Appendix A:
Updated Transportation Impact Analysis

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Acacia Pointe
GPA 23-05247, ZC 23-05245
PDO 23-05246, TPM 38775
Traffic Impact Analysis

City of Perris, California

March 24, 2025

TJW ENGINEERING, INC.
9841 Irvine Center Drive, Suite 200
Irvine, CA 92618
949.878.3509 | www.tjwengineering.com

March 24, 2025

TJW ENGINEERING, INC.
TRAFFIC ENGINEERING &
TRANSPORTATION PLANNING
CONSULTANTS

Mr. Ryan Woosley
D.R. Horton
2280 Wardlow Circle, Suite 100
Corona, CA 92880

Subject: Traffic Impact Analysis – Acacia Pointe (GPA 23-05247, ZC 23-05245, PDO 23-05246, TPM 38775) City of Perris

Dear Mr. Woosley:

TJW ENGINEERING, INC. (TJW) is pleased to present you with this traffic impact analysis for the proposed residential project, Acacia Pointe (GPA 23-05247, ZC 23-05245, PDO 23-05246, TPM 38775), located south of East Nuevo Road along the east side of Wilson Avenue in the City of Perris.

This traffic study has been prepared to meet the traffic study requirements for the City of Perris and assesses the forecast traffic operations associated with the proposed project and its potential impact on the local street network. This report is being submitted to you for review and forwarding to the City of Perris.

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

Sincerely,

Thomas Wheat, PE, TE
President
Registered Civil Engineer *#69467*
Registered Traffic Engineer *#2565*

David Chew, PTP
Transportation Planner

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Prepared for:
D.R. Horton
2280 Wardlow Circle, Suite 100
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1.0 EXECUTIVE SUMMARY

This Traffic Impact Analysis (TIA) analyzes the projected traffic operations associated with the proposed project, Acacia Pointe, TPM 38775, located south of East Nuevo Road along the Wilson Avenue northbound lane in the City of Perris. The purpose of this TIA is to evaluate potential circulation system deficiencies that may result from development of the proposed project, and, if applicable, to recommend improvements to achieve acceptable operations. This analysis was prepared in coordination with the City of Perris via a scoping agreement (See **Appendix A**) and is pursuant to applicable traffic impact analysis guidelines found in the *City of Perris General Plan Circulation Element* (*Perris Circulation Element*) last revised August 2022, the *City of Perris Transportation Impact Analysis Guidelines for CEQA* (*Perris Guidelines*) of May 2020, and *City of Perris LOS Standards and Traffic Criteria for Traffic Studies (Perris Standards)* from 2017.

The proposed project is for the construction of 141 single-family attached residential dwelling units. The anticipated year of completion is 2026.

Site access is planned via two driveways on Wilson Avenue. The northerly driveway will be gated with full access. The southerly driveway will be gated and exit only. The site is currently zoned as R-6,000, or medium density residential of four (4) to seven (7) dwelling units per acre. The site is proposed for MFR-14, or medium density residential of seven (7) to fourteen (14) dwelling units per acre. The project site is currently vacant.

A growth rate of three percent (3%) was used to account for 2026 traffic volumes. Upon completion, the project is projected to generate 1,015 daily trips with 68 AM and 80 PM peak hour trips.

The following five (5) intersections in the vicinity of the project site have been included in the level of service (LOS) analysis:

1. Wilson Avenue/East Nuevo Road;
2. Redlands Avenue – Jade Avenue/East Nuevo Road;
3. Murrieta Road/East Nuevo Road;
4. Wilson Avenue/Project Driveway #1;
5. Wilson Avenue/Project Driveway #2.

The study intersections are analyzed for the following study scenarios:

- Existing Traffic Conditions (Existing);
- Existing Plus Project Traffic Conditions (Existing + Project);
- Opening Year Traffic Conditions (Existing + Ambient + Cumulative);
- Opening Year Plus Project Traffic Conditions (Existing + Ambient + Cumulative + Project).

1.1 SUMMARY OF LEVEL OF SERVICE ANALYSIS RESULTS

Table ES-1 summarizes the results of the intersection level of service analysis based on both the *Perris Circulation Element* thresholds of significance for analyzing transportation deficiencies.

Table ES-1

Summary of Transportation Deficiencies at Study Intersections

Intersection			Existing Conditions	Opening Year (2026) with Project Conditions
1	Wilson Avenue	East Nuevo Road	No Deficiencies	No Deficiencies
2	Redlands Avenue – Jade Avenue	East Nuevo Road	No Deficiencies	No Deficiencies
3	Murrieta Road	East Nuevo Road	No Deficiencies	No Deficiencies
4	Wilson Avenue	Project Driveway #1	Not Applicable	No Deficiencies
5	Wilson Avenue	Project Driveway #2	Not Applicable	No Deficiencies

Existing Conditions

The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for Existing Traffic Conditions.

Existing Plus Project Conditions (EP)

The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for Existing Plus Project Traffic Conditions.

Opening Year Traffic Conditions (OY)

The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for Opening Year Traffic Conditions.

Opening Year Plus Project Traffic Conditions (OYP)

The study intersections are projected to operate at an acceptable LOS during the AM and PM peak hours for Opening Year Plus Project Traffic Conditions.

1.2 ON-SITE ROADWAY AND SITE ACCESS IMPROVEMENTS

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

Sight distance at each project access point should be reviewed with respect to the County of Riverside Standard no. 821 Intersection Sight Standard and the City of Perris sight distance standards at the time of final grading, landscaping, and street improvement plans.

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

2.0 INTRODUCTION

This Traffic Impact Analysis (TIA) analyzes the projected traffic operations associated with the proposed project, Acacia Pointe, located south of East Nuevo Road along the northbound side of Wilson Avenue in the City of Perris. The purpose of this TIA is to evaluate potential circulation system deficiencies that may result from the development of the proposed project, and, if applicable, to recommend improvements to achieve acceptable operations. This analysis was prepared in coordination with the City of Perris via a scoping agreement (See **Appendix A**) and is pursuant to applicable traffic impact analysis guidelines found in the *City of Perris General Plan Circulation Element* (*Perris Circulation Element*) last revised August 2022, the *City of Perris Transportation Impact Analysis Guidelines for CEQA* (*Perris Guidelines*) of May 2020, and *City of Perris LOS Standards and Traffic Criteria for Traffic Studies (Perris Standards)* from 2017.

2.1 PROJECT DESCRIPTION

The proposed project is for the construction of 141 single-family attached residential dwelling units. The anticipated year of completion is 2026.

Site access is planned via two driveways on Wilson Avenue. The northerly driveway will be gated and full access. The southerly driveway will be gated with exit only. The site is currently zoned as R-6,000, or medium density residential of four (4) to seven (7) dwelling units per acre. The site is proposed for MFR-14, or medium density residential of seven (7) to fourteen (14) dwelling units per acre. The project site is currently vacant.

The project includes a proposal to restripe East Nuevo Road to provide a second through lane at the eastbound leg of its intersection with Wilson Avenue and continuing east toward Murrietta Road along the project site frontage.

A growth rate of three percent (3%) was used to account for 2026 traffic volumes. Upon completion, the project is projected to generate 1,015 daily trips with 68 AM and 80 PM peak hour trips.

Exhibit 1 shows the proposed project site location. **Exhibit 2** shows the proposed project site plan.

2.2 STUDY AREA

The following five (5) intersections in the vicinity of the project site have been included in the level of service (LOS) analysis:

1. Wilson Avenue/East Nuevo Road;
2. Redlands Avenue – Jade Avenue/East Nuevo Road;
3. Murrieta Road/East Nuevo Road;
4. Wilson Avenue/Project Driveway #1;
5. Wilson Avenue/Project Driveway #2.

The study intersections are analyzed for the following study scenarios:

- Existing Traffic Conditions (Existing);
- Existing Plus Project Traffic Conditions (Existing + Project);
- Opening Year Traffic Conditions (Existing + Ambient + Cumulative);
- Opening Year Plus Project Traffic Conditions (Existing + Ambient + Cumulative + Project).

Traffic operations are evaluated for the following time periods:

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

2.3 INTERSECTION ANALYSIS METHODOLOGY

Level of Service (LOS) is commonly used to describe the quality of flow on roadways and at intersections using a range from LOS A, very favorable progression, to LOS F, very poor progression. The LOS definitions for interruption of traffic flow differ depending on the type of traffic control (traffic signal, unsignalized intersection with side street stops, unsignalized intersection with all-way stops). The *Highway Capacity Manual* (*HCM*) *7th Edition* (Transportation Research Board, 2022) methodology expresses the LOS of an intersection in terms of delay time for the intersection approaches. The HCM methodology utilizes different procedures for different types of intersection control.

The *Perris Circulation Element* requires signalized intersection operations to be analyzed utilizing the HCM methodology. Intersection LOS for signalized intersections is based on the intersection's average control delay for all movements at the intersection during the peak hour. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Table 1 identifies each Level of Service category with the corresponding general characteristics of traffic flow plus accompanying delay ranges at signalized intersections.

