eastbound Driveway			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	1	0	0	0	0	0	2	0	0	0	0	3
4:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	3
TOTAL VOLUMES:	0	3	0	0	0	0	0	7	0	0	0	0	10

City of Murrieta
N/S: Arendt Lane
E/W: Clinton Keith Road
Weather: Clear

File Name : 08_MUR_Arendt_CK AM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 1

Groups Printed- Total Volume

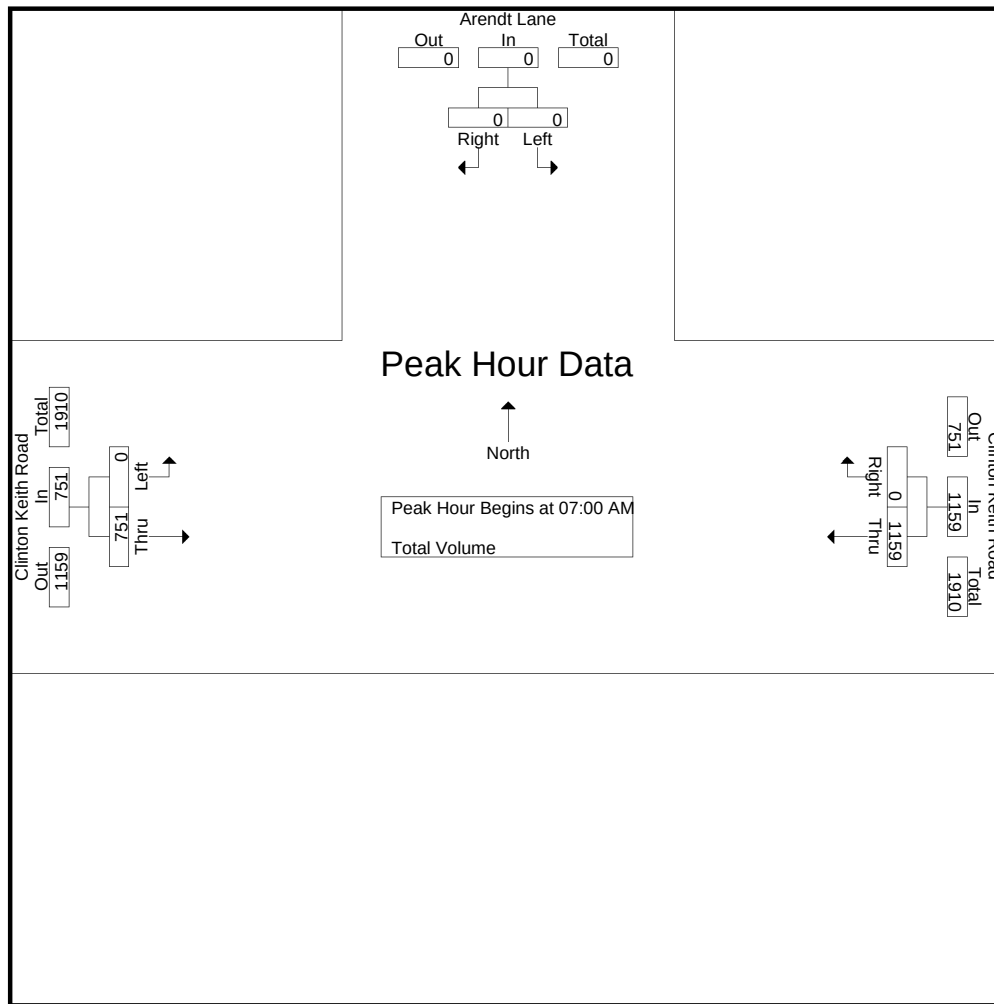
Start Time	Arendt Lane Southbound				Clinton Keith Road Westbound				Clinton Keith Road Eastbound			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	App. Total			
07:00 AM	0	0	0	0	299	0	0	299	0	143	143	0	442	442
07:15 AM	0	0	0	0	304	0	0	304	0	228	228	0	532	532
07:30 AM	0	0	0	0	263	0	0	263	0	200	200	0	463	463
07:45 AM	0	0	0	0	293	0	0	293	0	180	180	0	473	473
Total	0	0	0	0	1159	0	0	1159	0	751	751	0	1910	1910
08:00 AM	0	0	0	0	225	0	0	225	0	197	197	0	422	422
08:15 AM	0	0	0	0	267	0	0	267	0	193	193	0	460	460
08:30 AM	0	0	0	0	228	0	0	228	0	150	150	0	378	378
08:45 AM	0	0	0	0	232	0	0	232	0	168	168	0	400	400
Total	0	0	0	0	952	0	0	952	0	708	708	0	1660	1660
Grand Total	0	0	0	0	2111	0	0	2111	0	1459	1459	0	3570	3570
Apprch %	0	0			100	0			0	100				
Total %	0	0			59.1	0		59.1	0	40.9	40.9	0	100	

Start Time	Arendt Lane Southbound			Clinton Keith Road Westbound			Clinton Keith Road Eastbound			Int. Total
	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	
07:00 AM	0	0	0	299	0	299	0	143	143	442
07:15 AM	0	0	0	304	0	304	0	228	228	532
07:30 AM	0	0	0	263	0	263	0	200	200	463
07:45 AM	0	0	0	293	0	293	0	180	180	473
Total Volume	0	0	0	1159	0	1159	0	751	751	1910
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.953	.000	.953	.000	.823	.823	.898

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

City of Murrieta
N/S: Arendt Lane
E/W: Clinton Keith Road
Weather: Clear

File Name : 08_MUR_Arendt_CK AM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 2



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

	07:00 AM			07:00 AM			07:15 AM		
+0 mins.	0	0	0	299	0	299	0	228	228
+15 mins.	0	0	0	304	0	304	0	200	200
+30 mins.	0	0	0	263	0	263	0	180	180
+45 mins.	0	0	0	293	0	293	0	197	197
Total Volume	0	0	0	1159	0	1159	0	805	805
% App. Total	0	0	0	100	0	100	0	100	100
PHF	.000	.000	.000	.953	.000	.953	.000	.883	.883

City of Murrieta
N/S: Arendt Lane
E/W: Clinton Keith Road
Weather: Clear

File Name : 08_MUR_Arendt_CK PM
Site Code : 05121192
Start Date : 5/4/2021
Page No : 1

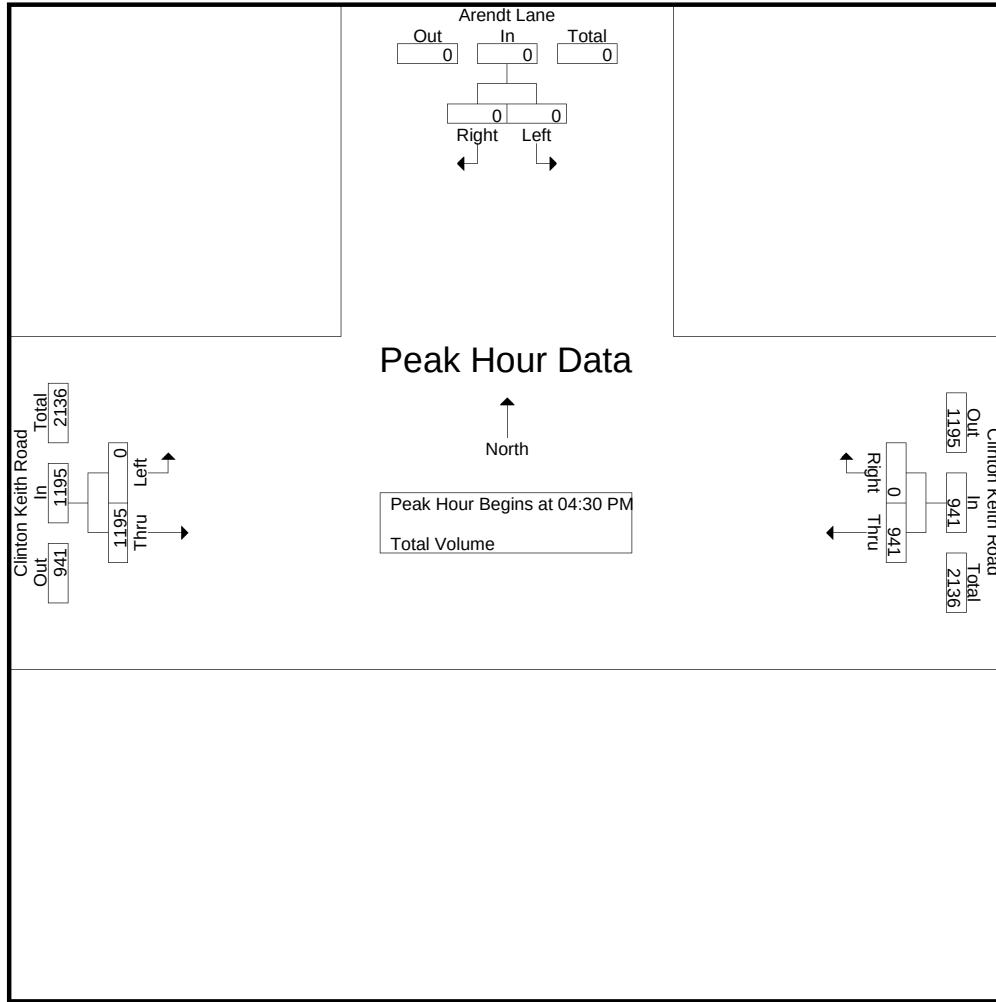
Groups Printed- Total Volume

Start Time	Arendt Lane Southbound				Clinton Keith Road Westbound				Clinton Keith Road Eastbound			Exclu. Total	Inclu. Total	Int. Total
	Left	Right	RTOR	App. Total	Thru	Right	RTOR	App. Total	Left	Thru	App. Total			
04:00 PM	0	0	0	0	220	0	0	220	0	250	250	0	470	470
04:15 PM	0	0	0	0	206	0	0	206	0	301	301	0	507	507
04:30 PM	0	0	0	0	279	0	0	279	0	261	261	0	540	540
04:45 PM	0	0	0	0	220	0	0	220	0	299	299	0	519	519
Total	0	0	0	0	925	0	0	925	0	1111	1111	0	2036	2036
05:00 PM	0	0	0	0	220	0	0	220	0	292	292	0	512	512
05:15 PM	0	0	0	0	222	0	0	222	0	343	343	0	565	565
05:30 PM	0	0	0	0	207	0	0	207	0	258	258	0	465	465
05:45 PM	0	0	0	0	224	0	0	224	0	286	286	0	510	510
Total	0	0	0	0	873	0	0	873	0	1179	1179	0	2052	2052
Grand Total	0	0	0	0	1798	0	0	1798	0	2290	2290	0	4088	4088
Apprch %	0	0			100	0			0	100				
Total %	0	0			44	0		44	0	56	56	0	100	

	Arendt Lane Southbound			Clinton Keith Road Westbound			Clinton Keith Road Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	0	0	279	0	279	0	261	261	540
04:45 PM	0	0	0	220	0	220	0	299	299	519
05:00 PM	0	0	0	220	0	220	0	292	292	512
05:15 PM	0	0	0	222	0	222	0	343	343	565
Total Volume	0	0	0	941	0	941	0	1195	1195	2136
% App. Total	0	0		100	0		0	100		
PHF	.000	.000	.000	.843	.000	.843	.000	.871	.871	.945

City of Murrieta
N/S: Arendt Lane
E/W: Clinton Keith Road
Weather: Clear

File Name : 08_MUR_Arendt_CK PM
Site Code : 05121192
Start Date : 5/4/2021
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	04:00 PM			04:30 PM			04:30 PM		
+0 mins.	0	0	0	279	0	279	0	261	261
+15 mins.	0	0	0	220	0	220	0	299	299
+30 mins.	0	0	0	220	0	220	0	292	292
+45 mins.	0	0	0	222	0	222	0	343	343
Total Volume	0	0	0	941	0	941	0	1195	1195
% App. Total	0	0	0	100	0	100	0	100	100
PHF	.000	.000	.000	.843	.000	.843	.000	.871	.871

Location: Murrieta
 N/S: Arendt Lane
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

PEDESTRIANS

		North Leg Arendt Lane Pedestrians	East Leg Clinton Keith Road Pedestrians	South Leg Arendt Lane Pedestrians	West Leg Clinton Keith Road Pedestrians	
	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
	TOTAL VOLUMES:	0	0	0	0	0

		North Leg Arendt Lane Pedestrians	East Leg Clinton Keith Road Pedestrians	South Leg Arendt Lane Pedestrians	West Leg Clinton Keith Road Pedestrians	
	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
	TOTAL VOLUMES:	0	0	0	0	0

Location: Murrieta
 N/S: Arendt Lane
 E/W: Clinton Keith Road



Date: 5/4/2021
 Day: Tuesday

BICYCLES

	Southbound Arendt Lane			Westbound Clinton Keith Road			Northbound Arendt Lane			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	1	0	0	0	0	0	1	0	2
8:30 AM	0	0	0	0	2	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	0	0	0	7	0	0	0	0	0	2	0	9

	Southbound Arendt Lane			Westbound Clinton Keith Road			Northbound Arendt Lane			Eastbound Clinton Keith Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1
TOTAL VOLUMES:	0	0	0	0	3	0	0	0	0	0	3	0	6

City of Murrieta
N/S: Nutmeg Street
E/W: Clinton Keith Road
Weather: Clear

File Name : 13_MUR_Nutmeg_Clinton Keith AM
Site Code : 04218933
Start Date : 12/12/2018
Page No : 1

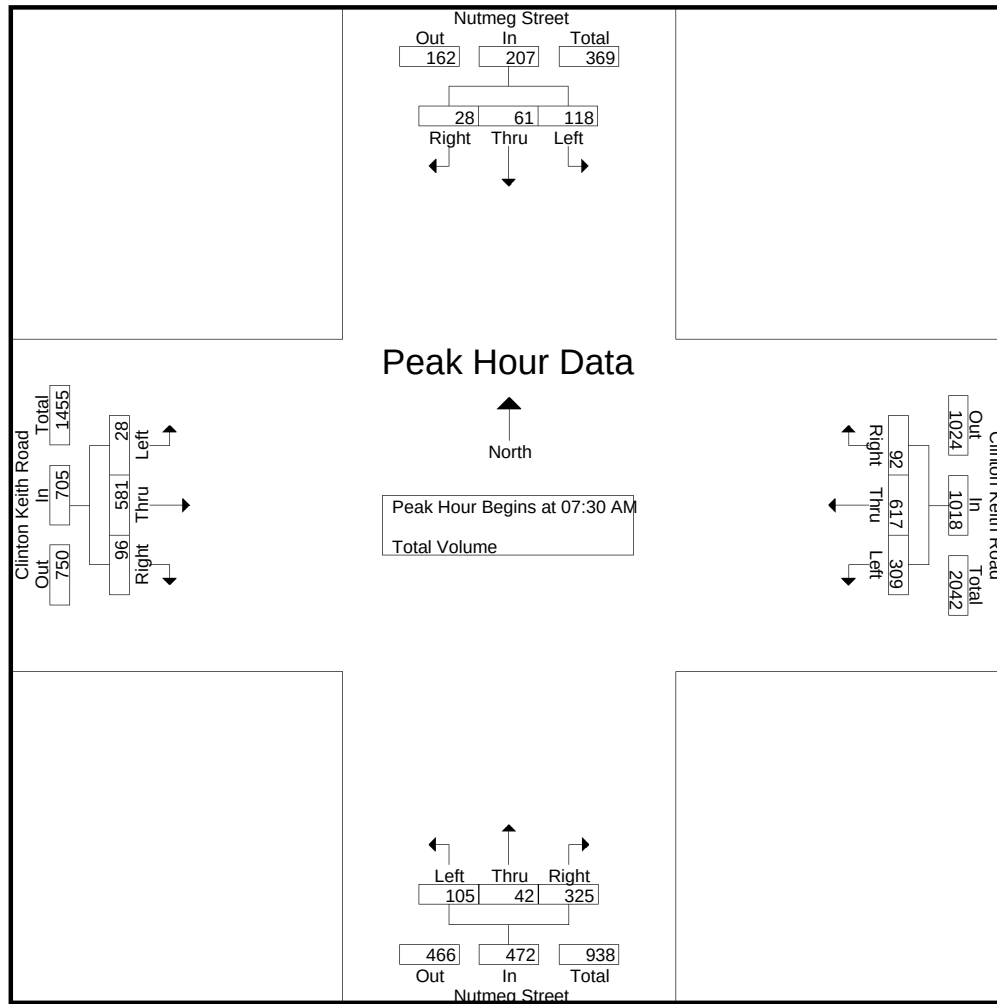
Groups Printed- Total Volume

	Nutmeg Street Southbound				Clinton Keith Road Westbound				Nutmeg Street Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	37	27	5	69	81	118	13	212	15	4	112	131	2	167	12	181	593
07:15 AM	28	26	5	59	69	171	19	259	10	16	109	135	3	148	20	171	624
07:30 AM	29	20	8	57	64	156	16	236	17	11	92	120	5	139	11	155	568
07:45 AM	18	16	4	38	77	140	25	242	20	10	81	111	4	163	26	193	584
Total	112	89	22	223	291	585	73	949	62	41	394	497	14	617	69	700	2369
08:00 AM	42	16	9	67	82	133	23	238	31	14	74	119	10	134	42	186	610
08:15 AM	29	9	7	45	86	188	28	302	37	7	78	122	9	145	17	171	640
08:30 AM	39	10	10	59	61	153	32	246	9	12	80	101	7	111	13	131	537
08:45 AM	30	15	11	56	54	135	14	203	11	12	54	77	11	132	13	156	492
Total	140	50	37	227	283	609	97	989	88	45	286	419	37	522	85	644	2279
Grand Total	252	139	59	450	574	1194	170	1938	150	86	680	916	51	1139	154	1344	4648
Apprch %	56	30.9	13.1		29.6	61.6	8.8		16.4	9.4	74.2		3.8	84.7	11.5		
Total %	5.4	3	1.3	9.7	12.3	25.7	3.7	41.7	3.2	1.9	14.6	19.7	1.1	24.5	3.3	28.9	

	Nutmeg Street Southbound				Clinton Keith Road Westbound				Nutmeg Street Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	29	20	8	57	64	156	16	236	17	11	92	120	5	139	11	155	568
07:45 AM	18	16	4	38	77	140	25	242	20	10	81	111	4	163	26	193	584
08:00 AM	42	16	9	67	82	133	23	238	31	14	74	119	10	134	42	186	610
08:15 AM	29	9	7	45	86	188	28	302	37	7	78	122	9	145	17	171	640
Total Volume	118	61	28	207	309	617	92	1018	105	42	325	472	28	581	96	705	2402
% App. Total	57	29.5	13.5		30.4	60.6	9		22.2	8.9	68.9		4	82.4	13.6		
PHF	.702	.763	.778	.772	.898	.820	.821	.843	.709	.750	.883	.967	.700	.891	.571	.913	.938

City of Murrieta
N/S: Nutmeg Street
E/W: Clinton Keith Road
Weather: Clear

File Name : 13_MUR_Nutmeg_Clinton Keith AM
Site Code : 04218933
Start Date : 12/12/2018
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:45 AM				07:00 AM				07:15 AM			
+0 mins.	42	16	9	67	77	140	25	242	15	4	112	131	3	148	20	171
+15 mins.	29	9	7	45	82	133	23	238	10	16	109	135	5	139	11	155
+30 mins.	39	10	10	59	86	188	28	302	17	11	92	120	4	163	26	193
+45 mins.	30	15	11	56	61	153	32	246	20	10	81	111	10	134	42	186
Total Volume	140	50	37	227	306	614	108	1028	62	41	394	497	22	584	99	705
% App. Total	61.7	22	16.3		29.8	59.7	10.5		12.5	8.2	79.3		3.1	82.8	14	
PHF	.833	.781	.841	.847	.890	.816	.844	.851	.775	.641	.879	.920	.550	.896	.589	.913

City of Murrieta
N/S: Nutmeg Street
E/W: Clinton Keith Road
Weather: Clear

File Name : 13_MUR_Nutmeg_Clinton Keith PM
Site Code : 04218933
Start Date : 12/12/2018
Page No : 1

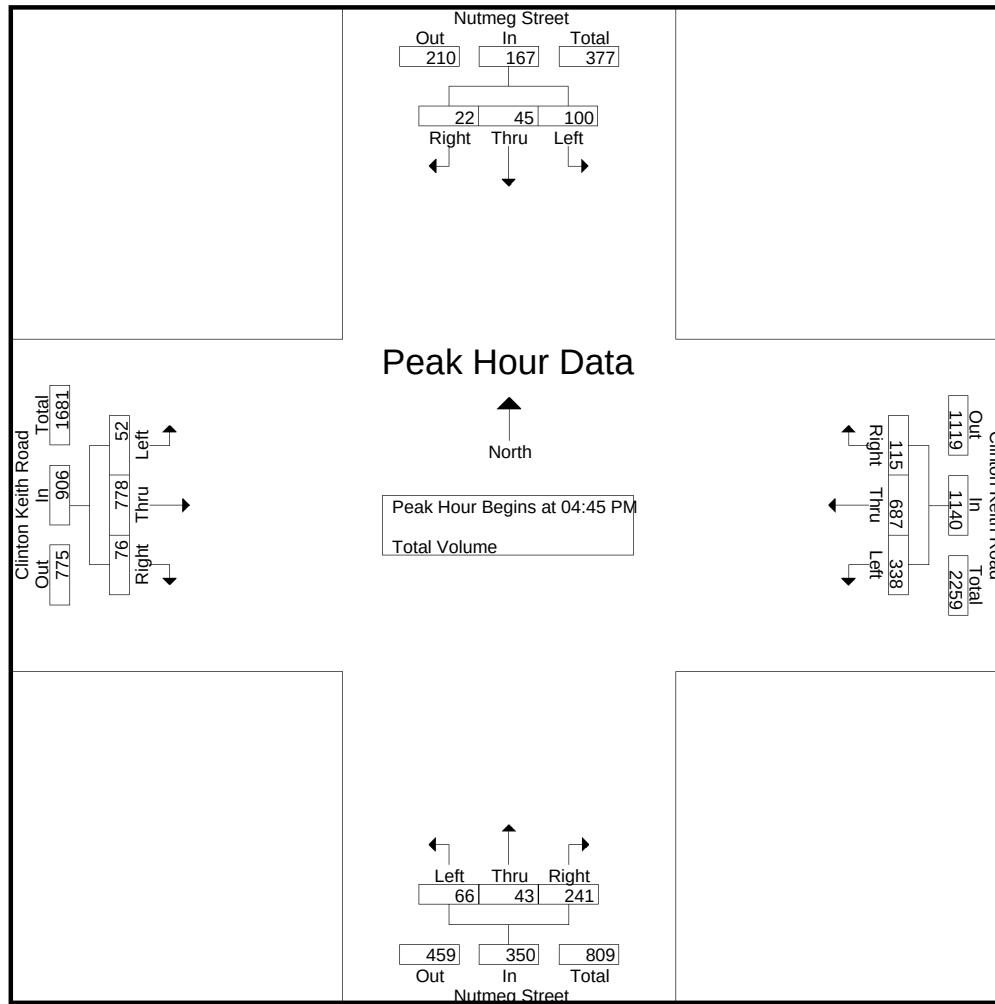
Groups Printed- Total Volume

	Nutmeg Street Southbound				Clinton Keith Road Westbound				Nutmeg Street Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	29	11	4	44	72	160	41	273	17	8	68	93	10	185	12	207	617
04:15 PM	22	6	7	35	76	145	24	245	14	14	70	98	11	178	21	210	588
04:30 PM	23	10	9	42	86	146	18	250	15	10	72	97	11	197	14	222	611
04:45 PM	28	12	10	50	88	161	32	281	14	12	56	82	18	207	21	246	659
Total	102	39	30	171	322	612	115	1049	60	44	266	370	50	767	68	885	2475
05:00 PM	21	10	6	37	74	172	33	279	18	10	75	103	10	179	15	204	623
05:15 PM	24	14	3	41	89	171	22	282	18	15	60	93	12	199	18	229	645
05:30 PM	27	9	3	39	87	183	28	298	16	6	50	72	12	193	22	227	636
05:45 PM	18	9	8	35	73	181	34	288	15	12	53	80	15	186	23	224	627
Total	90	42	20	152	323	707	117	1147	67	43	238	348	49	757	78	884	2531
Grand Total	192	81	50	323	645	1319	232	2196	127	87	504	718	99	1524	146	1769	5006
Apprch %	59.4	25.1	15.5		29.4	60.1	10.6		17.7	12.1	70.2		5.6	86.2	8.3		
Total %	3.8	1.6	1	6.5	12.9	26.3	4.6	43.9	2.5	1.7	10.1	14.3	2	30.4	2.9	35.3	

	Nutmeg Street Southbound				Clinton Keith Road Westbound				Nutmeg Street Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	28	12	10	50	88	161	32	281	14	12	56	82	18	207	21	246	659
05:00 PM	21	10	6	37	74	172	33	279	18	10	75	103	10	179	15	204	623
05:15 PM	24	14	3	41	89	171	22	282	18	15	60	93	12	199	18	229	645
05:30 PM	27	9	3	39	87	183	28	298	16	6	50	72	12	193	22	227	636
Total Volume	100	45	22	167	338	687	115	1140	66	43	241	350	52	778	76	906	2563
% App. Total	59.9	26.9	13.2		29.6	60.3	10.1		18.9	12.3	68.9		5.7	85.9	8.4		
PHF	.893	.804	.550	.835	.949	.939	.871	.956	.917	.717	.803	.850	.722	.940	.864	.921	.972

City of Murrieta
N/S: Nutmeg Street
E/W: Clinton Keith Road
Weather: Clear

File Name : 13_MUR_Nutmeg_Clinton Keith PM
Site Code : 04218933
Start Date : 12/12/2018
Page No : 2



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

	04:00 PM				05:00 PM				04:15 PM				04:45 PM			
+0 mins.	29	11	4	44	74	172	33	279	14	14	70	98	18	207	21	246
+15 mins.	22	6	7	35	89	171	22	282	15	10	72	97	10	179	15	204
+30 mins.	23	10	9	42	87	183	28	298	14	12	56	82	12	199	18	229
+45 mins.	28	12	10	50	73	181	34	288	18	10	75	103	12	193	22	227
Total Volume	102	39	30	171	323	707	117	1147	61	46	273	380	52	778	76	906
% App. Total	59.6	22.8	17.5		28.2	61.6	10.2		16.1	12.1	71.8		5.7	85.9	8.4	
PHF	.879	.813	.750	.855	.907	.966	.860	.962	.847	.821	.910	.922	.722	.940	.864	.921

City of Murrieta
N/S: California Oaks Road
E/W: Clinton Keith Road
Weather: Clear

File Name : 07_MUR_Cal Oaks_Clinton Keith AM
Site Code : 04218933
Start Date : 12/12/2018
Page No : 1

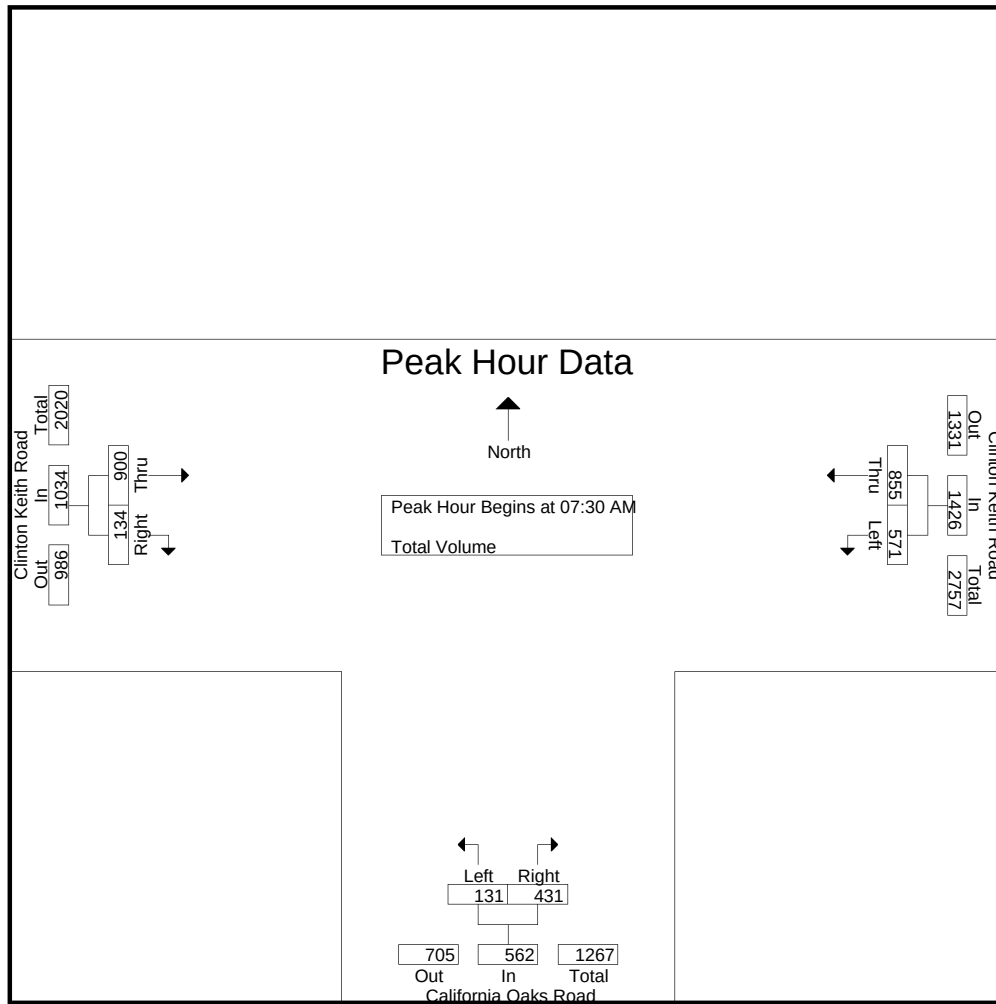
Groups Printed- Total Volume

	Clinton Keith Road Westbound			California Oaks Road Northbound			Clinton Keith Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	111	208	319	13	94	107	291	26	317	743
07:15 AM	169	219	388	28	82	110	224	29	253	751
07:30 AM	153	198	351	35	113	148	253	25	278	777
07:45 AM	125	200	325	28	121	149	222	34	256	730
Total	558	825	1383	104	410	514	990	114	1104	3001
08:00 AM	120	203	323	38	103	141	222	36	258	722
08:15 AM	173	254	427	30	94	124	203	39	242	793
08:30 AM	148	224	372	25	92	117	206	37	243	732
08:45 AM	129	171	300	24	100	124	183	26	209	633
Total	570	852	1422	117	389	506	814	138	952	2880
Grand Total	1128	1677	2805	221	799	1020	1804	252	2056	5881
Apprch %	40.2	59.8		21.7	78.3		87.7	12.3		
Total %	19.2	28.5	47.7	3.8	13.6	17.3	30.7	4.3	35	

	Clinton Keith Road Westbound			California Oaks Road Northbound			Clinton Keith Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	153	198	351	35	113	148	253	25	278	777
07:45 AM	125	200	325	28	121	149	222	34	256	730
08:00 AM	120	203	323	38	103	141	222	36	258	722
08:15 AM	173	254	427	30	94	124	203	39	242	793
Total Volume	571	855	1426	131	431	562	900	134	1034	3022
% App. Total	40	60		23.3	76.7		87	13		
PHF	.825	.842	.835	.862	.890	.943	.889	.859	.930	.953

City of Murrieta
N/S: California Oaks Road
E/W: Clinton Keith Road
Weather: Clear

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

	07:45 AM			07:30 AM			07:00 AM		
+0 mins.	125	200	325	35	113	148	291	26	317
+15 mins.	120	203	323	28	121	149	224	29	253
+30 mins.	173	254	427	38	103	141	253	25	278
+45 mins.	148	224	372	30	94	124	222	34	256
Total Volume	566	881	1447	131	431	562	990	114	1104
% App. Total	39.1	60.9		23.3	76.7		89.7	10.3	
PHF	.818	.867	.847	.862	.890	.943	.851	.838	.871

City of Murrieta
N/S: California Oaks Road
E/W: Clinton Keith Road
Weather: Clear

File Name : 07_MUR_Cal Oaks_Clinton Keith PM
Site Code : 04218933
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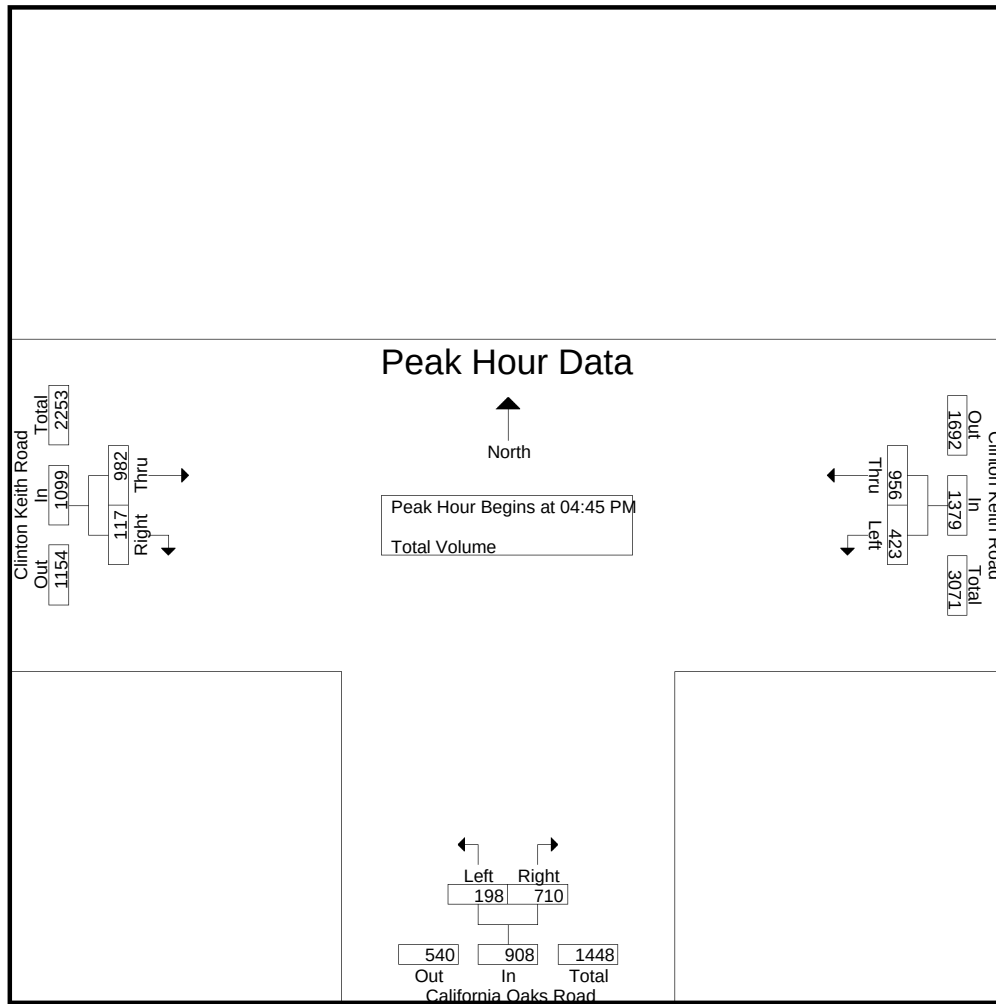
Groups Printed- Total Volume

	Clinton Keith Road Westbound			California Oaks Road Northbound			Clinton Keith Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	117	240	357	41	142	183	246	28	274	814
04:15 PM	86	207	293	35	155	190	247	29	276	759
04:30 PM	86	213	299	33	131	164	268	20	288	751
04:45 PM	109	243	352	49	165	214	243	39	282	848
Total	398	903	1301	158	593	751	1004	116	1120	3172
05:00 PM	107	239	346	51	193	244	216	25	241	831
05:15 PM	112	240	352	40	172	212	269	26	295	859
05:30 PM	95	234	329	58	180	238	254	27	281	848
05:45 PM	121	237	358	49	138	187	218	22	240	785
Total	435	950	1385	198	683	881	957	100	1057	3323
Grand Total	833	1853	2686	356	1276	1632	1961	216	2177	6495
Apprch %	31	69		21.8	78.2		90.1	9.9		
Total %	12.8	28.5	41.4	5.5	19.6	25.1	30.2	3.3	33.5	

	Clinton Keith Road Westbound			California Oaks Road Northbound			Clinton Keith Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	109	243	352	49	165	214	243	39	282	848
05:00 PM	107	239	346	51	193	244	216	25	241	831
05:15 PM	112	240	352	40	172	212	269	26	295	859
05:30 PM	95	234	329	58	180	238	254	27	281	848
Total Volume	423	956	1379	198	710	908	982	117	1099	3386
% App. Total	30.7	69.3		21.8	78.2		89.4	10.6		
PHF	.944	.984	.979	.853	.920	.930	.913	.750	.931	.985

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

	05:00 PM			04:45 PM			04:00 PM		
+0 mins.	107	239	346	49	165	214	246	28	274
+15 mins.	112	240	352	51	193	244	247	29	276
+30 mins.	95	234	329	40	172	212	268	20	288
+45 mins.	121	237	358	58	180	238	243	39	282
Total Volume	435	950	1385	198	710	908	1004	116	1120
% App. Total	31.4	68.6		21.8	78.2		89.6	10.4	
PHF	.899	.990	.967	.853	.920	.930	.937	.744	.972

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215S_Clinton K AM
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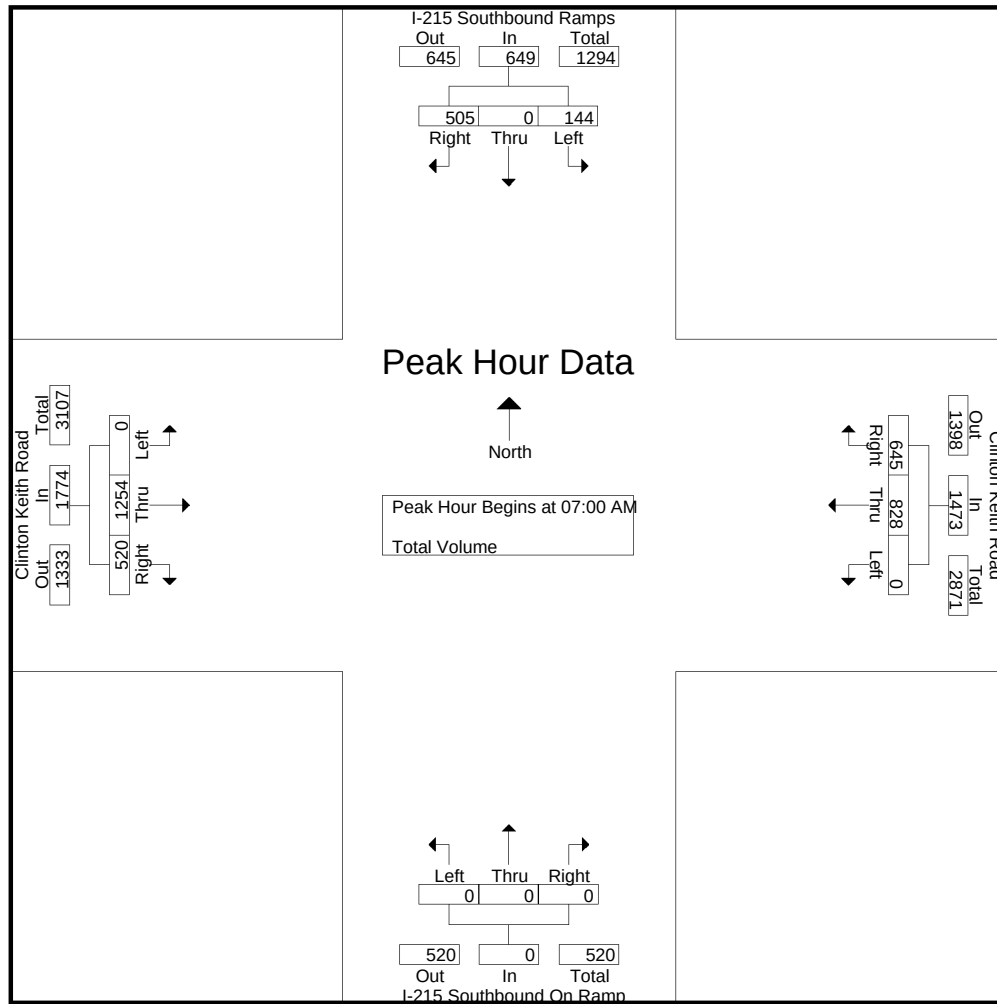
Groups Printed- Total Volume

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	62	0	128	190	0	161	145	306	0	0	0	0	0	385	109	494	990
07:15 AM	42	0	109	151	0	244	186	430	0	0	0	0	0	332	152	484	1065
07:30 AM	11	0	112	123	0	204	174	378	0	0	0	0	0	248	158	406	907
07:45 AM	29	0	156	185	0	219	140	359	0	0	0	0	0	289	101	390	934
Total	144	0	505	649	0	828	645	1473	0	0	0	0	0	1254	520	1774	3896
08:00 AM	27	0	142	169	0	179	124	303	0	0	0	0	0	235	104	339	811
08:15 AM	28	0	158	186	0	209	114	323	0	0	0	0	0	255	126	381	890
08:30 AM	25	0	137	162	0	187	126	313	0	0	0	0	0	295	119	414	889
08:45 AM	25	0	145	170	0	182	102	284	0	0	0	0	0	216	106	322	776
Total	105	0	582	687	0	757	466	1223	0	0	0	0	0	1001	455	1456	3366
Grand Total	249	0	1087	1336	0	1585	1111	2696	0	0	0	0	0	2255	975	3230	7262
Apprch %	18.6	0	81.4		0	58.8	41.2		0	0	0		0	69.8	30.2		
Total %	3.4	0	15	18.4	0	21.8	15.3	37.1	0	0	0	0	0	31.1	13.4	44.5	

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	62	0	128	190	0	161	145	306	0	0	0	0	0	385	109	494	990
07:15 AM	42	0	109	151	0	244	186	430	0	0	0	0	0	332	152	484	1065
07:30 AM	11	0	112	123	0	204	174	378	0	0	0	0	0	248	158	406	907
07:45 AM	29	0	156	185	0	219	140	359	0	0	0	0	0	289	101	390	934
Total Volume	144	0	505	649	0	828	645	1473	0	0	0	0	0	1254	520	1774	3896
% App. Total	22.2	0	77.8		0	56.2	43.8		0	0	0		0	70.7	29.3		
PHF	.581	.000	.809	.854	.000	.848	.867	.856	.000	.000	.000	.000	.000	.814	.823	.898	.915

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	29	0	156	185	0	161	145	306	0	0	0	0	0	385	109	494
+15 mins.	27	0	142	169	0	244	186	430	0	0	0	0	0	332	152	484
+30 mins.	28	0	158	186	0	204	174	378	0	0	0	0	0	248	158	406
+45 mins.	25	0	137	162	0	219	140	359	0	0	0	0	0	289	101	390
Total Volume	109	0	593	702	0	828	645	1473	0	0	0	0	0	1254	520	1774
% App. Total	15.5	0	84.5		0	56.2	43.8		0	0	0		0	70.7	29.3	
PHF	.940	.000	.938	.944	.000	.848	.867	.856	.000	.000	.000	.000	.000	.814	.823	.898

City of Murrieta
N/S: I-215 Southbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 04_MUR_215S_Clinton K PM
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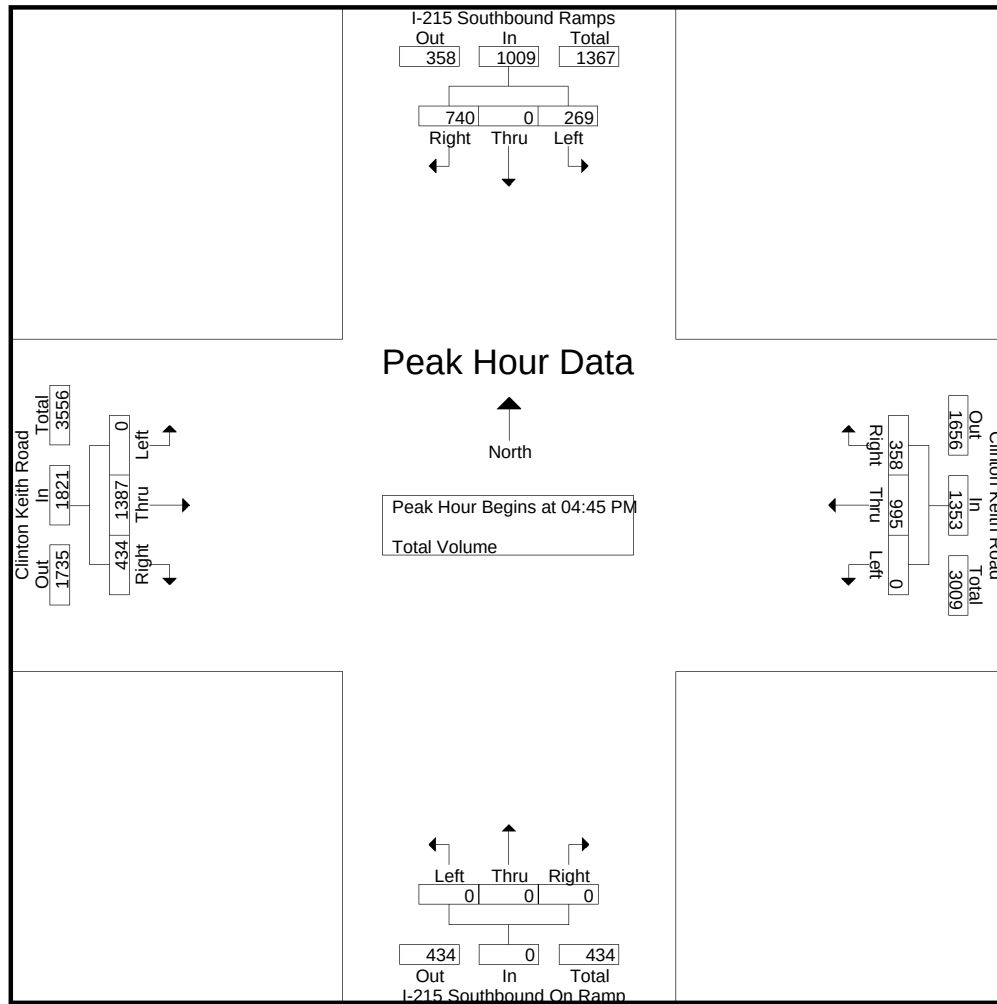
Groups Printed- Total Volume

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	48	0	178	226	0	233	77	310	0	0	0	0	0	301	112	413	949
04:15 PM	49	0	175	224	0	200	73	273	0	0	0	0	0	307	84	391	888
04:30 PM	67	0	196	263	0	195	105	300	0	0	0	0	0	313	89	402	965
04:45 PM	73	0	206	279	0	248	87	335	0	0	0	0	0	344	122	466	1080
Total	237	0	755	992	0	876	342	1218	0	0	0	0	0	1265	407	1672	3882
05:00 PM	57	0	175	232	0	260	92	352	0	0	0	0	0	304	96	400	984
05:15 PM	64	0	175	239	0	268	95	363	0	0	0	0	0	371	115	486	1088
05:30 PM	75	0	184	259	0	219	84	303	0	0	0	0	0	368	101	469	1031
05:45 PM	62	1	201	264	0	217	84	301	0	0	0	0	0	286	82	368	933
Total	258	1	735	994	0	964	355	1319	0	0	0	0	0	1329	394	1723	4036
Grand Total	495	1	1490	1986	0	1840	697	2537	0	0	0	0	0	2594	801	3395	7918
Apprch %	24.9	0.1	75		0	72.5	27.5		0	0	0		0	76.4	23.6		
Total %	6.3	0	18.8	25.1	0	23.2	8.8	32	0	0	0	0	0	32.8	10.1	42.9	

	I-215 Southbound Ramps Southbound				Clinton Keith Road Westbound				I-215 Southbound On Ramp Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	73	0	206	279	0	248	87	335	0	0	0	0	0	344	122	466	1080
05:00 PM	57	0	175	232	0	260	92	352	0	0	0	0	0	304	96	400	984
05:15 PM	64	0	175	239	0	268	95	363	0	0	0	0	0	371	115	486	1088
05:30 PM	75	0	184	259	0	219	84	303	0	0	0	0	0	368	101	469	1031
Total Volume	269	0	740	1009	0	995	358	1353	0	0	0	0	0	1387	434	1821	4183
% App. Total	26.7	0	73.3		0	73.5	26.5		0	0	0		0	76.2	23.8		
PHF	.897	.000	.898	.904	.000	.928	.942	.932	.000	.000	.000	.000	.000	.935	.889	.937	.961

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

	04:30 PM				04:45 PM				04:00 PM				04:45 PM			
+0 mins.	67	0	196	263	0	248	87	335	0	0	0	0	0	344	122	466
+15 mins.	73	0	206	279	0	260	92	352	0	0	0	0	0	304	96	400
+30 mins.	57	0	175	232	0	268	95	363	0	0	0	0	0	371	115	486
+45 mins.	64	0	175	239	0	219	84	303	0	0	0	0	0	368	101	469
Total Volume	261	0	752	1013	0	995	358	1353	0	0	0	0	0	1387	434	1821
% App. Total	25.8	0	74.2		0	73.5	26.5		0	0	0		0	76.2	23.8	
PHF	.894	.000	.913	.908	.000	.928	.942	.932	.000	.000	.000	.000	.000	.935	.889	.937

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 05_MUR_215N_Clinton K AM
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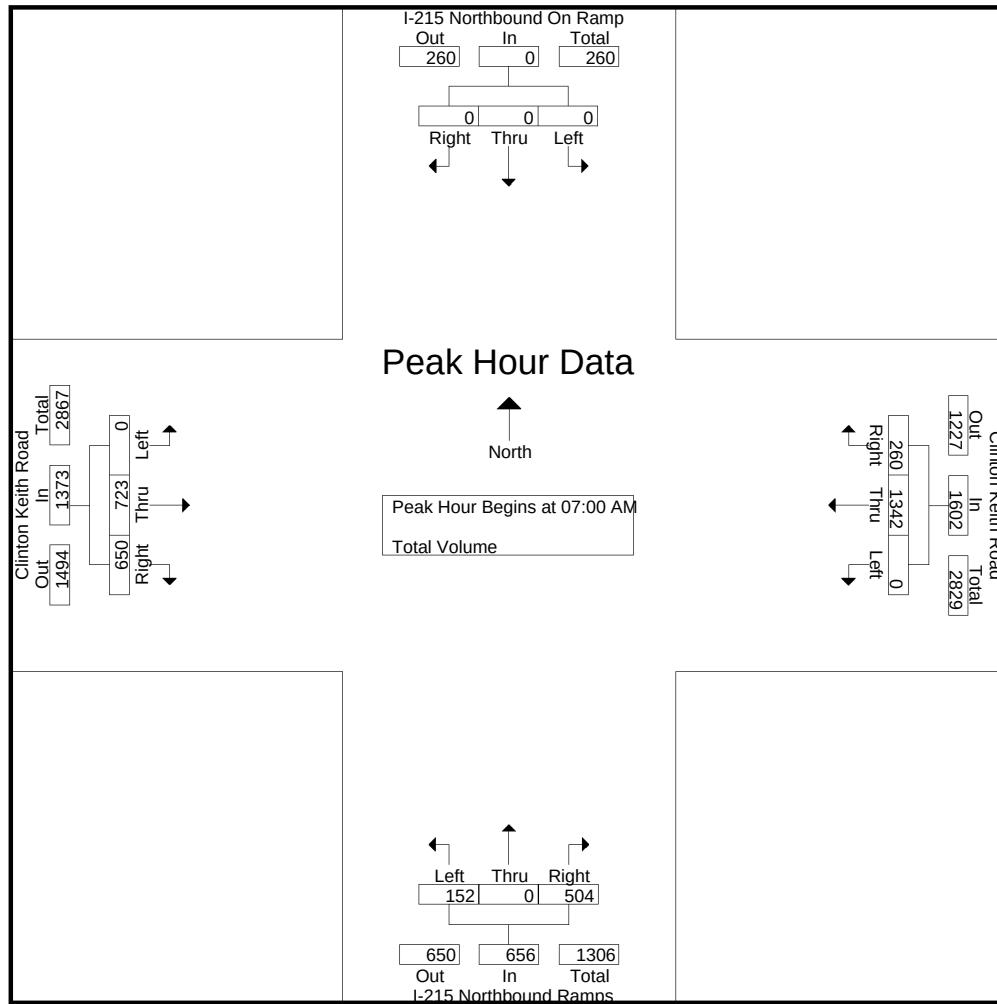
Groups Printed- Total Volume

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	286	77	363	23	0	203	226	0	273	162	435	1024
07:15 AM	0	0	0	0	0	393	84	477	42	0	146	188	0	190	169	359	1024
07:30 AM	0	0	0	0	0	360	53	413	37	0	72	109	0	114	148	262	784
07:45 AM	0	0	0	0	0	303	46	349	50	0	83	133	0	146	171	317	799
Total	0	0	0	0	0	1342	260	1602	152	0	504	656	0	723	650	1373	3631
08:00 AM	0	0	0	0	0	261	40	301	52	0	56	108	0	121	132	253	662
08:15 AM	0	0	0	0	0	254	34	288	54	0	53	107	0	160	125	285	680
08:30 AM	0	0	0	0	0	269	35	304	59	0	48	107	0	180	146	326	737
08:45 AM	0	0	0	0	0	236	35	271	59	0	61	120	0	115	128	243	634
Total	0	0	0	0	0	1020	144	1164	224	0	218	442	0	576	531	1107	2713
Grand Total	0	0	0	0	0	2362	404	2766	376	0	722	1098	0	1299	1181	2480	6344
Apprch %	0	0	0		0	85.4	14.6		34.2	0	65.8		0	52.4	47.6		
Total %	0	0	0	0	0	37.2	6.4	43.6	5.9	0	11.4	17.3	0	20.5	18.6	39.1	

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	286	77	363	23	0	203	226	0	273	162	435	1024
07:15 AM	0	0	0	0	0	393	84	477	42	0	146	188	0	190	169	359	1024
07:30 AM	0	0	0	0	0	360	53	413	37	0	72	109	0	114	148	262	784
07:45 AM	0	0	0	0	0	303	46	349	50	0	83	133	0	146	171	317	799
Total Volume	0	0	0	0	0	1342	260	1602	152	0	504	656	0	723	650	1373	3631
% App. Total	0	0	0		0	83.8	16.2		23.2	0	76.8		0	52.7	47.3		
PHF	.000	.000	.000	.000	.000	.854	.774	.840	.760	.000	.621	.726	.000	.662	.950	.789	.886

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 05_MUR_215N_Clinton K AM
Site Code : 20119127
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	286	77	363	23	0	203	226	0	273	162	435
+15 mins.	0	0	0	0	0	393	84	477	42	0	146	188	0	190	169	359
+30 mins.	0	0	0	0	0	360	53	413	37	0	72	109	0	114	148	262
+45 mins.	0	0	0	0	0	303	46	349	50	0	83	133	0	146	171	317
Total Volume	0	0	0	0	0	1342	260	1602	152	0	504	656	0	723	650	1373
% App. Total	0	0	0	0	0	83.8	16.2		23.2	0	76.8		0	52.7	47.3	
PHF	.000	.000	.000	.000	.000	.854	.774	.840	.760	.000	.621	.726	.000	.662	.950	.789

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

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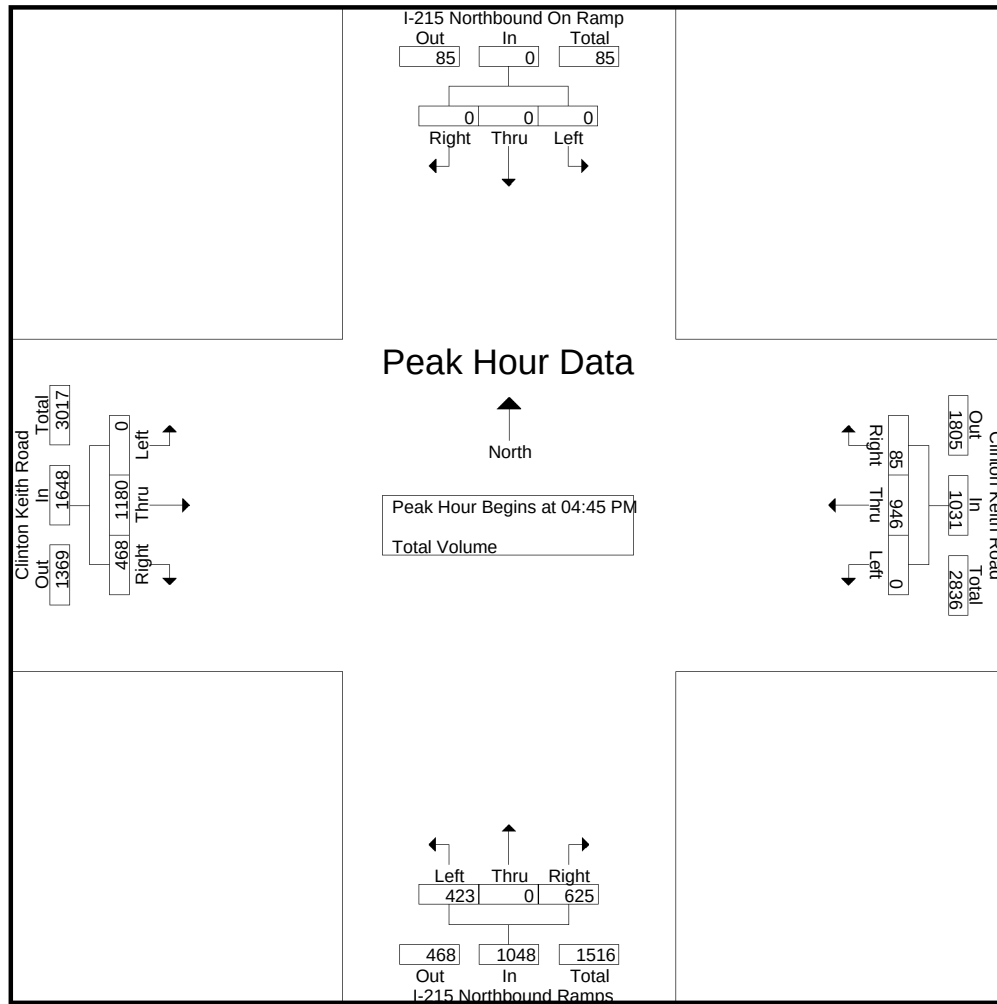
Groups Printed- Total Volume

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	225	19	244	86	0	116	202	0	237	112	349	795
04:15 PM	0	0	0	0	0	199	21	220	75	0	121	196	0	231	123	354	770
04:30 PM	0	0	0	0	0	223	20	243	87	0	148	235	0	239	126	365	843
04:45 PM	0	0	0	0	0	245	16	261	99	0	135	234	0	298	120	418	913
Total	0	0	0	0	0	892	76	968	347	0	520	867	0	1005	481	1486	3321
05:00 PM	0	0	0	0	0	240	22	262	122	0	169	291	0	231	116	347	900
05:15 PM	0	0	0	0	0	257	24	281	106	0	167	273	0	309	126	435	989
05:30 PM	0	0	0	0	0	204	23	227	96	0	154	250	0	342	106	448	925
05:45 PM	0	0	0	0	0	213	30	243	98	0	187	285	0	226	116	342	870
Total	0	0	0	0	0	914	99	1013	422	0	677	1099	0	1108	464	1572	3684
Grand Total	0	0	0	0	0	1806	175	1981	769	0	1197	1966	0	2113	945	3058	7005
Apprch %	0	0	0		0	91.2	8.8		39.1	0	60.9		0	69.1	30.9		
Total %	0	0	0	0	0	25.8	2.5	28.3	11	0	17.1	28.1	0	30.2	13.5	43.7	

	I-215 Northbound On Ramp Southbound				Clinton Keith Road Westbound				I-215 Northbound Ramps Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	245	16	261	99	0	135	234	0	298	120	418	913
05:00 PM	0	0	0	0	0	240	22	262	122	0	169	291	0	231	116	347	900
05:15 PM	0	0	0	0	0	257	24	281	106	0	167	273	0	309	126	435	989
05:30 PM	0	0	0	0	0	204	23	227	96	0	154	250	0	342	106	448	925
Total Volume	0	0	0	0	0	946	85	1031	423	0	625	1048	0	1180	468	1648	3727
% App. Total	0	0	0		0	91.8	8.2		40.4	0	59.6		0	71.6	28.4		
PHF	.000	.000	.000	.000	.000	.920	.885	.917	.867	.000	.925	.900	.000	.863	.929	.920	.942

City of Murrieta
N/S: I-215 Northbound Ramps
E/W: Clinton Keith Road
Weather: Clear

File Name : 05_MUR_215N_Clinton K PM
Site Code : 20119127
Start Date : 2/26/2019
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				05:00 PM				04:45 PM			
+0 mins.	0	0	0	0	0	223	20	243	122	0	169	291	0	298	120	418
+15 mins.	0	0	0	0	0	245	16	261	106	0	167	273	0	231	116	347
+30 mins.	0	0	0	0	0	240	22	262	96	0	154	250	0	309	126	435
+45 mins.	0	0	0	0	0	257	24	281	98	0	187	285	0	342	106	448
Total Volume	0	0	0	0	0	965	82	1047	422	0	677	1099	0	1180	468	1648
% App. Total	0	0	0	0	0	92.2	7.8		38.4	0	61.6		0	71.6	28.4	
PHF	.000	.000	.000	.000	.000	.939	.854	.931	.865	.000	.905	.944	.000	.863	.929	.920

City of Murrieta
N/S: Whitewood Road
E/W: Clinton Keith Road
Weather: Clear

File Name : 07_MUR_Whitewood_Clinton K AM
Site Code : 20119127
Start Date : 2/26/2019
Page No : 1

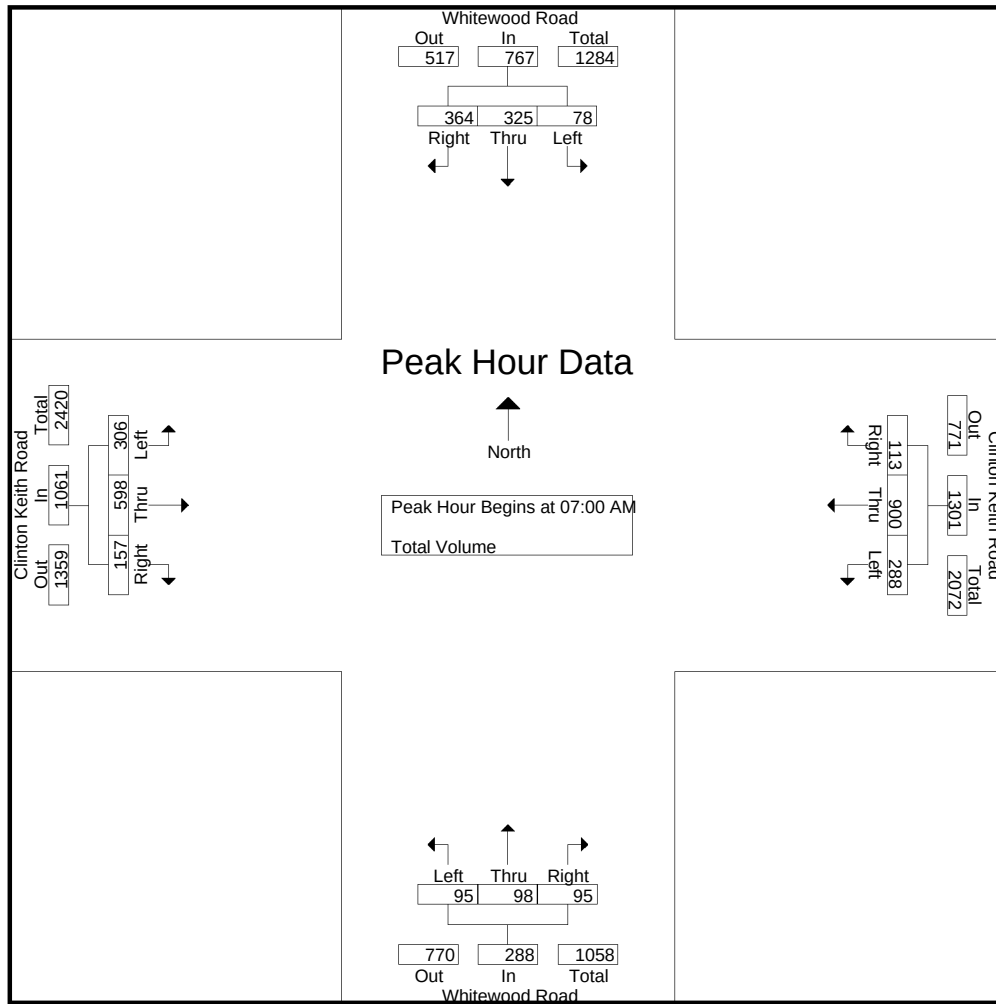
Groups Printed- Total Volume

	Whitewood Road Southbound				Clinton Keith Road Westbound				Whitewood Road Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	18	69	80	167	123	256	19	398	29	17	16	62	60	138	53	251	878
07:15 AM	23	94	69	186	88	273	39	400	25	22	25	72	72	209	62	343	1001
07:30 AM	25	72	103	200	39	170	26	235	22	31	25	78	88	127	19	234	747
07:45 AM	12	90	112	214	38	201	29	268	19	28	29	76	86	124	23	233	791
Total	78	325	364	767	288	900	113	1301	95	98	95	288	306	598	157	1061	3417
08:00 AM	14	78	94	186	43	167	19	229	20	24	24	68	54	104	16	174	657
08:15 AM	17	84	76	177	52	174	20	246	21	20	21	62	57	115	39	211	696
08:30 AM	11	85	75	171	24	195	24	243	25	28	27	80	62	127	26	215	709
08:45 AM	15	67	64	146	36	177	20	233	21	37	15	73	60	83	18	161	613
Total	57	314	309	680	155	713	83	951	87	109	87	283	233	429	99	761	2675
Grand Total	135	639	673	1447	443	1613	196	2252	182	207	182	571	539	1027	256	1822	6092
Apprch %	9.3	44.2	46.5		19.7	71.6	8.7		31.9	36.3	31.9		29.6	56.4	14.1		
Total %	2.2	10.5	11	23.8	7.3	26.5	3.2	37	3	3.4	3	9.4	8.8	16.9	4.2	29.9	

	Whitewood Road Southbound				Clinton Keith Road Westbound				Whitewood Road Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	18	69	80	167	123	256	19	398	29	17	16	62	60	138	53	251	878
07:15 AM	23	94	69	186	88	273	39	400	25	22	25	72	72	209	62	343	1001
07:30 AM	25	72	103	200	39	170	26	235	22	31	25	78	88	127	19	234	747
07:45 AM	12	90	112	214	38	201	29	268	19	28	29	76	86	124	23	233	791
Total Volume	78	325	364	767	288	900	113	1301	95	98	95	288	306	598	157	1061	3417
% App. Total	10.2	42.4	47.5		22.1	69.2	8.7		33	34	33		28.8	56.4	14.8		
PHF	.780	.864	.813	.896	.585	.824	.724	.813	.819	.790	.819	.923	.869	.715	.633	.773	.853

City of Murrieta
N/S: Whitewood Road
E/W: Clinton Keith Road
Weather: Clear

File Name : 07_MUR_Whitewood_Clinton K AM
Site Code : 20119127
Start Date : 2/26/2019
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Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:15 AM				07:00 AM			
+0 mins.	23	94	69	186	123	256	19	398	25	22	25	72	60	138	53	251
+15 mins.	25	72	103	200	88	273	39	400	22	31	25	78	72	209	62	343
+30 mins.	12	90	112	214	39	170	26	235	19	28	29	76	88	127	19	234
+45 mins.	14	78	94	186	38	201	29	268	20	24	24	68	86	124	23	233
Total Volume	74	334	378	786	288	900	113	1301	86	105	103	294	306	598	157	1061
% App. Total	9.4	42.5	48.1		22.1	69.2	8.7		29.3	35.7	35		28.8	56.4	14.8	
PHF	.740	.888	.844	.918	.585	.824	.724	.813	.860	.847	.888	.942	.869	.715	.633	.773

City of Murrieta
N/S: Whitewood Road
E/W: Clinton Keith Road
Weather: Clear

File Name : 07_MUR_Whitewood_Clinton K PM
Site Code : 20119127
Start Date : 2/26/2019
Page No : 1

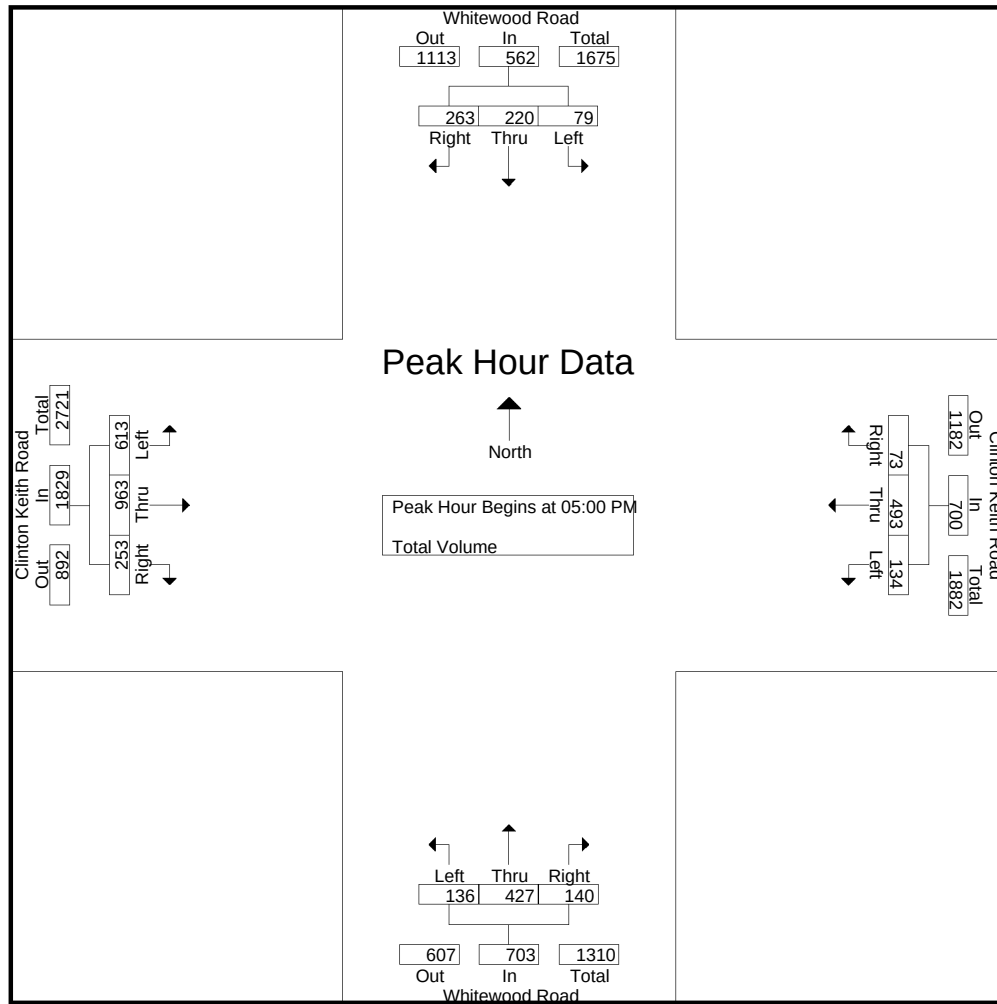
Groups Printed- Total Volume

	Whitewood Road Southbound				Clinton Keith Road Westbound				Whitewood Road Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	25	43	74	142	30	109	22	161	38	94	20	152	110	193	48	351	806
04:15 PM	19	55	54	128	38	120	19	177	35	83	26	144	122	176	33	331	780
04:30 PM	23	62	92	177	35	127	21	183	28	78	30	136	140	182	35	357	853
04:45 PM	22	51	98	171	41	156	16	213	31	81	34	146	125	187	62	374	904
Total	89	211	318	618	144	512	78	734	132	336	110	578	497	738	178	1413	3343
05:00 PM	26	63	81	170	41	133	17	191	36	102	34	172	125	207	67	399	932
05:15 PM	26	46	60	132	30	138	15	183	27	117	38	182	173	233	61	467	964
05:30 PM	11	53	61	125	29	113	20	162	37	104	43	184	163	279	63	505	976
05:45 PM	16	58	61	135	34	109	21	164	36	104	25	165	152	244	62	458	922
Total	79	220	263	562	134	493	73	700	136	427	140	703	613	963	253	1829	3794
Grand Total	168	431	581	1180	278	1005	151	1434	268	763	250	1281	1110	1701	431	3242	7137
Apprch %	14.2	36.5	49.2		19.4	70.1	10.5		20.9	59.6	19.5		34.2	52.5	13.3		
Total %	2.4	6	8.1	16.5	3.9	14.1	2.1	20.1	3.8	10.7	3.5	17.9	15.6	23.8	6	45.4	

	Whitewood Road Southbound				Clinton Keith Road Westbound				Whitewood Road Northbound				Clinton Keith Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	26	63	81	170	41	133	17	191	36	102	34	172	125	207	67	399	932
05:15 PM	26	46	60	132	30	138	15	183	27	117	38	182	173	233	61	467	964
05:30 PM	11	53	61	125	29	113	20	162	37	104	43	184	163	279	63	505	976
05:45 PM	16	58	61	135	34	109	21	164	36	104	25	165	152	244	62	458	922
Total Volume	79	220	263	562	134	493	73	700	136	427	140	703	613	963	253	1829	3794
% App. Total	14.1	39.1	46.8		19.1	70.4	10.4		19.3	60.7	19.9		33.5	52.7	13.8		
PHF	.760	.873	.812	.826	.817	.893	.869	.916	.919	.912	.814	.955	.886	.863	.944	.905	.972

City of Murrieta
N/S: Whitewood Road
E/W: Clinton Keith Road
Weather: Clear

File Name : 07_MUR_Whitewood_Clinton K PM
Site Code : 20119127
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Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				05:00 PM				05:00 PM			
+0 mins.	23	62	92	177	35	127	21	183	36	102	34	172	125	207	67	399
+15 mins.	22	51	98	171	41	156	16	213	27	117	38	182	173	233	61	467
+30 mins.	26	63	81	170	41	133	17	191	37	104	43	184	163	279	63	505
+45 mins.	26	46	60	132	30	138	15	183	36	104	25	165	152	244	62	458
Total Volume	97	222	331	650	147	554	69	770	136	427	140	703	613	963	253	1829
% App. Total	14.9	34.2	50.9		19.1	71.9	9		19.3	60.7	19.9		33.5	52.7	13.8	
PHF	.933	.881	.844	.918	.896	.888	.821	.904	.919	.912	.814	.955	.886	.863	.944	.905

APPENDIX 3.2:

EXISTING (2021) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings

Murrieta Residential (JN:14027)

1: Nutmeg St. & Clinton Keith Rd.