Table 1

HCM – LOS & Delay Ranges – Signalized Intersections

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

Source: Transportation Research Board, *Highway Capacity Manual*, HCM 7th Edition (Washington D.C., 2022).

Collected peak hour traffic volumes have been adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. It is a common practice in LOS analysis to conservatively use a peak 15-minute flow rate applied to the entire hour to derive flow rates in vehicles per hour that are used in the LOS analysis. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume. PHF = [Hourly Volume]/ [4 * Peak 15-Minute Volume]. The use of a 15-minute PHF produces a more detailed and conservative analysis compared to analyzing vehicles per hour. Existing PHFs, obtained from the existing traffic counts have been used for all analysis scenarios in this study.

The *Perris Circulation Element* requires unsignalized intersection operations to be analyzed utilizing the HCM methodology. Operation for unsignalized intersections is based on the weighted average control delay expressed in seconds per vehicle.

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

Table 2 identifies each unsignalized intersection Level of Service category with their corresponding general characteristics of traffic flow, plus their accompanying delay ranges.

Table 2

HCM – LOS & Delay Ranges – Unsignalized Intersections

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

Source: Transportation Research Board, *Highway Capacity Manual*, HCM 7th Edition (Washington D.C., 2022).

This study utilizes *PTV Vistro 2022* software for all signalized and unsignalized intersections. Vistro is a macroscopic traffic software program that is based on the signalized intersection capacity analysis specified in Chapter 16 of the HCM. The level of service and capacity analysis performed within Vistro takes into consideration the optimization and coordination of signalized and unsignalized intersections within a network.

2.4 PERFORMANCE CRITERIA

The City of Perris provided the document, *City of Perris LOS Standards and Traffic Criteria for Traffic Studies,* which establishes the level of service "D" or better as the minimal LOS for all intersections along the designated street and highway system.

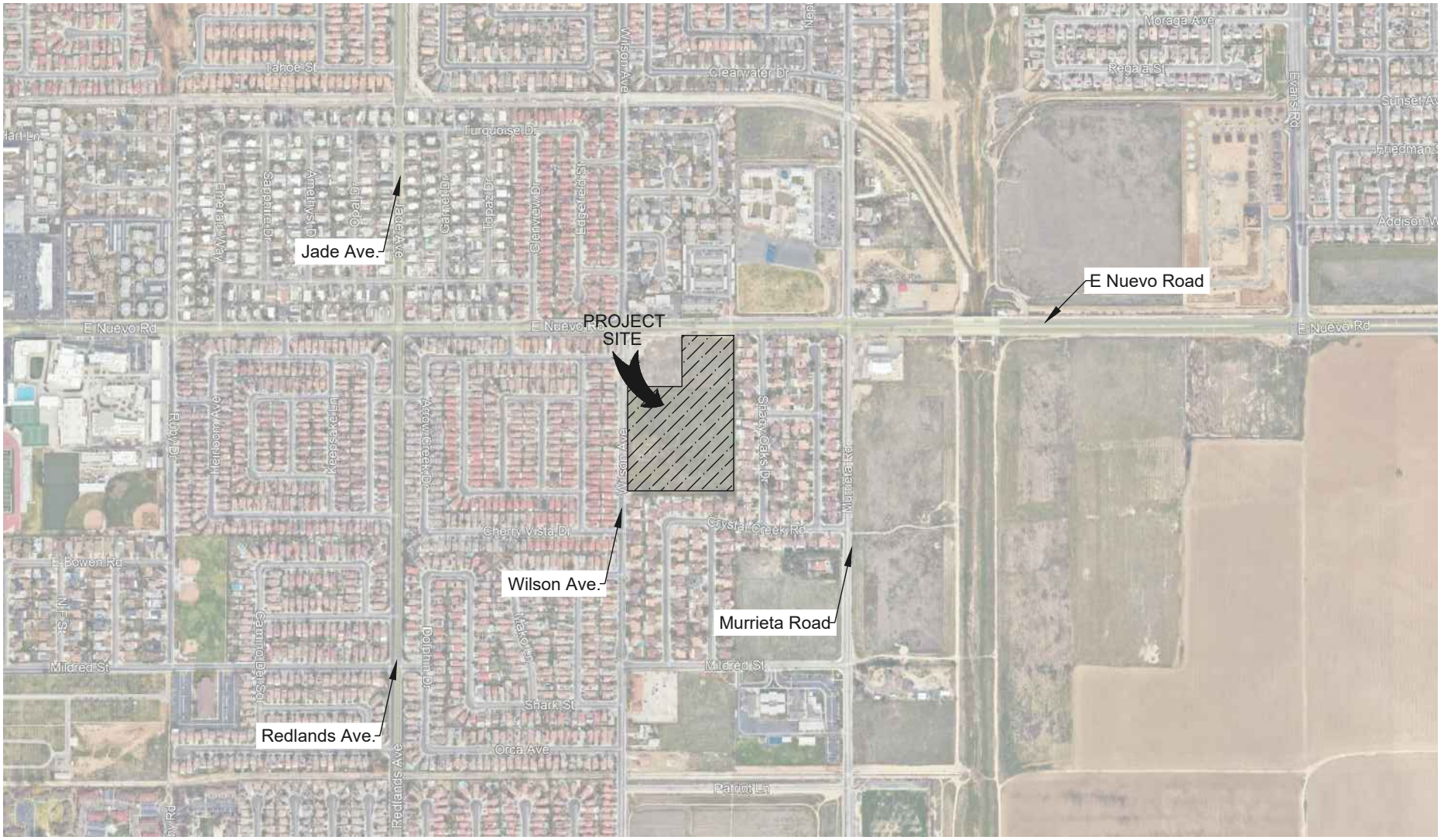


Exhibit 1: Proposed Project Location

Acacia Pointe Traffic Impact Analysis

DRH-23-005

Not to Scale

TJW Engineering, Inc.

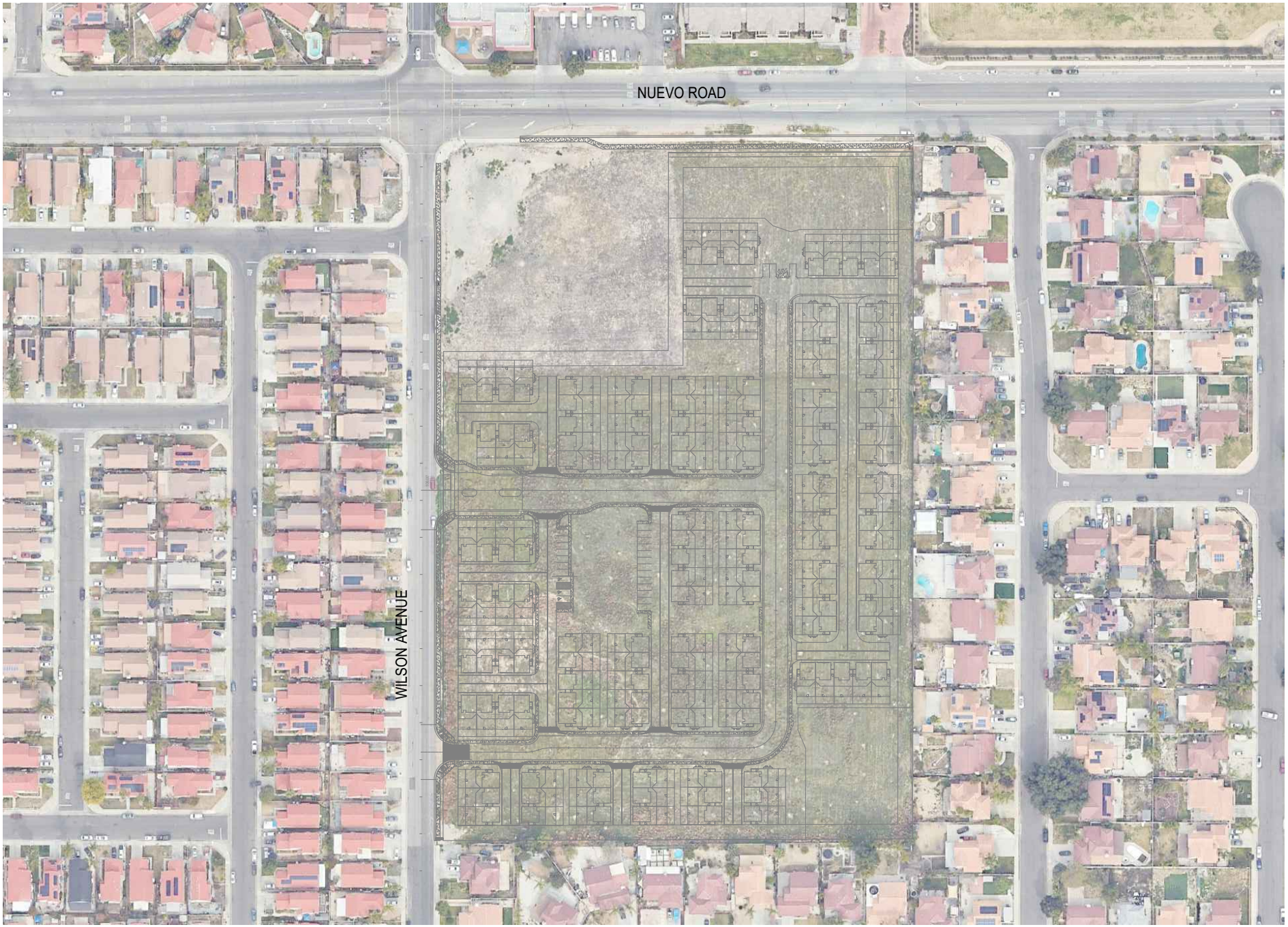


Exhibit 2: Proposed Project Site Plan

Acacia Pointe Traffic Impact Analysis

DRH-23-005

Not to Scale

TJW Engineering, Inc.