06/23/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	643	79	349	787	74	102	43	355	101	68	44
Future Volume (vph)	32	643	79	349	787	74	102	43	355	101	68	44
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	28.8	28.8	9.6	29.8	29.8	32.7	32.7	32.7	14.7	14.7	14.7
Total Split (s)	12.0	40.0	40.0	43.0	71.0	71.0	37.0	37.0	37.0	37.0	37.0	37.0
Total Split (%)	10.0%	33.3%	33.3%	35.8%	59.2%	59.2%	30.8%	30.8%	30.8%	30.8%	30.8%	30.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.7	4.7	4.7	4.7	4.7	4.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	6.2	20.2	20.2	19.6	41.0	41.0	13.5	13.5	13.5	13.5	13.5	13.5
Actuated g/C Ratio	0.09	0.29	0.29	0.28	0.59	0.59	0.19	0.19	0.19	0.19	0.19	0.19
v/c Ratio	0.20	0.63	0.15	0.71	0.38	0.08	0.40	0.12	0.60	0.39	0.19	0.14
Control Delay	39.6	25.4	4.4	32.2	9.2	2.8	33.6	28.3	8.5	33.1	28.9	28.8
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	39.6	25.4	4.4	32.2	9.2	2.8	33.6	28.3	8.5	33.1	28.9	28.8
LOS	D	C	A	C	A	A	C	C	A	C	C	C
Approach Delay		23.8			15.5			15.3			30.9	
Approach LOS		C			B			B			C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 69.4

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 19.0

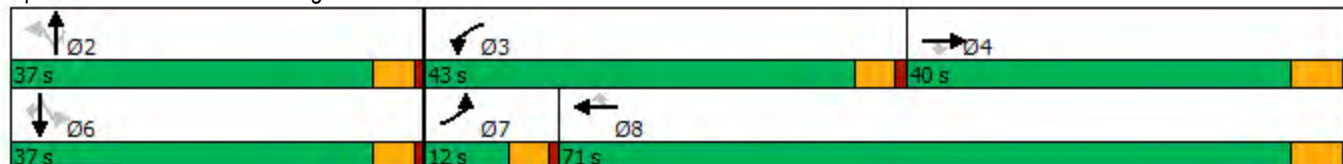
Intersection LOS: B

Intersection Capacity Utilization 62.0%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 1: Nutmeg St. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
1: Nutmeg St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

06/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	643	79	349	787	74	102	43	355	101	68	44
Future Volume (veh/h)	32	643	79	349	787	74	102	43	355	101	68	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	649	55	353	795	51	103	43	223	102	69	39
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	999	446	418	1707	761	349	365	309	334	365	309
Arrive On Green	0.04	0.28	0.28	0.23	0.48	0.48	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1286	1870	1585	1113	1870	1585
Grp Volume(v), veh/h	32	649	55	353	795	51	103	43	223	102	69	39
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1286	1870	1585	1113	1870	1585
Q Serve(g_s), s	0.9	8.4	1.4	9.9	7.8	0.9	3.8	1.0	6.9	4.3	1.6	1.1
Cycle Q Clear(g_c), s	0.9	8.4	1.4	9.9	7.8	0.9	5.4	1.0	6.9	5.3	1.6	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	63	999	446	418	1707	761	349	365	309	334	365	309
V/C Ratio(X)	0.51	0.65	0.12	0.84	0.47	0.07	0.30	0.12	0.72	0.31	0.19	0.13
Avail Cap(c_a), veh/h	252	2326	1037	1309	4434	1978	893	1156	980	805	1156	980
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	24.7	16.5	14.0	19.1	9.1	7.3	19.8	17.3	19.7	19.5	17.6	17.4
Incr Delay (d2), s/veh	2.3	0.7	0.1	1.8	0.2	0.0	0.5	0.1	3.2	0.5	0.2	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	0.4	2.8	0.4	3.5	2.1	0.2	1.1	0.4	2.4	1.1	0.7	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	17.2	14.1	20.9	9.3	7.3	20.3	17.5	22.9	20.0	17.8	17.5
LnGrp LOS	C	B	B	C	A	A	C	B	C	C	B	B
Approach Vol, veh/h	736			1199			369			210		
Approach Delay, s/veh	17.4			12.6			21.5			18.8		
Approach LOS	B			B			C			B		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	14.9			16.9			20.5			14.9		
Change Period (Y+Rc), s	* 4.7			4.6			5.8			* 4.7		
Max Green Setting (Gmax), s	* 32			38.4			34.2			* 32		
Max Q Clear Time (g_c+I1), s	8.9			11.9			10.4			7.3		
Green Ext Time (p_c), s	1.3			0.5			4.3			0.9		

Intersection Summary

HCM 6th Ctrl Delay	15.9
HCM 6th LOS	B

Notes

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

Timings

2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

06/23/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↑
Traffic Volume (vph)	942	172	701	1102	121	443
Future Volume (vph)	942	172	701	1102	121	443
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	33.8	33.8	9.6	15.8	14.7	14.7
Total Split (s)	44.0	44.0	55.0	99.0	21.0	21.0
Total Split (%)	36.7%	36.7%	45.8%	82.5%	17.5%	17.5%
Yellow Time (s)	4.8	4.8	3.6	4.8	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	4.7	4.7
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None
Act Effect Green (s)	35.1	35.1	47.8	87.6	11.7	11.7
Actuated g/C Ratio	0.32	0.32	0.43	0.80	0.11	0.11
v/c Ratio	0.85	0.29	0.93	0.40	0.64	0.64
Control Delay	43.8	9.5	50.0	3.9	23.4	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	9.5	50.0	3.9	23.4	15.1
LOS	D	A	D	A	C	B
Approach Delay	38.5			21.8	20.1	
Approach LOS	D			C	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 109.9

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 26.9

Intersection LOS: C

Intersection Capacity Utilization 85.8%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: California Oaks St. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

06/23/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Traffic Volume (veh/h)	942	172	701	1102	121	443
Future Volume (veh/h)	942	172	701	1102	121	443
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	961	145	715	1124	123	335
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1115	497	743	2751	227	404
Arrive On Green	0.31	0.31	0.42	0.77	0.13	0.13
Sat Flow, veh/h	3647	1585	1781	3647	1781	3170
Grp Volume(v), veh/h	961	145	715	1124	123	335
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	27.1	7.4	41.7	11.2	6.9	11.0
Cycle Q Clear(g_c), s	27.1	7.4	41.7	11.2	6.9	11.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1115	497	743	2751	227	404
V/C Ratio(X)	0.86	0.29	0.96	0.41	0.54	0.83
Avail Cap(c_a), veh/h	1272	567	841	3104	272	484
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	34.4	27.6	30.3	4.0	43.6	45.4
Incr Delay (d2), s/veh	5.7	0.3	20.3	0.1	2.0	9.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	2.7	20.6	2.6	3.2	4.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.1	28.0	50.6	4.1	45.6	55.3
LnGrp LOS	D	C	D	A	D	E
Approach Vol, veh/h	1106			1839	458	
Approach Delay, s/veh	38.5			22.2	52.7	
Approach LOS	D			C	D	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		18.3	49.1	39.3		88.4
Change Period (Y+Rc), s		* 4.7	4.6	5.8		5.8
Max Green Setting (Gmax), s		* 16	50.4	38.2		93.2
Max Q Clear Time (g_c+I1), s		13.0	43.7	29.1		13.2
Green Ext Time (p_c), s		0.6	0.8	4.3		9.8
Intersection Summary						
HCM 6th Ctrl Delay			31.6			
HCM 6th LOS			C			
Notes						
User approved volume balancing among the lanes for turning movement.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

Timings
3: I-215 SB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	←	↓	↙
Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑↑
Traffic Volume (vph)	1280	447	1154	0	763
Future Volume (vph)	1280	447	1154	0	763
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	2		6	4	
Permitted Phases		2			4
Detector Phase	2	2	6	4	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.8	32.8	23.8	23.8	23.8
Total Split (s)	54.0	54.0	54.0	56.0	56.0
Total Split (%)	49.1%	49.1%	49.1%	50.9%	50.9%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8
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)	5.8	5.8	5.8	5.8	5.8
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
Act Effect Green (s)	59.8	59.8	59.8	38.6	38.6
Actuated g/C Ratio	0.54	0.54	0.54	0.35	0.35
v/c Ratio	0.49	0.44	0.44	0.39	0.81
Control Delay	17.4	3.0	11.0	27.5	36.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	3.0	11.0	27.5	36.8
LOS	B	A	B	C	D
Approach Delay	13.7		11.0	34.7	
Approach LOS	B		B	C	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 18.3
 Intersection Capacity Utilization 58.7%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 3: I-215 SB Ramps & Clinton Keith Rd.

→ Ø2 (R)	54 s	↓ Ø4	56 s
← Ø6 (R)	54 s		

HCM 6th Signalized Intersection Summary
3: I-215 SB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑						↑	↑↑
Traffic Volume (veh/h)	0	1280	447	0	1154	0	0	0	0	227	0	763
Future Volume (veh/h)	0	1280	447	0	1154	0	0	0	0	227	0	763
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1362	476	0	1228	0				241	0	812
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	2
Cap, veh/h	0	2919	906	0	2919	0				575	0	901
Arrive On Green	0.00	0.57	0.57	0.00	1.00	0.00				0.32	0.00	0.32
Sat Flow, veh/h	0	5274	1585	0	5443	0				1781	0	2790
Grp Volume(v), veh/h	0	1362	476	0	1228	0				241	0	812
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1702	0				1781	0	1395
Q Serve(g_s), s	0.0	17.1	20.2	0.0	0.0	0.0				11.7	0.0	30.6
Cycle Q Clear(g_c), s	0.0	17.1	20.2	0.0	0.0	0.0				11.7	0.0	30.6
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2919	906	0	2919	0				575	0	901
V/C Ratio(X)	0.00	0.47	0.53	0.00	0.42	0.00				0.42	0.00	0.90
Avail Cap(c_a), veh/h	0	2919	906	0	2919	0				813	0	1273
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.48	0.48	0.00	0.88	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.8	14.4	0.0	0.0	0.0				29.2	0.0	35.6
Incr Delay (d2), s/veh	0.0	0.3	1.0	0.0	0.4	0.0				0.2	0.0	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.0	6.8	0.0	0.1	0.0				5.0	0.0	10.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	14.0	15.5	0.0	0.4	0.0				29.3	0.0	41.0
LnGrp LOS	A	B	B	A	A	A				C	A	D
Approach Vol, veh/h		1838			1228						1053	
Approach Delay, s/veh		14.4			0.4						38.3	
Approach LOS		B			A						D	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		68.7		41.3		68.7						
Change Period (Y+Rc), s		5.8		5.8		5.8						
Max Green Setting (Gmax), s		48.2		50.2		48.2						
Max Q Clear Time (g_c+I1), s		22.2		32.6		2.0						
Green Ext Time (p_c), s		7.9		2.9		6.2						
Intersection Summary												
HCM 6th Ctrl Delay			16.3									
HCM 6th LOS			B									

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

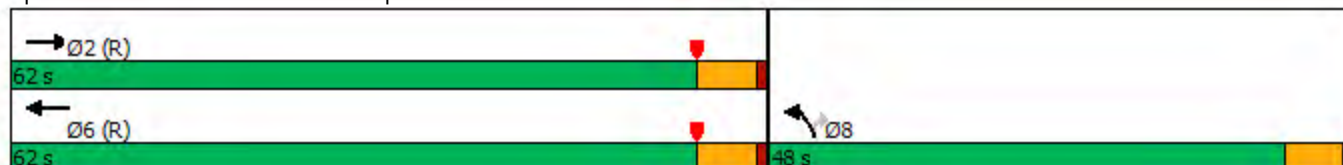
	→	←	↶	↷
Lane Group	EBT	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑↑↑	↶↶	↷
Traffic Volume (vph)	881	1369	207	341
Future Volume (vph)	881	1369	207	341
Turn Type	NA	NA	Prot	Perm
Protected Phases	2	6	8	
Permitted Phases				8
Detector Phase	2	6	8	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	43.8	22.0	22.0	22.0
Total Split (s)	62.0	62.0	48.0	48.0
Total Split (%)	56.4%	56.4%	43.6%	43.6%
Yellow Time (s)	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Min	C-Min	None	None
Act Effect Green (s)	75.8	75.8	22.6	22.6
Actuated g/C Ratio	0.69	0.69	0.21	0.21
v/c Ratio	0.26	0.40	0.80	0.69
Control Delay	5.8	10.1	53.9	33.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.8	10.1	53.9	33.5
LOS	A	B	D	C
Approach Delay	5.8	10.1	44.1	
Approach LOS	A	B	D	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 15.4
 Intersection Capacity Utilization 58.7%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
4: I-215 NB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘	↗
Traffic Volume (veh/h)	881	0	0	1369	207	341
Future Volume (veh/h)	881	0	0	1369	207	341
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	908	0	0	1411	278	282
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	3549	0	0	3549	355	316
Arrive On Green	1.00	0.00	0.00	1.00	0.20	0.20
Sat Flow, veh/h	5443	0	0	5443	1781	1585
Grp Volume(v), veh/h	908	0	0	1411	278	282
Grp Sat Flow(s),veh/h/ln	1702	0	0	1702	1781	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.0	16.3	19.1
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	16.3	19.1
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	3549	0	0	3549	355	316
V/C Ratio(X)	0.26	0.00	0.00	0.40	0.78	0.89
Avail Cap(c_a), veh/h	3549	0	0	3549	683	608
HCM Platoon Ratio	2.00	1.00	1.00	2.00	1.00	1.00
Upstream Filter(I)	0.86	0.00	0.00	0.90	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	41.8	42.9
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	1.4	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	7.2	7.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.1	0.0	0.0	0.3	43.2	46.4
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h	908			1411	560	
Approach Delay, s/veh	0.1			0.3	44.8	
Approach LOS	A			A	D	
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	82.2		82.2		27.8	
Change Period (Y+Rc), s	5.8		5.8		5.8	
Max Green Setting (Gmax), s	56.2		56.2		42.2	
Max Q Clear Time (g_c+I1), s	2.0		2.0		21.1	
Green Ext Time (p_c), s	4.2		7.7		0.9	
Intersection Summary						
HCM 6th Ctrl Delay			8.9			
HCM 6th LOS			A			
Notes						

Timings
5: Clinton Keith Rd. & Warm Springs Pkwy.

Murrieta Residential (JN:14027)

03/15/2022

											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	42	1175	27	1412	85	11	4	2	53	10	59
Future Volume (vph)	42	1175	27	1412	85	11	4	2	53	10	59
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8		7	4	5
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	7	3	8	8	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	23.8	9.6	23.8	9.6	9.6	36.6	36.6	9.6	36.6	9.6
Total Split (s)	9.6	52.4	11.0	53.8	10.0	9.6	36.6	36.6	10.0	37.0	9.6
Total Split (%)	8.7%	47.6%	10.0%	48.9%	9.1%	8.7%	33.3%	33.3%	9.1%	33.6%	8.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None
Act Effect Green (s)	5.6	76.7	6.1	75.3	87.8	5.0	14.4	14.4	5.9	16.8	18.2
Actuated g/C Ratio	0.05	0.70	0.06	0.68	0.80	0.05	0.13	0.13	0.05	0.15	0.17
v/c Ratio	0.27	0.40	0.31	0.45	0.07	0.08	0.02	0.01	0.32	0.04	0.13
Control Delay	51.8	9.0	50.1	21.9	7.7	51.5	35.5	0.0	55.0	33.7	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	9.0	50.1	21.9	7.7	51.5	35.5	0.0	55.0	33.7	5.3
LOS	D	A	D	C	A	D	D	A	D	C	A
Approach Delay		10.4		21.6			42.2			29.2	
Approach LOS		B		C			D			C	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 17.1

Intersection LOS: B

Intersection Capacity Utilization 49.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 5: Clinton Keith Rd. & Warm Springs Pkwy.

			
Ø1	Ø2 (R)	Ø3	Ø4
11 s	52.4 s	9.6 s	37 s
			
Ø5	Ø6 (R)	Ø7	Ø8
9.6 s	53.8 s	10 s	36.6 s

HCM 6th Signalized Intersection Summary
5: Clinton Keith Rd. & Warm Springs Pkwy.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 			 		 
Traffic Volume (veh/h)	42	1175	83	27	1412	85	11	4	2	53	10	59
Future Volume (veh/h)	42	1175	83	27	1412	85	11	4	2	53	10	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	1306	92	30	1569	94	12	4	2	59	11	66
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	3401	240	49	3528	1155	48	109	92	131	154	326
Arrive On Green	0.07	1.00	1.00	0.05	1.00	1.00	0.01	0.06	0.06	0.04	0.08	0.08
Sat Flow, veh/h	3456	4870	343	1781	5106	1585	3456	1870	1585	3456	1870	2790
Grp Volume(v), veh/h	47	913	485	30	1569	94	12	4	2	59	11	66
Grp Sat Flow(s),veh/h/ln	1728	1702	1809	1781	1702	1585	1728	1870	1585	1728	1870	1395
Q Serve(g_s), s	1.4	0.0	0.0	1.8	0.0	0.0	0.4	0.2	0.1	1.8	0.6	2.4
Cycle Q Clear(g_c), s	1.4	0.0	0.0	1.8	0.0	0.0	0.4	0.2	0.1	1.8	0.6	2.4
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	120	2377	1263	49	3528	1155	48	109	92	131	154	326
V/C Ratio(X)	0.39	0.38	0.38	0.62	0.44	0.08	0.25	0.04	0.02	0.45	0.07	0.20
Avail Cap(c_a), veh/h	157	2377	1263	104	3528	1155	157	544	461	170	551	918
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	0.69	0.69	0.69	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	0.0	0.0	51.4	0.0	0.0	53.7	48.9	48.8	51.8	46.6	43.9
Incr Delay (d2), s/veh	0.7	0.4	0.8	3.2	0.3	0.1	1.0	0.1	0.1	0.9	0.2	0.3
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	0.1	0.3	0.8	0.1	0.0	0.2	0.1	0.1	0.8	0.3	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	0.4	0.8	54.7	0.3	0.1	54.7	49.0	48.9	52.7	46.8	44.2
LnGrp LOS	D	A	A	D	A	A	D	D	D	D	D	D
Approach Vol, veh/h	1445		1693				18		136			
Approach Delay, s/veh	2.2		1.2				52.8		48.1			
Approach LOS	A		A				D		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	82.6	6.1	13.6	8.4	81.8	8.8	11.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	6.4	46.6	5.0	32.4	5.0	48.0	5.4	32.0				
Max Q Clear Time (g_c+I1), s	3.8	2.0	2.4	4.4	3.4	2.0	3.8	2.2				
Green Ext Time (p_c), s	0.0	11.7	0.0	0.3	0.0	16.0	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			3.9									
HCM 6th LOS			A									

Timings
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	321	768	230	1043	104	118	110	80	348
Future Volume (vph)	321	768	230	1043	104	118	110	80	348
Turn Type	Prot	NA	Prot	NA	Prot	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	6	3	8	7	4
Permitted Phases									
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.8	9.6	32.8	32.8	9.6	36.6	9.6	36.6
Total Split (s)	20.0	40.4	16.0	36.4	36.4	17.0	36.9	16.7	36.6
Total Split (%)	18.2%	36.7%	14.5%	33.1%	33.1%	15.5%	33.5%	15.2%	33.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None
Act Effect Green (s)	14.7	41.4	11.4	38.0	38.0	11.1	30.2	9.5	26.6
Actuated g/C Ratio	0.13	0.38	0.10	0.35	0.35	0.10	0.27	0.09	0.24
v/c Ratio	0.78	0.54	0.72	0.66	0.19	0.74	0.23	0.59	0.82
Control Delay	57.8	25.7	59.9	34.3	6.4	71.8	17.1	63.2	34.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.8	25.7	59.9	34.3	6.4	71.8	17.1	63.2	34.0
LOS	E	C	E	C	A	E	B	E	C
Approach Delay		34.1		36.5			37.4		36.9
Approach LOS		C		D			D		D

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 35.8

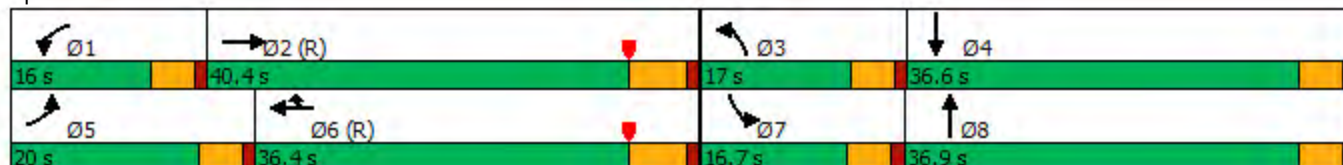
Intersection LOS: D

Intersection Capacity Utilization 73.7%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: Clinton Keith Rd. & Whitewood Rd.



HCM 6th Signalized Intersection Summary
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	321	768	144	230	1043	104	118	110	90	80	348	369
Future Volume (veh/h)	321	768	144	230	1043	104	118	110	90	80	348	369
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	357	853	160	256	1159	116	131	122	100	89	387	410
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	412	1560	291	316	1702	528	159	590	446	113	498	444
Arrive On Green	0.24	0.72	0.72	0.09	0.33	0.33	0.09	0.31	0.31	0.06	0.28	0.28
Sat Flow, veh/h	3456	4323	806	3456	5106	1585	1781	1927	1458	1781	1777	1585
Grp Volume(v), veh/h	357	671	342	256	1159	116	131	112	110	89	387	410
Grp Sat Flow(s),veh/h/ln	1728	1702	1725	1728	1702	1585	1781	1777	1608	1781	1777	1585
Q Serve(g_s), s	10.9	9.9	10.1	8.0	21.5	5.8	8.0	5.1	5.6	5.4	22.0	27.6
Cycle Q Clear(g_c), s	10.9	9.9	10.1	8.0	21.5	5.8	8.0	5.1	5.6	5.4	22.0	27.6
Prop In Lane	1.00		0.47	1.00		1.00	1.00		0.91	1.00		1.00
Lane Grp Cap(c), veh/h	412	1229	623	316	1702	528	159	544	492	113	498	444
V/C Ratio(X)	0.87	0.55	0.55	0.81	0.68	0.22	0.82	0.21	0.22	0.79	0.78	0.92
Avail Cap(c_a), veh/h	484	1229	623	358	1702	528	201	544	492	196	517	461
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	11.2	11.2	49.0	31.6	26.4	49.3	28.3	28.4	50.8	36.4	38.4
Incr Delay (d2), s/veh	11.4	1.6	3.2	10.3	2.2	1.0	16.0	0.2	0.2	4.6	7.1	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	4.6	2.8	3.2	3.8	8.8	2.3	4.2	2.2	2.2	2.6	10.4	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.5	12.8	14.4	59.3	33.8	27.3	65.2	28.4	28.7	55.4	43.6	62.2
LnGrp LOS	D	B	B	E	C	C	E	C	C	E	D	E
Approach Vol, veh/h		1370			1531			353			886	
Approach Delay, s/veh		23.5			37.6			42.2			53.4	
Approach LOS		C			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	45.5	14.4	35.4	17.7	42.5	11.6	38.3				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	11.4	34.6	12.4	32.0	15.4	30.6	12.1	32.3				
Max Q Clear Time (g_c+I1), s	10.0	12.1	10.0	29.6	12.9	23.5	7.4	7.6				
Green Ext Time (p_c), s	0.1	6.5	0.0	1.2	0.2	4.1	0.0	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			36.7									
HCM 6th LOS			D									

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	70	321	844	57
Future Vol, veh/h	1	1	70	321	844	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	240	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	1	88	401	1055	71

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1668	563	1126	0	-	0
Stage 1	1091	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	96	470	618	-	-	-
Stage 1	284	-	-	-	-	-
Stage 2	561	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	82	470	618	-	-	-
Mov Cap-2 Maneuver	185	-	-	-	-	-
Stage 1	244	-	-	-	-	-
Stage 2	561	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.7	2.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	618	- 265	-	-
HCM Lane V/C Ratio	0.142	- 0.009	-	-
HCM Control Delay (s)	11.8	- 18.7	-	-
HCM Lane LOS	B	- C	-	-
HCM 95th %tile Q(veh)	0.5	- 0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑	↑		↑
Traffic Vol, veh/h	0	927	1430	0	0	0
Future Vol, veh/h	0	927	1430	0	0	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	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1030	1589	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 795
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 7.14
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.92
Pot Cap-1 Maneuver	0	-	- 0 284
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 284
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	0
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	-

Timings

Murrieta Residential (JN:14027)

1: Nutmeg St. & Clinton Keith Rd.

06/23/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	909	75	313	718	89	64	41	267	80	30	35
Future Volume (vph)	57	909	75	313	718	89	64	41	267	80	30	35
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	28.8	28.8	9.6	29.8	29.8	32.7	32.7	32.7	14.7	14.7	14.7
Total Split (s)	12.0	40.0	40.0	43.0	71.0	71.0	37.0	37.0	37.0	37.0	37.0	37.0
Total Split (%)	10.0%	33.3%	33.3%	35.8%	59.2%	59.2%	30.8%	30.8%	30.8%	30.8%	30.8%	30.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.7	4.7	4.7	4.7	4.7	4.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	6.7	28.8	28.8	18.9	43.6	43.6	11.7	11.7	11.7	11.7	11.7	11.7
Actuated g/C Ratio	0.09	0.38	0.38	0.25	0.58	0.58	0.16	0.16	0.16	0.16	0.16	0.16
v/c Ratio	0.38	0.70	0.12	0.73	0.36	0.10	0.31	0.15	0.58	0.39	0.11	0.15
Control Delay	43.8	23.4	3.2	37.1	9.5	2.2	36.0	32.3	9.9	38.0	32.0	32.7
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	43.8	23.4	3.2	37.1	9.5	2.2	36.0	32.3	9.9	38.0	32.0	32.7
LOS	D	C	A	D	A	A	D	C	A	D	C	C
Approach Delay		23.1			16.6			16.8			35.5	
Approach LOS		C			B			B			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 75

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 20.2

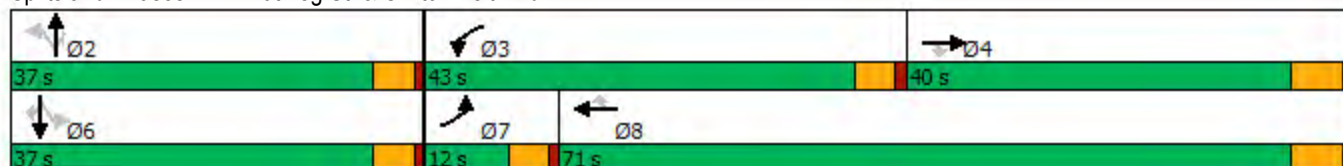
Intersection LOS: C

Intersection Capacity Utilization 66.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Nutmeg St. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
1: Nutmeg St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

06/23/2021

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	909	75	313	718	89	64	41	267	80	30	35
Future Volume (veh/h)	57	909	75	313	718	89	64	41	267	80	30	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	947	52	326	748	68	67	43	137	83	31	31
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	93	1299	579	384	1878	838	325	312	264	298	312	264
Arrive On Green	0.05	0.37	0.37	0.22	0.53	0.53	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1340	1870	1585	1204	1870	1585
Grp Volume(v), veh/h	59	947	52	326	748	68	67	43	137	83	31	31
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1340	1870	1585	1204	1870	1585
Q Serve(g_s), s	1.9	13.8	1.3	10.5	7.5	1.3	2.7	1.2	4.7	3.8	0.8	1.0
Cycle Q Clear(g_c), s	1.9	13.8	1.3	10.5	7.5	1.3	3.5	1.2	4.7	5.0	0.8	1.0
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	93	1299	579	384	1878	838	325	312	264	298	312	264
V/C Ratio(X)	0.63	0.73	0.09	0.85	0.40	0.08	0.21	0.14	0.52	0.28	0.10	0.12
Avail Cap(c_a), veh/h	220	2031	906	1143	3872	1727	825	1010	856	747	1010	856
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(l)	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	27.8	16.4	12.5	22.5	8.4	6.9	22.6	21.3	22.7	23.4	21.1	21.2
Incr Delay (d2), s/veh	2.7	0.8	0.1	2.1	0.1	0.0	0.3	0.2	1.6	0.5	0.1	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	0.8	4.6	0.4	4.0	2.1	0.3	0.8	0.5	1.7	1.0	0.4	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	17.2	12.5	24.6	8.6	7.0	22.9	21.5	24.3	23.9	21.3	21.4
LnGrp LOS	C	B	B	C	A	A	C	C	C	C	C	C
Approach Vol, veh/h	1058			1142			247			145		
Approach Delay, s/veh	17.7			13.0			23.4			22.8		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	14.7			17.5			27.7			14.7		
Change Period (Y+Rc), s	* 4.7			4.6			5.8			* 4.7		
Max Green Setting (Gmax), s	* 32			38.4			34.2			* 32		
Max Q Clear Time (g_c+I1), s	6.7			12.5			15.8			7.0		
Green Ext Time (p_c), s	0.9			0.4			6.1			0.5		

Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

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

Timings

2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

06/23/2021

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↗
Traffic Volume (vph)	1106	114	527	1055	160	624
Future Volume (vph)	1106	114	527	1055	160	624
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	33.8	33.8	9.6	15.8	14.7	14.7
Total Split (s)	44.0	44.0	55.0	99.0	21.0	21.0
Total Split (%)	36.7%	36.7%	45.8%	82.5%	17.5%	17.5%
Yellow Time (s)	4.8	4.8	3.6	4.8	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	4.7	4.7
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None
Act Effect Green (s)	38.7	38.7	37.6	81.0	12.9	12.9
Actuated g/C Ratio	0.37	0.37	0.36	0.78	0.12	0.12
v/c Ratio	0.93	0.20	0.91	0.42	0.75	0.72
Control Delay	46.4	12.7	51.4	4.6	23.1	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	12.7	51.4	4.6	23.1	14.3
LOS	D	B	D	A	C	B
Approach Delay	43.2			20.2	19.6	
Approach LOS	D			C	B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 104.5

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 27.9

Intersection LOS: C

Intersection Capacity Utilization 83.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 2: California Oaks St. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

06/23/2021

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↑
Traffic Volume (veh/h)	1106	114	527	1055	160	624
Future Volume (veh/h)	1106	114	527	1055	160	624
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1215	92	579	1159	176	560
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1277	570	611	2651	275	490
Arrive On Green	0.36	0.36	0.34	0.75	0.15	0.15
Sat Flow, veh/h	3647	1585	1781	3647	1781	3170
Grp Volume(v), veh/h	1215	92	579	1159	176	560
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	35.1	4.2	33.4	13.0	9.8	16.3
Cycle Q Clear(g_c), s	35.1	4.2	33.4	13.0	9.8	16.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1277	570	611	2651	275	490
V/C Ratio(X)	0.95	0.16	0.95	0.44	0.64	1.14
Avail Cap(c_a), veh/h	1287	574	851	3140	275	490
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	32.9	23.0	33.7	5.1	41.8	44.6
Incr Delay (d2), s/veh	14.9	0.1	13.9	0.1	4.9	86.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	1.5	15.8	3.4	4.6	12.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	47.8	23.1	47.6	5.2	46.7	130.9
LnGrp LOS	D	C	D	A	D	F
Approach Vol, veh/h	1307			1738	736	
Approach Delay, s/veh	46.1			19.3	110.8	
Approach LOS	D			B	F	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		21.0	40.8	43.7		84.5
Change Period (Y+Rc), s		* 4.7	4.6	5.8		5.8
Max Green Setting (Gmax), s		* 16	50.4	38.2		93.2
Max Q Clear Time (g_c+I1), s		18.3	35.4	37.1		15.0
Green Ext Time (p_c), s		0.0	0.8	0.8		10.3
Intersection Summary						
HCM 6th Ctrl Delay			46.4			
HCM 6th LOS			D			
Notes						
User approved volume balancing among the lanes for turning movement.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

Timings

Murrieta Residential (JN:14027)

3: I-215 SB Ramps & Clinton Keith Rd.

03/15/2022

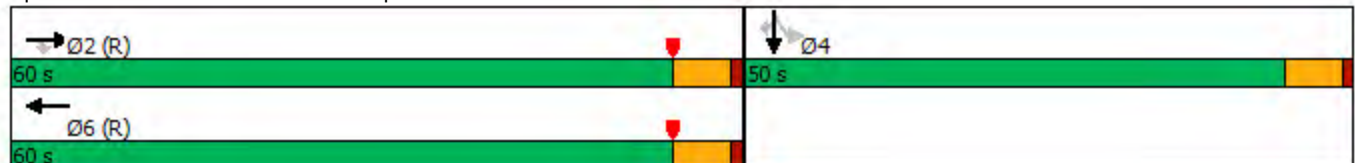
	→	↘	←	↓	↙
Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑↑
Traffic Volume (vph)	1441	346	1033	0	668
Future Volume (vph)	1441	346	1033	0	668
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	2		6	4	
Permitted Phases		2			4
Detector Phase	2	2	6	4	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.8	32.8	23.8	23.8	23.8
Total Split (s)	60.0	60.0	60.0	50.0	50.0
Total Split (%)	54.5%	54.5%	54.5%	45.5%	45.5%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8
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)	5.8	5.8	5.8	5.8	5.8
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
Act Effect Green (s)	67.0	67.0	67.0	31.4	31.4
Actuated g/C Ratio	0.61	0.61	0.61	0.29	0.29
v/c Ratio	0.48	0.33	0.35	0.58	0.80
Control Delay	13.5	2.2	20.9	37.4	37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	2.2	20.9	37.4	37.8
LOS	B	A	C	D	D
Approach Delay	11.3		20.9	37.7	
Approach LOS	B		C	D	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 20.6
 Intersection Capacity Utilization 63.8%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 3: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
3: I-215 SB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑						↑	↑↑
Traffic Volume (veh/h)	0	1441	346	0	1033	0	0	0	0	280	0	668
Future Volume (veh/h)	0	1441	346	0	1033	0	0	0	0	280	0	668
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1501	360	0	1076	0				292	0	696
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	2
Cap, veh/h	0	3128	971	0	3128	0				502	0	786
Arrive On Green	0.00	0.61	0.61	0.00	0.81	0.00				0.28	0.00	0.28
Sat Flow, veh/h	0	5274	1585	0	5443	0				1781	0	2790
Grp Volume(v), veh/h	0	1501	360	0	1076	0				292	0	696
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1702	0				1781	0	1395
Q Serve(g_s), s	0.0	17.7	12.5	0.0	6.0	0.0				15.5	0.0	26.3
Cycle Q Clear(g_c), s	0.0	17.7	12.5	0.0	6.0	0.0				15.5	0.0	26.3
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	3128	971	0	3128	0				502	0	786
V/C Ratio(X)	0.00	0.48	0.37	0.00	0.34	0.00				0.58	0.00	0.88
Avail Cap(c_a), veh/h	0	3128	971	0	3128	0				716	0	1121
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.35	0.35	0.00	0.86	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.7	10.7	0.0	4.5	0.0				33.9	0.0	37.8
Incr Delay (d2), s/veh	0.0	0.2	0.4	0.0	0.3	0.0				0.4	0.0	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.9	4.0	0.0	1.7	0.0				6.7	0.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	11.9	11.1	0.0	4.8	0.0				34.3	0.0	42.7
LnGrp LOS	A	B	B	A	A	A				C	A	D
Approach Vol, veh/h		1861			1076						988	
Approach Delay, s/veh		11.7			4.8						40.2	
Approach LOS		B			A						D	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		73.2		36.8		73.2						
Change Period (Y+Rc), s		5.8		5.8		5.8						
Max Green Setting (Gmax), s		54.2		44.2		54.2						
Max Q Clear Time (g_c+l1), s		19.7		28.3		8.0						
Green Ext Time (p_c), s		9.1		2.8		5.2						
Intersection Summary												
HCM 6th Ctrl Delay			17.0									
HCM 6th LOS			B									

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	←	↶	↷
Lane Group	EBT	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑↑↑	↶↶	↷
Traffic Volume (vph)	1164	1042	383	510
Future Volume (vph)	1164	1042	383	510
Turn Type	NA	NA	Prot	Perm
Protected Phases	2	6	8	
Permitted Phases				8
Detector Phase	2	6	8	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	43.8	23.8	23.8	23.8
Total Split (s)	61.0	61.0	49.0	49.0
Total Split (%)	55.5%	55.5%	44.5%	44.5%
Yellow Time (s)	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Min	C-Min	None	None
Act Effect Green (s)	63.9	63.9	34.5	34.5
Actuated g/C Ratio	0.58	0.58	0.31	0.31
v/c Ratio	0.40	0.36	0.85	0.86
Control Delay	15.5	6.2	48.5	48.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.5	6.2	48.5	48.0
LOS	B	A	D	D
Approach Delay	15.5	6.2	48.3	
Approach LOS	B	A	D	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 43.2 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 21.8
 Intersection Capacity Utilization 63.8%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
4: I-215 NB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘	↗
Traffic Volume (veh/h)	1164	0	0	1042	383	510
Future Volume (veh/h)	1164	0	0	1042	383	510
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	1176	0	0	1053	447	451
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	3002	0	0	3002	546	486
Arrive On Green	0.19	0.00	0.00	0.78	0.31	0.31
Sat Flow, veh/h	5443	0	0	5443	1781	1585
Grp Volume(v), veh/h	1176	0	0	1053	447	451
Grp Sat Flow(s),veh/h/ln	1702	0	0	1702	1781	1585
Q Serve(g_s), s	22.1	0.0	0.0	6.8	25.6	30.3
Cycle Q Clear(g_c), s	22.1	0.0	0.0	6.8	25.6	30.3
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	3002	0	0	3002	546	486
V/C Ratio(X)	0.39	0.00	0.00	0.35	0.82	0.93
Avail Cap(c_a), veh/h	3002	0	0	3002	700	622
HCM Platoon Ratio	0.33	1.00	1.00	1.33	1.00	1.00
Upstream Filter(I)	0.87	0.00	0.00	0.96	1.00	1.00
Uniform Delay (d), s/veh	27.2	0.0	0.0	5.7	35.3	37.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.3	4.7	15.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	0.0	0.0	2.0	11.6	13.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.5	0.0	0.0	6.0	40.0	52.8
LnGrp LOS	C	A	A	A	D	D
Approach Vol, veh/h	1176			1053	898	
Approach Delay, s/veh	27.5			6.0	46.5	
Approach LOS	C			A	D	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		70.5			70.5	39.5
Change Period (Y+Rc), s		5.8			5.8	5.8
Max Green Setting (Gmax), s		55.2			55.2	43.2
Max Q Clear Time (g_c+I1), s		24.1			8.8	32.3
Green Ext Time (p_c), s		5.7			5.1	1.4
Intersection Summary						
HCM 6th Ctrl Delay			25.7			
HCM 6th LOS			C			
Notes						
User approved volume balancing among the lanes for turning movement.						

Timings

Murrieta Residential (JN:14027)

5: Clinton Keith Rd. & Warm Springs Pkwy.

03/15/2022

											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	26	1568	5	1122	39	7	2	7	38	5	28
Future Volume (vph)	26	1568	5	1122	39	7	2	7	38	5	28
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8		7	4	5
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	7	3	8	8	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	23.8	9.6	23.8	9.6	9.6	36.6	36.6	9.6	36.6	9.6
Total Split (s)	9.7	53.7	9.7	53.7	10.0	9.7	36.6	36.6	10.0	36.9	9.7
Total Split (%)	8.8%	48.8%	8.8%	48.8%	9.1%	8.8%	33.3%	33.3%	9.1%	33.5%	8.8%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None
Act Effect Green (s)	5.2	85.0	5.1	79.0	88.2	5.0	14.4	14.4	5.5	14.5	12.6
Actuated g/C Ratio	0.05	0.77	0.05	0.72	0.80	0.05	0.13	0.13	0.05	0.13	0.11
v/c Ratio	0.17	0.42	0.06	0.32	0.03	0.04	0.01	0.02	0.23	0.02	0.08
Control Delay	47.5	14.5	43.4	12.7	9.1	50.9	35.0	0.1	53.5	36.0	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	14.5	43.4	12.7	9.1	50.9	35.0	0.1	53.5	36.0	0.4
LOS	D	B	D	B	A	D	C	A	D	D	A
Approach Delay		15.1		12.7			26.7			31.5	
Approach LOS		B		B			C			C	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.42

Intersection Signal Delay: 14.6

Intersection LOS: B

Intersection Capacity Utilization 55.9%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 5: Clinton Keith Rd. & Warm Springs Pkwy.

			
Ø1	Ø2 (R)	Ø3	Ø4
9.7 s	53.7 s	9.7 s	36.9 s
			
Ø5	Ø6 (R)	Ø7	Ø8
9.7 s	53.7 s	10 s	36.6 s

HCM 6th Signalized Intersection Summary
5: Clinton Keith Rd. & Warm Springs Pkwy.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 			 		 
Traffic Volume (veh/h)	26	1568	29	5	1122	39	7	2	7	38	5	28
Future Volume (veh/h)	26	1568	29	5	1122	39	7	2	7	38	5	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	27	1633	30	5	1169	41	7	2	7	40	5	29
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	88	3861	71	11	3721	1206	30	66	56	111	110	235
Arrive On Green	0.05	1.00	1.00	0.01	1.00	1.00	0.01	0.04	0.04	0.03	0.06	0.06
Sat Flow, veh/h	3456	5163	95	1781	5106	1585	3456	1870	1585	3456	1870	2790
Grp Volume(v), veh/h	27	1077	586	5	1169	41	7	2	7	40	5	29
Grp Sat Flow(s),veh/h/ln	1728	1702	1853	1781	1702	1585	1728	1870	1585	1728	1870	1395
Q Serve(g_s), s	0.8	0.0	0.0	0.3	0.0	0.0	0.2	0.1	0.5	1.2	0.3	1.1
Cycle Q Clear(g_c), s	0.8	0.0	0.0	0.3	0.0	0.0	0.2	0.1	0.5	1.2	0.3	1.1
Prop In Lane	1.00		0.05	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	88	2546	1386	11	3721	1206	30	66	56	111	110	235
V/C Ratio(X)	0.31	0.42	0.42	0.44	0.31	0.03	0.23	0.03	0.12	0.36	0.05	0.12
Avail Cap(c_a), veh/h	160	2546	1386	83	3721	1206	160	544	461	170	549	890
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	0.72	0.72	0.72	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	0.0	0.0	54.1	0.0	0.0	54.2	51.2	51.4	52.1	48.9	46.6
Incr Delay (d2), s/veh	0.6	0.4	0.8	6.8	0.2	0.0	1.4	0.2	1.0	0.7	0.2	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	0.4	0.2	0.3	0.2	0.1	0.0	0.1	0.1	0.2	0.6	0.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	0.4	0.8	60.9	0.2	0.0	55.6	51.4	52.4	52.9	49.0	46.8
LnGrp LOS	D	A	A	E	A	A	E	D	D	D	D	D
Approach Vol, veh/h	1690			1215			16			74		
Approach Delay, s/veh	1.4			0.4			53.7			50.2		
Approach LOS	A			A			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.3	88.1	5.6	11.1	7.4	86.0	8.1	8.5				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	5.1	47.9	5.1	32.3	5.1	47.9	5.4	32.0				
Max Q Clear Time (g_c+I1), s	2.3	2.0	2.2	3.1	2.8	2.0	3.2	2.5				
Green Ext Time (p_c), s	0.0	18.1	0.0	0.1	0.0	11.5	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	2.5											
HCM 6th LOS	A											

Timings
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	608	947	132	705	146	176	734	101	217
Future Volume (vph)	608	947	132	705	146	176	734	101	217
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	10.3	32.8	9.6	32.8	32.8	9.6	36.6	9.6	36.6
Total Split (s)	24.0	44.1	13.3	33.4	33.4	16.0	38.5	14.1	36.6
Total Split (%)	21.8%	40.1%	12.1%	30.4%	30.4%	14.5%	35.0%	12.8%	33.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	None	Max
Act Effect Green (s)	19.4	39.1	7.9	27.6	27.6	11.4	34.5	8.9	32.0
Actuated g/C Ratio	0.18	0.36	0.07	0.25	0.25	0.10	0.31	0.08	0.29
v/c Ratio	1.02	0.62	0.55	0.56	0.29	0.98	0.83	0.73	0.44
Control Delay	92.2	32.8	57.7	38.0	6.6	112.7	42.1	77.1	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.2	32.8	57.7	38.0	6.6	112.7	42.1	77.1	14.8
LOS	F	C	E	D	A	F	D	E	B
Approach Delay		54.1		36.0			53.7		25.5
Approach LOS		D		D			D		C

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 46.0

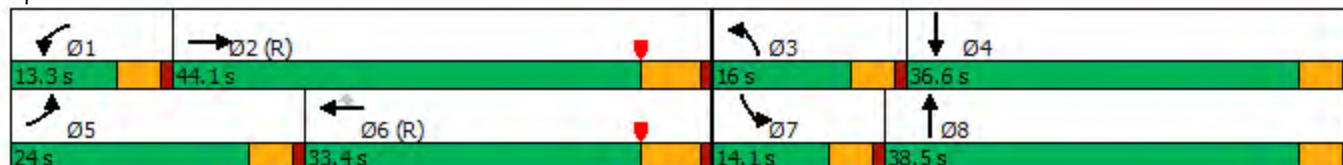
Intersection LOS: D

Intersection Capacity Utilization 78.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 6: Clinton Keith Rd. & Whitewood Rd.



HCM 6th Signalized Intersection Summary
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	608	947	146	132	705	146	176	734	159	101	217	270
Future Volume (veh/h)	608	947	146	132	705	146	176	734	159	101	217	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	620	966	149	135	719	149	180	749	162	103	221	276
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	609	1657	255	194	1281	398	185	937	203	128	517	461
Arrive On Green	0.35	0.74	0.74	0.06	0.25	0.25	0.10	0.32	0.32	0.07	0.29	0.29
Sat Flow, veh/h	3456	4464	687	3456	5106	1585	1781	2906	628	1781	1777	1585
Grp Volume(v), veh/h	620	736	379	135	719	149	180	458	453	103	221	276
Grp Sat Flow(s),veh/h/ln	1728	1702	1747	1728	1702	1585	1781	1777	1757	1781	1777	1585
Q Serve(g_s), s	19.4	10.8	10.9	4.2	13.5	8.5	11.1	25.9	25.9	6.3	11.1	16.4
Cycle Q Clear(g_c), s	19.4	10.8	10.9	4.2	13.5	8.5	11.1	25.9	25.9	6.3	11.1	16.4
Prop In Lane	1.00		0.39	1.00		1.00	1.00		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	609	1264	648	194	1281	398	185	573	567	128	517	461
V/C Ratio(X)	1.02	0.58	0.58	0.70	0.56	0.37	0.98	0.80	0.80	0.80	0.43	0.60
Avail Cap(c_a), veh/h	609	1264	648	273	1281	398	185	573	567	154	517	461
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	10.3	10.3	51.0	35.9	34.1	49.2	34.0	34.0	50.3	31.6	33.5
Incr Delay (d2), s/veh	39.2	1.8	3.5	1.7	1.8	2.7	58.5	11.1	11.2	18.5	2.6	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	2.9	3.3	1.8	5.6	3.6	7.9	12.8	12.7	3.4	5.1	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.8	12.1	13.8	52.7	37.7	36.8	107.7	45.1	45.3	68.8	34.2	39.1
LnGrp LOS	F	B	B	D	D	D	F	D	D	E	C	D
Approach Vol, veh/h		1735			1003			1091			600	
Approach Delay, s/veh		34.9			39.6			55.5			42.4	
Approach LOS		C			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.8	46.6	16.0	36.6	24.0	33.4	12.5	40.1				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	8.7	38.3	11.4	32.0	19.4	27.6	9.5	33.9				
Max Q Clear Time (g_c+I1), s	6.2	12.9	13.1	18.4	21.4	15.5	8.3	27.9				
Green Ext Time (p_c), s	0.0	7.5	0.0	2.6	0.0	4.0	0.0	2.9				
Intersection Summary												
HCM 6th Ctrl Delay			42.0									
HCM 6th LOS			D									

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	15	15	857	681	26
Future Vol, veh/h	7	15	15	857	681	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	240	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	16	16	922	732	28

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1700	380	760	0	-	0
Stage 1	746	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	92	619	850	-	-	-
Stage 1	431	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	90	619	850	-	-	-
Mov Cap-2 Maneuver	222	-	-	-	-	-
Stage 1	423	-	-	-	-	-
Stage 2	373	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.7	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	850	-	395	-	-
HCM Lane V/C Ratio	0.019	-	0.06	-	-
HCM Control Delay (s)	9.3	-	14.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑	↑		↑
Traffic Vol, veh/h	0	1302	1025	0	0	0
Future Vol, veh/h	0	1302	1025	0	0	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	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1385	1090	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 545
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 7.14
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.92
Pot Cap-1 Maneuver	0	-	- 0 413
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 413
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	0
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	-

APPENDIX 3.3:

EXISTING (2021) CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Queues

Murrieta Residential (JN:14027)

3: I-215 SB Ramps & Clinton Keith Rd.

03/15/2022

	→	↘	←	↓	↙
Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1362	476	1228	241	812
v/c Ratio	0.49	0.44	0.44	0.39	0.81
Control Delay	17.4	3.0	11.0	27.5	36.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	3.0	11.0	27.5	36.8
Queue Length 50th (ft)	210	0	96	126	277
Queue Length 95th (ft)	299	56	304	169	314
Internal Link Dist (ft)	6735		655	1955	
Turn Bay Length (ft)		415			460
Base Capacity (vph)	2763	1077	2763	807	1295
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.49	0.44	0.44	0.30	0.63
Intersection Summary					

Queues

Murrieta Residential (JN:14027)

4: I-215 NB Ramps & Clinton Keith Rd.

03/15/2022

	→	←	↖	↗
Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	908	1411	294	271
v/c Ratio	0.26	0.40	0.80	0.69
Control Delay	5.8	10.1	53.9	33.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.8	10.1	53.9	33.5
Queue Length 50th (ft)	52	65	186	116
Queue Length 95th (ft)	94	328	258	194
Internal Link Dist (ft)	655	1209	1627	
Turn Bay Length (ft)				1000
Base Capacity (vph)	3505	3505	673	640
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.26	0.40	0.44	0.42
Intersection Summary				

Queues

Murrieta Residential (JN:14027)

6: Clinton Keith Rd. & Whitewood Rd.

06/23/2021



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	357	1013	256	1159	116	131	222	89	797
v/c Ratio	0.75	0.68	0.65	0.84	0.22	0.68	0.18	0.56	0.68
Control Delay	59.2	37.4	57.7	45.9	7.1	68.5	16.4	64.6	28.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.2	37.4	57.7	45.9	7.1	68.5	16.4	64.6	28.5
Queue Length 50th (ft)	137	241	98	307	0	98	35	67	208
Queue Length 95th (ft)	190	296	142	366	45	166	66	121	283
Internal Link Dist (ft)		1817		1256			474		2500
Turn Bay Length (ft)	315		240		350	340		135	
Base Capacity (vph)	521	1571	450	1474	541	222	1215	194	1169
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.64	0.57	0.79	0.21	0.59	0.18	0.46	0.68

Intersection Summary

Queues

Murrieta Residential (JN:14027)

3: I-215 SB Ramps & Clinton Keith Rd.

03/15/2022

	→	↘	←	↓	↙
Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1501	360	1076	292	696
v/c Ratio	0.48	0.33	0.35	0.58	0.80
Control Delay	13.5	2.2	20.9	37.4	37.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.5	2.2	20.9	37.4	37.8
Queue Length 50th (ft)	202	0	147	175	221
Queue Length 95th (ft)	293	43	265	234	266
Internal Link Dist (ft)	6735		655	1955	
Turn Bay Length (ft)		415			460
Base Capacity (vph)	3098	1105	3098	711	1181
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.33	0.35	0.41	0.59
Intersection Summary					

Queues

Murrieta Residential (JN:14027)

4: I-215 NB Ramps & Clinton Keith Rd.

03/15/2022



Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	1176	1053	469	433
v/c Ratio	0.40	0.36	0.85	0.86
Control Delay	15.5	6.2	48.5	48.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	15.5	6.2	48.5	48.0
Queue Length 50th (ft)	202	199	302	272
Queue Length 95th (ft)	297	4	377	358
Internal Link Dist (ft)	655	1209	1627	
Turn Bay Length (ft)				1000
Base Capacity (vph)	2966	2966	694	622
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.40	0.36	0.68	0.70
Intersection Summary				

Queues

Murrieta Residential (JN:14027)

6: Clinton Keith Rd. & Whitewood Rd.

06/23/2021



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	620	1115	135	719	149	180	911	103	497
v/c Ratio	0.96	0.42	0.36	0.27	0.17	0.62	0.66	0.83	0.35
Control Delay	54.3	16.4	19.1	15.2	6.6	40.7	31.2	81.2	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.3	16.4	19.1	15.2	6.6	40.7	31.2	81.2	15.8
Queue Length 50th (ft)	223	172	29	104	22	111	294	72	83
Queue Length 95th (ft)	#358	206	54	130	55	201	367	#183	127
Internal Link Dist (ft)		1817		1256			474		2500
Turn Bay Length (ft)	315		240		350	340		135	
Base Capacity (vph)	667	2764	390	2802	910	288	1387	124	1408
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.40	0.35	0.26	0.16	0.63	0.66	0.83	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

APPENDIX 4.1:

TRIP GENERATION SUMMARY FOR CUMULATIVE DEVELOPMENT PROJECTS

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Table 4.1-1

Cumulative Trip Generation Summary

#	Land Use	Quantity Units ¹	AM Peak Hour			PM Peak Hour			Daily
			In	Out	Total	In	Out	Total	
MUR1	Shopping Center	186.000 TSF	117	74	192	335	361	696	7,983
	Pass-By (20% AM/PM/Daily):		-23	-15	-38	-67	-72	-139	-1,597
	Subtotal		94	59	154	268	289	557	6,386
MUR2	Shopping Center	78.489 TSF	108	67	175	306	331	637	7,349
	Pass-By (25% AM/PM/Daily):		-28	-17	-45	-76	-83	-159	-1,838
	Hotel	91 RM	31	20	51	28	25	53	743
	Subtotal		111	70	181	258	273	531	6,254
MUR 3	Automobile Parts/Service Center	4.000 TSF	6	2	8	4	5	9	65
	Tire Store	5.000 TSF	9	5	14	9	12	21	24
	Shopping Center	11.650 TSF	26	16	42	68	74	142	1,679
	High Turnover (Sit-Down) Restaurant	3.000 TSF	18	15	33	18	12	30	381
	Fast-Food with Drive-Thru Window	5.000 TSF	116	111	126	85	78	142	2,481
	Pass-By (20% AM/PM/Daily):		-29	-28	-57	-21	-20	-41	-620
	Drive-in Bank	5.000 TSF	34	26	60	61	61	122	741
	Pass-By (20% PM/Daily):		0	0	0	-16	-15	-31	-185
	Internal Capture (5% Reduction):		-9	-7	-16	-10	-10	-20	-233
	Subtotal		171	140	226	208	197	394	4,333
MUR4	Hotel	120 RM	34	23	57	37	35	72	1,003
	Subtotal		34	23	57	37	35	72	1,003
MUR5	Medical Office	116.200 TSF	252	71	323	113	289	402	4,044
	High Turnover (Sit-Down) Restaurant	9.300 TSF	51	42	93	56	35	91	1,044
	Pass-By (25% AM/PM/Daily):		-13	-11	-24	-14	-9	-23	-262
	Hotel	206 RM	58	39	97	64	60	124	1,722
	Subtotal		348	141	489	219	375	594	6,548
MUR6	Medical-Dental Office	74.613 TSF	162	46	208	72	186	258	2,598
	Subtotal		162	46	208	72	186	258	2,598
MUR7	Costco Warehouse w/ Fuel Center	153.362 TSF	0	0	0	537	570	1,107	12,560
	Pass-By (33.3% PM/Daily):		0	0	0	-184	-184	-368	-4,182
	Shopping Center	79.900 TSF	0	0	0	247	268	515	5,870
	Pass-By (25% PM/Daily):		0	0	0	-64	-64	-128	-1,468
	Subtotal		0	0	0	536	590	1,126	12,780
MUR8	Assisted Living	97.275 TSF	29	9	38	14	33	47	408
	Subtotal		29	9	38	14	33	47	408
MUR9	Multifamily Housing (Low-Rise) (2-floors)	83 DU	9	29	38	29	17	46	608
	Subtotal		9	29	38	29	17	46	608
MUR10	Gas Station/Car-Wash	3.600 TSF	152	152	304	197	197	394	4,330
	Pass-By (25% AM/PM/Daily):		-38	-38	-76	-49	-49	-98	-1,083
	Convenience Market	3.560 TSF	111	111	222	89	86	175	2,714
	Pass-By (25% AM/PM/Daily):		-28	-28	-56	-22	-22	-44	-679
	Subtotal		197	197	394	215	212	427	5,282
MUR11	Daycare	10.000 TSF	58	52	110	52	59	111	476
	Car-Wash	4.100 TSF	29	29	58	29	29	58	582
	Subtotal		87	81	168	81	88	169	1,058
MUR12	Multifamily Housing (Mid-Rise) (3-10 Floors)	324 DU	34	115	149	114	67	181	2,372
	Subtotal		34	115	149	114	67	181	2,372
Total			1,276	910	2,102	2,051	2,362	4,402	49,630

¹ DU = Dwelling Units; TSF = Thousand Square Feet; RM = Rooms; VFP= Vehicle Fueling Positions

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APPENDIX 5.1:

OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings

Murrieta Residential (JN:14027)

1: Nutmeg St. & Clinton Keith Rd.

03/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	872	82	369	981	77	107	45	379	105	71	46
Future Volume (vph)	33	872	82	369	981	77	107	45	379	105	71	46
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	28.8	28.8	9.6	29.8	29.8	32.7	32.7	32.7	14.7	14.7	14.7
Total Split (s)	12.0	40.0	40.0	43.0	71.0	71.0	37.0	37.0	37.0	37.0	37.0	37.0
Total Split (%)	10.0%	33.3%	33.3%	35.8%	59.2%	59.2%	30.8%	30.8%	30.8%	30.8%	30.8%	30.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.7	4.7	4.7	4.7	4.7	4.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	6.3	27.7	27.7	22.4	48.9	48.9	14.4	14.4	14.4	14.4	14.4	14.4
Actuated g/C Ratio	0.08	0.34	0.34	0.28	0.61	0.61	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.24	0.72	0.14	0.76	0.46	0.08	0.46	0.14	0.64	0.44	0.22	0.16
Control Delay	46.2	28.4	4.5	38.6	10.7	2.6	40.0	32.6	9.3	39.3	33.5	33.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	28.4	4.5	38.6	10.7	2.6	40.0	32.6	9.3	39.3	33.5	33.3
LOS	D	C	A	D	B	A	D	C	A	D	C	C
Approach Delay		27.0			17.4			17.5			36.2	
Approach LOS		C			B			B			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 80.4

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 21.7

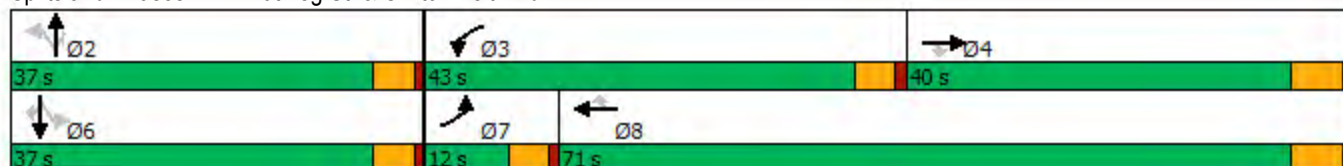
Intersection LOS: C

Intersection Capacity Utilization 69.7%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Nutmeg St. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
1: Nutmeg St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	872	82	369	981	77	107	45	379	105	71	46
Future Volume (veh/h)	33	872	82	369	981	77	107	45	379	105	71	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	881	58	373	991	54	108	45	247	106	72	41
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	61	1185	529	426	1912	853	323	373	316	304	373	316
Arrive On Green	0.03	0.33	0.33	0.24	0.54	0.54	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1280	1870	1585	1087	1870	1585
Grp Volume(v), veh/h	33	881	58	373	991	54	108	45	247	106	72	41
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1280	1870	1585	1087	1870	1585
Q Serve(g_s), s	1.2	14.5	1.7	13.3	11.8	1.1	5.1	1.3	9.8	5.9	2.1	1.4
Cycle Q Clear(g_c), s	1.2	14.5	1.7	13.3	11.8	1.1	7.2	1.3	9.8	7.2	2.1	1.4
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	61	1185	529	426	1912	853	323	373	316	304	373	316
V/C Ratio(X)	0.54	0.74	0.11	0.88	0.52	0.06	0.33	0.12	0.78	0.35	0.19	0.13
Avail Cap(c_a), veh/h	199	1838	820	1035	3505	1563	693	914	774	619	914	774
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	19.5	15.2	24.2	9.8	7.3	25.0	21.7	25.1	24.7	22.0	21.8
Incr Delay (d2), s/veh	2.7	0.9	0.1	2.3	0.2	0.0	0.6	0.1	4.2	0.7	0.2	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	0.5	5.2	0.5	5.2	3.4	0.3	1.5	0.6	3.6	1.5	0.9	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	20.5	15.3	26.5	10.0	7.3	25.6	21.9	29.4	25.3	22.3	21.9
LnGrp LOS	C	C	B	C	B	A	C	C	C	C	C	C
Approach Vol, veh/h	972			1418			400			219		
Approach Delay, s/veh	20.6			14.2			27.5			23.7		
Approach LOS	C			B			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	17.9			20.4			27.8			17.9		
Change Period (Y+Rc), s	* 4.7			4.6			5.8			* 4.7		
Max Green Setting (Gmax), s	* 32			38.4			34.2			* 32		
Max Q Clear Time (g_c+I1), s	11.8			15.3			16.5			9.2		
Green Ext Time (p_c), s	1.4			0.5			5.5			0.9		
Intersection Summary												
HCM 6th Ctrl Delay	18.8											
HCM 6th LOS	B											
Notes												

Timings

2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↗
Traffic Volume (vph)	1193	178	807	1315	126	589
Future Volume (vph)	1193	178	807	1315	126	589
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	33.8	33.8	9.6	15.8	14.7	14.7
Total Split (s)	44.0	44.0	55.0	99.0	21.0	21.0
Total Split (%)	36.7%	36.7%	45.8%	82.5%	17.5%	17.5%
Yellow Time (s)	4.8	4.8	3.6	4.8	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	4.7	4.7
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None
Act Effect Green (s)	38.2	38.2	50.4	93.2	12.3	12.3
Actuated g/C Ratio	0.33	0.33	0.43	0.80	0.11	0.11
v/c Ratio	1.04	0.31	1.07	0.47	0.71	0.71
Control Delay	77.1	13.4	85.7	4.4	22.1	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	77.1	13.4	85.7	4.4	22.1	15.6
LOS	E	B	F	A	C	B
Approach Delay	68.8			35.3	19.4	
Approach LOS	E			D	B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 116

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 43.5

Intersection LOS: D

Intersection Capacity Utilization 100.1%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 2: California Oaks St. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Traffic Volume (veh/h)	1193	178	807	1315	126	589
Future Volume (veh/h)	1193	178	807	1315	126	589
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1217	151	823	1342	129	484
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1131	505	748	2760	242	431
Arrive On Green	0.32	0.32	0.42	0.78	0.14	0.14
Sat Flow, veh/h	3647	1585	1781	3647	1781	3170
Grp Volume(v), veh/h	1217	151	823	1342	129	484
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	38.2	8.6	50.4	16.3	8.1	16.3
Cycle Q Clear(g_c), s	38.2	8.6	50.4	16.3	8.1	16.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1131	505	748	2760	242	431
V/C Ratio(X)	1.08	0.30	1.10	0.49	0.53	1.12
Avail Cap(c_a), veh/h	1131	505	748	2760	242	431
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	40.9	30.8	34.8	4.8	48.3	51.8
Incr Delay (d2), s/veh	49.6	0.3	63.7	0.1	2.3	81.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.7	3.2	33.6	4.2	3.8	11.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	90.5	31.1	98.5	4.9	50.6	133.5
LnGrp LOS	F	C	F	A	D	F
Approach Vol, veh/h	1368			2165	613	
Approach Delay, s/veh	84.0			40.5	116.1	
Approach LOS	F			D	F	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		21.0	55.0	44.0		99.0
Change Period (Y+Rc), s		* 4.7	4.6	5.8		5.8
Max Green Setting (Gmax), s		* 16	50.4	38.2		93.2
Max Q Clear Time (g_c+I1), s		18.3	52.4	40.2		18.3
Green Ext Time (p_c), s		0.0	0.0	0.0		13.4
Intersection Summary						
HCM 6th Ctrl Delay			66.0			
HCM 6th LOS			E			
Notes						
User approved volume balancing among the lanes for turning movement.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

Timings
3: I-215 SB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)
03/15/2022

	→	↘	←	↓	↙
Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑↑
Traffic Volume (vph)	1707	548	1560	0	864
Future Volume (vph)	1707	548	1560	0	864
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	2		6	4	
Permitted Phases		2			4
Detector Phase	2	2	6	4	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.8	32.8	23.8	23.8	23.8
Total Split (s)	54.0	54.0	54.0	56.0	56.0
Total Split (%)	49.1%	49.1%	49.1%	50.9%	50.9%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8
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)	5.8	5.8	5.8	5.8	5.8
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
Act Effect Green (s)	55.3	55.3	55.3	43.1	43.1
Actuated g/C Ratio	0.50	0.50	0.50	0.39	0.39
v/c Ratio	0.71	0.54	0.93	0.41	0.83
Control Delay	24.1	3.6	23.3	25.3	35.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.1	3.6	23.3	25.3	35.9
LOS	C	A	C	C	D
Approach Delay	19.1		23.3	33.4	
Approach LOS	B		C	C	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 23.7
 Intersection Capacity Utilization 84.1%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 3: I-215 SB Ramps & Clinton Keith Rd.

→ Ø2 (R)	54 s	↓ Ø4	56 s
← Ø6 (R)	54 s		

HCM 6th Signalized Intersection Summary 3: I-215 SB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↗		↑↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	1707	548	0	1560	628	0	0	0	270	0	864
Future Volume (veh/h)	0	1707	548	0	1560	628	0	0	0	270	0	864
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1816	583	0	1660	668				287	0	919
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2722	845	0	1935	744				644	0	1008
Arrive On Green	0.00	0.53	0.53	0.00	1.00	1.00				0.36	0.00	0.36
Sat Flow, veh/h	0	5274	1585	0	3797	1395				1781	0	2790
Grp Volume(v), veh/h	0	1816	583	0	1553	775				287	0	919
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1702	1619				1781	0	1395
Q Serve(g_s), s	0.0	28.3	29.9	0.0	0.0	0.0				13.5	0.0	34.5
Cycle Q Clear(g_c), s	0.0	28.3	29.9	0.0	0.0	0.0				13.5	0.0	34.5
Prop In Lane	0.00		1.00	0.00		0.86				1.00		1.00
Lane Grp Cap(c), veh/h	0	2722	845	0	1815	863				644	0	1008
V/C Ratio(X)	0.00	0.67	0.69	0.00	0.86	0.90				0.45	0.00	0.91
Avail Cap(c_a), veh/h	0	2722	845	0	1815	863				813	0	1273
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.14	0.14	0.00	0.71	0.71				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.6	19.0	0.0	0.0	0.0				26.7	0.0	33.5
Incr Delay (d2), s/veh	0.0	0.2	0.7	0.0	3.9	10.6				0.2	0.0	7.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.1	10.0	0.0	1.0	2.5				5.7	0.0	12.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.8	19.6	0.0	3.9	10.6				26.9	0.0	41.0
LnGrp LOS	A	B	B	A	A	B				C	A	D
Approach Vol, veh/h	2399			2328			1206					
Approach Delay, s/veh	19.0			6.2			37.7					
Approach LOS	B			A			D					
Timer - Assigned Phs	2			4			6					
Phs Duration (G+Y+Rc), s	64.4			45.6			64.4					
Change Period (Y+Rc), s	5.8			5.8			5.8					
Max Green Setting (Gmax), s	48.2			50.2			48.2					
Max Q Clear Time (g_c+l1), s	31.9			36.5			2.0					
Green Ext Time (p_c), s	9.3			3.2			17.3					
Intersection Summary												
HCM 6th Ctrl Delay	17.7											
HCM 6th LOS	B											

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	←	↶	↷
Lane Group	EBT	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑↑↑	↶↶	↷
Traffic Volume (vph)	1267	1784	323	516
Future Volume (vph)	1267	1784	323	516
Turn Type	NA	NA	Prot	Perm
Protected Phases	2	6	8	
Permitted Phases				8
Detector Phase	2	6	8	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	43.8	22.0	22.0	22.0
Total Split (s)	62.0	62.0	48.0	48.0
Total Split (%)	56.4%	56.4%	43.6%	43.6%
Yellow Time (s)	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Min	C-Min	None	None
Act Effect Green (s)	65.3	65.3	33.1	33.1
Actuated g/C Ratio	0.59	0.59	0.30	0.30
v/c Ratio	0.70	0.61	0.85	0.87
Control Delay	11.2	7.9	49.0	51.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	11.2	7.9	49.0	51.8
LOS	B	A	D	D
Approach Delay	11.2	7.9	50.3	
Approach LOS	B	A	D	

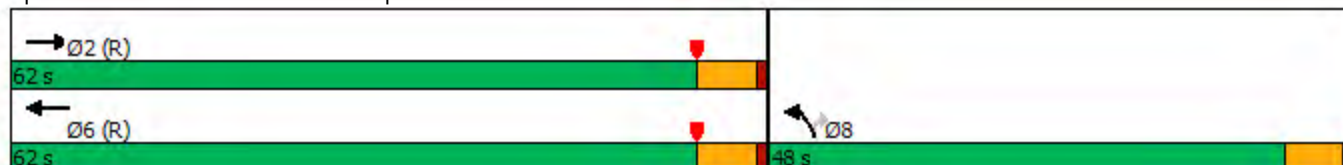
Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 17.0
 Intersection Capacity Utilization 78.8%
 Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service D

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
4: I-215 NB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↖	↗
Traffic Volume (veh/h)	1267	725	0	1784	323	516
Future Volume (veh/h)	1267	725	0	1784	323	516
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	1306	747	0	1839	426	432
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	2043	951	0	3064	525	467
Arrive On Green	1.00	1.00	0.00	1.00	0.29	0.29
Sat Flow, veh/h	3572	1585	0	5443	1781	1585
Grp Volume(v), veh/h	1306	747	0	1839	426	432
Grp Sat Flow(s),veh/h/ln	1702	1585	0	1702	1781	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.0	24.4	29.1
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	24.4	29.1
Prop In Lane		1.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2043	951	0	3064	525	467
V/C Ratio(X)	0.64	0.79	0.00	0.60	0.81	0.93
Avail Cap(c_a), veh/h	2043	951	0	3064	683	608
HCM Platoon Ratio	2.00	2.00	1.00	2.00	1.00	1.00
Upstream Filter(I)	0.64	0.64	0.00	0.83	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	36.0	37.6
Incr Delay (d2), s/veh	1.0	4.2	0.0	0.7	4.3	15.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.1	0.0	0.2	11.1	13.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.0	4.2	0.0	0.7	40.3	53.0
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h	2053			1839	858	
Approach Delay, s/veh	2.2			0.7	46.7	
Approach LOS	A			A	D	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		71.8			71.8	38.2
Change Period (Y+Rc), s		5.8			5.8	5.8
Max Green Setting (Gmax), s		56.2			56.2	42.2
Max Q Clear Time (g_c+I1), s		2.0			2.0	31.1
Green Ext Time (p_c), s		14.2			12.1	1.3
Intersection Summary						
HCM 6th Ctrl Delay			9.7			
HCM 6th LOS			A			
Notes						
User approved volume balancing among the lanes for turning movement.						

Timings

Murrieta Residential (JN:14027)

5: Clinton Keith Rd. & Warm Springs Pkwy.

03/15/2022

											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	44	1537	244	1726	89	12	4	3	55	10	62
Future Volume (vph)	44	1537	244	1726	89	12	4	3	55	10	62
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8		7	4	5
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	7	3	8	8	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	23.8	9.6	23.8	9.6	9.6	36.6	36.6	9.6	36.6	9.6
Total Split (s)	9.6	41.5	22.2	54.1	9.7	9.6	36.6	36.6	9.7	36.7	9.6
Total Split (%)	8.7%	37.7%	20.2%	49.2%	8.8%	8.7%	33.3%	33.3%	8.8%	33.4%	8.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None
Act Effect Green (s)	5.6	58.3	21.4	76.0	87.8	5.0	14.4	14.4	5.1	14.4	15.9
Actuated g/C Ratio	0.05	0.53	0.19	0.69	0.80	0.05	0.13	0.13	0.05	0.13	0.14
v/c Ratio	0.28	0.67	0.79	0.55	0.08	0.08	0.02	0.01	0.39	0.05	0.14
Control Delay	51.5	23.2	41.3	26.8	6.9	51.6	35.5	0.0	58.2	37.0	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
Total Delay	51.5	23.2	41.3	26.8	6.9	51.6	35.5	0.0	58.2	37.0	1.2
LOS	D	C	D	C	A	D	D	A	E	D	A
Approach Delay		24.0		27.6			40.6			28.7	
Approach LOS		C		C			D			C	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 26.2

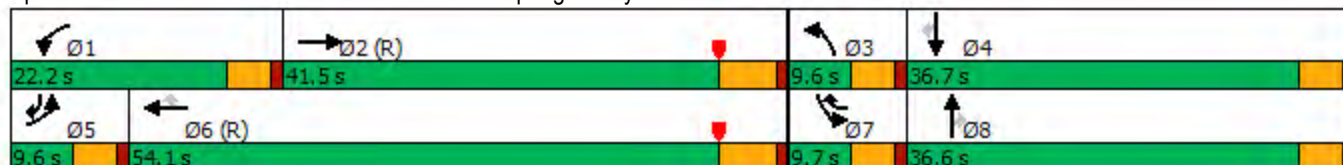
Intersection LOS: C

Intersection Capacity Utilization 66.0%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: Clinton Keith Rd. & Warm Springs Pkwy.



HCM 6th Signalized Intersection Summary
5: Clinton Keith Rd. & Warm Springs Pkwy.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	1537	86	244	1726	89	12	4	3	55	10	62
Future Volume (veh/h)	44	1537	86	244	1726	89	12	4	3	55	10	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	1708	96	271	1918	99	13	4	3	61	11	69
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	2789	157	285	3516	1152	51	111	94	133	155	330
Arrive On Green	0.07	1.00	1.00	0.32	1.00	1.00	0.01	0.06	0.06	0.04	0.08	0.08
Sat Flow, veh/h	3456	4947	278	1781	5106	1585	3456	1870	1585	3456	1870	2790
Grp Volume(v), veh/h	49	1175	629	271	1918	99	13	4	3	61	11	69
Grp Sat Flow(s),veh/h/ln	1728	1702	1820	1781	1702	1585	1728	1870	1585	1728	1870	1395
Q Serve(g_s), s	1.5	0.0	0.0	16.4	0.0	0.0	0.4	0.2	0.2	1.9	0.6	2.5
Cycle Q Clear(g_c), s	1.5	0.0	0.0	16.4	0.0	0.0	0.4	0.2	0.2	1.9	0.6	2.5
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	1920	1026	285	3516	1152	51	111	94	133	155	330
V/C Ratio(X)	0.40	0.61	0.61	0.95	0.55	0.09	0.25	0.04	0.03	0.46	0.07	0.21
Avail Cap(c_a), veh/h	157	1920	1026	285	3516	1152	157	544	461	160	546	913
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	0.0	0.0	37.0	0.0	0.0	53.6	48.8	48.7	51.8	46.5	43.8
Incr Delay (d2), s/veh	0.5	0.9	1.7	7.5	0.1	0.0	0.9	0.1	0.1	0.9	0.2	0.3
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	0.2	0.5	6.1	0.0	0.0	0.2	0.1	0.1	0.8	0.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	0.9	1.7	44.5	0.1	0.0	54.5	48.9	48.9	52.7	46.7	44.2
LnGrp LOS	D	A	A	D	A	A	D	D	D	D	D	D
Approach Vol, veh/h	1853		2288				20		141			
Approach Delay, s/veh	2.5		5.3				52.5		48.0			
Approach LOS	A		A				D		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.2	67.8	6.2	13.7	8.5	81.5	8.8	11.1				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	17.6	35.7	5.0	32.1	5.0	48.3	5.1	32.0				
Max Q Clear Time (g_c+I1), s	18.4	2.0	2.4	4.5	3.5	2.0	3.9	2.2				
Green Ext Time (p_c), s	0.0	15.9	0.0	0.3	0.0	22.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			5.7									
HCM 6th LOS			A									

Timings

6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	634	894	239	1195	167	169	187	136	392
Future Volume (vph)	634	894	239	1195	167	169	187	136	392
Turn Type	Prot	NA	Prot	NA	Prot	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	6	3	8	7	4
Permitted Phases									
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.8	9.6	32.8	32.8	9.6	36.6	9.6	36.6
Total Split (s)	24.0	41.1	16.0	33.1	33.1	16.3	38.8	14.1	36.6
Total Split (%)	21.8%	37.4%	14.5%	30.1%	30.1%	14.8%	35.3%	12.8%	33.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None
Act Effect Green (s)	20.1	36.4	11.0	27.3	27.3	11.7	33.5	9.5	31.3
Actuated g/C Ratio	0.18	0.33	0.10	0.25	0.25	0.11	0.30	0.09	0.28
v/c Ratio	1.12	0.72	0.78	1.05	0.35	1.00	0.29	0.99	0.93
Control Delay	122.5	38.5	64.5	80.7	6.8	115.9	21.8	122.7	41.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	122.5	38.5	64.5	80.7	6.8	115.9	21.8	122.7	41.4
LOS	F	D	E	F	A	F	C	F	D
Approach Delay		69.5		70.6			57.2		51.4
Approach LOS		E		E			E		D

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.12

Intersection Signal Delay: 64.6

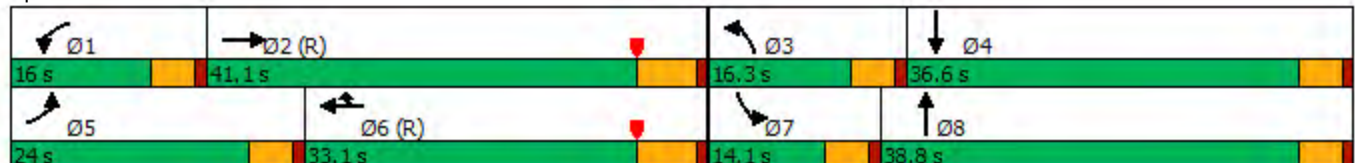
Intersection LOS: E

Intersection Capacity Utilization 96.3%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 6: Clinton Keith Rd. & Whitewood Rd.