3.0 EXISTING CONDITIONS

3.1 EXISTING CIRCULATION NETWORK/STUDY AREA CONDITIONS

The proposed project site is located within the City of Perris. The characteristics of the roadway system within the study area of the proposed project site are described in **Table 3**.

Table 3
Roadway Characteristics Within Study Area

Roadway	Classification[1]	Jurisdiction	Direction	Existing Travel Lanes	Median Type[2]	Speed Limit (mph)	On-Street Parking
Wilson Avenue	Collector	Perris	North-South	2	NM	25	Yes
Redlands Avenue	Secondary Arterial	Perris	North-South	4	TWLTL	45	No
Jade Avenue	Collector	Perris	North-South	2	NM	25	Yes
Murrieta Road	Collector	Perris	North-South	2	TWLTL	25	Yes
East Nuevo Road	Secondary Arterial	Perris	East-West	4	TWLTL	40	Yes

1: Source: City of Perris General Plan Circulation Element (2022)
2: TWLTL = Two-Way Left-Turn Lane, NM = No Median.

Exhibit 3 shows existing intersection controls and roadway geometry of each study area intersection.

3.2 CITY OF PERRIS GENERAL PLAN CIRCULATION ELEMENT

The *Perris Circulation Element* provides a classification system for the roadways within the City of Perris. It includes illustrations of roadway cross-sections for each classification type. The *Perris Circulation Element* is attached in **Appendix A.**

3.3 EXISTING BICYCLE AND PEDESTRIAN FACILITIES

The *Perris Circulation Element* provides bikeway classifications. Currently, there are Class II bicycle lanes on both northbound and southbound legs of Murrieta Road. The *Perris Circulation Element* in **Appendix A** contains both a map and description of the City Bikeway System.

3.4 EXISTING PUBLIC TRANSIT SERVICES

The City of Perris is served by the Riverside Transit Authority (RTA), the transit operator for the Riverside County area, which operates bus routes throughout the County. Within one-half a mile from the proposed project there are stops on Redlands Avenue at its intersection with Mildred Avenue used by RTA Route 30.

3.5 EXISTING TRAFFIC VOLUMES

To determine the existing operation of the study intersections, AM and PM peak period traffic volumes were estimated based on new traffic counts collected on January 31, 2024. Detailed traffic count data is provided in **Appendix B**. Existing Traffic AM peak hour volumes at the study intersections are shown in **Exhibit 4** while **Exhibit 5** shows Existing Traffic PM peak hour volumes.

3.6 EXISTING TRAFFIC CONDITIONS INTERSECTION LEVEL OF SERVICE ANALYSIS

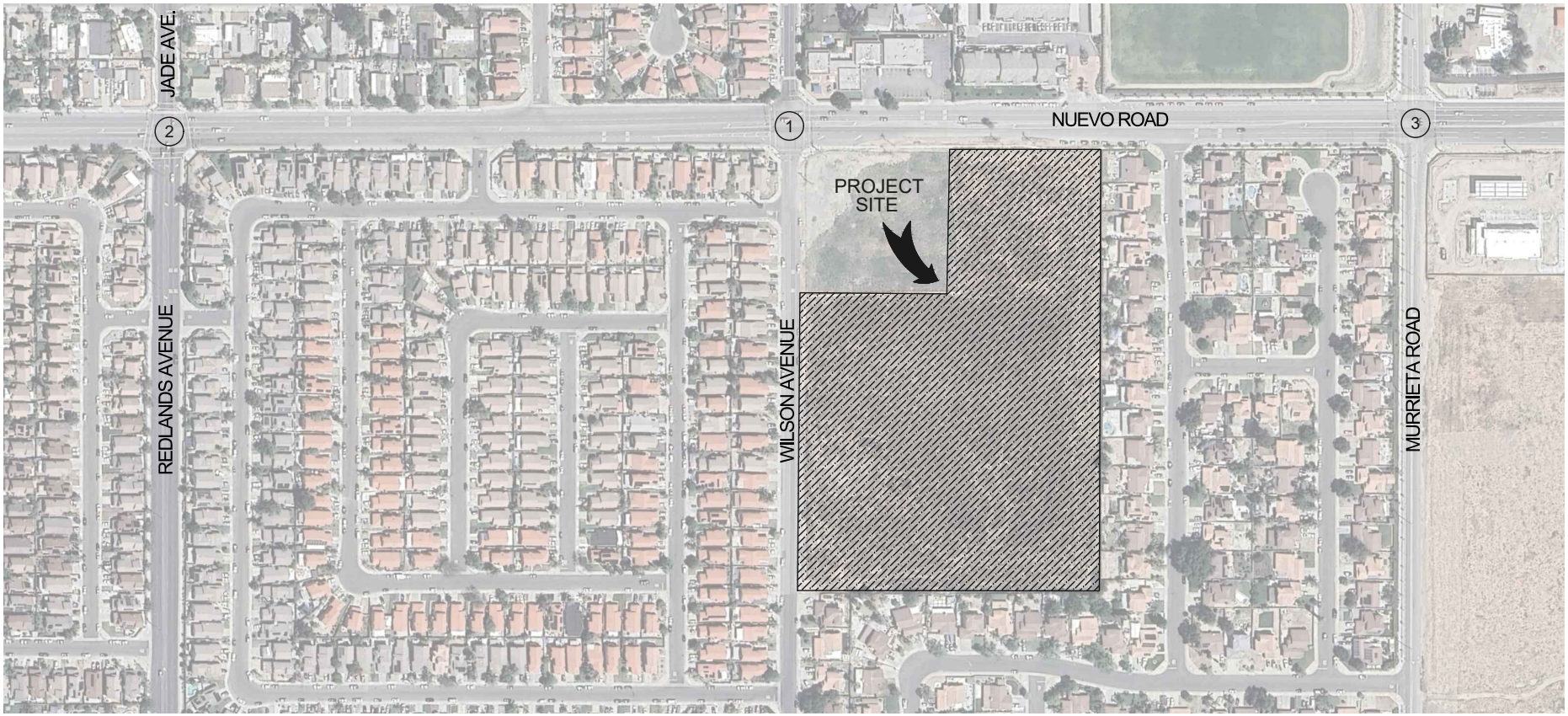
Existing intersection analysis of AM and PM peak hour conditions is shown in **Table 4**. Calculations are based on the existing geometrics at the study area intersections as shown in **Exhibit 3.** HCM 7 analysis sheets are provided in **Appendix C**.

Table 4
Intersection Analysis - Existing Traffic Conditions

Intersection			Control Type	Peak Hour	Existing Conditions	
					Delay	LOS
1	Wilson Avenue	East Nuevo Road	Signal	AM	12.32	B
				PM	14.14	B
2	Redlands Avenue – Jade Avenue	East Nuevo Road	Signal	AM	20.12	C
				PM	18.75	B
3	Murrieta Road	East Nuevo Road	Signal	AM	28.82	C
				PM	23.84	C

Note: OWSC = One-Way Stop-Control; Delay shown in seconds per vehicle.