HCM 6th Signalized Intersection Summary
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	634	894	192	239	1195	167	169	187	94	136	392	579
Future Volume (veh/h)	634	894	192	239	1195	167	169	187	94	136	392	579
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	704	993	213	266	1328	186	188	208	104	151	436	643
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	609	1391	298	326	1267	393	189	723	348	154	517	461
Arrive On Green	0.35	0.66	0.66	0.09	0.25	0.25	0.11	0.31	0.31	0.09	0.29	0.29
Sat Flow, veh/h	3456	4211	901	3456	5106	1585	1781	2327	1119	1781	1777	1585
Grp Volume(v), veh/h	704	802	404	266	1328	186	188	157	155	151	436	643
Grp Sat Flow(s),veh/h/ln	1728	1702	1708	1728	1702	1585	1781	1777	1669	1781	1777	1585
Q Serve(g_s), s	19.4	16.6	16.7	8.3	27.3	11.0	11.6	7.3	7.8	9.3	25.4	32.0
Cycle Q Clear(g_c), s	19.4	16.6	16.7	8.3	27.3	11.0	11.6	7.3	7.8	9.3	25.4	32.0
Prop In Lane	1.00		0.53	1.00		1.00	1.00		0.67	1.00		1.00
Lane Grp Cap(c), veh/h	609	1124	564	326	1267	393	189	552	519	154	517	461
V/C Ratio(X)	1.16	0.71	0.72	0.82	1.05	0.47	0.99	0.28	0.30	0.98	0.84	1.39
Avail Cap(c_a), veh/h	609	1124	564	358	1267	393	189	552	519	154	517	461
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.70	0.70	0.70	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	15.3	15.3	48.9	41.4	35.2	49.1	28.6	28.8	50.2	36.6	39.0
Incr Delay (d2), s/veh	82.8	2.7	5.4	11.4	38.8	4.0	63.0	0.3	0.3	66.6	12.1	190.4
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	13.0	4.3	4.8	4.0	15.5	4.7	8.4	3.2	3.2	7.0	12.6	36.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	118.4	18.1	20.7	60.3	80.2	39.3	112.1	28.9	29.1	116.8	48.7	229.4
LnGrp LOS	F	B	C	E	F	D	F	C	C	F	D	F
Approach Vol, veh/h		1910			1780			500			1230	
Approach Delay, s/veh		55.6			72.9			60.2			151.5	
Approach LOS		E			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	42.1	16.3	36.6	24.0	33.1	14.1	38.8				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	11.4	35.3	11.7	32.0	19.4	27.3	9.5	34.2				
Max Q Clear Time (g_c+I1), s	10.3	18.7	13.6	34.0	21.4	29.3	11.3	9.8				
Green Ext Time (p_c), s	0.1	7.0	0.0	0.0	0.0	0.0	0.0	1.9				
Intersection Summary												
HCM 6th Ctrl Delay			83.5									
HCM 6th LOS			F									

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	73	453	950	59
Future Vol, veh/h	1	1	73	453	950	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	240	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	1	91	566	1188	74

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1973	631	1262	0	-	0
Stage 1	1225	-	-	-	-	-
Stage 2	748	-	-	-	-	-
Critical Hdwy	6.63	6.93	4.13	-	-	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	61	425	549	-	-	-
Stage 1	241	-	-	-	-	-
Stage 2	467	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	51	425	549	-	-	-
Mov Cap-2 Maneuver	147	-	-	-	-	-
Stage 1	201	-	-	-	-	-
Stage 2	467	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	21.7	1.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	549	- 218	-	-
HCM Lane V/C Ratio	0.166	- 0.011	-	-
HCM Control Delay (s)	12.9	- 21.7	-	-
HCM Lane LOS	B	- C	-	-
HCM 95th %tile Q(veh)	0.6	- 0	-	-

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑	↑		↑
Traffic Vol, veh/h	0	1112	1656	0	0	0
Future Vol, veh/h	0	1112	1656	0	0	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	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1236	1840	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 920
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 7.14
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.92
Pot Cap-1 Maneuver	0	-	- 0 234
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 234
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	0
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	-

Timings

Murrieta Residential (JN:14027)

1: Nutmeg St. & Clinton Keith Rd.

03/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	1320	78	354	1161	93	67	43	305	83	32	36
Future Volume (vph)	59	1320	78	354	1161	93	67	43	305	83	32	36
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	28.8	28.8	9.6	29.8	29.8	32.7	32.7	32.7	14.7	14.7	14.7
Total Split (s)	12.0	40.0	40.0	43.0	71.0	71.0	37.0	37.0	37.0	37.0	37.0	37.0
Total Split (%)	10.0%	33.3%	33.3%	35.8%	59.2%	59.2%	30.8%	30.8%	30.8%	30.8%	30.8%	30.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.7	4.7	4.7	4.7	4.7	4.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	6.7	34.6	34.6	21.6	51.6	51.6	12.1	12.1	12.1	12.1	12.1	12.1
Actuated g/C Ratio	0.08	0.41	0.41	0.26	0.62	0.62	0.14	0.14	0.14	0.14	0.14	0.14
v/c Ratio	0.43	0.94	0.11	0.81	0.55	0.10	0.35	0.17	0.63	0.44	0.12	0.17
Control Delay	49.2	39.0	3.7	43.4	11.3	2.4	39.3	34.6	10.6	41.9	34.0	34.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.2	39.0	3.7	43.4	11.3	2.4	39.3	34.6	10.6	41.9	34.0	34.9
LOS	D	D	A	D	B	A	D	C	B	D	C	C
Approach Delay		37.5			17.9			17.8			38.6	
Approach LOS		D			B			B			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 83.5

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 26.6

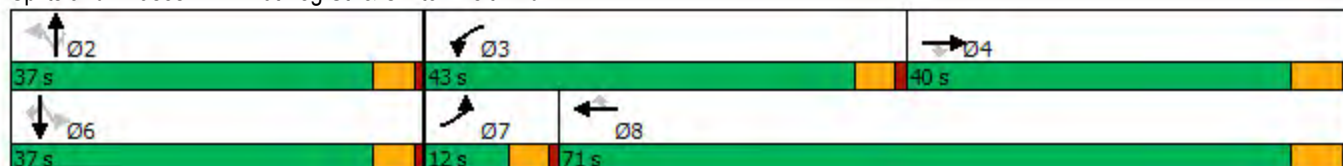
Intersection LOS: C

Intersection Capacity Utilization 79.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Nutmeg St. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
1: Nutmeg St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	1320	78	354	1161	93	67	43	305	83	32	36
Future Volume (veh/h)	59	1320	78	354	1161	93	67	43	305	83	32	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	1375	55	369	1209	72	70	45	177	86	33	33
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	84	1516	676	414	2174	970	268	273	232	238	273	232
Arrive On Green	0.05	0.43	0.43	0.23	0.61	0.61	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1335	1870	1585	1159	1870	1585
Grp Volume(v), veh/h	61	1375	55	369	1209	72	70	45	177	86	33	33
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1335	1870	1585	1159	1870	1585
Q Serve(g_s), s	2.6	28.0	1.6	15.5	15.5	1.4	3.7	1.6	8.3	5.4	1.2	1.4
Cycle Q Clear(g_c), s	2.6	28.0	1.6	15.5	15.5	1.4	4.9	1.6	8.3	7.1	1.2	1.4
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	84	1516	676	414	2174	970	268	273	232	238	273	232
V/C Ratio(X)	0.73	0.91	0.08	0.89	0.56	0.07	0.26	0.16	0.76	0.36	0.12	0.14
Avail Cap(c_a), veh/h	170	1569	700	883	2991	1334	629	780	661	552	780	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	36.4	20.8	13.2	28.8	8.8	6.1	30.9	28.9	31.8	32.0	28.8	28.8
Incr Delay (d2), s/veh	4.4	7.9	0.1	2.7	0.2	0.0	0.5	0.3	5.2	0.9	0.2	0.3
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	1.2	11.5	0.5	6.3	4.5	0.4	1.2	0.7	3.3	1.5	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	28.6	13.2	31.5	9.1	6.1	31.4	29.2	37.0	33.0	29.0	29.1
LnGrp LOS	D	C	B	C	A	A	C	C	D	C	C	C
Approach Vol, veh/h	1491			1650			292			152		
Approach Delay, s/veh	28.6			14.0			34.5			31.3		
Approach LOS	C			B			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	16.0			22.6			38.8			16.0		
Change Period (Y+Rc), s	* 4.7			4.6			5.8			* 4.7		
Max Green Setting (Gmax), s	* 32			38.4			34.2			* 32		
Max Q Clear Time (g_c+I1), s	10.3			17.5			30.0			9.1		
Green Ext Time (p_c), s	1.0			0.5			3.0			0.5		

Intersection Summary

HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

Notes

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

Timings

2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↑
Traffic Volume (vph)	1551	119	787	1541	167	848
Future Volume (vph)	1551	119	787	1541	167	848
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	33.8	33.8	9.6	15.8	14.7	14.7
Total Split (s)	44.0	44.0	55.0	99.0	21.0	21.0
Total Split (%)	36.7%	36.7%	45.8%	82.5%	17.5%	17.5%
Yellow Time (s)	4.8	4.8	3.6	4.8	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	4.7	4.7
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None
Act Effect Green (s)	38.2	38.2	50.4	93.3	14.0	14.0
Actuated g/C Ratio	0.32	0.32	0.43	0.79	0.12	0.12
v/c Ratio	1.48	0.24	1.14	0.60	0.84	0.80
Control Delay	253.9	18.0	111.9	6.2	26.1	15.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	253.9	18.0	111.9	6.2	26.1	15.8
LOS	F	B	F	A	C	B
Approach Delay	237.0			42.0	21.8	
Approach LOS	F			D	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 117.8

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.48

Intersection Signal Delay: 102.9

Intersection LOS: F

Intersection Capacity Utilization 112.8%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 2: California Oaks St. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↑
Traffic Volume (veh/h)	1551	119	787	1541	167	848
Future Volume (veh/h)	1551	119	787	1541	167	848
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1704	98	865	1693	184	806
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1131	505	748	2760	242	431
Arrive On Green	0.32	0.32	0.42	0.78	0.14	0.14
Sat Flow, veh/h	3647	1585	1781	3647	1781	3170
Grp Volume(v), veh/h	1704	98	865	1693	184	806
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	38.2	5.4	50.4	24.4	11.9	16.3
Cycle Q Clear(g_c), s	38.2	5.4	50.4	24.4	11.9	16.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1131	505	748	2760	242	431
V/C Ratio(X)	1.51	0.19	1.16	0.61	0.76	1.87
Avail Cap(c_a), veh/h	1131	505	748	2760	242	431
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	40.9	29.7	34.8	5.7	50.0	51.8
Incr Delay (d2), s/veh	232.5	0.2	85.0	0.4	13.1	401.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	52.4	2.0	38.0	6.5	6.2	30.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	273.4	29.9	119.8	6.1	63.1	452.9
LnGrp LOS	F	C	F	A	E	F
Approach Vol, veh/h	1802			2558	990	
Approach Delay, s/veh	260.1			44.6	380.5	
Approach LOS	F			D	F	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		21.0	55.0	44.0		99.0
Change Period (Y+Rc), s		* 4.7	4.6	5.8		5.8
Max Green Setting (Gmax), s		* 16	50.4	38.2		93.2
Max Q Clear Time (g_c+I1), s		18.3	52.4	40.2		26.4
Green Ext Time (p_c), s		0.0	0.0	0.0		20.8
Intersection Summary						
HCM 6th Ctrl Delay			179.3			
HCM 6th LOS			F			
Notes						
User approved volume balancing among the lanes for turning movement.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

Timings
3: I-215 SB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	←	↓	↙
Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑↑
Traffic Volume (vph)	2136	512	1836	0	761
Future Volume (vph)	2136	512	1836	0	761
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	2		6	4	
Permitted Phases		2			4
Detector Phase	2	2	6	4	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.8	32.8	23.8	23.8	23.8
Total Split (s)	66.0	66.0	66.0	44.0	44.0
Total Split (%)	60.0%	60.0%	60.0%	40.0%	40.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8
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)	5.8	5.8	5.8	5.8	5.8
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
Act Effect Green (s)	63.1	63.1	63.1	35.3	35.3
Actuated g/C Ratio	0.57	0.57	0.57	0.32	0.32
v/c Ratio	0.76	0.47	0.94	0.81	0.87
Control Delay	20.6	2.6	43.7	45.8	44.7
Queue Delay	0.0	0.0	3.9	18.0	0.0
Total Delay	20.6	2.6	47.6	63.8	44.7
LOS	C	A	D	E	D
Approach Delay	17.1		47.6	51.7	
Approach LOS	B		D	D	

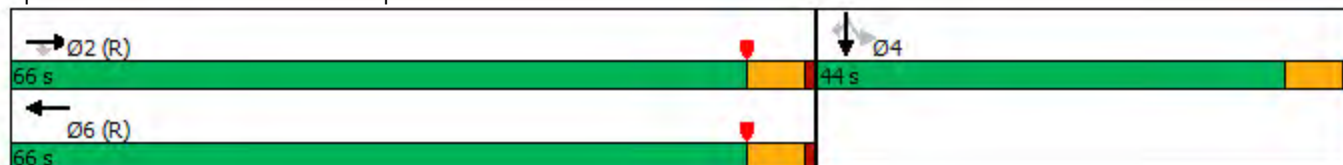
Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 35.8
 Intersection Capacity Utilization 88.3%
 Analysis Period (min) 15

Intersection LOS: D

ICU Level of Service E

Splits and Phases: 3: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary 3: I-215 SB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑						↑	↑↑
Traffic Volume (veh/h)	0	2136	512	0	1836	742	0	0	0	440	0	761
Future Volume (veh/h)	0	2136	512	0	1836	742	0	0	0	440	0	761
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	2225	533	0	1912	773				458	0	793
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2970	922	0	2136	790				558	0	873
Arrive On Green	0.00	0.58	0.58	0.00	0.39	0.39				0.31	0.00	0.31
Sat Flow, veh/h	0	5274	1585	0	3841	1358				1781	0	2790
Grp Volume(v), veh/h	0	2225	533	0	1759	926				458	0	793
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1702	1626				1781	0	1395
Q Serve(g_s), s	0.0	35.5	23.3	0.0	53.1	61.8				26.2	0.0	30.0
Cycle Q Clear(g_c), s	0.0	35.5	23.3	0.0	53.1	61.8				26.2	0.0	30.0
Prop In Lane	0.00		1.00	0.00		0.84				1.00		1.00
Lane Grp Cap(c), veh/h	0	2970	922	0	1980	946				558	0	873
V/C Ratio(X)	0.00	0.75	0.58	0.00	0.89	0.98				0.82	0.00	0.91
Avail Cap(c_a), veh/h	0	2970	922	0	1980	946				619	0	969
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.09	0.09	0.00	0.36	0.36				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.1	14.5	0.0	30.2	32.9				34.9	0.0	36.3
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	2.5	13.3				7.1	0.0	10.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.2	7.5	0.0	22.6	27.8				12.3	0.0	11.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.2	14.7	0.0	32.7	46.2				42.1	0.0	47.0
LnGrp LOS	A	B	B	A	C	D				D	A	D
Approach Vol, veh/h		2758			2685						1251	
Approach Delay, s/veh		16.8			37.4						45.2	
Approach LOS		B			D						D	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		69.8		40.2		69.8						
Change Period (Y+Rc), s		5.8		5.8		5.8						
Max Green Setting (Gmax), s		60.2		38.2		60.2						
Max Q Clear Time (g_c+I1), s		37.5		32.0		63.8						
Green Ext Time (p_c), s		13.9		2.4		0.0						
Intersection Summary												
HCM 6th Ctrl Delay			30.3									
HCM 6th LOS			C									

Timings

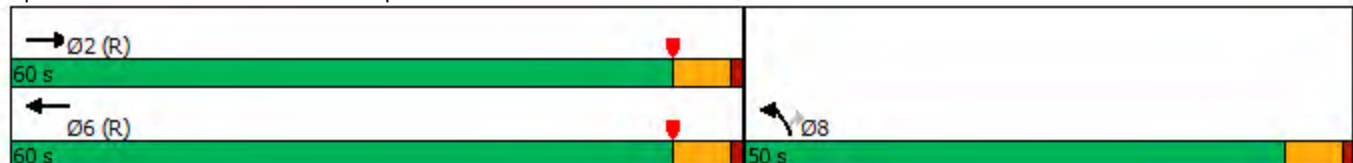
4: I-215 NB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

				
Lane Group	EBT	WBT	NBL	NBR
Lane Configurations	↑↑↑↑	↑↑↑↑	↔↔	↗
Traffic Volume (vph)	1921	2041	537	813
Future Volume (vph)	1921	2041	537	813
Turn Type	NA	NA	Prot	Perm
Protected Phases	2	6	8	
Permitted Phases				8
Detector Phase	2	6	8	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	43.8	23.8	23.8	23.8
Total Split (s)	60.0	60.0	50.0	50.0
Total Split (%)	54.5%	54.5%	45.5%	45.5%
Yellow Time (s)	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Min	C-Min	None	None
Act Effct Green (s)	54.2	54.2	44.2	44.2
Actuated g/C Ratio	0.49	0.49	0.40	0.40
v/c Ratio	1.06	0.82	1.02	1.07
Control Delay	65.1	38.4	73.7	89.2
Queue Delay	1.0	0.0	29.8	0.0
Total Delay	66.2	38.4	103.5	89.2
LOS	E	D	F	F
Approach Delay	66.2	38.4	96.7	
Approach LOS	E	D	F	
Intersection Summary				
Cycle Length: 110				
Actuated Cycle Length: 110				
Offset: 43.2 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow				
Natural Cycle: 120				
Control Type: Actuated-Coordinated				
Maximum v/c Ratio: 1.07				
Intersection Signal Delay: 63.6			Intersection LOS: E	
Intersection Capacity Utilization 107.8%			ICU Level of Service G	
Analysis Period (min) 15				

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
4: I-215 NB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↘	↗
Traffic Volume (veh/h)	1921	656	0	2041	537	813
Future Volume (veh/h)	1921	656	0	2041	537	813
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	1940	663	0	2062	672	682
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	1887	603	0	2516	716	637
Arrive On Green	0.16	0.16	0.00	0.99	0.40	0.40
Sat Flow, veh/h	3998	1225	0	5443	1781	1585
Grp Volume(v), veh/h	1710	893	0	2062	672	682
Grp Sat Flow(s),veh/h/ln	1702	1650	0	1702	1781	1585
Q Serve(g_s), s	54.2	54.2	0.0	3.4	39.9	44.2
Cycle Q Clear(g_c), s	54.2	54.2	0.0	3.4	39.9	44.2
Prop In Lane		0.74	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1677	813	0	2516	716	637
V/C Ratio(X)	1.02	1.10	0.00	0.82	0.94	1.07
Avail Cap(c_a), veh/h	1677	813	0	2516	716	637
HCM Platoon Ratio	0.33	0.33	1.00	2.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.00	0.86	1.00	1.00
Uniform Delay (d), s/veh	46.1	46.1	0.0	0.4	31.6	32.9
Incr Delay (d2), s/veh	21.5	55.5	0.0	2.7	19.9	56.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.4	36.2	0.0	0.9	20.5	26.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	67.6	101.6	0.0	3.1	51.5	89.0
LnGrp LOS	F	F	A	A	D	F
Approach Vol, veh/h	2603			2062	1354	
Approach Delay, s/veh	79.2			3.1	70.4	
Approach LOS	E			A	E	
Timer - Assigned Phs	2		6		8	
Phs Duration (G+Y+Rc), s	60.0		60.0		50.0	
Change Period (Y+Rc), s	5.8		5.8		5.8	
Max Green Setting (Gmax), s	54.2		54.2		44.2	
Max Q Clear Time (g_c+I1), s	56.2		5.4		46.2	
Green Ext Time (p_c), s	0.0		14.8		0.0	
Intersection Summary						
HCM 6th Ctrl Delay			51.2			
HCM 6th LOS			D			
Notes						

Timings

Murrieta Residential (JN:14027)

5: Clinton Keith Rd. & Warm Springs Pkwy.

03/15/2022

											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	27	2210	312	1791	41	7	2	7	40	6	29
Future Volume (vph)	27	2210	312	1791	41	7	2	7	40	6	29
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8		7	4	5
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	7	3	8	8	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	23.8	9.6	23.8	9.6	9.6	36.6	36.6	9.6	36.6	9.6
Total Split (s)	9.6	42.8	21.0	54.2	9.6	9.6	36.6	36.6	9.6	36.6	9.6
Total Split (%)	8.7%	38.9%	19.1%	49.3%	8.7%	8.7%	33.3%	33.3%	8.7%	33.3%	8.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None
Act Effect Green (s)	5.2	52.2	29.5	79.5	88.2	5.0	14.4	14.4	5.0	16.3	17.4
Actuated g/C Ratio	0.05	0.47	0.27	0.72	0.80	0.05	0.13	0.13	0.05	0.15	0.16
v/c Ratio	0.17	0.97	0.69	0.51	0.03	0.04	0.01	0.02	0.27	0.02	0.06
Control Delay	53.6	32.5	37.9	14.0	6.0	51.0	35.0	0.1	55.2	33.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.6	32.5	37.9	14.0	6.0	51.0	35.0	0.1	55.2	33.5	0.2
LOS	D	C	D	B	A	D	C	A	E	C	A
Approach Delay		32.7		17.3			26.8			32.4	
Approach LOS		C		B			C			C	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 25.4

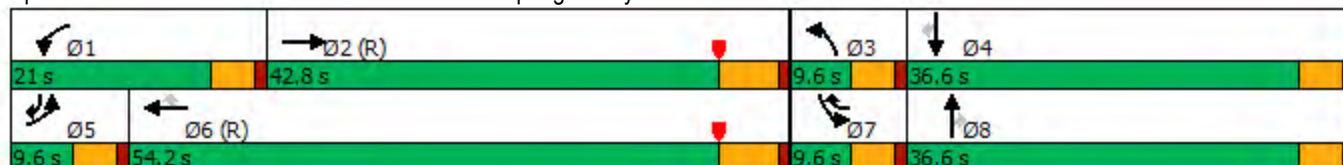
Intersection LOS: C

Intersection Capacity Utilization 81.5%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 5: Clinton Keith Rd. & Warm Springs Pkwy.



HCM 6th Signalized Intersection Summary
5: Clinton Keith Rd. & Warm Springs Pkwy.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 			 		 
Traffic Volume (veh/h)	27	2210	31	312	1791	41	7	2	7	40	6	29
Future Volume (veh/h)	27	2210	31	312	1791	41	7	2	7	40	6	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	2302	32	325	1866	43	7	2	7	42	6	30
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	90	3131	43	266	3708	1203	30	68	58	114	113	242
Arrive On Green	0.01	0.20	0.20	0.30	1.00	1.00	0.01	0.04	0.04	0.03	0.06	0.06
Sat Flow, veh/h	3456	5189	72	1781	5106	1585	3456	1870	1585	3456	1870	2790
Grp Volume(v), veh/h	28	1509	825	325	1866	43	7	2	7	42	6	30
Grp Sat Flow(s),veh/h/ln	1728	1702	1857	1781	1702	1585	1728	1870	1585	1728	1870	1395
Q Serve(g_s), s	0.9	45.7	45.9	16.4	0.0	0.0	0.2	0.1	0.5	1.3	0.3	1.1
Cycle Q Clear(g_c), s	0.9	45.7	45.9	16.4	0.0	0.0	0.2	0.1	0.5	1.3	0.3	1.1
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	2054	1121	266	3708	1203	30	68	58	114	113	242
V/C Ratio(X)	0.31	0.73	0.74	1.22	0.50	0.04	0.23	0.03	0.12	0.37	0.05	0.12
Avail Cap(c_a), veh/h	157	2054	1121	266	3708	1203	157	544	461	157	544	884
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.14	0.14	0.14	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	35.8	35.8	38.6	0.0	0.0	54.2	51.1	51.3	52.1	48.7	46.4
Incr Delay (d2), s/veh	0.1	0.2	0.4	105.6	0.1	0.0	1.4	0.2	0.9	0.7	0.2	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	0.4	20.9	22.9	13.7	0.0	0.0	0.1	0.1	0.2	0.6	0.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	36.0	36.2	144.2	0.1	0.0	55.6	51.3	52.2	52.8	48.9	46.6
LnGrp LOS	D	D	D	F	A	A	E	D	D	D	D	D
Approach Vol, veh/h	2362			2234			16			78		
Approach Delay, s/veh	36.3			21.0			53.6			50.1		
Approach LOS	D			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	72.2	5.6	11.3	7.5	85.7	8.2	8.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	16.4	37.0	5.0	32.0	5.0	48.4	5.0	32.0				
Max Q Clear Time (g_c+I1), s	18.4	47.9	2.2	3.1	2.9	2.0	3.3	2.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	23.7	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	29.3											
HCM 6th LOS	C											

Timings
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations	 	 	 	 			 	 	 
Traffic Volume (vph)	965	1260	137	995	243	288	832	206	328
Future Volume (vph)	965	1260	137	995	243	288	832	206	328
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	10.3	32.8	9.6	32.8	32.8	9.6	36.6	9.6	36.6
Total Split (s)	24.0	46.0	11.4	33.4	33.4	16.0	36.9	15.7	36.6
Total Split (%)	21.8%	41.8%	10.4%	30.4%	30.4%	14.5%	33.5%	14.3%	33.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	None	Max
Act Effect Green (s)	19.4	40.3	6.7	27.6	27.6	11.4	32.3	11.1	32.0
Actuated g/C Ratio	0.18	0.37	0.06	0.25	0.25	0.10	0.29	0.10	0.29
v/c Ratio	1.63	0.84	0.67	0.80	0.44	1.61	0.99	1.18	1.06dr
Control Delay	325.3	35.8	67.0	44.1	9.1	330.1	64.1	167.9	40.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	325.3	35.8	67.0	44.1	9.1	330.1	64.1	167.9	40.9
LOS	F	D	E	D	A	F	E	F	D
Approach Delay		148.2		40.2			123.7		61.9
Approach LOS		F		D			F		E

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.63

Intersection Signal Delay: 103.2

Intersection LOS: F

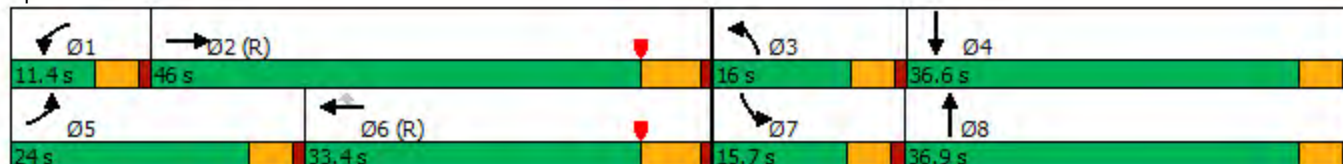
Intersection Capacity Utilization 111.0%

ICU Level of Service H

Analysis Period (min) 15

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 6: Clinton Keith Rd. & Whitewood Rd.



HCM 6th Signalized Intersection Summary
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

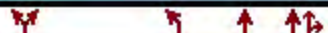
03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		 	  	
Traffic Volume (veh/h)	965	1260	261	137	995	243	288	832	165	206	328	708
Future Volume (veh/h)	965	1260	261	137	995	243	288	832	165	206	328	708
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	985	1286	266	140	1015	248	294	849	168	210	335	722
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	609	1569	324	198	1281	398	185	868	172	180	517	461
Arrive On Green	0.35	0.74	0.74	0.06	0.25	0.25	0.10	0.29	0.29	0.10	0.29	0.29
Sat Flow, veh/h	3456	4240	877	3456	5106	1585	1781	2957	585	1781	1777	1585
Grp Volume(v), veh/h	985	1032	520	140	1015	248	294	510	507	210	335	722
Grp Sat Flow(s),veh/h/ln	1728	1702	1713	1728	1702	1585	1781	1777	1765	1781	1777	1585
Q Serve(g_s), s	19.4	22.0	22.1	4.4	20.4	15.3	11.4	31.3	31.3	11.1	18.1	32.0
Cycle Q Clear(g_c), s	19.4	22.0	22.1	4.4	20.4	15.3	11.4	31.3	31.3	11.1	18.1	32.0
Prop In Lane	1.00		0.51	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	609	1260	634	198	1281	398	185	522	518	180	517	461
V/C Ratio(X)	1.62	0.82	0.82	0.71	0.79	0.62	1.59	0.98	0.98	1.17	0.65	1.57
Avail Cap(c_a), veh/h	609	1260	634	214	1281	398	185	522	518	180	517	461
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.20	0.20	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	11.9	11.9	50.9	38.5	36.6	49.3	38.5	38.5	49.5	34.1	39.0
Incr Delay (d2), s/veh	278.8	1.3	2.5	7.6	5.1	7.2	290.7	34.3	34.4	119.7	6.2	265.0
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	29.6	4.0	4.3	2.1	8.8	6.7	19.9	18.3	18.2	10.9	8.6	46.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	314.4	13.2	14.4	58.6	43.6	43.8	340.0	72.8	72.9	169.2	40.3	304.0
LnGrp LOS	F	B	B	E	D	D	F	E	E	F	D	F
Approach Vol, veh/h	2537			1403			1311			1267		
Approach Delay, s/veh	130.4			45.1			132.8			211.9		
Approach LOS	F			D			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	46.5	16.0	36.6	24.0	33.4	15.7	36.9				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	6.8	40.2	11.4	32.0	19.4	27.6	11.1	32.3				
Max Q Clear Time (g_c+I1), s	6.4	24.1	13.4	34.0	21.4	22.4	13.1	33.3				
Green Ext Time (p_c), s	0.0	9.0	0.0	0.0	0.0	3.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	128.4											
HCM 6th LOS	F											

Intersection

Int Delay, s/veh 0.3

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations 

Traffic Vol, veh/h 7 16 16 1064 918 27

Future Vol, veh/h 7 16 16 1064 918 27

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Stop Stop Free Free Free Free

RT Channelized - None - None - None

Storage Length 0 - 240 - - -

Veh in Median Storage, # 1 - - 0 0 -

Grade, % 0 - - 0 0 -

Peak Hour Factor 93 93 93 93 93 93

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 8 17 17 1144 987 29

Major/Minor Minor2 Major1 Major2

Conflicting Flow All 2180 508 1016 0 - 0

Stage 1 1002 - - - - -

Stage 2 1178 - - - - -

Critical Hdwy 6.63 6.93 4.13 - - -

Critical Hdwy Stg 1 5.83 - - - - -

Critical Hdwy Stg 2 5.43 - - - - -

Follow-up Hdwy 3.519 3.319 2.219 - - -

Pot Cap-1 Maneuver 45 511 681 - - -

Stage 1 317 - - - - -

Stage 2 291 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 44 511 681 - - -

Mov Cap-2 Maneuver 157 - - - - -

Stage 1 309 - - - - -

Stage 2 291 - - - - -

Approach EB NB SB

HCM Control Delay, s 17.9 0.2 0

HCM LOS C

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h) 681 - 303 - -

HCM Lane V/C Ratio 0.025 - 0.082 - -

HCM Control Delay (s) 10.4 - 17.9 - -

HCM Lane LOS B - C - -

HCM 95th %tile Q(veh) 0.1 - 0.3 - -

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑↑	↑		↑
Traffic Vol, veh/h	0	1730	1418	0	0	0
Future Vol, veh/h	0	1730	1418	0	0	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	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1840	1509	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 755
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 7.14
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.92
Pot Cap-1 Maneuver	0	-	- 0 301
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 301
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	0
HCM Lane LOS	-	-	-	A
HCM 95th %tile Q(veh)	-	-	-	-

APPENDIX 5.2:

OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Timings

Murrieta Residential (JN:14027)

1: Nutmeg St. & Clinton Keith Rd.

03/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	881	82	376	1009	77	107	45	381	105	71	46
Future Volume (vph)	33	881	82	376	1009	77	107	45	381	105	71	46
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	28.8	28.8	9.6	29.8	29.8	32.7	32.7	32.7	14.7	14.7	14.7
Total Split (s)	12.0	40.0	40.0	43.0	71.0	71.0	37.0	37.0	37.0	37.0	37.0	37.0
Total Split (%)	10.0%	33.3%	33.3%	35.8%	59.2%	59.2%	30.8%	30.8%	30.8%	30.8%	30.8%	30.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.7	4.7	4.7	4.7	4.7	4.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	6.3	28.0	28.0	22.9	49.7	49.7	14.5	14.5	14.5	14.5	14.5	14.5
Actuated g/C Ratio	0.08	0.34	0.34	0.28	0.61	0.61	0.18	0.18	0.18	0.18	0.18	0.18
v/c Ratio	0.24	0.73	0.14	0.76	0.47	0.08	0.46	0.14	0.64	0.44	0.22	0.16
Control Delay	46.6	28.9	4.5	38.8	10.7	2.6	40.4	33.0	9.4	39.6	33.9	33.6
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	46.6	28.9	4.5	38.8	10.7	2.6	40.4	33.0	9.4	39.6	33.9	33.6
LOS	D	C	A	D	B	A	D	C	A	D	C	C
Approach Delay		27.5			17.5			17.6			36.6	
Approach LOS		C			B			B			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 81.2

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 21.9

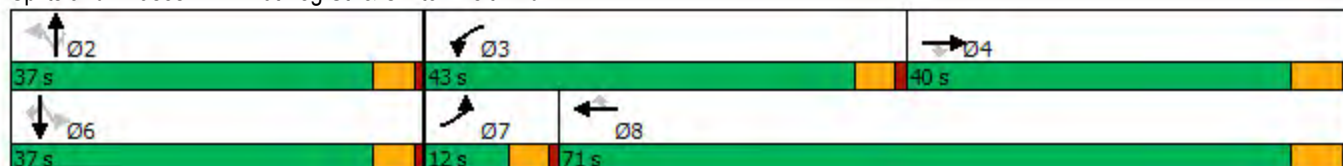
Intersection LOS: C

Intersection Capacity Utilization 70.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 1: Nutmeg St. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary

Murrieta Residential (JN:14027)

1: Nutmeg St. & Clinton Keith Rd.

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	881	82	376	1009	77	107	45	381	105	71	46
Future Volume (veh/h)	33	881	82	376	1009	77	107	45	381	105	71	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	890	58	380	1019	54	108	45	249	106	72	41
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	61	1187	529	432	1927	859	321	373	316	302	373	316
Arrive On Green	0.03	0.33	0.33	0.24	0.54	0.54	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1280	1870	1585	1085	1870	1585
Grp Volume(v), veh/h	33	890	58	380	1019	54	108	45	249	106	72	41
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1280	1870	1585	1085	1870	1585
Q Serve(g_s), s	1.2	15.0	1.7	13.8	12.4	1.1	5.2	1.3	10.1	6.0	2.2	1.4
Cycle Q Clear(g_c), s	1.2	15.0	1.7	13.8	12.4	1.1	7.3	1.3	10.1	7.3	2.2	1.4
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	61	1187	529	432	1927	859	321	373	316	302	373	316
V/C Ratio(X)	0.54	0.75	0.11	0.88	0.53	0.06	0.34	0.12	0.79	0.35	0.19	0.13
Avail Cap(c_a), veh/h	196	1803	804	1015	3438	1533	679	896	760	605	896	760
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	32.0	19.9	15.5	24.6	9.9	7.3	25.5	22.1	25.6	25.1	22.5	22.2
Incr Delay (d2), s/veh	2.8	1.0	0.1	2.4	0.2	0.0	0.6	0.1	4.3	0.7	0.2	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	0.5	5.4	0.5	5.4	3.6	0.3	1.6	0.6	3.8	1.5	0.9	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.8	20.9	15.6	26.9	10.1	7.3	26.1	22.3	30.0	25.8	22.7	22.3
LnGrp LOS	C	C	B	C	B	A	C	C	C	C	C	C
Approach Vol, veh/h	981			1453			402			219		
Approach Delay, s/veh	21.1			14.4			28.1			24.1		
Approach LOS	C			B			C			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	18.2			20.9			28.3			18.2		
Change Period (Y+Rc), s	* 4.7			4.6			5.8			* 4.7		
Max Green Setting (Gmax), s	* 32			38.4			34.2			* 32		
Max Q Clear Time (g_c+I1), s	12.1			15.8			17.0			9.3		
Green Ext Time (p_c), s	1.4			0.5			5.5			0.9		

Intersection Summary

HCM 6th Ctrl Delay	19.0
HCM 6th LOS	B

Notes

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

Timings

2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↑
Traffic Volume (vph)	1205	178	814	1351	126	591
Future Volume (vph)	1205	178	814	1351	126	591
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	33.8	33.8	9.6	15.8	14.7	14.7
Total Split (s)	44.0	44.0	55.0	99.0	21.0	21.0
Total Split (%)	36.7%	36.7%	45.8%	82.5%	17.5%	17.5%
Yellow Time (s)	4.8	4.8	3.6	4.8	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	4.7	4.7
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None
Act Effect Green (s)	38.2	38.2	50.4	93.2	12.3	12.3
Actuated g/C Ratio	0.33	0.33	0.43	0.80	0.11	0.11
v/c Ratio	1.06	0.31	1.08	0.49	0.71	0.71
Control Delay	80.4	13.6	89.1	4.5	22.0	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	80.4	13.6	89.1	4.5	22.0	15.6
LOS	F	B	F	A	C	B
Approach Delay	71.8			36.3	19.4	
Approach LOS	E			D	B	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 116

Natural Cycle: 130

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 45.0

Intersection LOS: D

Intersection Capacity Utilization 100.8%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 2: California Oaks St. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑↑	↑
Traffic Volume (veh/h)	1205	178	814	1351	126	591
Future Volume (veh/h)	1205	178	814	1351	126	591
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1230	151	831	1379	129	486
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1131	505	748	2760	242	431
Arrive On Green	0.32	0.32	0.42	0.78	0.14	0.14
Sat Flow, veh/h	3647	1585	1781	3647	1781	3170
Grp Volume(v), veh/h	1230	151	831	1379	129	486
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	38.2	8.6	50.4	17.0	8.1	16.3
Cycle Q Clear(g_c), s	38.2	8.6	50.4	17.0	8.1	16.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1131	505	748	2760	242	431
V/C Ratio(X)	1.09	0.30	1.11	0.50	0.53	1.13
Avail Cap(c_a), veh/h	1131	505	748	2760	242	431
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	40.9	30.8	34.8	4.9	48.3	51.8
Incr Delay (d2), s/veh	53.8	0.3	67.6	0.1	2.3	83.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.3	3.2	34.4	4.5	3.8	11.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	94.7	31.1	102.4	5.0	50.6	135.2
LnGrp LOS	F	C	F	A	D	F
Approach Vol, veh/h	1381			2210	615	
Approach Delay, s/veh	87.7			41.7	117.5	
Approach LOS	F			D	F	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		21.0	55.0	44.0		99.0
Change Period (Y+Rc), s		* 4.7	4.6	5.8		5.8
Max Green Setting (Gmax), s		* 16	50.4	38.2		93.2
Max Q Clear Time (g_c+I1), s		18.3	52.4	40.2		19.0
Green Ext Time (p_c), s		0.0	0.0	0.0		14.0
Intersection Summary						
HCM 6th Ctrl Delay			67.9			
HCM 6th LOS			E			
Notes						
User approved volume balancing among the lanes for turning movement.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

Timings
3: I-215 SB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)
03/15/2022

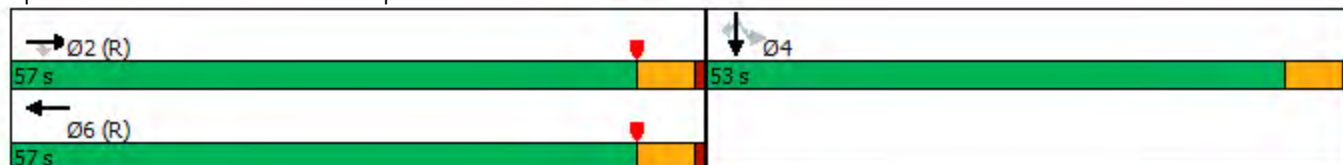
	→	↘	←	↓	↙
Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑↑
Traffic Volume (vph)	1721	548	1603	0	864
Future Volume (vph)	1721	548	1603	0	864
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	2		6	4	
Permitted Phases		2			4
Detector Phase	2	2	6	4	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.8	32.8	23.8	23.8	23.8
Total Split (s)	57.0	57.0	57.0	53.0	53.0
Total Split (%)	51.8%	51.8%	51.8%	48.2%	48.2%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8
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)	5.8	5.8	5.8	5.8	5.8
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
Act Effect Green (s)	56.4	56.4	56.4	42.0	42.0
Actuated g/C Ratio	0.51	0.51	0.51	0.38	0.38
v/c Ratio	0.70	0.53	0.94	0.44	0.85
Control Delay	23.1	3.4	23.6	26.6	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	3.4	23.6	26.6	38.2
LOS	C	A	C	C	D
Approach Delay	18.4		23.6	35.4	
Approach LOS	B		C	D	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 75
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 23.8
 Intersection Capacity Utilization 85.5%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 3: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
3: I-215 SB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑						↑	↑↑
Traffic Volume (veh/h)	0	1721	548	0	1603	656	0	0	0	277	0	864
Future Volume (veh/h)	0	1721	548	0	1603	656	0	0	0	277	0	864
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	1831	583	0	1705	698				295	0	919
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94				0.94	0.94	0.94
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2731	848	0	1936	750				641	0	1003
Arrive On Green	0.00	0.53	0.53	0.00	1.00	1.00				0.36	0.00	0.36
Sat Flow, veh/h	0	5274	1585	0	3787	1403				1781	0	2790
Grp Volume(v), veh/h	0	1831	583	0	1598	805				295	0	919
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1702	1618				1781	0	1395
Q Serve(g_s), s	0.0	28.6	29.8	0.0	0.0	0.0				14.0	0.0	34.6
Cycle Q Clear(g_c), s	0.0	28.6	29.8	0.0	0.0	0.0				14.0	0.0	34.6
Prop In Lane	0.00		1.00	0.00		0.87				1.00		1.00
Lane Grp Cap(c), veh/h	0	2731	848	0	1821	865				641	0	1003
V/C Ratio(X)	0.00	0.67	0.69	0.00	0.88	0.93				0.46	0.00	0.92
Avail Cap(c_a), veh/h	0	2731	848	0	1821	865				764	0	1197
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.12	0.12	0.00	0.68	0.68				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	18.6	18.8	0.0	0.0	0.0				27.0	0.0	33.6
Incr Delay (d2), s/veh	0.0	0.2	0.6	0.0	4.5	13.3				0.2	0.0	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.2	10.0	0.0	1.1	3.2				5.9	0.0	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.7	19.4	0.0	4.5	13.3				27.2	0.0	42.7
LnGrp LOS	A	B	B	A	A	B				C	A	D
Approach Vol, veh/h		2414			2403						1214	
Approach Delay, s/veh		18.9			7.4						38.9	
Approach LOS		B			A						D	
Timer - Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		64.6		45.4		64.6						
Change Period (Y+Rc), s		5.8		5.8		5.8						
Max Green Setting (Gmax), s		51.2		47.2		51.2						
Max Q Clear Time (g_c+I1), s		31.8		36.6		2.0						
Green Ext Time (p_c), s		10.4		3.0		18.8						
Intersection Summary												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)
03/15/2022

				
Lane Group	EBT	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑↑↑	↰↰	↱
Traffic Volume (vph)	1288	1855	323	525
Future Volume (vph)	1288	1855	323	525
Turn Type	NA	NA	Prot	Perm
Protected Phases	2	6	8	
Permitted Phases				8
Detector Phase	2	6	8	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	43.8	22.0	22.0	22.0
Total Split (s)	63.0	63.0	47.0	47.0
Total Split (%)	57.3%	57.3%	42.7%	42.7%
Yellow Time (s)	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Min	C-Min	None	None
Act Effct Green (s)	65.3	65.3	33.1	33.1
Actuated g/C Ratio	0.59	0.59	0.30	0.30
v/c Ratio	0.71	0.63	0.86	0.88
Control Delay	9.9	7.8	50.5	52.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.9	7.8	50.5	52.3
LOS	A	A	D	D
Approach Delay	9.9	7.8	51.4	
Approach LOS	A	A	D	
Intersection Summary				
Cycle Length: 110				
Actuated Cycle Length: 110				
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow				
Natural Cycle: 70				
Control Type: Actuated-Coordinated				
Maximum v/c Ratio: 0.88				
Intersection Signal Delay: 16.5			Intersection LOS: B	
Intersection Capacity Utilization 79.4%			ICU Level of Service D	
Analysis Period (min) 15				

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
4: I-215 NB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↖	↗
Traffic Volume (veh/h)	1288	725	0	1855	323	525
Future Volume (veh/h)	1288	725	0	1855	323	525
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	1328	747	0	1912	430	437
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	2033	947	0	3049	530	471
Arrive On Green	1.00	1.00	0.00	1.00	0.30	0.30
Sat Flow, veh/h	3572	1585	0	5443	1781	1585
Grp Volume(v), veh/h	1328	747	0	1912	430	437
Grp Sat Flow(s),veh/h/ln	1702	1585	0	1702	1781	1585
Q Serve(g_s), s	0.0	0.0	0.0	0.0	24.6	29.4
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	24.6	29.4
Prop In Lane		1.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	2033	947	0	3049	530	471
V/C Ratio(X)	0.65	0.79	0.00	0.63	0.81	0.93
Avail Cap(c_a), veh/h	2033	947	0	3049	667	594
HCM Platoon Ratio	2.00	2.00	1.00	2.00	1.00	1.00
Upstream Filter(l)	0.65	0.65	0.00	0.81	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	35.8	37.5
Incr Delay (d2), s/veh	1.1	4.4	0.0	0.8	4.8	16.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.2	0.0	0.2	11.2	13.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.1	4.4	0.0	0.8	40.6	54.1
LnGrp LOS	A	A	A	A	D	D
Approach Vol, veh/h	2075			1912	867	
Approach Delay, s/veh	2.3			0.8	47.4	
Approach LOS	A			A	D	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		71.5			71.5	38.5
Change Period (Y+Rc), s		5.8			5.8	5.8
Max Green Setting (Gmax), s		57.2			57.2	41.2
Max Q Clear Time (g_c+l1), s		2.0			2.0	31.4
Green Ext Time (p_c), s		14.6			13.0	1.3
Intersection Summary						
HCM 6th Ctrl Delay			9.8			
HCM 6th LOS			A			
Notes						
User approved volume balancing among the lanes for turning movement.						

Timings

Murrieta Residential (JN:14027)

5: Clinton Keith Rd. & Warm Springs Pkwy.

03/15/2022

											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  		 	 		  		 
Traffic Volume (vph)	44	1568	244	1818	89	12	4	3	55	10	62
Future Volume (vph)	44	1568	244	1818	89	12	4	3	55	10	62
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8		7	4	5
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	7	3	8	8	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	23.8	9.6	23.8	9.6	9.6	36.6	36.6	9.6	36.6	9.6
Total Split (s)	9.6	42.6	21.2	54.2	9.6	9.6	36.6	36.6	9.6	36.6	9.6
Total Split (%)	8.7%	38.7%	19.3%	49.3%	8.7%	8.7%	33.3%	33.3%	8.7%	33.3%	8.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None
Act Effect Green (s)	5.6	57.3	22.4	76.1	87.8	5.0	14.4	14.4	5.0	14.4	15.8
Actuated g/C Ratio	0.05	0.52	0.20	0.69	0.80	0.05	0.13	0.13	0.05	0.13	0.14
v/c Ratio	0.28	0.70	0.75	0.57	0.08	0.08	0.02	0.01	0.39	0.05	0.14
Control Delay	51.6	23.8	36.0	27.2	6.9	51.6	35.5	0.0	58.6	37.1	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
Total Delay	51.6	23.8	36.0	27.2	6.9	51.6	35.5	0.0	58.6	37.1	1.3
LOS	D	C	D	C	A	D	D	A	E	D	A
Approach Delay		24.5		27.3			40.6			28.9	
Approach LOS		C		C			D			C	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 26.2

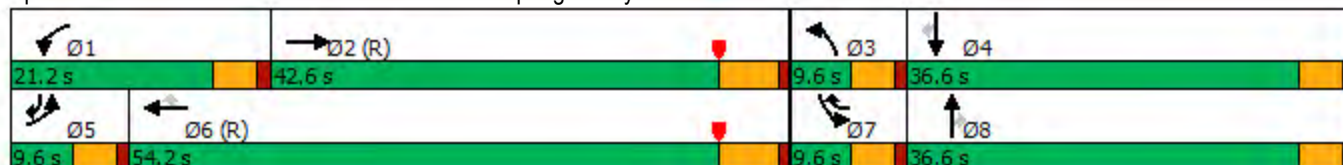
Intersection LOS: C

Intersection Capacity Utilization 66.6%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 5: Clinton Keith Rd. & Warm Springs Pkwy.



HCM 6th Signalized Intersection Summary
5: Clinton Keith Rd. & Warm Springs Pkwy.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 			 		 
Traffic Volume (veh/h)	44	1568	86	244	1818	89	12	4	3	55	10	62
Future Volume (veh/h)	44	1568	86	244	1818	89	12	4	3	55	10	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	49	1742	96	271	2020	99	13	4	3	61	11	69
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	2838	156	269	3516	1152	51	111	94	133	155	330
Arrive On Green	0.07	1.00	1.00	0.30	1.00	1.00	0.01	0.06	0.06	0.04	0.08	0.08
Sat Flow, veh/h	3456	4953	273	1781	5106	1585	3456	1870	1585	3456	1870	2790
Grp Volume(v), veh/h	49	1197	641	271	2020	99	13	4	3	61	11	69
Grp Sat Flow(s),veh/h/ln	1728	1702	1821	1781	1702	1585	1728	1870	1585	1728	1870	1395
Q Serve(g_s), s	1.5	0.0	0.0	16.6	0.0	0.0	0.4	0.2	0.2	1.9	0.6	2.5
Cycle Q Clear(g_c), s	1.5	0.0	0.0	16.6	0.0	0.0	0.4	0.2	0.2	1.9	0.6	2.5
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	1950	1044	269	3516	1152	51	111	94	133	155	330
V/C Ratio(X)	0.40	0.61	0.61	1.01	0.57	0.09	0.25	0.04	0.03	0.46	0.07	0.21
Avail Cap(c_a), veh/h	157	1950	1044	269	3516	1152	157	544	461	157	544	910
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.60	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	0.0	0.0	38.4	0.0	0.0	53.6	48.8	48.7	51.8	46.5	43.8
Incr Delay (d2), s/veh	0.5	0.9	1.6	18.5	0.1	0.0	0.9	0.1	0.1	0.9	0.2	0.3
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	0.2	0.5	7.0	0.0	0.0	0.2	0.1	0.1	0.8	0.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.5	0.9	1.6	56.9	0.1	0.0	54.5	48.9	48.9	52.7	46.7	44.2
LnGrp LOS	D	A	A	F	A	A	D	D	D	D	D	D
Approach Vol, veh/h	1887		2390				20		141			
Approach Delay, s/veh	2.4		6.5				52.5		48.0			
Approach LOS	A		A				D		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.2	68.8	6.2	13.7	8.5	81.5	8.8	11.1				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	16.6	36.8	5.0	32.0	5.0	48.4	5.0	32.0				
Max Q Clear Time (g_c+I1), s	18.6	2.0	2.4	4.5	3.5	2.0	3.9	2.2				
Green Ext Time (p_c), s	0.0	16.6	0.0	0.3	0.0	24.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			6.3									
HCM 6th LOS			A									

Timings
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	634	925	248	1238	167	233	194	138	392
Future Volume (vph)	634	925	248	1238	167	233	194	138	392
Turn Type	Prot	NA	Prot	NA	Prot	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	6	3	8	7	4
Permitted Phases									
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.8	9.6	32.8	32.8	9.6	36.6	9.6	36.6
Total Split (s)	24.0	41.1	16.0	33.1	33.1	16.3	38.8	14.1	36.6
Total Split (%)	21.8%	37.4%	14.5%	30.1%	30.1%	14.8%	35.3%	12.8%	33.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None
Act Effect Green (s)	20.0	36.2	11.0	27.3	27.3	11.7	33.6	9.5	31.4
Actuated g/C Ratio	0.18	0.33	0.10	0.25	0.25	0.11	0.31	0.09	0.29
v/c Ratio	1.13	0.75	0.80	1.09	0.35	1.38	0.30	1.01	0.94
Control Delay	126.2	38.6	66.5	93.2	6.8	237.7	22.5	125.9	42.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.2	38.6	66.5	93.2	6.8	237.7	22.5	125.9	42.5
LOS	F	D	E	F	A	F	C	F	D
Approach Delay		70.3		80.4			118.7		52.8
Approach LOS		E		F			F		D

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.38

Intersection Signal Delay: 74.8

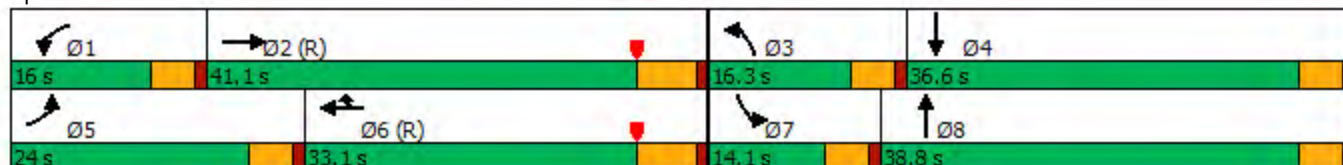
Intersection LOS: E

Intersection Capacity Utilization 100.7%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 6: Clinton Keith Rd. & Whitewood Rd.



HCM 6th Signalized Intersection Summary
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	634	925	192	248	1238	167	233	194	94	138	392	579
Future Volume (veh/h)	634	925	192	248	1238	167	233	194	94	138	392	579
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	704	1028	213	276	1376	186	259	216	104	153	436	643
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	609	1389	287	335	1267	393	189	733	340	154	517	461
Arrive On Green	0.35	0.66	0.66	0.10	0.25	0.25	0.11	0.31	0.31	0.09	0.29	0.29
Sat Flow, veh/h	3456	4239	877	3456	5106	1585	1781	2356	1094	1781	1777	1585
Grp Volume(v), veh/h	704	825	416	276	1376	186	259	161	159	153	436	643
Grp Sat Flow(s),veh/h/ln	1728	1702	1712	1728	1702	1585	1781	1777	1673	1781	1777	1585
Q Serve(g_s), s	19.4	17.8	17.9	8.6	27.3	11.0	11.7	7.5	8.0	9.4	25.4	32.0
Cycle Q Clear(g_c), s	19.4	17.8	17.9	8.6	27.3	11.0	11.7	7.5	8.0	9.4	25.4	32.0
Prop In Lane	1.00		0.51	1.00		1.00	1.00		0.65	1.00		1.00
Lane Grp Cap(c), veh/h	609	1115	561	335	1267	393	189	552	520	154	517	461
V/C Ratio(X)	1.16	0.74	0.74	0.82	1.09	0.47	1.37	0.29	0.31	0.99	0.84	1.39
Avail Cap(c_a), veh/h	609	1115	561	358	1267	393	189	552	520	154	517	461
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	15.8	15.8	48.7	41.4	35.2	49.1	28.7	28.9	50.2	36.6	39.0
Incr Delay (d2), s/veh	82.3	3.0	5.9	12.5	52.0	4.0	195.1	0.3	0.3	70.8	12.1	190.4
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	13.0	4.6	5.0	4.2	17.0	4.7	15.4	3.3	3.2	7.2	12.6	36.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	117.9	18.8	21.7	61.3	93.3	39.3	244.3	29.0	29.2	121.0	48.7	229.4
LnGrp LOS	F	B	C	E	F	D	F	C	C	F	D	F
Approach Vol, veh/h	1945			1838			579			1232		
Approach Delay, s/veh	55.3			83.0			125.3			152.0		
Approach LOS	E			F			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.3	41.8	16.3	36.6	24.0	33.1	14.1	38.8				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	11.4	35.3	11.7	32.0	19.4	27.3	9.5	34.2				
Max Q Clear Time (g_c+I1), s	10.6	19.9	13.7	34.0	21.4	29.3	11.4	10.0				
Green Ext Time (p_c), s	0.0	6.9	0.0	0.0	0.0	0.0	0.0	1.9				
Intersection Summary												
HCM 6th Ctrl Delay	93.0											
HCM 6th LOS	F											

Timings
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	634	925	239	1237	167	233	194	138	392
Future Volume (vph)	634	925	239	1237	167	233	194	138	392
Turn Type	Prot	NA	Prot	NA	Prot	Prot	NA	Prot	NA
Protected Phases	5	2	1	6	6	3	8	7	4
Permitted Phases									
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.8	9.6	32.8	32.8	9.6	36.6	9.6	36.6
Total Split (s)	24.0	41.1	16.0	33.1	33.1	16.3	38.8	14.1	36.6
Total Split (%)	21.8%	37.4%	14.5%	30.1%	30.1%	14.8%	35.3%	12.8%	33.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None
Act Effect Green (s)	20.0	36.3	11.0	27.3	27.3	11.7	33.6	9.5	31.4
Actuated g/C Ratio	0.18	0.33	0.10	0.25	0.25	0.11	0.31	0.09	0.29
v/c Ratio	1.13	0.75	0.78	1.09	0.35	1.38	0.30	1.01	0.94
Control Delay	126.2	38.5	71.5	82.5	7.3	237.7	22.5	125.9	42.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.2	38.5	71.5	82.5	7.3	237.7	22.5	125.9	42.5
LOS	F	D	E	F	A	F	C	F	D
Approach Delay		70.3		73.3			118.7		52.8
Approach LOS		E		E			F		D

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.38

Intersection Signal Delay: 72.4

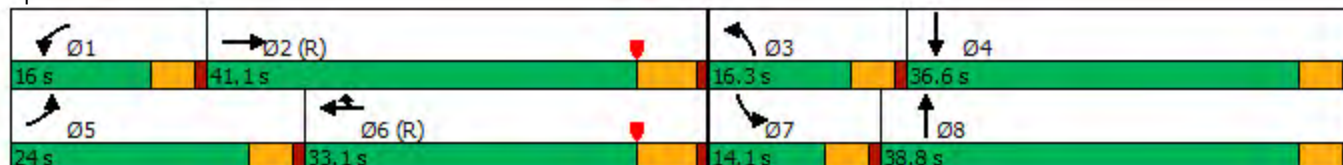
Intersection LOS: E

Intersection Capacity Utilization 100.7%

ICU Level of Service G

Analysis Period (min) 15

Splits and Phases: 6: Clinton Keith Rd. & Whitewood Rd.



HCM 6th Signalized Intersection Summary
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	634	925	192	239	1237	167	233	194	94	138	392	579
Future Volume (veh/h)	634	925	192	239	1237	167	233	194	94	138	392	579
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	704	1028	213	266	1374	186	259	216	104	153	436	643
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	609	1402	290	324	1267	393	189	733	340	154	517	461
Arrive On Green	0.35	0.66	0.66	0.12	0.33	0.33	0.11	0.31	0.31	0.09	0.29	0.29
Sat Flow, veh/h	3456	4239	877	3456	5106	1585	1781	2356	1094	1781	1777	1585
Grp Volume(v), veh/h	704	825	416	266	1374	186	259	161	159	153	436	643
Grp Sat Flow(s),veh/h/ln	1728	1702	1712	1728	1702	1585	1781	1777	1673	1781	1777	1585
Q Serve(g_s), s	19.4	17.5	17.6	8.3	27.3	10.2	11.7	7.5	8.0	9.4	25.4	32.0
Cycle Q Clear(g_c), s	19.4	17.5	17.6	8.3	27.3	10.2	11.7	7.5	8.0	9.4	25.4	32.0
Prop In Lane	1.00		0.51	1.00		1.00	1.00		0.65	1.00		1.00
Lane Grp Cap(c), veh/h	609	1126	566	324	1267	393	189	552	520	154	517	461
V/C Ratio(X)	1.16	0.73	0.73	0.82	1.08	0.47	1.37	0.29	0.31	0.99	0.84	1.39
Avail Cap(c_a), veh/h	609	1126	566	358	1267	393	189	552	520	154	517	461
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.67	0.67	0.81	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	15.4	15.4	47.2	36.8	31.1	49.1	28.7	28.9	50.2	36.6	39.0
Incr Delay (d2), s/veh	82.3	2.9	5.6	9.7	49.3	3.3	195.1	0.3	0.3	70.8	12.1	190.4
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	13.0	4.5	4.9	3.8	15.7	4.1	15.4	3.3	3.2	7.2	12.6	36.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	117.9	18.3	21.1	56.9	86.1	34.4	244.3	29.0	29.2	121.0	48.7	229.4
LnGrp LOS	F	B	C	E	F	C	F	C	C	F	D	F
Approach Vol, veh/h	1945			1826			579			1232		
Approach Delay, s/veh	54.9			76.6			125.3			152.0		
Approach LOS	D			E			F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	42.2	16.3	36.6	24.0	33.1	14.1	38.8				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	11.4	35.3	11.7	32.0	19.4	27.3	9.5	34.2				
Max Q Clear Time (g_c+I1), s	10.3	19.6	13.7	34.0	21.4	29.3	11.4	10.0				
Green Ext Time (p_c), s	0.1	7.0	0.0	0.0	0.0	0.0	0.0	1.9				
Intersection Summary												
HCM 6th Ctrl Delay	90.8											
HCM 6th LOS	F											

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗	↗	↗↘			↗↘	
Traffic Vol, veh/h	0	0	2	0	0	71	73	453	5	0	964	59
Future Vol, veh/h	0	0	2	0	0	71	73	453	5	0	964	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	240	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	0	0	89	91	566	6	0	1205	74

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	640	-	-	286	1279	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-
Pot Cap-1 Maneuver	0	0	418	0	0	711	539	-
Stage 1	0	0	-	0	0	-	-	0
Stage 2	0	0	-	0	0	-	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	418	-	-	711	539	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.7	10.8	1.8	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	539	-	-	418	711	-
HCM Lane V/C Ratio	0.169	-	-	0.006	0.125	-
HCM Control Delay (s)	13	-	-	13.7	10.8	-
HCM Lane LOS	B	-	-	B	B	-
HCM 95th %tile Q(veh)	0.6	-	-	0	0.4	-

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	0	1	0	0	71	73	453	5	0	964	59
Future Vol, veh/h	0	0	1	0	0	71	73	453	5	0	964	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	240	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	92	80	92	92	92	80	80	92	92	80	80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	0	0	77	91	566	5	0	1205	74

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	640	-	-	286	1279	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-
Pot Cap-1 Maneuver	0	0	418	0	0	711	539	-
Stage 1	0	0	-	0	0	-	-	0
Stage 2	0	0	-	0	0	-	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	418	-	-	711	539	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	10.7	1.8	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	539	-	-	418	711	-
HCM Lane V/C Ratio	0.169	-	-	0.003	0.109	-
HCM Control Delay (s)	13	-	-	13.6	10.7	-
HCM Lane LOS	B	-	-	B	B	-
HCM 95th %tile Q(veh)	0.6	-	-	0	0.4	-

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑			↑			↑
Traffic Vol, veh/h	0	1112	42	0	1708	0	0	0	71	0	0	0
Future Vol, veh/h	0	1112	42	0	1708	0	0	0	71	0	0	0
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	-	-	150	-	-	0	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	92	92	90	90	92	92	92	90	92	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1236	46	0	1898	0	0	0	77	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	618	-	-	949
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	370	0	0	224
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	370	-	-	224
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	17.3	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	370	-	-	-	-	-
HCM Lane V/C Ratio	0.209	-	-	-	-	-
HCM Control Delay (s)	17.3	-	-	-	-	0
HCM Lane LOS	C	-	-	-	-	A
HCM 95th %tile Q(veh)	0.8	-	-	-	-	-

Timings
8: Clinton Keith Rd. & Arendt Ln.

Murrieta Residential (JN:14027)
03/15/2022

	→	↘	↙	←	↖	↑		
Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	Ø4	Ø5
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↕		
Traffic Volume (vph)	1112	33	9	1656	42	0		
Future Volume (vph)	1112	33	9	1656	42	0		
Turn Type	NA	Perm	Prot	NA	Perm	NA		
Protected Phases	2		1	6		8	4	5
Permitted Phases		2			8			
Detector Phase	2	2	1	6	8	8		
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.5	24.5	9.6	24.5	31.6	31.6	31.6	9.6
Total Split (s)	67.0	67.0	11.0	68.4	32.0	32.0	32.0	9.6
Total Split (%)	60.9%	60.9%	10.0%	62.2%	29.1%	29.1%	29%	9%
Yellow Time (s)	5.5	5.5	3.6	5.5	3.6	3.6	3.6	3.6
All-Red Time (s)	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		
Total Lost Time (s)	6.5	6.5	4.6	6.5		4.6		
Lead/Lag	Lag	Lag	Lead	Lag			Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max	None
Act Effect Green (s)	69.3	69.3	5.4	71.5		27.4		
Actuated g/C Ratio	0.63	0.63	0.05	0.65		0.25		
v/c Ratio	0.39	0.04	0.11	0.56		0.18		
Control Delay	16.4	6.6	52.6	11.4		7.8		
Queue Delay	0.0	0.0	0.0	0.0		0.0		
Total Delay	16.4	6.6	52.6	11.4		7.8		
LOS	B	A	D	B		A		
Approach Delay	16.1			11.6		7.8		
Approach LOS	B			B		A		

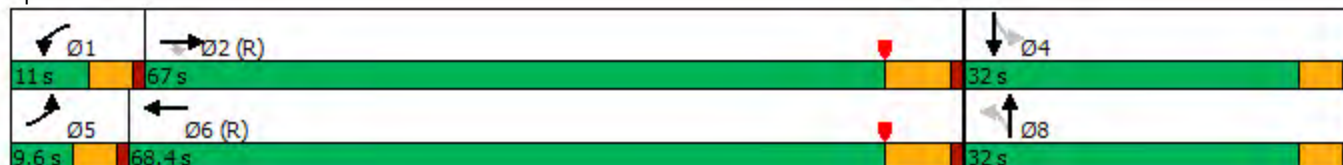
Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.56
 Intersection Signal Delay: 13.3
 Intersection Capacity Utilization 45.4%
 Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 8: Clinton Keith Rd. & Arendt Ln.



HCM 6th Signalized Intersection Summary
8: Clinton Keith Rd. & Arendt Ln.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	0	1112	33	9	1656	0	42	0	28	0	0	0
Future Volume (veh/h)	0	1112	33	9	1656	0	42	0	28	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1236	36	10	1840	0	46	0	30	0	0	0
Peak Hour Factor	0.90	0.90	0.92	0.92	0.90	0.90	0.92	0.92	0.92	0.90	0.92	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2	3044	945	21	3319	0	265	13	147	0	466	0
Arrive On Green	0.00	1.00	1.00	0.01	0.65	0.00	0.25	0.00	0.25	0.00	0.00	0.00
Sat Flow, veh/h	1781	5106	1585	1781	5274	0	853	50	589	0	1870	0
Grp Volume(v), veh/h	0	1236	36	10	1840	0	76	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	0	1492	0	0	0	1870	0
Q Serve(g_s), s	0.0	0.0	0.0	0.6	21.7	0.0	2.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.6	21.7	0.0	4.2	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.61		0.39	0.00		0.00
Lane Grp Cap(c), veh/h	2	3044	945	21	3319	0	424	0	0	0	466	0
V/C Ratio(X)	0.00	0.41	0.04	0.47	0.55	0.00	0.18	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	81	3044	945	104	3319	0	424	0	0	0	466	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.54	0.54	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	54.0	10.5	0.0	32.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	5.8	0.7	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.1	0.0	0.3	7.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.2	0.0	59.8	11.2	0.0	33.5	0.0	0.0	0.0	0.0	0.0
LnGrp LOS	A	A	A	E	B	A	C	A	A	A	A	A
Approach Vol, veh/h	1272		1850				76			0		
Approach Delay, s/veh	0.2		11.5				33.5			0.0		
Approach LOS	A		B				C					
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	5.9	72.1	32.0		0.0	78.0	32.0					
Change Period (Y+Rc), s	4.6	6.5	4.6		4.6	6.5	4.6					
Max Green Setting (Gmax), s	6.4	60.5	27.4		5.0	61.9	27.4					
Max Q Clear Time (g_c+I1), s	2.6	2.0	0.0		0.0	23.7	6.2					
Green Ext Time (p_c), s	0.0	11.1	0.0		0.0	18.4	0.3					
Intersection Summary												
HCM 6th Ctrl Delay			7.5									
HCM 6th LOS			A									

Timings

Murrieta Residential (JN:14027)

1: Nutmeg St. & Clinton Keith Rd.

03/15/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	1349	78	358	1179	93	67	43	312	83	32	36
Future Volume (vph)	59	1349	78	358	1179	93	67	43	312	83	32	36
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	9.6	28.8	28.8	9.6	29.8	29.8	32.7	32.7	32.7	14.7	14.7	14.7
Total Split (s)	12.0	40.0	40.0	43.0	71.0	71.0	37.0	37.0	37.0	37.0	37.0	37.0
Total Split (%)	10.0%	33.3%	33.3%	35.8%	59.2%	59.2%	30.8%	30.8%	30.8%	30.8%	30.8%	30.8%
Yellow Time (s)	3.6	4.8	4.8	3.6	4.8	4.8	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	5.8	4.6	5.8	5.8	4.7	4.7	4.7	4.7	4.7	4.7
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	None
Act Effect Green (s)	6.7	34.6	34.6	21.8	51.9	51.9	12.1	12.1	12.1	12.1	12.1	12.1
Actuated g/C Ratio	0.08	0.41	0.41	0.26	0.62	0.62	0.14	0.14	0.14	0.14	0.14	0.14
v/c Ratio	0.43	0.96	0.11	0.81	0.56	0.10	0.35	0.17	0.64	0.44	0.12	0.17
Control Delay	49.5	42.8	3.7	43.5	11.4	2.5	39.5	34.7	10.7	42.0	34.2	35.1
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	49.5	42.8	3.7	43.5	11.4	2.5	39.5	34.7	10.7	42.0	34.2	35.1
LOS	D	D	A	D	B	A	D	C	B	D	C	D
Approach Delay		41.0			18.0			17.7			38.7	
Approach LOS		D			B			B			D	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 83.8

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 28.1

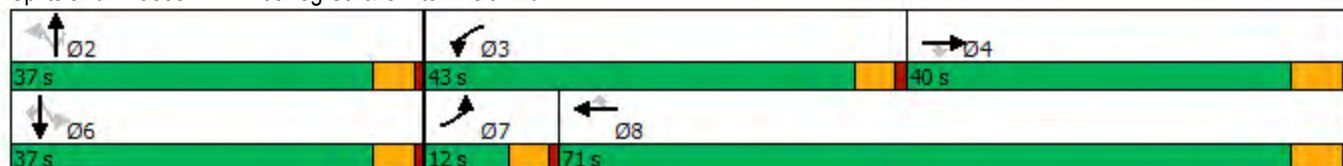
Intersection LOS: C

Intersection Capacity Utilization 81.0%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 1: Nutmeg St. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
1: Nutmeg St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	1349	78	358	1179	93	67	43	312	83	32	36
Future Volume (veh/h)	59	1349	78	358	1179	93	67	43	312	83	32	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	1405	55	373	1228	72	70	45	184	86	33	33
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	83	1511	674	417	2177	971	271	280	237	239	280	237
Arrive On Green	0.05	0.43	0.43	0.23	0.61	0.61	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1335	1870	1585	1152	1870	1585
Grp Volume(v), veh/h	61	1405	55	373	1228	72	70	45	184	86	33	33
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1335	1870	1585	1152	1870	1585
Q Serve(g_s), s	2.7	29.7	1.6	16.0	16.2	1.5	3.8	1.7	8.8	5.6	1.2	1.4
Cycle Q Clear(g_c), s	2.7	29.7	1.6	16.0	16.2	1.5	5.0	1.7	8.8	7.2	1.2	1.4
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	83	1511	674	417	2177	971	271	280	237	239	280	237
V/C Ratio(X)	0.73	0.93	0.08	0.89	0.56	0.07	0.26	0.16	0.77	0.36	0.12	0.14
Avail Cap(c_a), veh/h	167	1536	685	865	2929	1307	616	764	647	537	764	647
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.2	21.6	13.5	29.3	9.1	6.2	31.3	29.3	32.3	32.4	29.1	29.2
Incr Delay (d2), s/veh	4.6	10.3	0.1	2.8	0.2	0.0	0.5	0.3	5.4	0.9	0.2	0.3
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	1.2	12.7	0.5	6.6	4.7	0.4	1.2	0.7	3.5	1.6	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	31.9	13.6	32.1	9.3	6.2	31.8	29.6	37.7	33.3	29.3	29.5
LnGrp LOS	D	C	B	C	A	A	C	C	D	C	C	C
Approach Vol, veh/h	1521			1673			299			152		
Approach Delay, s/veh	31.7			14.3			35.1			31.6		
Approach LOS	C			B			D			C		
Timer - Assigned Phs	2			3			4			6		
Phs Duration (G+Y+Rc), s	16.6			23.1			39.4			16.6		
Change Period (Y+Rc), s	* 4.7			4.6			5.8			* 4.7		
Max Green Setting (Gmax), s	* 32			38.4			34.2			* 32		
Max Q Clear Time (g_c+I1), s	10.8			18.0			31.7			9.2		
Green Ext Time (p_c), s	1.0			0.5			1.9			0.5		
Intersection Summary												
HCM 6th Ctrl Delay	24.0											
HCM 6th LOS	C											
Notes												

Timings

2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↑
Traffic Volume (vph)	1587	119	791	1563	167	855
Future Volume (vph)	1587	119	791	1563	167	855
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	33.8	33.8	9.6	15.8	14.7	14.7
Total Split (s)	44.0	44.0	55.0	99.0	21.0	21.0
Total Split (%)	36.7%	36.7%	45.8%	82.5%	17.5%	17.5%
Yellow Time (s)	4.8	4.8	3.6	4.8	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	4.7	4.7
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None
Act Effect Green (s)	38.2	38.2	50.4	93.3	14.2	14.2
Actuated g/C Ratio	0.32	0.32	0.43	0.79	0.12	0.12
v/c Ratio	1.52	0.24	1.15	0.61	0.84	0.80
Control Delay	270.0	18.3	114.8	6.4	25.7	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	270.0	18.3	114.8	6.4	25.7	15.7
LOS	F	B	F	A	C	B
Approach Delay	252.4			42.8	21.5	
Approach LOS	F			D	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 118

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.52

Intersection Signal Delay: 108.9

Intersection LOS: F

Intersection Capacity Utilization 114.1%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 2: California Oaks St. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Traffic Volume (veh/h)	1587	119	791	1563	167	855
Future Volume (veh/h)	1587	119	791	1563	167	855
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1744	98	869	1718	184	814
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1131	505	748	2760	242	431
Arrive On Green	0.32	0.32	0.42	0.78	0.14	0.14
Sat Flow, veh/h	3647	1585	1781	3647	1781	3170
Grp Volume(v), veh/h	1744	98	869	1718	184	814
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	38.2	5.4	50.4	25.1	11.9	16.3
Cycle Q Clear(g_c), s	38.2	5.4	50.4	25.1	11.9	16.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1131	505	748	2760	242	431
V/C Ratio(X)	1.54	0.19	1.16	0.62	0.76	1.89
Avail Cap(c_a), veh/h	1131	505	748	2760	242	431
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	40.9	29.7	34.8	5.8	50.0	51.8
Incr Delay (d2), s/veh	248.2	0.2	87.1	0.4	13.1	409.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	54.9	2.0	38.5	6.6	6.2	30.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	289.1	29.9	121.9	6.2	63.1	461.2
LnGrp LOS	F	C	F	A	E	F
Approach Vol, veh/h	1842			2587	998	
Approach Delay, s/veh	275.3			45.1	387.8	
Approach LOS	F			D	F	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		21.0	55.0	44.0		99.0
Change Period (Y+Rc), s		* 4.7	4.6	5.8		5.8
Max Green Setting (Gmax), s		* 16	50.4	38.2		93.2
Max Q Clear Time (g_c+I1), s		18.3	52.4	40.2		27.1
Green Ext Time (p_c), s		0.0	0.0	0.0		21.4
Intersection Summary						
HCM 6th Ctrl Delay			186.3			
HCM 6th LOS			F			
Notes						
User approved volume balancing among the lanes for turning movement.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

Timings
3: I-215 SB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)
03/15/2022

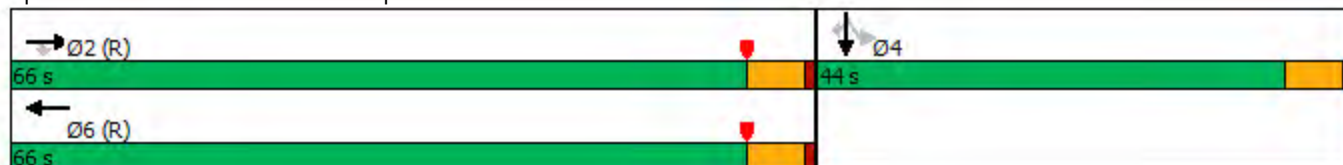
	→	↘	←	↓	↙
Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Configurations	↑↑↑	↑	↑↑↑	↑	↑↑
Traffic Volume (vph)	2179	512	1863	0	761
Future Volume (vph)	2179	512	1863	0	761
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	2		6	4	
Permitted Phases		2			4
Detector Phase	2	2	6	4	4
Switch Phase					
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	32.8	32.8	23.8	23.8	23.8
Total Split (s)	66.0	66.0	66.0	44.0	44.0
Total Split (%)	60.0%	60.0%	60.0%	40.0%	40.0%
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8
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)	5.8	5.8	5.8	5.8	5.8
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Min	C-Min	C-Min	None	None
Act Effect Green (s)	62.8	62.8	62.8	35.6	35.6
Actuated g/C Ratio	0.57	0.57	0.57	0.32	0.32
v/c Ratio	0.78	0.47	0.96	0.84	0.86
Control Delay	21.3	2.6	45.9	48.4	44.0
Queue Delay	0.1	0.0	5.5	53.7	0.0
Total Delay	21.4	2.6	51.3	102.2	44.0
LOS	C	A	D	F	D
Approach Delay	17.8		51.3	65.9	
Approach LOS	B		D	E	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow, Master Intersection
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 40.2
 Intersection Capacity Utilization 89.3%
 Analysis Period (min) 15