As shown in **Table 4**, the existing study intersections are currently operating at an acceptable LOS during the AM and PM peak hours under Existing Traffic Conditions**.**



Legend:

Project Site

Study Intersection Location

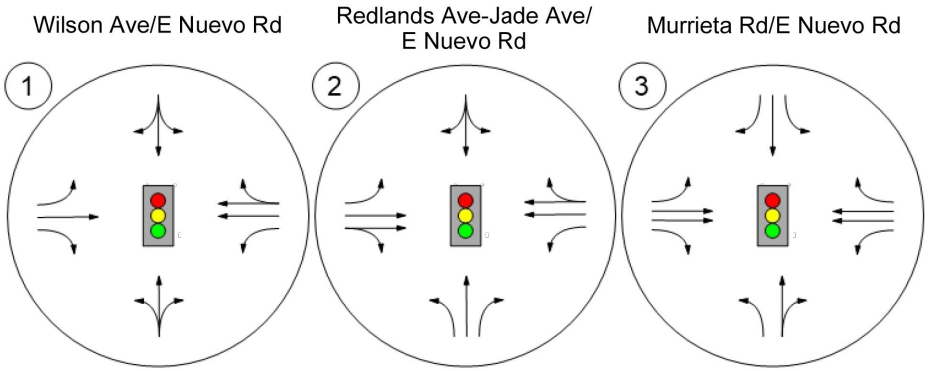
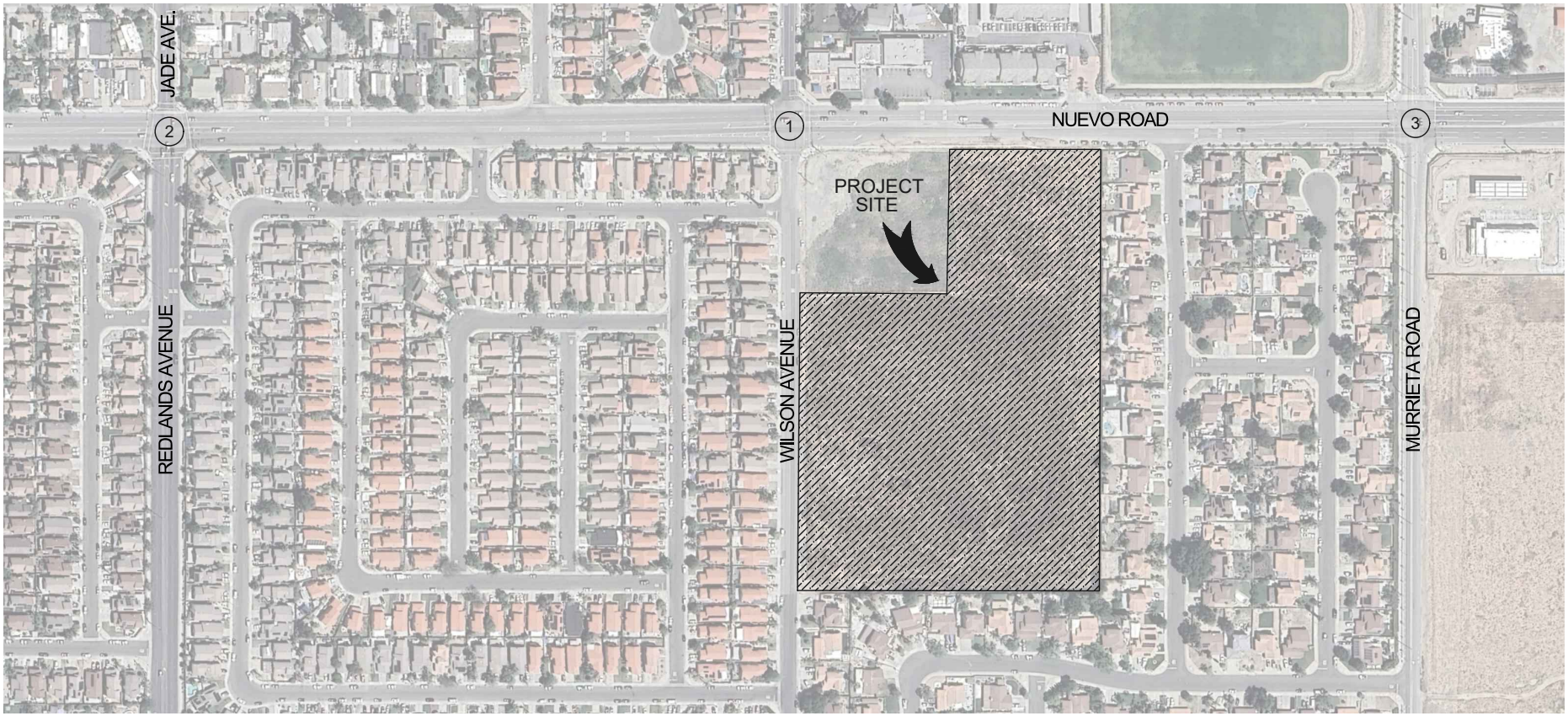


Exhibit 3: Existing Lane Geometry and Intersection Controls



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(#) Study Intersection Location

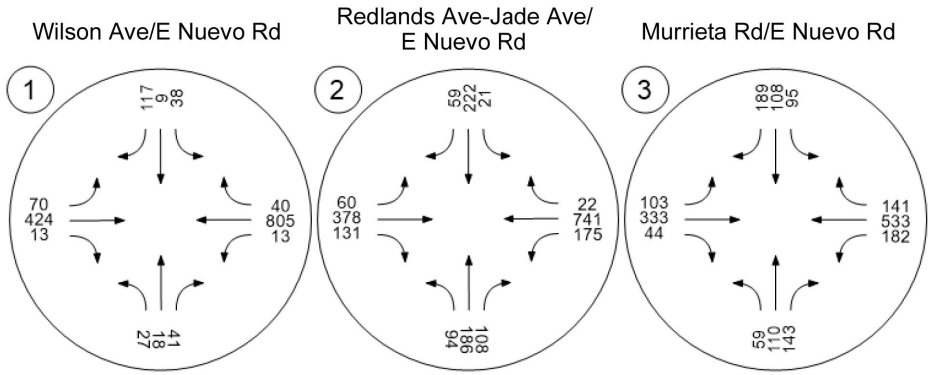
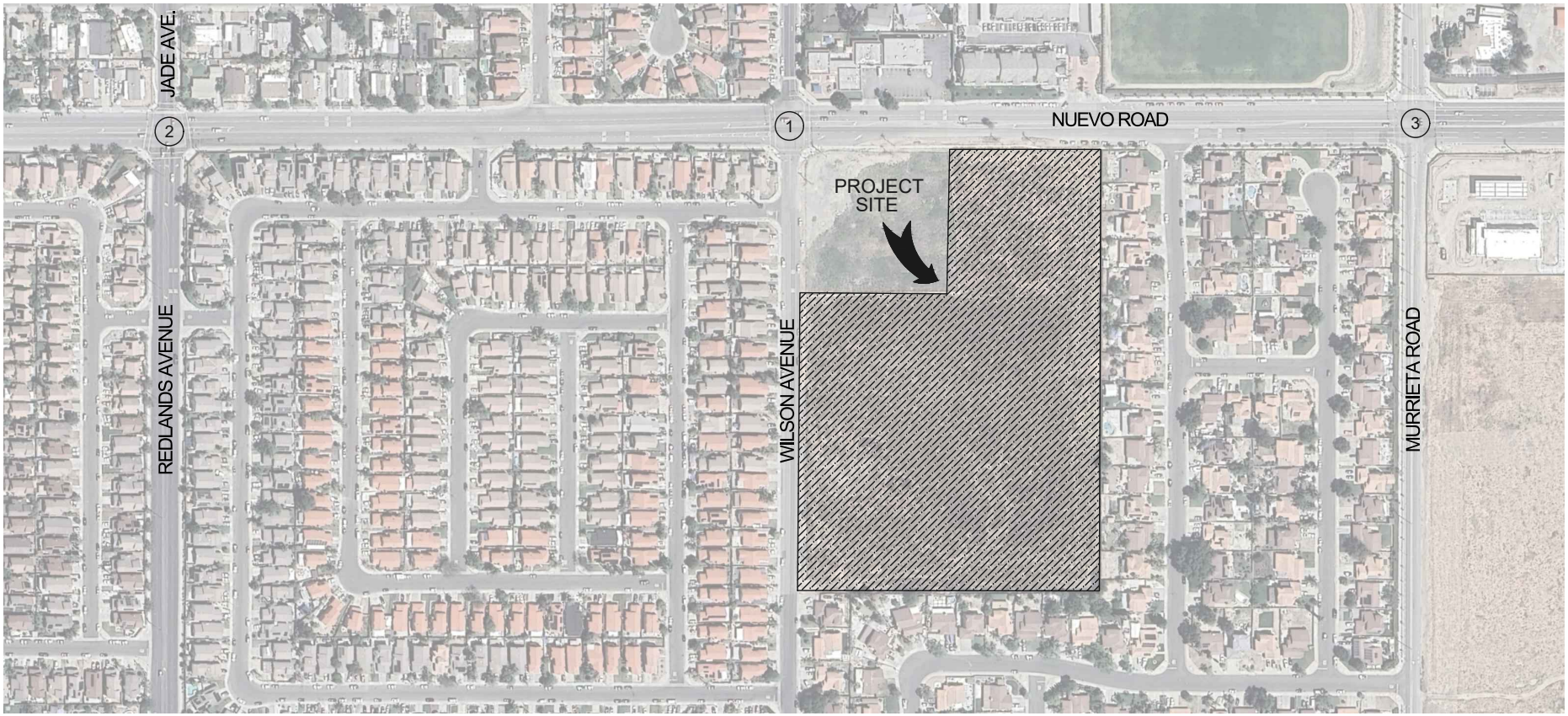


Exhibit 4: Existing AM Peak Hour Volumes



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Project Site

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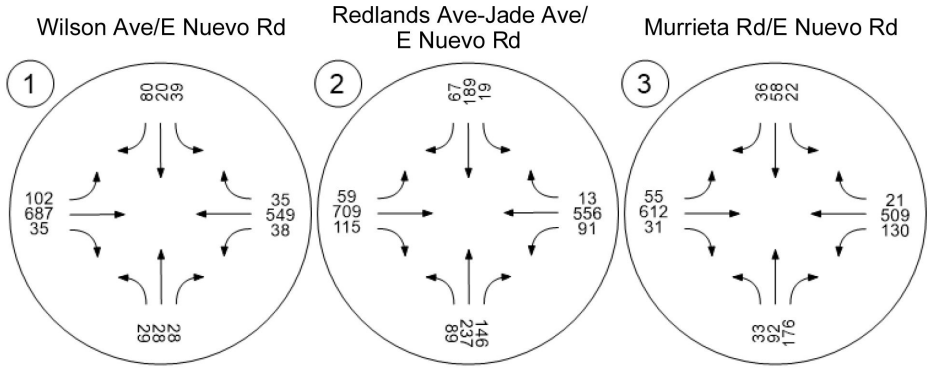


Exhibit 5: Existing PM Peak Hour Volumes

4.0 PROPOSED PROJECT

4.1 PROJECT DESCRIPTION

The proposed project is for the construction of 141 single-family attached residential dwelling units. The anticipated year of completion is 2026.