Intersection LOS: D
 ICU Level of Service E

Splits and Phases: 3: I-215 SB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
3: I-215 SB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↗		↑↑↑↑						↖	↗↗
Traffic Volume (veh/h)	0	2179	512	0	1863	760	0	0	0	461	0	761
Future Volume (veh/h)	0	2179	512	0	1863	760	0	0	0	461	0	761
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	0	1870	1870				1870	1870	1870
Adj Flow Rate, veh/h	0	2270	533	0	1941	792				480	0	793
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96				0.96	0.96	0.96
Percent Heavy Veh, %	0	2	2	0	2	2				2	2	2
Cap, veh/h	0	2967	921	0	2133	790				558	0	874
Arrive On Green	0.00	0.58	0.58	0.00	0.39	0.39				0.31	0.00	0.31
Sat Flow, veh/h	0	5274	1585	0	3839	1359				1781	0	2790
Grp Volume(v), veh/h	0	2270	533	0	1786	947				480	0	793
Grp Sat Flow(s),veh/h/ln	0	1702	1585	0	1702	1626				1781	0	1395
Q Serve(g_s), s	0.0	36.9	23.3	0.0	54.3	63.9				27.9	0.0	30.0
Cycle Q Clear(g_c), s	0.0	36.9	23.3	0.0	54.3	63.9				27.9	0.0	30.0
Prop In Lane	0.00		1.00	0.00		0.84				1.00		1.00
Lane Grp Cap(c), veh/h	0	2967	921	0	1978	945				558	0	874
V/C Ratio(X)	0.00	0.76	0.58	0.00	0.90	1.00				0.86	0.00	0.91
Avail Cap(c_a), veh/h	0	2967	921	0	1978	945				619	0	969
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.09	0.09	0.00	0.33	0.33				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.4	14.5	0.0	30.7	33.6				35.5	0.0	36.2
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	2.6	17.4				10.0	0.0	10.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.6	7.5	0.0	23.1	29.8				13.4	0.0	11.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.5	14.8	0.0	33.3	51.0				45.5	0.0	46.9
LnGrp LOS	A	B	B	A	C	F				D	A	D
Approach Vol, veh/h	2803				2733						1273	
Approach Delay, s/veh	17.0				39.4						46.4	
Approach LOS	B				D						D	
Timer - Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	69.7		40.3		69.7							
Change Period (Y+Rc), s	5.8		5.8		5.8							
Max Green Setting (Gmax), s	60.2		38.2		60.2							
Max Q Clear Time (g_c+l1), s	38.9		32.0		65.9							
Green Ext Time (p_c), s	13.7		2.5		0.0							
Intersection Summary												
HCM 6th Ctrl Delay			31.5									
HCM 6th LOS			C									

Timings
4: I-215 NB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

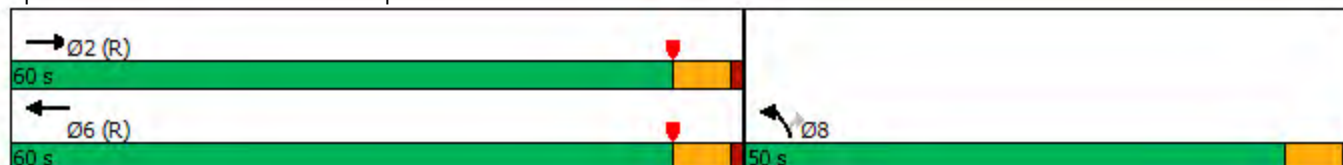
	→	←	↶	↷
Lane Group	EBT	WBT	NBL	NBR
Lane Configurations	↑↑↑	↑↑↑	↶↶	↷
Traffic Volume (vph)	1985	2086	537	842
Future Volume (vph)	1985	2086	537	842
Turn Type	NA	NA	Prot	Perm
Protected Phases	2	6	8	
Permitted Phases				8
Detector Phase	2	6	8	8
Switch Phase				
Minimum Initial (s)	5.0	5.0	5.0	5.0
Minimum Split (s)	43.8	23.8	23.8	23.8
Total Split (s)	60.0	60.0	50.0	50.0
Total Split (%)	54.5%	54.5%	45.5%	45.5%
Yellow Time (s)	4.8	4.8	4.8	4.8
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	5.8	5.8
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	C-Min	C-Min	None	None
Act Effect Green (s)	54.2	54.2	44.2	44.2
Actuated g/C Ratio	0.49	0.49	0.40	0.40
v/c Ratio	1.08	0.84	1.05	1.10
Control Delay	74.1	39.2	80.2	97.9
Queue Delay	1.1	0.0	23.4	0.0
Total Delay	75.2	39.2	103.6	97.9
LOS	E	D	F	F
Approach Delay	75.2	39.2	100.9	
Approach LOS	E	D	F	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 43.2 (39%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.10
 Intersection Signal Delay: 68.7
 Intersection Capacity Utilization 109.6%
 Analysis Period (min) 15

Intersection LOS: E
 ICU Level of Service H

Splits and Phases: 4: I-215 NB Ramps & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
4: I-215 NB Ramps & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/15/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↑			↑↑↑	↖↗	↗
Traffic Volume (veh/h)	1985	656	0	2086	537	842
Future Volume (veh/h)	1985	656	0	2086	537	842
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h	2005	663	0	2107	686	696
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	0	2	2	2
Cap, veh/h	1906	587	0	2516	716	637
Arrive On Green	0.33	0.33	0.00	0.99	0.40	0.40
Sat Flow, veh/h	4037	1191	0	5443	1781	1585
Grp Volume(v), veh/h	1746	922	0	2107	686	696
Grp Sat Flow(s),veh/h/ln	1702	1656	0	1702	1781	1585
Q Serve(g_s), s	54.2	54.2	0.0	3.8	41.2	44.2
Cycle Q Clear(g_c), s	54.2	54.2	0.0	3.8	41.2	44.2
Prop In Lane		0.72	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1677	816	0	2516	716	637
V/C Ratio(X)	1.04	1.13	0.00	0.84	0.96	1.09
Avail Cap(c_a), veh/h	1677	816	0	2516	716	637
HCM Platoon Ratio	0.67	0.67	1.00	2.00	1.00	1.00
Upstream Filter(I)	0.53	0.53	0.00	0.85	1.00	1.00
Uniform Delay (d), s/veh	36.8	36.8	0.0	0.4	32.0	32.9
Incr Delay (d2), s/veh	28.0	67.3	0.0	3.0	23.6	63.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.1	37.3	0.0	0.9	21.9	27.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	64.8	104.1	0.0	3.4	55.7	96.5
LnGrp LOS	F	F	A	A	E	F
Approach Vol, veh/h	2668			2107	1382	
Approach Delay, s/veh	78.4			3.4	76.2	
Approach LOS	E			A	E	
Timer - Assigned Phs	2			6		8
Phs Duration (G+Y+Rc), s	60.0			60.0		50.0
Change Period (Y+Rc), s	5.8			5.8		5.8
Max Green Setting (Gmax), s	54.2			54.2		44.2
Max Q Clear Time (g_c+I1), s	56.2			5.8		46.2
Green Ext Time (p_c), s	0.0			15.4		0.0
Intersection Summary						
HCM 6th Ctrl Delay			52.3			
HCM 6th LOS			D			
Notes						

Timings

Murrieta Residential (JN:14027)

5: Clinton Keith Rd. & Warm Springs Pkwy.

03/15/2022

											
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	27	2303	312	1849	41	7	2	7	40	6	29
Future Volume (vph)	27	2303	312	1849	41	7	2	7	40	6	29
Turn Type	Prot	NA	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	5	2	1	6	7	3	8		7	4	5
Permitted Phases					6			8			4
Detector Phase	5	2	1	6	7	3	8	8	7	4	5
Switch Phase											
Minimum Initial (s)	5.0	10.0	5.0	10.0	5.0	5.0	10.0	10.0	5.0	10.0	5.0
Minimum Split (s)	9.6	23.8	9.6	23.8	9.6	9.6	36.6	36.6	9.6	36.6	9.6
Total Split (s)	9.6	43.8	20.0	54.2	9.6	9.6	36.6	36.6	9.6	36.6	9.6
Total Split (%)	8.7%	39.8%	18.2%	49.3%	8.7%	8.7%	33.3%	33.3%	8.7%	33.3%	8.7%
Yellow Time (s)	3.6	4.8	3.6	4.8	3.6	3.6	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	4.6	4.6	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	None	None	None	None	None	None	None
Act Effect Green (s)	5.2	51.2	30.5	79.5	88.2	5.0	14.4	14.4	5.0	16.3	17.4
Actuated g/C Ratio	0.05	0.47	0.28	0.72	0.80	0.05	0.13	0.13	0.05	0.15	0.16
v/c Ratio	0.17	1.03	0.66	0.52	0.03	0.04	0.01	0.02	0.27	0.02	0.06
Control Delay	53.3	46.4	36.6	14.1	5.9	51.0	35.0	0.1	55.2	33.5	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.3	46.4	36.6	14.1	5.9	51.0	35.0	0.1	55.2	33.5	0.2
LOS	D	D	D	B	A	D	C	A	E	C	A
Approach Delay		46.5		17.2			26.8			32.4	
Approach LOS		D		B			C			C	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 32.3

Intersection LOS: C

Intersection Capacity Utilization 83.3%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 5: Clinton Keith Rd. & Warm Springs Pkwy.

			
Ø1	Ø2 (R)	Ø3	Ø4
20 s	43.8 s	9.6 s	36.6 s
			
Ø5	Ø6 (R)	Ø7	Ø8
9.6 s	54.2 s	9.6 s	36.6 s

HCM 6th Signalized Intersection Summary
5: Clinton Keith Rd. & Warm Springs Pkwy.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  			  		 			 		 
Traffic Volume (veh/h)	27	2303	31	312	1849	41	7	2	7	40	6	29
Future Volume (veh/h)	27	2303	31	312	1849	41	7	2	7	40	6	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	2399	32	325	1926	43	7	2	7	42	6	30
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	90	3180	42	249	3708	1203	30	68	58	114	113	242
Arrive On Green	0.01	0.20	0.20	0.28	1.00	1.00	0.01	0.04	0.04	0.03	0.06	0.06
Sat Flow, veh/h	3456	5193	69	1781	5106	1585	3456	1870	1585	3456	1870	2790
Grp Volume(v), veh/h	28	1571	860	325	1926	43	7	2	7	42	6	30
Grp Sat Flow(s),veh/h/ln	1728	1702	1858	1781	1702	1585	1728	1870	1585	1728	1870	1395
Q Serve(g_s), s	0.9	47.8	48.0	15.4	0.0	0.0	0.2	0.1	0.5	1.3	0.3	1.1
Cycle Q Clear(g_c), s	0.9	47.8	48.0	15.4	0.0	0.0	0.2	0.1	0.5	1.3	0.3	1.1
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	90	2085	1138	249	3708	1203	30	68	58	114	113	242
V/C Ratio(X)	0.31	0.75	0.76	1.30	0.52	0.04	0.23	0.03	0.12	0.37	0.05	0.12
Avail Cap(c_a), veh/h	157	2085	1138	249	3708	1203	157	544	461	157	544	884
HCM Platoon Ratio	0.33	0.33	0.33	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	36.1	36.1	39.6	0.0	0.0	54.2	51.1	51.3	52.1	48.7	46.4
Incr Delay (d2), s/veh	0.1	0.2	0.4	139.2	0.0	0.0	1.4	0.2	0.9	0.7	0.2	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	0.4	21.8	23.9	15.3	0.0	0.0	0.1	0.1	0.2	0.6	0.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.6	36.3	36.6	178.8	0.0	0.0	55.6	51.3	52.2	52.8	48.9	46.6
LnGrp LOS	D	D	D	F	A	A	E	D	D	D	D	D
Approach Vol, veh/h	2459			2294			16			78		
Approach Delay, s/veh	36.6			25.4			53.6			50.1		
Approach LOS	D			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.0	73.2	5.6	11.3	7.5	85.7	8.2	8.6				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	15.4	38.0	5.0	32.0	5.0	48.4	5.0	32.0				
Max Q Clear Time (g_c+I1), s	17.4	50.0	2.2	3.1	2.9	2.0	3.3	2.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.1	0.0	24.8	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	31.6											
HCM 6th LOS	C											

Timings
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	965	1353	166	1022	243	328	836	213	328
Future Volume (vph)	965	1353	166	1022	243	328	836	213	328
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	10.3	32.8	9.6	32.8	32.8	9.6	36.6	9.6	36.6
Total Split (s)	24.0	46.0	11.4	33.4	33.4	16.0	36.9	15.7	36.6
Total Split (%)	21.8%	41.8%	10.4%	30.4%	30.4%	14.5%	33.5%	14.3%	33.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	None	Max
Act Effect Green (s)	19.4	40.2	6.8	27.6	27.6	11.4	32.3	11.1	32.0
Actuated g/C Ratio	0.18	0.37	0.06	0.25	0.25	0.10	0.29	0.10	0.29
v/c Ratio	1.63	0.90	0.80	0.82	0.44	1.83	0.99	1.22	1.07dr
Control Delay	324.0	38.7	77.5	45.0	9.1	423.9	65.0	181.1	41.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	324.0	38.7	77.5	45.0	9.1	423.9	65.0	181.1	41.2
LOS	F	D	E	D	A	F	E	F	D
Approach Delay		145.5		42.7			153.7		65.0
Approach LOS		F		D			F		E

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.83

Intersection Signal Delay: 109.5

Intersection LOS: F

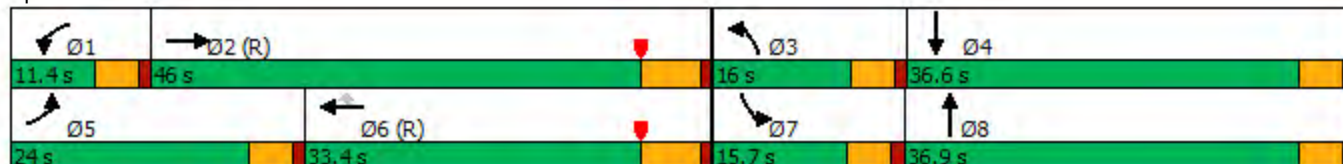
Intersection Capacity Utilization 113.7%

ICU Level of Service H

Analysis Period (min) 15

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 6: Clinton Keith Rd. & Whitewood Rd.



HCM 6th Signalized Intersection Summary
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		 	  	
Traffic Volume (veh/h)	965	1353	261	166	1022	243	328	836	165	213	328	708
Future Volume (veh/h)	965	1353	261	166	1022	243	328	836	165	213	328	708
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	985	1381	266	169	1043	248	335	853	168	217	335	722
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	609	1571	302	214	1281	398	185	869	171	180	517	461
Arrive On Green	0.35	0.73	0.73	0.06	0.25	0.25	0.10	0.29	0.29	0.10	0.29	0.29
Sat Flow, veh/h	3456	4298	827	3456	5106	1585	1781	2959	583	1781	1777	1585
Grp Volume(v), veh/h	985	1093	554	169	1043	248	335	512	509	217	335	722
Grp Sat Flow(s),veh/h/ln	1728	1702	1721	1728	1702	1585	1781	1777	1765	1781	1777	1585
Q Serve(g_s), s	19.4	26.6	26.7	5.3	21.2	15.3	11.4	31.5	31.5	11.1	18.1	32.0
Cycle Q Clear(g_c), s	19.4	26.6	26.7	5.3	21.2	15.3	11.4	31.5	31.5	11.1	18.1	32.0
Prop In Lane	1.00		0.48	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	609	1244	629	214	1281	398	185	522	518	180	517	461
V/C Ratio(X)	1.62	0.88	0.88	0.79	0.81	0.62	1.81	0.98	0.98	1.21	0.65	1.57
Avail Cap(c_a), veh/h	609	1244	629	214	1281	398	185	522	518	180	517	461
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	13.0	13.0	50.9	38.8	36.6	49.3	38.6	38.6	49.5	34.1	39.0
Incr Delay (d2), s/veh	278.0	0.9	1.8	16.7	5.8	7.2	387.2	35.1	35.3	133.9	6.2	265.0
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	29.5	4.4	4.6	2.7	9.1	6.7	24.9	18.5	18.4	11.6	8.6	46.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	313.6	13.9	14.8	67.6	44.5	43.8	436.5	73.7	73.8	183.3	40.3	304.0
LnGrp LOS	F	B	B	E	D	D	F	E	E	F	D	F
Approach Vol, veh/h		2632			1460			1356			1274	
Approach Delay, s/veh		126.2			47.1			163.3			214.1	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	46.0	16.0	36.6	24.0	33.4	15.7	36.9				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	6.8	40.2	11.4	32.0	19.4	27.6	11.1	32.3				
Max Q Clear Time (g_c+I1), s	7.3	28.7	13.4	34.0	21.4	23.2	13.1	33.5				
Green Ext Time (p_c), s	0.0	7.5	0.0	0.0	0.0	2.8	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			133.2									
HCM 6th LOS			F									

Timings
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

									
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	965	1353	137	1022	243	328	836	213	328
Future Volume (vph)	965	1353	137	1022	243	328	836	213	328
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Prot	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases					6				
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	5.0	10.0
Minimum Split (s)	10.3	32.8	9.6	32.8	32.8	9.6	36.6	9.6	36.6
Total Split (s)	24.0	46.0	11.4	33.4	33.4	16.0	36.9	15.7	36.6
Total Split (%)	21.8%	41.8%	10.4%	30.4%	30.4%	14.5%	33.5%	14.3%	33.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	None	Max
Act Effect Green (s)	19.4	40.3	6.7	27.6	27.6	11.4	32.3	11.1	32.0
Actuated g/C Ratio	0.18	0.37	0.06	0.25	0.25	0.10	0.29	0.10	0.29
v/c Ratio	1.63	0.89	0.67	0.82	0.44	1.83	0.99	1.22	1.07dr
Control Delay	324.0	38.6	79.6	35.1	10.0	423.9	65.0	181.1	41.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	324.0	38.6	79.6	35.1	10.0	423.9	65.0	181.1	41.2
LOS	F	D	E	D	B	F	E	F	D
Approach Delay		145.4		35.1			153.7		65.0
Approach LOS		F		D			F		E

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.83

Intersection Signal Delay: 108.2

Intersection LOS: F

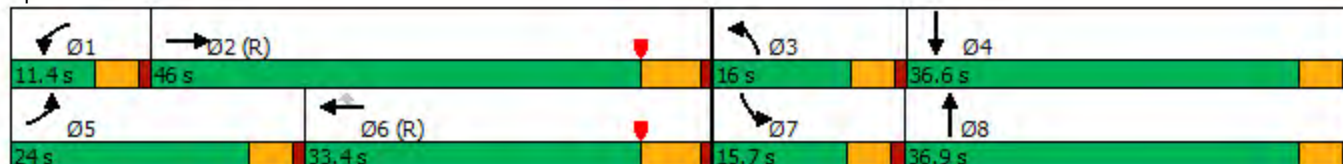
Intersection Capacity Utilization 113.7%

ICU Level of Service H

Analysis Period (min) 15

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 6: Clinton Keith Rd. & Whitewood Rd.



HCM 6th Signalized Intersection Summary
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		 	  	
Traffic Volume (veh/h)	965	1353	261	137	1022	243	328	836	165	213	328	708
Future Volume (veh/h)	965	1353	261	137	1022	243	328	836	165	213	328	708
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	985	1381	266	140	1043	248	335	853	168	217	335	722
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	609	1591	306	197	1281	398	185	869	171	180	517	461
Arrive On Green	0.35	0.74	0.74	0.08	0.33	0.33	0.10	0.29	0.29	0.10	0.29	0.29
Sat Flow, veh/h	3456	4298	827	3456	5106	1585	1781	2959	583	1781	1777	1585
Grp Volume(v), veh/h	985	1093	554	140	1043	248	335	512	509	217	335	722
Grp Sat Flow(s),veh/h/ln	1728	1702	1721	1728	1702	1585	1781	1777	1765	1781	1777	1585
Q Serve(g_s), s	19.4	25.6	25.7	4.4	20.6	14.5	11.4	31.5	31.5	11.1	18.1	32.0
Cycle Q Clear(g_c), s	19.4	25.6	25.7	4.4	20.6	14.5	11.4	31.5	31.5	11.1	18.1	32.0
Prop In Lane	1.00		0.48	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	609	1260	637	197	1281	398	185	522	518	180	517	461
V/C Ratio(X)	1.62	0.87	0.87	0.71	0.81	0.62	1.81	0.98	0.98	1.21	0.65	1.57
Avail Cap(c_a), veh/h	609	1260	637	214	1281	398	185	522	518	180	517	461
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	12.3	12.3	49.9	34.3	32.3	49.3	38.6	38.6	49.5	34.1	39.0
Incr Delay (d2), s/veh	278.0	0.8	1.6	6.9	5.2	6.4	387.2	35.1	35.3	133.9	6.2	265.0
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	29.5	4.2	4.4	2.0	8.1	5.9	24.9	18.5	18.4	11.6	8.6	46.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	313.6	13.1	14.0	56.9	39.5	38.7	436.5	73.7	73.8	183.3	40.3	304.0
LnGrp LOS	F	B	B	E	D	D	F	E	E	F	D	F
Approach Vol, veh/h	2632		1431				1356			1274		
Approach Delay, s/veh	125.8		41.0				163.3			214.1		
Approach LOS	F		D				F			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	46.5	16.0	36.6	24.0	33.4	15.7	36.9				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	6.8	40.2	11.4	32.0	19.4	27.6	11.1	32.3				
Max Q Clear Time (g_c+I1), s	6.4	27.7	13.4	34.0	21.4	22.6	13.1	33.5				
Green Ext Time (p_c), s	0.0	8.0	0.0	0.0	0.0	3.1	0.0	0.0				
Intersection Summary												
HCM 6th Ctrl Delay	132.1											
HCM 6th LOS	F											

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	23	0	0	45	16	1064	14	0	927	27
Future Vol, veh/h	0	0	23	0	0	45	16	1064	14	0	927	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	240	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	25	0	0	48	17	1144	15	0	997	29

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	513	-	-	580	1026	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-
Pot Cap-1 Maneuver	0	0	506	0	0	458	673	-
Stage 1	0	0	-	0	0	-	-	0
Stage 2	0	0	-	0	0	-	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	506	-	-	458	673	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.5	13.8	0.2	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	673	-	-	506	458	-
HCM Lane V/C Ratio	0.026	-	-	0.049	0.106	-
HCM Control Delay (s)	10.5	-	-	12.5	13.8	-
HCM Lane LOS	B	-	-	B	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.4	-

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗	↗	↗↘			↗↘	
Traffic Vol, veh/h	0	0	23	0	0	45	16	1064	14	0	927	27
Future Vol, veh/h	0	0	23	0	0	45	16	1064	14	0	927	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	240	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	92	93	92	92	92	93	93	92	92	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	25	0	0	49	17	1144	15	0	997	29

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	513	-	-	580	1026	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-
Pot Cap-1 Maneuver	0	0	506	0	0	458	673	-
Stage 1	0	0	-	0	0	-	-	0
Stage 2	0	0	-	0	0	-	-	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	506	-	-	458	673	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.5	13.8	0.2	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBT	SBR
Capacity (veh/h)	673	-	-	506	458	-
HCM Lane V/C Ratio	0.026	-	-	0.049	0.107	-
HCM Control Delay (s)	10.5	-	-	12.5	13.8	-
HCM Lane LOS	B	-	-	B	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.4	-

Intersection												
Int Delay, s/veh	0.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑↑	↑			↑			↑
Traffic Vol, veh/h	0	1730	129	0	1473	0	0	0	45	0	0	0
Future Vol, veh/h	0	1730	129	0	1473	0	0	0	45	0	0	0
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	-	-	150	-	-	0	-	-	0	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	92	92	94	94	92	92	92	94	92	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1840	140	0	1567	0	0	0	49	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-	0	0	-	-	0	-	-	920	-	-	784
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	234	0	0	288
Stage 1	0	-	-	0	-	-	0	0	-	0	0	-
Stage 2	0	-	-	0	-	-	0	0	-	0	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	234	-	-	288
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	24.4	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	234	-	-	-	-	-
HCM Lane V/C Ratio	0.209	-	-	-	-	-
HCM Control Delay (s)	24.4	-	-	-	-	0
HCM Lane LOS	C	-	-	-	-	A
HCM 95th %tile Q(veh)	0.8	-	-	-	-	-

Timings
8: Clinton Keith Rd. & Arendt Ln.

Murrieta Residential (JN:14027)
03/15/2022

	→	↘	↙	←	↖	↑		
Lane Group	EBT	EBR	WBL	WBT	NBL	NBT	Ø4	Ø5
Lane Configurations	↑↑↑	↗	↖	↑↑↑		↕		
Traffic Volume (vph)	1730	100	29	1418	27	0		
Future Volume (vph)	1730	100	29	1418	27	0		
Turn Type	NA	Perm	Prot	NA	Perm	NA		
Protected Phases	2		1	6		8	4	5
Permitted Phases		2			8			
Detector Phase	2	2	1	6	8	8		
Switch Phase								
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0	10.0	5.0
Minimum Split (s)	24.5	24.5	9.6	24.5	31.6	31.6	31.6	9.6
Total Split (s)	65.0	65.0	13.0	68.4	32.0	32.0	32.0	9.6
Total Split (%)	59.1%	59.1%	11.8%	62.2%	29.1%	29.1%	29%	9%
Yellow Time (s)	5.5	5.5	3.6	5.5	3.6	3.6	3.6	3.6
All-Red Time (s)	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		
Total Lost Time (s)	6.5	6.5	4.6	6.5		4.6		
Lead/Lag	Lag	Lag	Lead	Lag			Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	
Recall Mode	C-Max	C-Max	None	C-Max	Max	Max	Max	None
Act Effect Green (s)	64.3	64.3	6.5	71.5		27.4		
Actuated g/C Ratio	0.58	0.58	0.06	0.65		0.25		
v/c Ratio	0.62	0.11	0.31	0.46		0.11		
Control Delay	20.8	11.1	56.7	10.1		3.1		
Queue Delay	0.0	0.0	0.0	0.0		0.0		
Total Delay	20.8	11.1	56.7	10.1		3.1		
LOS	C	B	E	B		A		
Approach Delay	20.2			11.1		3.1		
Approach LOS	C			B		A		

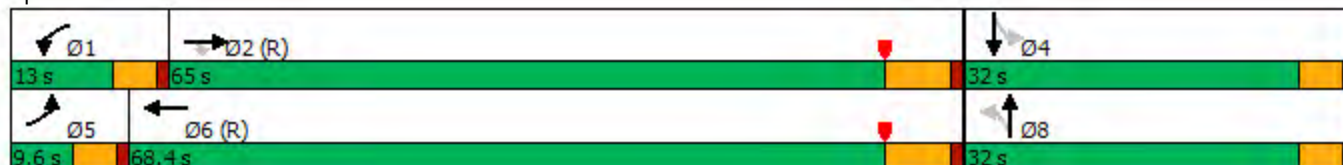
Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 110
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.62
 Intersection Signal Delay: 16.0
 Intersection Capacity Utilization 51.0%
 Analysis Period (min) 15

Intersection LOS: B

ICU Level of Service A

Splits and Phases: 8: Clinton Keith Rd. & Arendt Ln.



HCM 6th Signalized Intersection Summary
8: Clinton Keith Rd. & Arendt Ln.

Murrieta Residential (JN:14027)

03/15/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			 			 	
Traffic Volume (veh/h)	0	1730	100	29	1418	0	27	0	18	0	0	0
Future Volume (veh/h)	0	1730	100	29	1418	0	27	0	18	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	1840	109	32	1509	0	29	0	20	0	0	0
Peak Hour Factor	0.94	0.94	0.92	0.92	0.94	0.94	0.92	0.92	0.92	0.94	0.92	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	2	2961	919	51	3319	0	259	13	152	0	466	0
Arrive On Green	0.00	0.77	0.77	0.03	0.65	0.00	0.25	0.00	0.25	0.00	0.00	0.00
Sat Flow, veh/h	1781	5106	1585	1781	5274	0	833	52	610	0	1870	0
Grp Volume(v), veh/h	0	1840	109	32	1509	0	49	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1585	1781	1702	0	1495	0	0	0	1870	0
Q Serve(g_s), s	0.0	17.4	1.9	2.0	16.2	0.0	1.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	17.4	1.9	2.0	16.2	0.0	2.6	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.00	0.59		0.41	0.00		0.00
Lane Grp Cap(c), veh/h	2	2961	919	51	3319	0	424	0	0	0	466	0
V/C Ratio(X)	0.00	0.62	0.12	0.63	0.45	0.00	0.12	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	81	2961	919	136	3319	0	424	0	0	0	466	0
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.25	0.25	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	7.3	5.5	52.9	9.6	0.0	31.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.1	4.8	0.5	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.9	0.6	0.9	5.2	0.0	1.1	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	7.5	5.6	57.7	10.0	0.0	32.5	0.0	0.0	0.0	0.0	0.0
LnGrp LOS	A	A	A	E	B	A	C	A	A	A	A	A
Approach Vol, veh/h	1949				1541				49			
Approach Delay, s/veh	7.4				11.0				32.5			
Approach LOS	A				B				C			
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	7.7	70.3	32.0		0.0	78.0	32.0					
Change Period (Y+Rc), s	4.6	6.5	4.6		4.6	6.5	4.6					
Max Green Setting (Gmax), s	8.4	58.5	27.4		5.0	61.9	27.4					
Max Q Clear Time (g_c+I1), s	4.0	19.4	0.0		0.0	18.2	4.6					
Green Ext Time (p_c), s	0.0	19.3	0.0		0.0	14.2	0.2					
Intersection Summary												
HCM 6th Ctrl Delay	9.3											
HCM 6th LOS	A											

APPENDIX 5.3:

OPENING YEAR CUMULATIVE (2023) WITHOUT PROJECT CONDITIONS QUEUING ANALYSIS WORKSHEETS

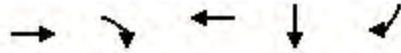
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Queues

Murrieta Residential (JN:14027)

3: I-215 SB Ramps & Clinton Keith Rd.

03/15/2022



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1831	583	2403	295	919
v/c Ratio	0.70	0.53	0.94	0.44	0.85
Control Delay	23.1	3.4	23.6	26.6	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	3.4	23.6	26.6	38.2
Queue Length 50th (ft)	355	0	611	150	318
Queue Length 95th (ft)	446	59	#725	211	386
Internal Link Dist (ft)	6735		655	1955	
Turn Bay Length (ft)		415			460
Base Capacity (vph)	2606	1095	2553	759	1211
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.70	0.53	0.94	0.39	0.76

Intersection Summary

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

Queues

Murrieta Residential (JN:14027)

4: I-215 NB Ramps & Clinton Keith Rd.

03/15/2022

	→	←	↖	↗
Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	2075	1912	457	417
v/c Ratio	0.71	0.63	0.86	0.88
Control Delay	9.9	7.8	50.5	52.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.9	7.8	50.5	52.3
Queue Length 50th (ft)	171	36	291	269
Queue Length 95th (ft)	130	240	380	368
Internal Link Dist (ft)	655	1209	1627	
Turn Bay Length (ft)				1000
Base Capacity (vph)	2934	3019	657	585
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.71	0.63	0.70	0.71
Intersection Summary				

Queues

Murrieta Residential (JN:14027)

6: Clinton Keith Rd. & Whitewood Rd.

03/15/2022



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	704	1241	276	1376	186	259	320	153	1079
v/c Ratio	1.13	0.75	0.80	1.09	0.35	1.38	0.30	1.01	0.94
Control Delay	126.2	38.6	66.5	93.2	6.8	237.7	22.5	125.9	42.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.2	38.6	66.5	93.2	6.8	237.7	22.5	125.9	42.5
Queue Length 50th (ft)	~290	278	99	~401	0	~243	66	~110	289
Queue Length 95th (ft)	#438	305	#160	#497	55	#405	104	#244	#426
Internal Link Dist (ft)		1817		1256			474		2500
Turn Bay Length (ft)	315		240		350	340		135	
Base Capacity (vph)	622	1658	355	1262	532	188	1099	152	1165
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.75	0.78	1.09	0.35	1.38	0.29	1.01	0.93

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

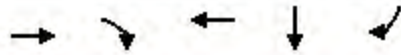
Queue shown is maximum after two cycles.

Queues

Murrieta Residential (JN:14027)

3: I-215 SB Ramps & Clinton Keith Rd.

03/15/2022



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	2270	533	2733	480	793
v/c Ratio	0.78	0.47	0.96	0.84	0.86
Control Delay	21.3	2.6	45.9	48.4	44.0
Queue Delay	0.1	0.0	5.5	53.7	0.0
Total Delay	21.4	2.6	51.3	102.2	44.0
Queue Length 50th (ft)	457	0	~746	301	276
Queue Length 95th (ft)	525	47	m#808	#436	363
Internal Link Dist (ft)	6735		655	1955	
Turn Bay Length (ft)		415			460
Base Capacity (vph)	2902	1132	2842	614	986
Starvation Cap Reductn	0	0	108	0	0
Spillback Cap Reductn	50	0	0	215	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.80	0.47	1.00	1.20	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Murrieta Residential (JN:14027)

4: I-215 NB Ramps & Clinton Keith Rd.

03/15/2022



Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	2668	2107	729	664
v/c Ratio	1.08	0.84	1.05	1.10
Control Delay	74.1	39.2	80.2	97.9
Queue Delay	1.1	0.0	23.4	0.0
Total Delay	75.2	39.2	103.6	97.9
Queue Length 50th (ft)	~771	582	~560	~558
Queue Length 95th (ft)	#144	633	#794	#797
Internal Link Dist (ft)	655	1209	1627	
Turn Bay Length (ft)				1000
Base Capacity (vph)	2467	2505	696	606
Starvation Cap Reductn	6	0	0	0
Spillback Cap Reductn	0	0	262	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.08	0.84	1.68	1.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues

Murrieta Residential (JN:14027)

6: Clinton Keith Rd. & Whitewood Rd.

03/15/2022



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	985	1647	169	1043	248	335	1021	217	1057
v/c Ratio	1.63	0.90	0.80	0.82	0.44	1.83	0.99	1.22	1.07dr
Control Delay	324.0	38.7	77.5	45.0	9.1	423.9	65.0	181.1	41.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	324.0	38.7	77.5	45.0	9.1	423.9	65.0	181.1	41.2
Queue Length 50th (ft)	~537	208	61	254	15	~358	371	~188	286
Queue Length 95th (ft)	m#527	m339	#118	309	81	#537	#520	#340	#422
Internal Link Dist (ft)		1817		1256			474		2500
Turn Bay Length (ft)	315		240		350	340		135	
Base Capacity (vph)	605	1839	212	1275	562	183	1028	178	1141
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.63	0.90	0.80	0.82	0.44	1.83	0.99	1.22	0.93

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

APPENDIX 5.4:

OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS QUEUING ANALYSIS WORKSHEETS

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Queues

Murrieta Residential (JN:14027)

3: I-215 SB Ramps & Clinton Keith Rd.

03/15/2022

	→	↘	←	↓	↙
Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	1831	583	2403	295	919
v/c Ratio	0.70	0.53	0.94	0.44	0.85
Control Delay	23.1	3.4	23.6	26.6	38.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	3.4	23.6	26.6	38.2
Queue Length 50th (ft)	355	0	612	150	318
Queue Length 95th (ft)	446	59	#725	211	386
Internal Link Dist (ft)	6735		655	1955	
Turn Bay Length (ft)		415			460
Base Capacity (vph)	2606	1095	2553	759	1211
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.70	0.53	0.94	0.39	0.76

Intersection Summary

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

Queues

Murrieta Residential (JN:14027)

4: I-215 NB Ramps & Clinton Keith Rd.

03/15/2022

	→	←	↖	↗
Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	2075	1912	457	417
v/c Ratio	0.71	0.63	0.86	0.88
Control Delay	9.9	7.8	50.5	52.3
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.9	7.8	50.5	52.3
Queue Length 50th (ft)	171	36	291	269
Queue Length 95th (ft)	130	240	380	368
Internal Link Dist (ft)	655	1209	1627	
Turn Bay Length (ft)				1000
Base Capacity (vph)	2934	3019	657	585
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.71	0.63	0.70	0.71
Intersection Summary				

Queues

Murrieta Residential (JN:14027)

6: Clinton Keith Rd. & Whitewood Rd.

03/15/2022



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	704	1241	266	1374	186	259	320	153	1079
v/c Ratio	1.13	0.75	0.78	1.09	0.35	1.38	0.30	1.01	0.94
Control Delay	126.2	38.5	71.5	82.5	7.3	237.7	22.5	125.9	42.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.2	38.5	71.5	82.5	7.3	237.7	22.5	125.9	42.5
Queue Length 50th (ft)	~290	278	75	~402	49	~243	66	~110	289
Queue Length 95th (ft)	#438	305	#144	#499	87	#405	104	#244	#426
Internal Link Dist (ft)		1817		1256			474		2500
Turn Bay Length (ft)	315		240		350	340		135	
Base Capacity (vph)	622	1661	355	1262	532	188	1099	152	1165
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.13	0.75	0.75	1.09	0.35	1.38	0.29	1.01	0.93

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

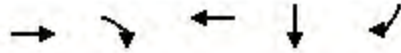
Queue shown is maximum after two cycles.

Queues

Murrieta Residential (JN:14027)

3: I-215 SB Ramps & Clinton Keith Rd.

03/15/2022



Lane Group	EBT	EBR	WBT	SBT	SBR
Lane Group Flow (vph)	2270	533	2733	480	793
v/c Ratio	0.78	0.47	0.96	0.84	0.86
Control Delay	21.3	2.6	45.9	48.4	44.0
Queue Delay	0.1	0.0	5.5	53.7	0.0
Total Delay	21.4	2.6	51.3	102.2	44.0
Queue Length 50th (ft)	457	0	~746	301	276
Queue Length 95th (ft)	525	47	m#808	#436	363
Internal Link Dist (ft)	6735		655	1955	
Turn Bay Length (ft)		415			460
Base Capacity (vph)	2902	1132	2842	614	986
Starvation Cap Reductn	0	0	108	0	0
Spillback Cap Reductn	50	0	0	215	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.80	0.47	1.00	1.20	0.80

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

Murrieta Residential (JN:14027)

4: I-215 NB Ramps & Clinton Keith Rd.

03/15/2022



Lane Group	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	2668	2107	729	664
v/c Ratio	1.08	0.84	1.05	1.10
Control Delay	74.1	39.2	80.2	97.9
Queue Delay	1.1	0.0	23.4	0.0
Total Delay	75.2	39.2	103.6	97.9
Queue Length 50th (ft)	~771	582	~560	~558
Queue Length 95th (ft)	#144	633	#794	#797
Internal Link Dist (ft)	655	1209	1627	
Turn Bay Length (ft)				1000
Base Capacity (vph)	2467	2505	696	606
Starvation Cap Reductn	6	0	0	0
Spillback Cap Reductn	0	0	262	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.08	0.84	1.68	1.10

Intersection Summary

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

Murrieta Residential (JN:14027)

6: Clinton Keith Rd. & Whitewood Rd.