Site access is planned via two driveways on Wilson Avenue. The northerly driveway will be gated with full access. The southerly driveway will be gated and exit only. The site is currently zoned as R-6,000, or medium density residential of four (4) to seven (7) dwelling units per acre. The site is proposed for MFR-14, or medium density residential of seven (7) to fourteen (14) dwelling units per acre. The project site is currently vacant.

The project includes a proposal to restripe East Nuevo Road to provide a second through lane at the eastbound leg of its intersection with Wilson Avenue and continuing east toward Murrietta Road along the project site frontage. The new lane configurations and traffic controls are shown in Exhibit 6.

The proposed project is anticipated to be built and generating trips in 2026. A growth rate of three percent (3%) was used to account for 2026 traffic volumes. As previously shown, **Exhibit 2** displays the proposed project site plan.

4.2 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic, both inbound and outbound, produced by a development. Determining trip generation for a proposed project is based on projecting the amount of traffic that the specific land uses being proposed will produce. Industry standard *Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021)* trip generation rates were used to determine trip generation based on the proposed project land uses.

Table 5 summarizes the projected AM peak hour, PM peak hour and daily trip generation of the proposed project. The project is projected to generate 1,015 daily trips with 68 AM and 80 PM peak hour trips.

Table 5
Proposed Project Trip Generation

Proposed Land Use[1]	ITE Code	Qty	Unit[2]	Daily		AM Peak Hour					PM Peak Hour				
				Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
								In	Out	Total			In	Out	Total
Single-Family Attached Housing	215	141	DU	7.2	1,015	0.48	25:75	17	51	68	0.57	59:41	47	33	80

1: Trip generation rates from ITE Trip Generation (11th Edition, 2021).
2: DU = Dwelling Unit.

4.3 PROJECT TRIP DISTRIBUTION

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

Exhibit 7 shows the projected distribution and turning movements of the proposed project generated trips both to and from the project. **Exhibit 8** and **Exhibit 9** show project's trip generation AM and PM peak hour volumes assigned as based on the trip distribution.

4.4 PROPOSED DRIVEWAY GATES

Site access is planned via two driveways on Wilson Avenue. The northerly driveway will be gated with full access. The southerly driveway will be gated and exit only. The gates at the northerly driveway are situated ahead of the gate controls to allow vehicles to pass-by, avoiding potential queues. Additionally, there is sufficient space between the gate controls and the gate itself to accommodate u-turns. Based on the proposed design, there does not appear to be any significant issues with vehicles queueing at the entrance gate. Additionally, as the southern driveway is exit only there are not any queueing issues that would impede traffic flow on Wilson Avenue.

4.4.1 Vehicle Turning Analysis

Exhibit 10 provides a turning template for passenger vehicles and delivery trucks not permitted to enter the proposed project via the entry gate at Driveway #1. The template was generated using three vehicles, two passenger and one delivery, of varying lengths. The template demonstrates that these vehicles will have sufficient space to make U-turns or 3-point turns in the event they are denied entrance at the gate.

4.4.2 Gate Stacking Analysis

An analysis of the Project Driveway #1 entry queue was performed using the Crommelin Methodology. This methodology is based on *Entrance-Exit Design and Control for Major Parking Facilities (Robert W. Crommelin, October 5, 1972)* and is used to determine the minimum storage length required to provide vehicles adequate access and control at gated entry points in order to ensure minimal impacts on the surrounding street network. The methodology is based on worst case peak hour volumes, the processing rate at the control point, and the number of travel lanes. The determination of the storage, or reservoir, length required to serve peak hour volumes is based on a *Poisson* distribution.

A traffic intensity factor is calculated by dividing the greater volume between AM and PM peak hour traffic by the service rate of the control point, which in this case is the Project Driveway #1 entry gate. The intensity factor is then plotted along the Poisson distribution selected confidence interval in the Crommelin Reservoir Needs Nomograph to determine the number of vehicles forecast to queue behind the control point. The forecast queue of vehicles from the Nomograph is then multiplied by 20 feet per passenger vehicle.

The physical gate at the Project Driveway #1 entry will open and close between each vehicle. The gate will be code/card operated. Based on this information, the Crommelin Methodology uses the service rate of 190 vehicles per hour.

The Project Driveway #1 traffic intensity factor was plotted in the Crommelin Reservoir Needs Nomograph to determine the maximum queue length the PM Peak Hour volume will need to operate with minimal impact to the surrounding street network. See **Appendix D** for the nomograph. **Table 6** shows that the maximum queue length needed for Project Driveway #1 is less than the planned length between the driveway beginning behind the pedestrian crosswalk and the call box center. Therefore, the planned Project Driveway #1 queue length at entry is expected to accommodate the anticipated vehicle queuing.

Table 6
Gate Stacking Analysis

Location	Entering Vehicle Volume		Service Rate (veh/hr)	Traffic Intensity Factor	Maximum Queue[1]		Provided Driveway Length (feet)
	AM	PM			Vehicles	Feet	
Project Driveway #1	18	48	190	0.25	<1	20	40

1: 20 feet per vehicle

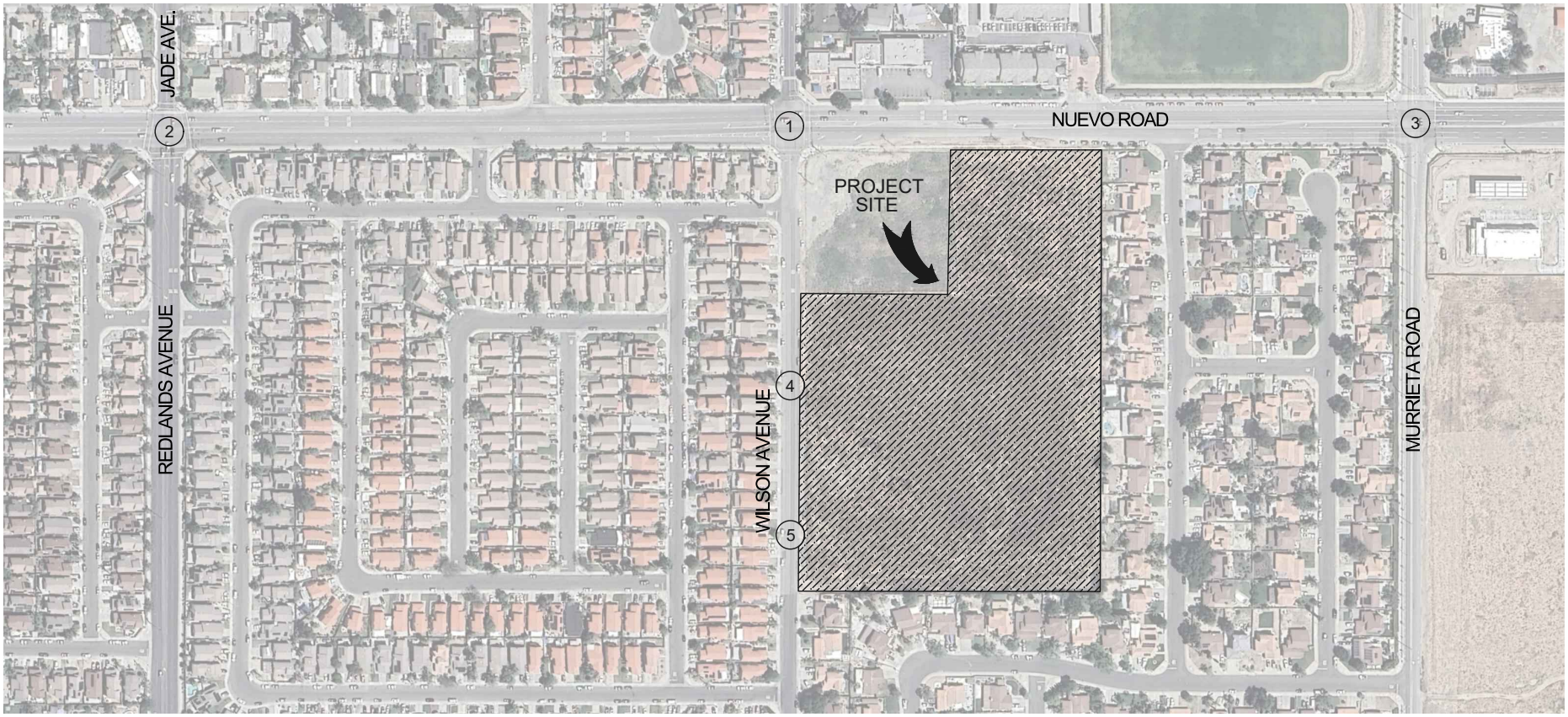
4.5 SPEED SURVEY

To account for potential need of traffic calming features along Wilson Avenue, a speed survey was conducted. According to the California Department of Transportation (CALTRANS), the most widely accepted method of determining the posted speed limit is to set the speed limit at what is called the 85th percentile speed which is the speed at or below which 85 percent of the traffic is moving. It is identified as the prevailing speed, or the speed which most motorists feel comfortable, safe, and reasonable rate given the roadway condition.

Speeds were observed on Wilson Avenue between East Nuevo Road and Cherry Vista Drive for 24-hours on January 31, 2024. The 85th percentile speed for the roadway segment is shown in **Table 7**.

Table 7
Roadway Speed Survey

	Roadway Segment	85th Percentile Speed (MPH)
1	Wilson Avenue between East Nuevo Road & Cherry Vista Drive	40



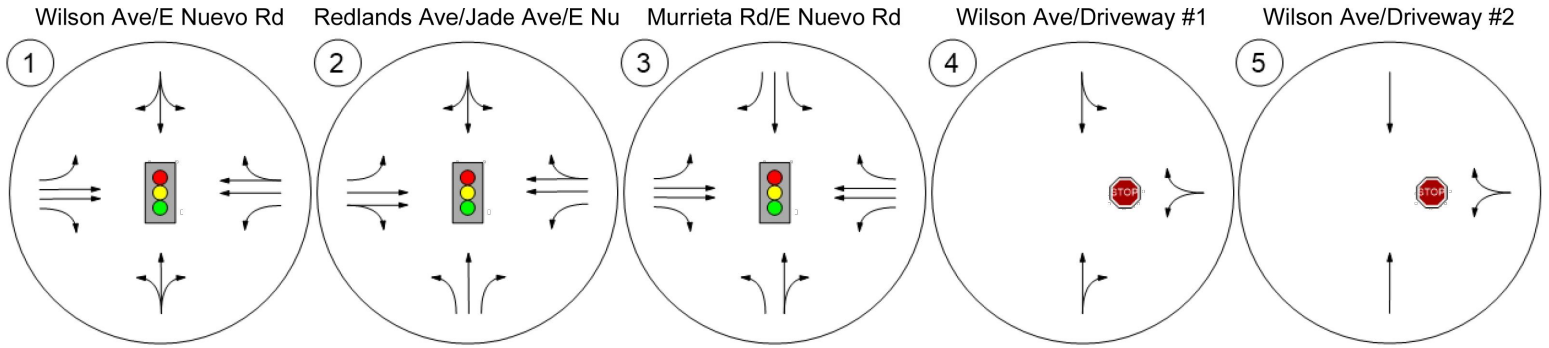
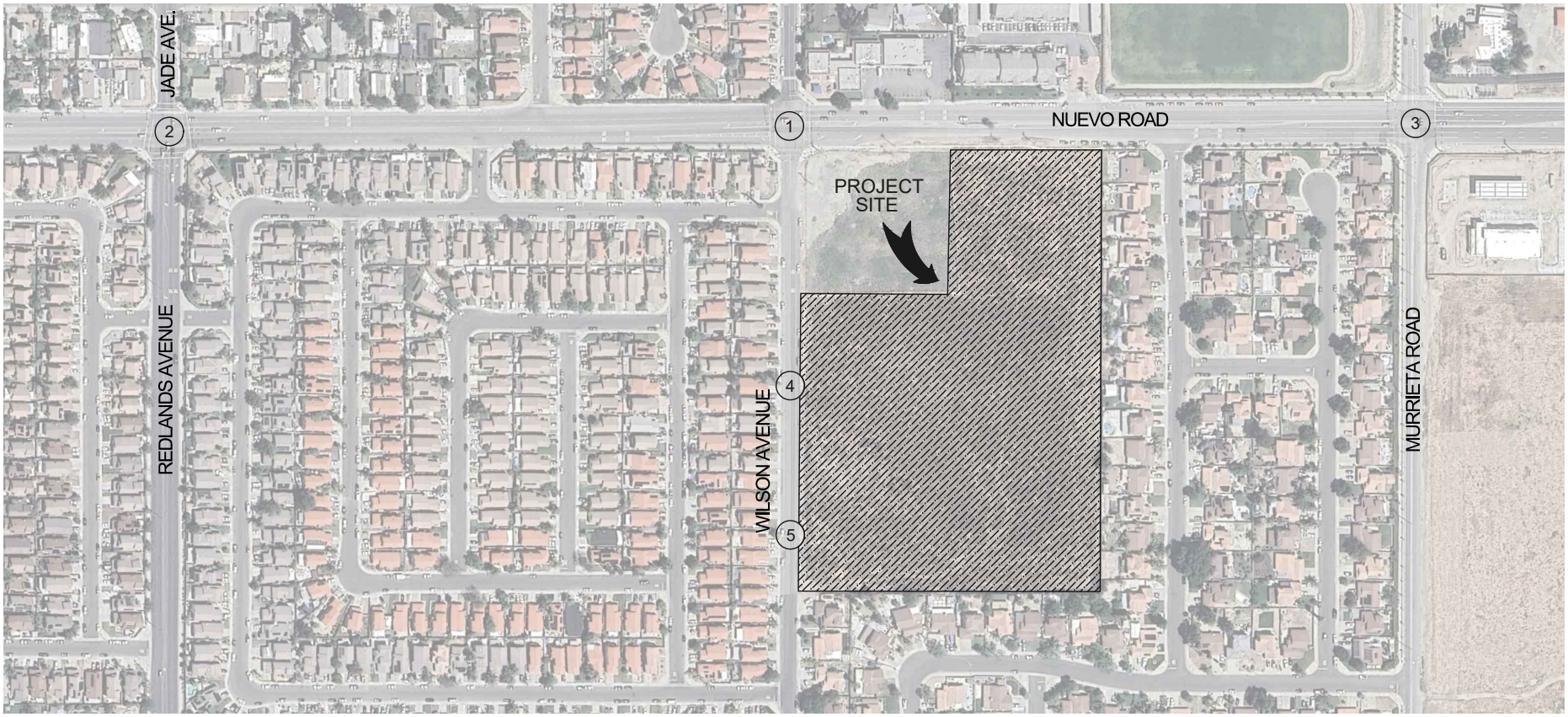