03/15/2022



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	985	1647	140	1043	248	335	1021	217	1057
v/c Ratio	1.63	0.89	0.67	0.82	0.44	1.83	0.99	1.22	1.07dr
Control Delay	324.0	38.6	79.6	35.1	10.0	423.9	65.0	181.1	41.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	324.0	38.6	79.6	35.1	10.0	423.9	65.0	181.1	41.2
Queue Length 50th (ft)	~537	208	44	255	70	~358	371	~188	286
Queue Length 95th (ft)	m#527	m339	#85	309	130	#537	#520	#340	#422
Internal Link Dist (ft)		1817		1256			474		2500
Turn Bay Length (ft)	315		240		350	340		135	
Base Capacity (vph)	605	1844	212	1275	562	183	1028	178	1141
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.63	0.89	0.66	0.82	0.44	1.83	0.99	1.22	0.93

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

APPENDIX 5.5:

OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS TRAFFIC SIGNAL WARRANT ANALYSIS

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

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

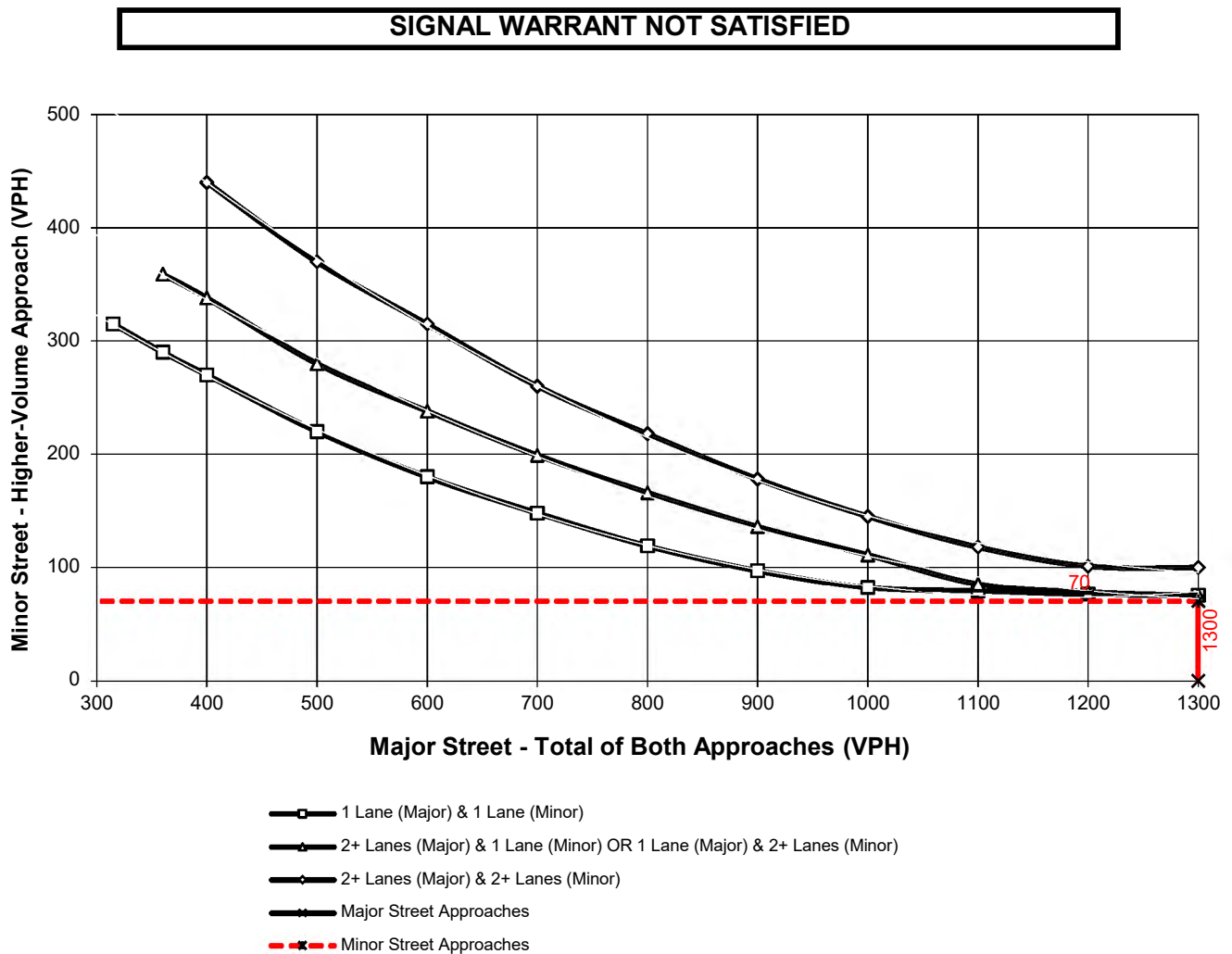
Traffic Conditions = **Opening Year Cumulative (2023) With Project Conditions - Weekday AM Peak Hour**

Major Street Name = **Clinton Keith Rd.**

Total of Both Approaches (VPH) = **2810**
Number of Approach Lanes Major Street = **3**

Minor Street Name = **Arendt Ln./Driveway 2**

High Volume Approach (VPH) = **70**
Number of Approach Lanes Minor Street = **1**



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

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

DIST	CO	RTE	PM	CALC	TRAFFIC CONDITIONS	2023 WP
Jurisdiction: <u>City of Murrieta</u>				CHK	<u>CS</u>	DATE <u>03/15/22</u>
Major Street: <u>Clinton Keith Rd.</u>						DATE <u>03/15/22</u>
Minor Street: <u>Arendt Ln. / Dwy 2</u>					Critical Approach Speed (Major) <u>55</u> mph	
					Critical Approach Speed (Minor) <u>25</u> mph	
Major Street Approach Lanes = <u>3</u> lane				Minor Street Approach Lanes = <u>1</u> lane		
Major Street Future ADT = <u>39,189</u> vpd				Minor Street Future ADT = <u>1,021</u> vpd		
Speed limit or critical speed on major street traffic > 64 km/h (40 mph);						☒ or ☐
In built up area of isolated community of < 10,000 population						RURAL (R)

(Based on Estimated Average Daily Traffic - See Note)

URBAN		RURAL		Minimum Requirements EADT			
CONDITION A - Minimum Vehicular Volume		XX		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>	XX				
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>		<u>Minor Street</u>					
<u>1</u>		<u>1</u>		8,000	5,600	2,400	1,680
<u>2 + 39,189</u>		<u>1 1,021</u>		9,600	6,720 *	2,400	1,680
<u>2 +</u>		<u>2 +</u>		9,600	6,720	3,200	2,240
<u>1</u>		<u>2 +</u>		8,000	5,600	3,200	2,240
CONDITION B - Interruption of Continuous Traffic		XX		Vehicles Per Day on Major Street (Total of Both Approaches)		Vehicles Per Day on Higher-Volume Minor Street Approach (One Direction Only)	
<u>Satisfied</u>		<u>Not Satisfied</u>					
Number of lanes for moving traffic on each approach		Number of lanes for moving traffic on each approach		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
<u>Major Street</u>		<u>Minor Street</u>					
<u>1</u>		<u>1</u>		12,000	8,400	1,200	850
<u>2 + 39,189</u>		<u>1 1,021</u>		14,400	10,080 *	1,200	850 *
<u>2 +</u>		<u>2 +</u>		14,400	10,080	1,600	1,120
<u>1</u>		<u>2 +</u>		12,000	8,400	1,600	1,120
Combination of CONDITIONS A + B		XX		2 CONDITIONS 80%		2 CONDITIONS 80%	
<u>Satisfied</u>		<u>Not Satisfied</u>					
No one condition satisfied, but following conditions fulfilled 80% of more							
		A	B				
		61%	100%				

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

APPENDIX 5.6:

OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Timings
2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)
03/16/2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↑
Traffic Volume (vph)	1205	178	814	1351	126	591
Future Volume (vph)	1205	178	814	1351	126	591
Turn Type	NA	Perm	Prot	NA	Prot	pm+ov
Protected Phases	4		3	8	2	3
Permitted Phases		4				2
Detector Phase	4	4	3	8	2	3
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	5.0
Minimum Split (s)	33.8	33.8	9.6	15.8	14.7	9.6
Total Split (s)	46.0	46.0	58.0	104.0	16.0	58.0
Total Split (%)	38.3%	38.3%	48.3%	86.7%	13.3%	48.3%
Yellow Time (s)	4.8	4.8	3.6	4.8	3.7	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	4.7	4.6
Lead/Lag	Lag	Lag	Lead			Lead
Lead-Lag Optimize?	Yes	Yes	Yes			Yes
Recall Mode	None	None	None	None	None	None
Act Effect Green (s)	40.2	40.2	53.4	98.2	10.7	68.8
Actuated g/C Ratio	0.34	0.34	0.45	0.82	0.09	0.58
v/c Ratio	1.03	0.30	1.05	0.47	0.77	0.36
Control Delay	73.9	12.9	78.9	3.7	26.2	14.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.9	12.9	78.9	3.7	26.2	14.7
LOS	E	B	E	A	C	B
Approach Delay	66.0			32.0	21.5	
Approach LOS	E			C	C	

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 119.4
 Natural Cycle: 140
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 41.3
 Intersection LOS: D
 Intersection Capacity Utilization 100.8%
 ICU Level of Service G
 Analysis Period (min) 15

Splits and Phases: 2: California Oaks St. & Clinton Keith Rd.

↖ Ø2	↖ Ø3	→ Ø4
16 s	58 s	46 s
	← Ø8	
	104 s	

HCM 6th Signalized Intersection Summary
2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/16/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Traffic Volume (veh/h)	1205	178	814	1351	126	591
Future Volume (veh/h)	1205	178	814	1351	126	591
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1230	151	831	1379	129	486
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1190	531	793	2908	168	1709
Arrive On Green	0.34	0.34	0.44	0.82	0.09	0.09
Sat Flow, veh/h	3647	1585	1781	3647	1781	3170
Grp Volume(v), veh/h	1230	151	831	1379	129	486
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	40.2	8.4	53.4	13.8	8.5	10.0
Cycle Q Clear(g_c), s	40.2	8.4	53.4	13.8	8.5	10.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1190	531	793	2908	168	1709
V/C Ratio(X)	1.03	0.28	1.05	0.47	0.77	0.28
Avail Cap(c_a), veh/h	1190	531	793	2908	168	1709
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	39.9	29.3	33.3	3.2	53.1	15.0
Incr Delay (d2), s/veh	35.0	0.3	45.4	0.1	19.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.4	3.1	31.3	2.9	4.7	3.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	74.9	29.6	78.7	3.4	72.3	15.1
LnGrp LOS	F	C	F	A	E	B
Approach Vol, veh/h	1381			2210	615	
Approach Delay, s/veh	70.0			31.7	27.1	
Approach LOS	E			C	C	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		16.0	58.0	46.0		104.0
Change Period (Y+Rc), s		* 4.7	4.6	5.8		5.8
Max Green Setting (Gmax), s		* 11	53.4	40.2		98.2
Max Q Clear Time (g_c+I1), s		12.0	55.4	42.2		15.8
Green Ext Time (p_c), s		0.0	0.0	0.0		14.1
Intersection Summary						
HCM 6th Ctrl Delay			43.6			
HCM 6th LOS			D			
Notes						
User approved volume balancing among the lanes for turning movement.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

Timings
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/16/2022

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	634	925	248	1238	167	233	194	94	138	392
Future Volume (vph)	634	925	248	1238	167	233	194	94	138	392
Turn Type	Prot	NA	Prot	NA	Prot	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	6	3	8		7	4
Permitted Phases								8		
Detector Phase	5	2	1	6	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.8	9.6	32.8	32.8	9.6	36.6	36.6	9.6	36.6
Total Split (s)	26.0	43.9	16.4	34.3	34.3	13.1	37.8	37.8	11.9	36.6
Total Split (%)	23.6%	39.9%	14.9%	31.2%	31.2%	11.9%	34.4%	34.4%	10.8%	33.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None	None
Act Effect Green (s)	22.1	39.3	11.3	28.5	28.5	8.5	32.6	32.6	7.1	31.3
Actuated g/C Ratio	0.20	0.36	0.10	0.26	0.26	0.08	0.30	0.30	0.06	0.28
v/c Ratio	1.02	0.69	0.78	1.04	0.34	0.98	0.21	0.18	0.69	0.93
Control Delay	92.3	35.4	64.0	77.4	6.6	101.2	29.4	1.4	66.8	40.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.3	35.4	64.0	77.4	6.6	101.2	29.4	1.4	66.8	40.6
LOS	F	D	E	E	A	F	C	A	E	D
Approach Delay		56.0		68.2			56.5			43.9
Approach LOS		E		E			E			D

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 57.4

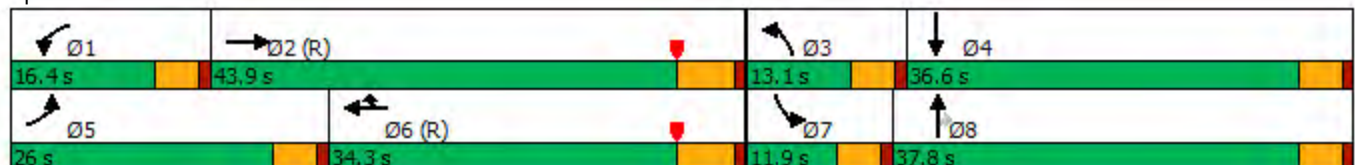
Intersection LOS: E

Intersection Capacity Utilization 94.5%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 6: Clinton Keith Rd. & Whitewood Rd.



HCM 6th Signalized Intersection Summary
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/16/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	634	925	192	248	1238	167	233	194	94	138	392	579
Future Volume (veh/h)	634	925	192	248	1238	167	233	194	94	138	392	579
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	704	1028	213	276	1376	186	259	216	104	153	436	421
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	672	1538	318	336	1355	421	267	1069	477	212	506	451
Arrive On Green	0.39	0.73	0.73	0.10	0.27	0.27	0.08	0.30	0.30	0.06	0.28	0.28
Sat Flow, veh/h	3456	4239	877	3456	5106	1585	3456	3554	1585	3456	1777	1585
Grp Volume(v), veh/h	704	825	416	276	1376	186	259	216	104	153	436	421
Grp Sat Flow(s),veh/h/ln	1728	1702	1712	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	21.4	14.2	14.3	8.6	29.2	10.7	8.2	5.0	5.4	4.8	25.6	28.5
Cycle Q Clear(g_c), s	21.4	14.2	14.3	8.6	29.2	10.7	8.2	5.0	5.4	4.8	25.6	28.5
Prop In Lane	1.00		0.51	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	672	1235	621	336	1355	421	267	1069	477	212	506	451
V/C Ratio(X)	1.05	0.67	0.67	0.82	1.02	0.44	0.97	0.20	0.22	0.72	0.86	0.93
Avail Cap(c_a), veh/h	672	1235	621	371	1355	421	267	1073	478	229	517	461
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	11.6	11.6	48.7	40.4	33.6	50.6	28.6	28.8	50.7	37.3	38.3
Incr Delay (d2), s/veh	41.6	1.9	3.8	11.5	28.4	3.4	46.4	0.1	0.2	8.1	13.7	25.8
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	10.2	3.5	3.8	4.1	15.2	4.5	5.3	2.1	2.1	2.3	12.9	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.2	13.5	15.4	60.2	68.8	37.0	97.0	28.7	29.0	58.8	51.0	64.1
LnGrp LOS	F	B	B	E	F	D	F	C	C	E	D	E
Approach Vol, veh/h	1945			1838			579			1010		
Approach Delay, s/veh	36.2			64.3			59.3			57.7		
Approach LOS	D			E			E			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.3	45.7	13.1	35.9	26.0	35.0	11.3	37.7				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	11.8	38.1	8.5	32.0	21.4	28.5	7.3	33.2				
Max Q Clear Time (g_c+I1), s	10.6	16.3	10.2	30.5	23.4	31.2	6.8	7.4				
Green Ext Time (p_c), s	0.1	8.2	0.0	0.9	0.0	0.0	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay	52.4											
HCM 6th LOS	D											

Timings
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/16/2022

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	634	925	239	1237	167	233	194	94	138	392
Future Volume (vph)	634	925	239	1237	167	233	194	94	138	392
Turn Type	Prot	NA	Prot	NA	Prot	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6	6	3	8		7	4
Permitted Phases								8		
Detector Phase	5	2	1	6	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	9.6	37.8	9.6	32.8	32.8	9.6	36.6	36.6	9.6	36.6
Total Split (s)	26.0	41.5	18.8	34.3	34.3	13.1	37.8	37.8	11.9	36.6
Total Split (%)	23.6%	37.7%	17.1%	31.2%	31.2%	11.9%	34.4%	34.4%	10.8%	33.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Min	None	C-Min	C-Min	None	None	None	None	None
Act Effect Green (s)	22.1	38.3	12.3	28.5	28.5	8.5	32.6	32.6	7.1	31.3
Actuated g/C Ratio	0.20	0.35	0.11	0.26	0.26	0.08	0.30	0.30	0.06	0.28
v/c Ratio	1.02	0.71	0.69	1.04	0.34	0.98	0.21	0.18	0.69	0.93
Control Delay	92.3	36.4	67.8	66.0	6.8	101.2	29.4	1.4	66.8	40.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.3	36.4	67.8	66.0	6.8	101.2	29.4	1.4	66.8	40.6
LOS	F	D	E	E	A	F	C	A	E	D
Approach Delay		56.6		60.2			56.5			43.9
Approach LOS		E		E			E			D

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 125

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 55.0

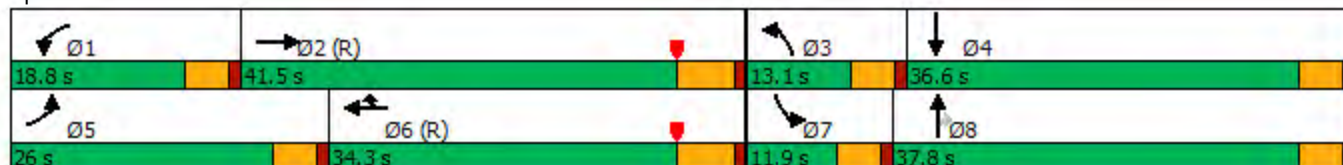
Intersection LOS: D

Intersection Capacity Utilization 94.4%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 6: Clinton Keith Rd. & Whitewood Rd.



HCM 6th Signalized Intersection Summary
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/16/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	  	
Traffic Volume (veh/h)	634	925	192	239	1237	167	233	194	94	138	392	579
Future Volume (veh/h)	634	925	192	239	1237	167	233	194	94	138	392	579
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	704	1028	213	266	1374	186	259	216	104	153	436	421
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	672	1548	320	328	1355	421	267	1069	477	212	506	451
Arrive On Green	0.39	0.73	0.73	0.13	0.35	0.35	0.08	0.30	0.30	0.06	0.28	0.28
Sat Flow, veh/h	3456	4239	877	3456	5106	1585	3456	3554	1585	3456	1777	1585
Grp Volume(v), veh/h	704	825	416	266	1374	186	259	216	104	153	436	421
Grp Sat Flow(s),veh/h/ln	1728	1702	1712	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	21.4	14.0	14.0	8.2	29.2	9.9	8.2	5.0	5.4	4.8	25.6	28.5
Cycle Q Clear(g_c), s	21.4	14.0	14.0	8.2	29.2	9.9	8.2	5.0	5.4	4.8	25.6	28.5
Prop In Lane	1.00		0.51	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	672	1243	625	328	1355	421	267	1069	477	212	506	451
V/C Ratio(X)	1.05	0.66	0.67	0.81	1.01	0.44	0.97	0.20	0.22	0.72	0.86	0.93
Avail Cap(c_a), veh/h	672	1243	625	446	1355	421	267	1073	478	229	517	461
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.67	0.67	0.67	0.81	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	11.3	11.3	47.1	35.6	29.4	50.6	28.6	28.8	50.7	37.3	38.3
Incr Delay (d2), s/veh	41.6	1.9	3.7	4.7	25.6	2.7	46.4	0.1	0.2	8.1	13.7	25.8
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	10.2	3.4	3.8	3.6	13.7	3.9	5.3	2.1	2.1	2.3	12.9	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.2	13.2	15.1	51.8	61.2	32.1	97.0	28.7	29.0	58.8	51.0	64.1
LnGrp LOS	F	B	B	D	F	C	F	C	C	E	D	E
Approach Vol, veh/h		1945			1826			579			1010	
Approach Delay, s/veh		36.0			56.9			59.3			57.7	
Approach LOS		D			E			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	46.0	13.1	35.9	26.0	35.0	11.3	37.7				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	14.2	35.7	8.5	32.0	21.4	28.5	7.3	33.2				
Max Q Clear Time (g_c+I1), s	10.2	16.0	10.2	30.5	23.4	31.2	6.8	7.4				
Green Ext Time (p_c), s	0.2	7.8	0.0	0.9	0.0	0.0	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay			49.7									
HCM 6th LOS			D									

Timings

2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/16/2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↗
Traffic Volume (vph)	1587	119	791	1563	167	855
Future Volume (vph)	1587	119	791	1563	167	855
Turn Type	NA	Perm	Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases		4				2
Detector Phase	4	4	3	8	2	2
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	33.8	33.8	9.6	15.8	14.7	14.7
Total Split (s)	53.0	53.0	47.0	100.0	20.0	20.0
Total Split (%)	44.2%	44.2%	39.2%	83.3%	16.7%	16.7%
Yellow Time (s)	4.8	4.8	3.6	4.8	3.7	3.7
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.8	5.8	4.6	5.8	4.7	4.7
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Recall Mode	None	None	None	None	None	None
Act Effect Green (s)	47.2	47.2	42.4	94.2	13.8	13.8
Actuated g/C Ratio	0.40	0.40	0.36	0.79	0.12	0.12
v/c Ratio	1.24	0.20	1.37	0.61	0.85	0.81
Control Delay	145.7	13.3	209.7	6.1	27.6	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	145.7	13.3	209.7	6.1	27.6	16.2
LOS	F	B	F	A	C	B
Approach Delay	136.4			74.5	22.8	
Approach LOS	F			E	C	

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 118.5

Natural Cycle: 140

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.37

Intersection Signal Delay: 84.9

Intersection LOS: F

Intersection Capacity Utilization 114.1%

ICU Level of Service H

Analysis Period (min) 15

Splits and Phases: 2: California Oaks St. & Clinton Keith Rd.



HCM 6th Signalized Intersection Summary
2: California Oaks St. & Clinton Keith Rd.

Murrieta Residential (JN:14027)

03/16/2022

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Traffic Volume (veh/h)	1587	119	791	1563	167	855
Future Volume (veh/h)	1587	119	791	1563	167	855
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	1744	98	869	1718	184	814
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1398	623	629	2790	227	404
Arrive On Green	0.39	0.39	0.35	0.79	0.13	0.13
Sat Flow, veh/h	3647	1585	1781	3647	1781	3170
Grp Volume(v), veh/h	1744	98	869	1718	184	814
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	47.2	4.8	42.4	24.1	12.1	15.3
Cycle Q Clear(g_c), s	47.2	4.8	42.4	24.1	12.1	15.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1398	623	629	2790	227	404
V/C Ratio(X)	1.25	0.16	1.38	0.62	0.81	2.01
Avail Cap(c_a), veh/h	1398	623	629	2790	227	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.4	23.5	38.8	5.4	50.9	52.4
Incr Delay (d2), s/veh	117.6	0.1	181.1	0.4	19.4	464.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	42.0	1.8	49.2	6.2	6.6	32.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	154.0	23.7	219.9	5.8	70.3	517.3
LnGrp LOS	F	C	F	A	E	F
Approach Vol, veh/h	1842			2587	998	
Approach Delay, s/veh	147.1			77.7	434.9	
Approach LOS	F			E	F	
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		20.0	47.0	53.0		100.0
Change Period (Y+Rc), s		* 4.7	4.6	5.8		5.8
Max Green Setting (Gmax), s		* 15	42.4	47.2		94.2
Max Q Clear Time (g_c+I1), s		17.3	44.4	49.2		26.1
Green Ext Time (p_c), s		0.0	0.0	0.0		21.6

Intersection Summary

HCM 6th Ctrl Delay	166.9
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

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

Timings
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/16/2022

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	965	1353	166	1022	243	328	836	165	213	328
Future Volume (vph)	965	1353	166	1022	243	328	836	165	213	328
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6		3	8		7	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	10.3	32.8	9.6	32.8	32.8	9.6	36.6	36.6	9.6	36.6
Total Split (s)	26.0	49.2	11.2	34.4	34.4	13.0	37.0	37.0	12.6	36.6
Total Split (%)	23.6%	44.7%	10.2%	31.3%	31.3%	11.8%	33.6%	33.6%	11.5%	33.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max
Act Effect Green (s)	21.4	43.4	6.6	28.6	28.6	8.4	32.4	32.4	8.0	32.0
Actuated g/C Ratio	0.19	0.39	0.06	0.26	0.26	0.08	0.29	0.29	0.07	0.29
v/c Ratio	1.48	0.83	0.82	0.79	0.46	1.28	0.82	0.29	0.87	1.02dr
Control Delay	259.4	35.8	81.7	43.0	14.9	192.9	43.7	6.2	82.9	36.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	259.4	35.8	81.7	43.0	14.9	192.9	43.7	6.2	82.9	36.9
LOS	F	D	F	D	B	F	D	A	F	D
Approach Delay		119.5		42.7			75.9			44.7
Approach LOS		F		D			E			D

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.48

Intersection Signal Delay: 79.9

Intersection LOS: E

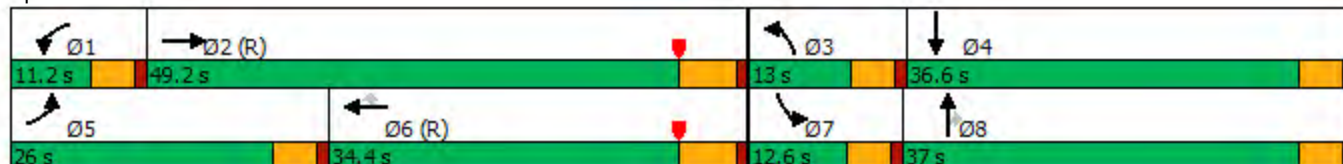
Intersection Capacity Utilization 104.9%

ICU Level of Service G

Analysis Period (min) 15

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 6: Clinton Keith Rd. & Whitewood Rd.



HCM 6th Signalized Intersection Summary
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/16/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	965	1353	261	166	1022	243	328	836	165	213	328	708
Future Volume (veh/h)	965	1353	261	166	1022	243	328	836	165	213	328	708
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	985	1381	266	169	1043	248	335	853	168	217	335	416
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	672	1696	326	207	1328	412	264	1047	467	251	517	461
Arrive On Green	0.39	0.79	0.79	0.06	0.26	0.26	0.08	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	3456	4298	827	3456	5106	1585	3456	3554	1585	3456	1777	1585
Grp Volume(v), veh/h	985	1093	554	169	1043	248	335	853	168	217	335	416
Grp Sat Flow(s),veh/h/ln	1728	1702	1721	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	21.4	20.8	20.9	5.3	20.9	15.1	8.4	24.5	9.2	6.8	18.1	27.8
Cycle Q Clear(g_c), s	21.4	20.8	20.9	5.3	20.9	15.1	8.4	24.5	9.2	6.8	18.1	27.8
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	672	1343	679	207	1328	412	264	1047	467	251	517	461
V/C Ratio(X)	1.47	0.81	0.82	0.82	0.79	0.60	1.27	0.81	0.36	0.86	0.65	0.90
Avail Cap(c_a), veh/h	672	1343	679	207	1328	412	264	1047	467	251	517	461
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	9.2	9.2	51.1	37.8	35.7	50.8	36.0	30.6	50.5	34.1	37.5
Incr Delay (d2), s/veh	210.1	0.5	1.0	20.3	4.7	6.4	147.6	7.0	2.2	24.3	6.2	23.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.0	3.3	3.4	2.8	8.9	6.5	9.0	11.5	3.8	3.8	8.6	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	243.7	9.7	10.3	71.4	42.6	42.1	198.4	43.0	32.8	74.8	40.3	61.0
LnGrp LOS	F	A	B	E	D	D	F	D	C	E	D	E
Approach Vol, veh/h	2632		1460				1356			968		
Approach Delay, s/veh	97.4		45.8				80.1			56.9		
Approach LOS	F		D				F			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	49.2	13.0	36.6	26.0	34.4	12.6	37.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	6.6	43.4	8.4	32.0	21.4	28.6	8.0	32.4				
Max Q Clear Time (g_c+I1), s	7.3	22.9	10.4	29.8	23.4	22.9	8.8	26.5				
Green Ext Time (p_c), s	0.0	11.1	0.0	1.1	0.0	3.4	0.0	3.1				
Intersection Summary												
HCM 6th Ctrl Delay			75.9									
HCM 6th LOS			E									

Timings
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/16/2022

										
Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	 	 	 	 		 	 		 	 
Traffic Volume (vph)	965	1353	137	1022	243	328	836	165	213	328
Future Volume (vph)	965	1353	137	1022	243	328	836	165	213	328
Turn Type	Prot	NA	Prot	NA	Perm	Prot	NA	Perm	Prot	NA
Protected Phases	5	2	1	6		3	8		7	4
Permitted Phases					6			8		
Detector Phase	5	2	1	6	6	3	8	8	7	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0
Minimum Split (s)	10.3	32.8	9.6	32.8	32.8	9.6	36.6	36.6	9.6	36.6
Total Split (s)	26.0	49.0	11.4	34.4	34.4	13.0	37.0	37.0	12.6	36.6
Total Split (%)	23.6%	44.5%	10.4%	31.3%	31.3%	11.8%	33.6%	33.6%	11.5%	33.3%
Yellow Time (s)	3.6	4.8	3.6	4.8	4.8	3.6	3.6	3.6	3.6	3.6
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	5.8	4.6	5.8	5.8	4.6	4.6	4.6	4.6	4.6
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	C-Max	None	Max	Max	None	Max
Act Effect Green (s)	21.4	43.3	6.7	28.6	28.6	8.4	32.4	32.4	8.0	32.0
Actuated g/C Ratio	0.19	0.39	0.06	0.26	0.26	0.08	0.29	0.29	0.07	0.29
v/c Ratio	1.48	0.83	0.67	0.79	0.46	1.28	0.82	0.29	0.87	1.02dr
Control Delay	259.4	35.9	86.1	33.1	11.6	192.9	43.7	6.2	82.9	36.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	259.4	35.9	86.1	33.1	11.6	192.9	43.7	6.2	82.9	36.9
LOS	F	D	F	C	B	F	D	A	F	D
Approach Delay		119.5		34.6			75.9			44.7
Approach LOS		F		C			E			D

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.48

Intersection Signal Delay: 78.3

Intersection LOS: E

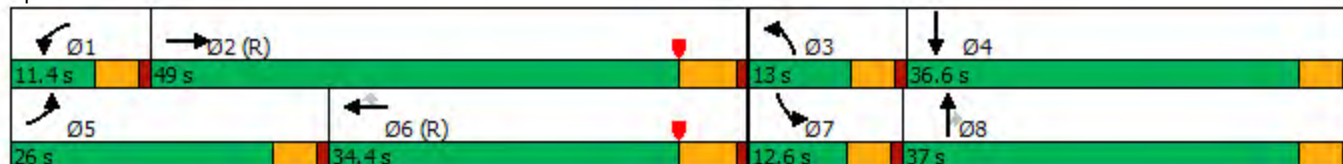
Intersection Capacity Utilization 104.9%

ICU Level of Service G

Analysis Period (min) 15

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 6: Clinton Keith Rd. & Whitewood Rd.



HCM 6th Signalized Intersection Summary
6: Clinton Keith Rd. & Whitewood Rd.

Murrieta Residential (JN:14027)

03/16/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	965	1353	261	137	1022	243	328	836	165	213	328	708
Future Volume (veh/h)	965	1353	261	137	1022	243	328	836	165	213	328	708
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	985	1381	266	140	1043	248	335	853	168	217	335	416
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	672	1709	329	197	1328	412	264	1047	467	251	517	461
Arrive On Green	0.39	0.80	0.80	0.08	0.35	0.35	0.08	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	3456	4298	827	3456	5106	1585	3456	3554	1585	3456	1777	1585
Grp Volume(v), veh/h	985	1093	554	140	1043	248	335	853	168	217	335	416
Grp Sat Flow(s),veh/h/ln	1728	1702	1721	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	21.4	20.3	20.3	4.4	20.2	14.2	8.4	24.5	9.2	6.8	18.1	27.8
Cycle Q Clear(g_c), s	21.4	20.3	20.3	4.4	20.2	14.2	8.4	24.5	9.2	6.8	18.1	27.8
Prop In Lane	1.00		0.48	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	672	1353	684	197	1328	412	264	1047	467	251	517	461
V/C Ratio(X)	1.47	0.81	0.81	0.71	0.79	0.60	1.27	0.81	0.36	0.86	0.65	0.90
Avail Cap(c_a), veh/h	672	1353	684	214	1328	412	264	1047	467	251	517	461
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.09	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	8.9	8.9	49.9	33.2	31.3	50.8	36.0	30.6	50.5	34.1	37.5
Incr Delay (d2), s/veh	210.1	0.5	1.0	6.9	4.2	5.7	147.6	7.0	2.2	24.3	6.2	23.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.0	3.2	3.3	2.0	7.8	5.7	9.0	11.5	3.8	3.8	8.6	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	243.7	9.4	9.9	56.9	37.5	37.0	198.4	43.0	32.8	74.8	40.3	61.0
LnGrp LOS	F	A	A	E	D	D	F	D	C	E	D	E
Approach Vol, veh/h	2632		1431				1356			968		
Approach Delay, s/veh	97.2		39.3				80.1			56.9		
Approach LOS	F		D				F			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	49.5	13.0	36.6	26.0	34.4	12.6	37.0				
Change Period (Y+Rc), s	4.6	5.8	4.6	4.6	4.6	5.8	4.6	4.6				
Max Green Setting (Gmax), s	6.8	43.2	8.4	32.0	21.4	28.6	8.0	32.4				
Max Q Clear Time (g_c+I1), s	6.4	22.3	10.4	29.8	23.4	22.2	8.8	26.5				
Green Ext Time (p_c), s	0.0	11.2	0.0	1.1	0.0	3.7	0.0	3.1				
Intersection Summary												
HCM 6th Ctrl Delay			74.5									
HCM 6th LOS			E									

APPENDIX 5.7:

OPENING YEAR CUMULATIVE (2023) WITH PROJECT CONDITIONS QUEUING ANALYSIS WORKSHEETS WITH IMPROVEMENTS

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Queuing and Blocking Report

Opening Year Cumulative (2023) With Project- AM Peak Hour WITH IMPROVEMENTS03/16/2022

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	T	R	L
Maximum Queue (ft)	350	364	447	331	404	220	265	477	429	414	375	139
Average Queue (ft)	218	233	178	195	233	87	167	284	281	271	110	66
95th Queue (ft)	312	322	282	297	357	169	298	444	426	395	264	118
Link Distance (ft)			1786	1786	1786			1246	1246	1246		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	340	340				240	240				350	400
Storage Blk Time (%)	0	2				0	0	17		4	0	
Queuing Penalty (veh)	0	5				0	1	43		7	0	

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	174	89	102	68	130	164	610	786
Average Queue (ft)	84	40	49	29	44	111	270	414
95th Queue (ft)	143	76	89	57	95	189	484	609
Link Distance (ft)		441	441	441			2504	2504
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	400				140	140		
Storage Blk Time (%)					0	0	17	
Queuing Penalty (veh)					0	0	23	

Queuing and Blocking Report

Opening Year Cumulative (2023) With Project- PM Peak Hour WITH IMPROVEMENTS03/16/2022

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	T	R	L
Maximum Queue (ft)	352	365	1801	1798	1826	133	263	341	309	327	171	407
Average Queue (ft)	351	364	1673	1210	921	63	99	205	213	185	95	277
95th Queue (ft)	354	366	2101	2289	2090	124	184	293	292	271	155	380
Link Distance (ft)			1786	1786	1786			1246	1246	1246		
Upstream Blk Time (%)			13	1	1							
Queuing Penalty (veh)			100	5	10							
Storage Bay Dist (ft)	340	340				240	240				350	400
Storage Blk Time (%)	12	62	0					3				0
Queuing Penalty (veh)	56	281	1					6				0

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	422	363	285	148	148	165	1634	1708
Average Queue (ft)	286	183	188	45	76	131	1084	1235
95th Queue (ft)	392	279	261	97	141	197	1644	1702
Link Distance (ft)		441	441	441			2504	2504
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)	400				140	140		
Storage Blk Time (%)	0				0	2	24	
Queuing Penalty (veh)	1				0	3	51	

Queuing and Blocking Report

Opening Year Cumulative (2023) With Project - AM Peak Hour (Alternative) WITH IMPROVEMENTS

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	T	R	L
Maximum Queue (ft)	351	361	306	331	404	141	264	456	450	456	375	176
Average Queue (ft)	234	253	148	211	251	84	128	227	246	254	112	96
95th Queue (ft)	320	333	247	306	380	139	252	373	384	400	276	164
Link Distance (ft)			1786	1786	1786			1247	1247	1247		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	340	340				240	240				350	400
Storage Blk Time (%)	0	1						7		2	0	
Queuing Penalty (veh)	0	3						16		4	0	

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	162	108	111	55	151	165	503	544
Average Queue (ft)	103	54	59	29	36	113	232	412
95th Queue (ft)	156	94	102	55	82	191	400	557
Link Distance (ft)		438	438	438			2504	2504
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	400				140	140		
Storage Blk Time (%)					0	0	20	
Queuing Penalty (veh)					0	0	28	

Queuing and Blocking Report

Opening Year Cumulative (2023) With Project- PM Peak Hour (Alternative) WITH IMPROVEMENTS

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB	NB
Directions Served	L	L	T	T	TR	L	L	T	T	T	R	L
Maximum Queue (ft)	352	365	1799	1803	1820	101	115	201	225	212	168	325
Average Queue (ft)	350	364	1644	1026	750	45	62	139	161	152	90	198
95th Queue (ft)	356	365	2100	2117	1786	86	98	195	214	202	158	287
Link Distance (ft)			1786	1786	1786			1247	1247	1247		
Upstream Blk Time (%)			8	0	0							
Queuing Penalty (veh)			63	2	2							
Storage Bay Dist (ft)	340	340				240	240				350	400
Storage Blk Time (%)	13	61	0									
Queuing Penalty (veh)	59	274	3									

Intersection: 6: Clinton Keith Rd. & Whitewood Rd.

Movement	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	T	T	R	L	L	T	TR
Maximum Queue (ft)	308	358	353	113	152	165	1712	1788
Average Queue (ft)	206	242	243	59	79	135	1263	1395
95th Queue (ft)	297	350	348	101	154	195	1685	1719
Link Distance (ft)		438	438	438			2504	2504
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	400				140	140		
Storage Blk Time (%)					0	12	26	
Queuing Penalty (veh)					0	20	55	