Exhibit 6: Lane Geometry and Intersection Controls With Project



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Project Site

(#) Study Intersection Location

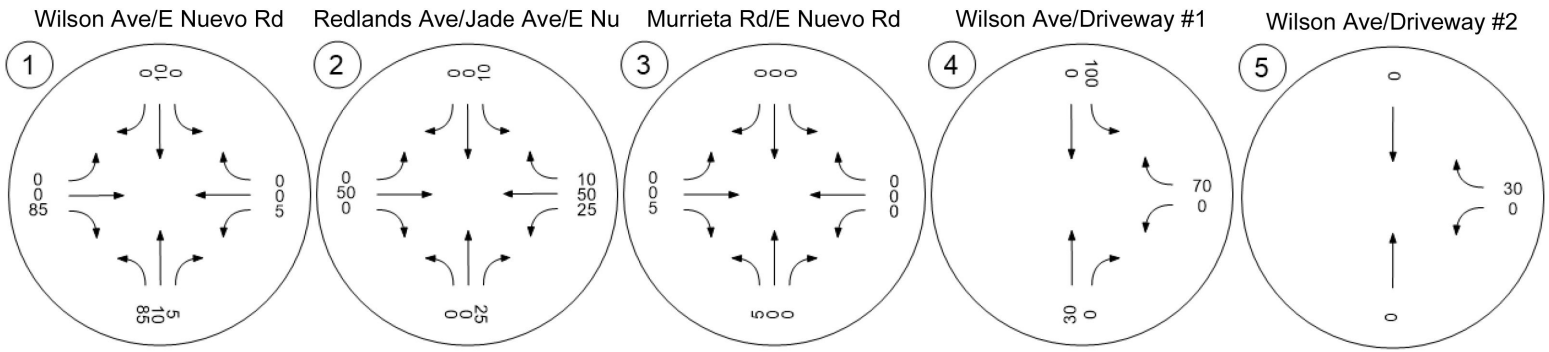

Exhibit 7: Project Trip Distribution at Study Intersections

Acacia Pointe Traffic Impact Analysis

DRH-23-005

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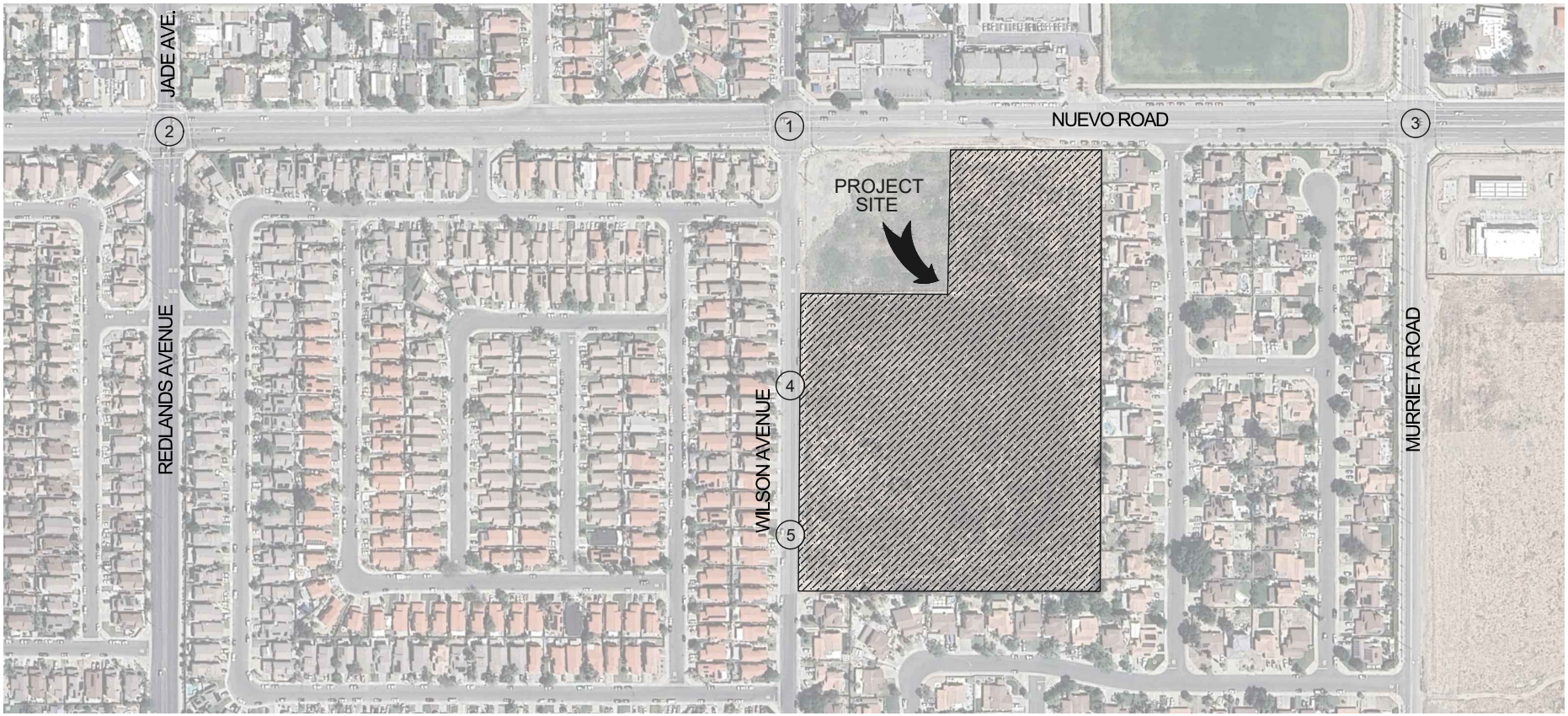

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Project Site

(#) Study Intersection Location

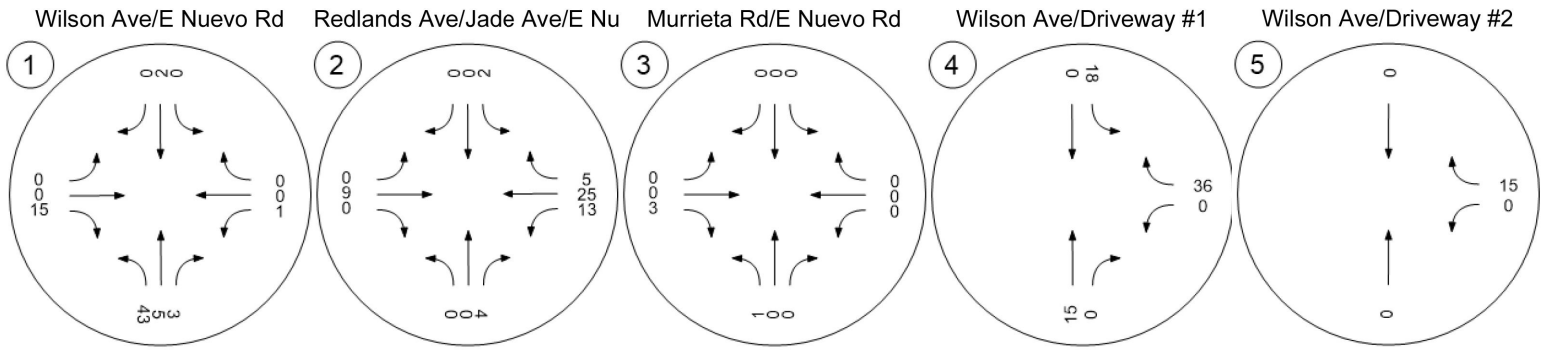


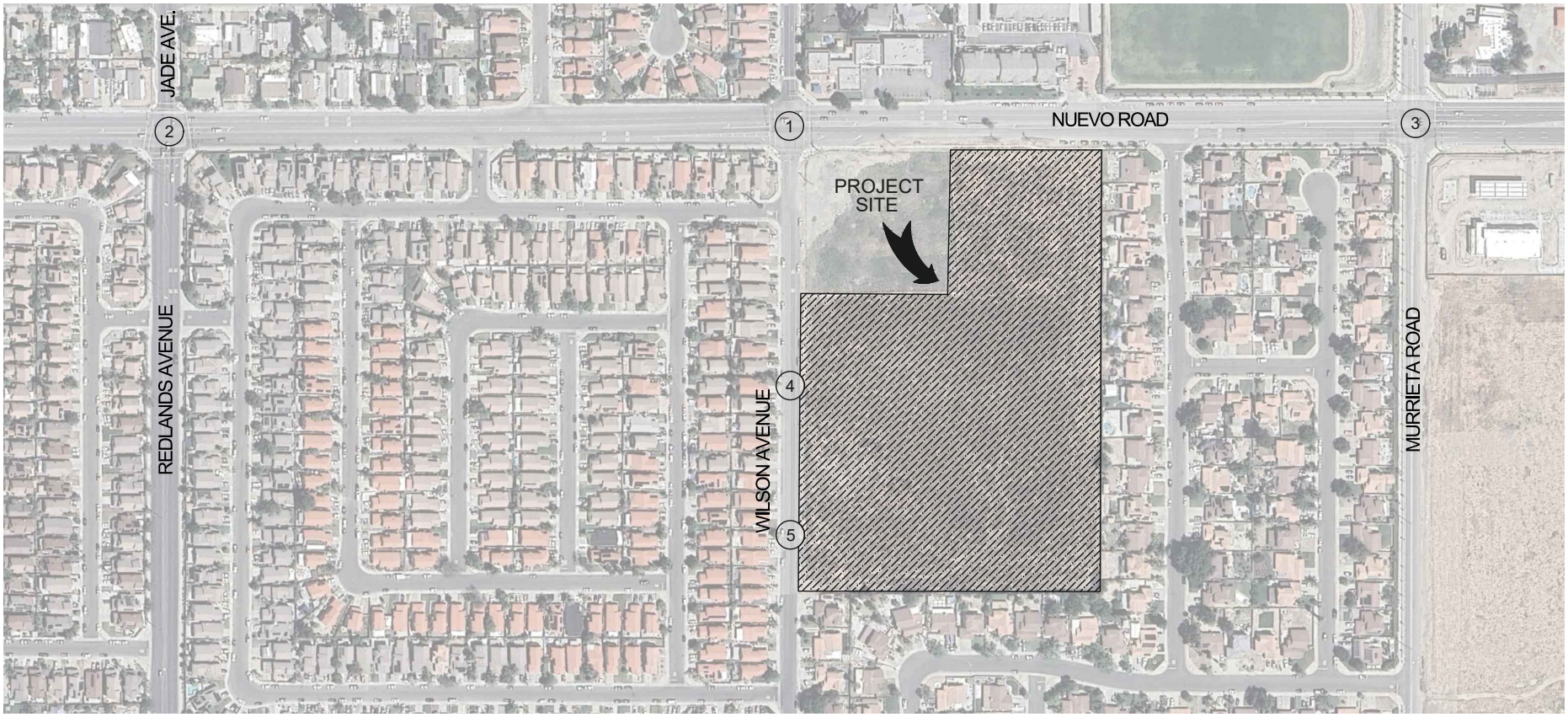
Exhibit 8: Project AM Peak Hour Volumes

Acacia Pointe Traffic Impact Analysis

DRH-23-005

Not to Scale

TJW ENGINEERING, INC.



Legend:

Project Site

(#) Study Intersection Location

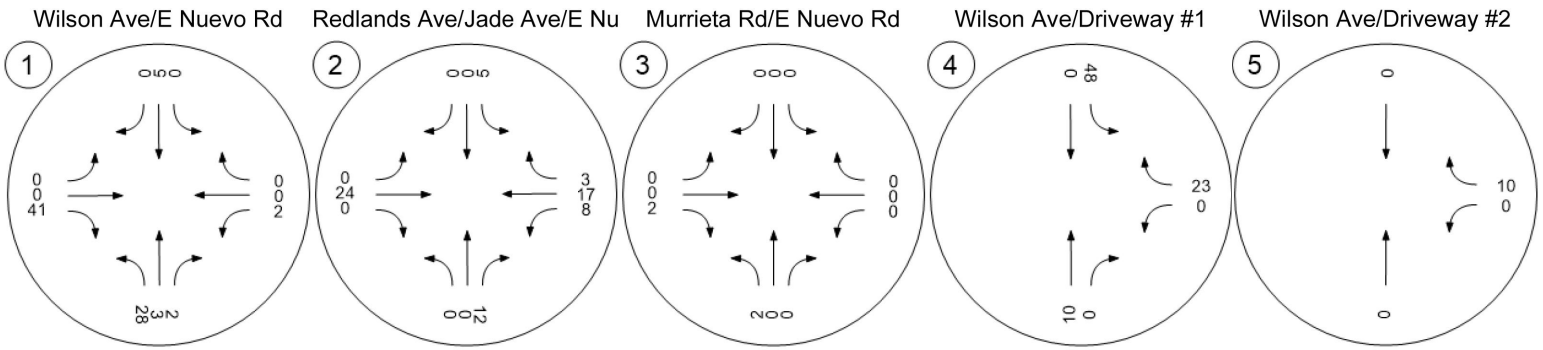
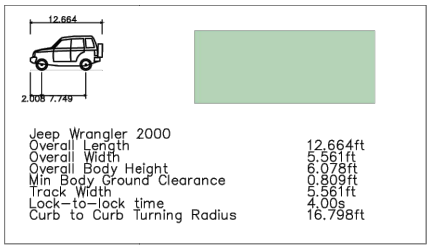
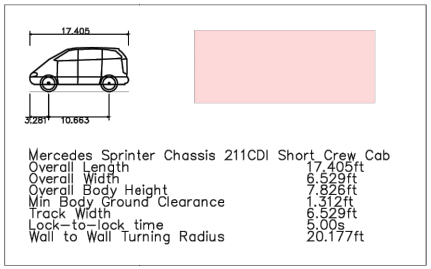


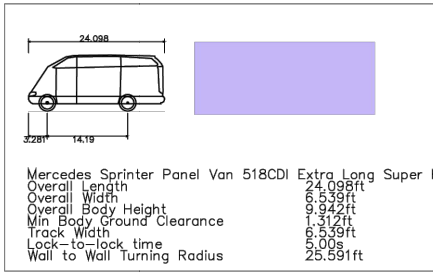
Exhibit 9: Project PM Peak Hour Volumes



Jeep Wrangler 2000	
Overall Length	12.664ft
Overall Width	5.561ft
Overall Body Height	6.078ft
Min Body Ground Clearance	0.809ft
Track Width	5.561ft
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	16.798ft

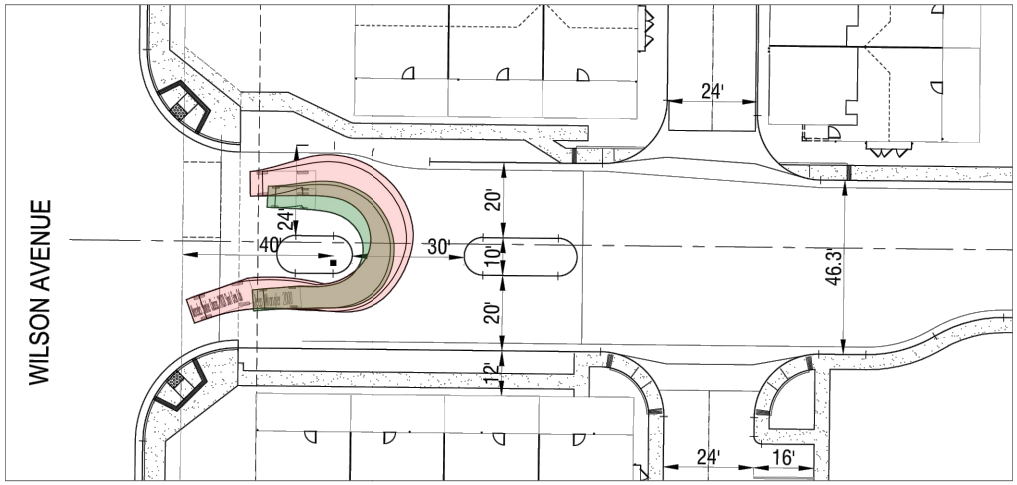


Mercedes Sprinter Chassis 211CDI Short Crew Cab	
Overall Length	17.405ft
Overall Width	6.529ft
Overall Body Height	7.826ft
Min Body Ground Clearance	1.312ft
Track Width	6.529ft
Lock-to-lock time	5.00s
Wall to Wall Turning Radius	20.177ft

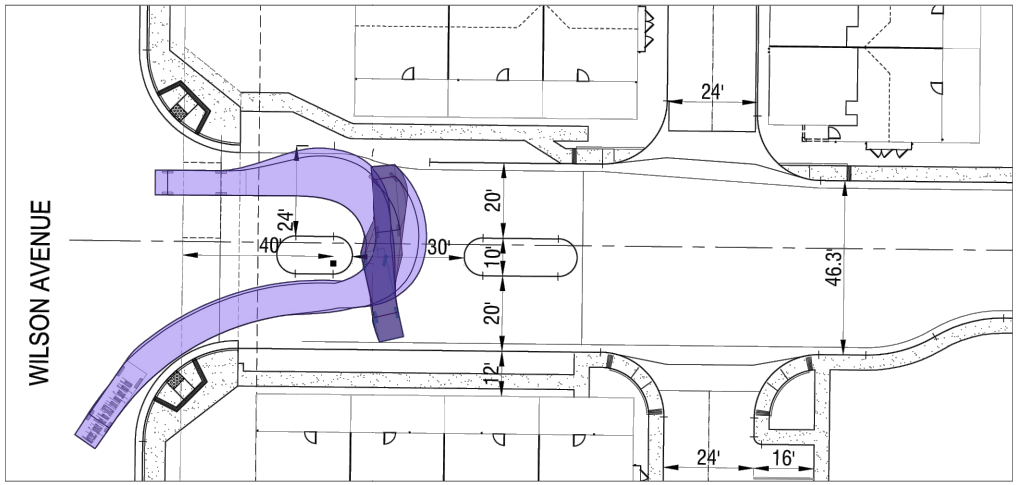


Mercedes Sprinter Panel Van 518CDI Extra Long Super High Roof	
Overall Length	24.098ft
Overall Width	6.539ft
Overall Body Height	9.942ft
Min Body Ground Clearance	1.312ft
Track Width	6.539ft
Lock-to-lock time	5.00s
Wall to Wall Turning Radius	25.591ft

U-TURN VEHICLE MOVEMENTS



3-POINT TURN VEHICLE MOVEMENT



ENTRY TRUCK TURNING EXHIBIT
ACACIA POINTE

PERRIS, CA

EXHIBIT
0 1/2 1 2
Scale: 1"=1'-0"

 | 2021239 | 11-08-24

D·R·HORTON America's Builder

WHA ARCHITECTS . PLANNERS . DESIGNERS
ORANGE COUNTY . LOS ANGELES . BAY AREA . SACRAMENTO

5.0 EXISTING PLUS PROJECT TRAFFIC CONDITIONS (EP)

Existing Plus Project (Existing + Project) Traffic Conditions (EP) analysis is intended to identify the impacts of the project on current traffic conditions.

5.1 ROADWAY IMPROVEMENTS

The EP scenario assumes two changes to the Existing lane configurations and traffic controls. They are the addition of two (2) driveways for accessing the proposed project site, south of East Nuevo Road along the northbound lane of Wilson Avenue. The southerly driveway is exit only. The second change is the restriping of East Nuevo Road to provide a second through lane at the eastbound leg of its intersection with Wilson Avenue and continuing east toward Murrietta Road along the project site frontage. The new lane configuration and traffic controls are shown in
Exhibit 6.

5.2 EP TRAFFIC VOLUMES

To determine the EP operations of the study intersections, AM and PM peak period traffic volumes were estimated based on new traffic counts collected on January 31, 2024. These volumes were combined with the projected trip generation of the project from **Table 5**.

EP Traffic Volumes = Existing + Project

5.3 EP INTERSECTION LEVEL OF SERVICE ANALYSIS

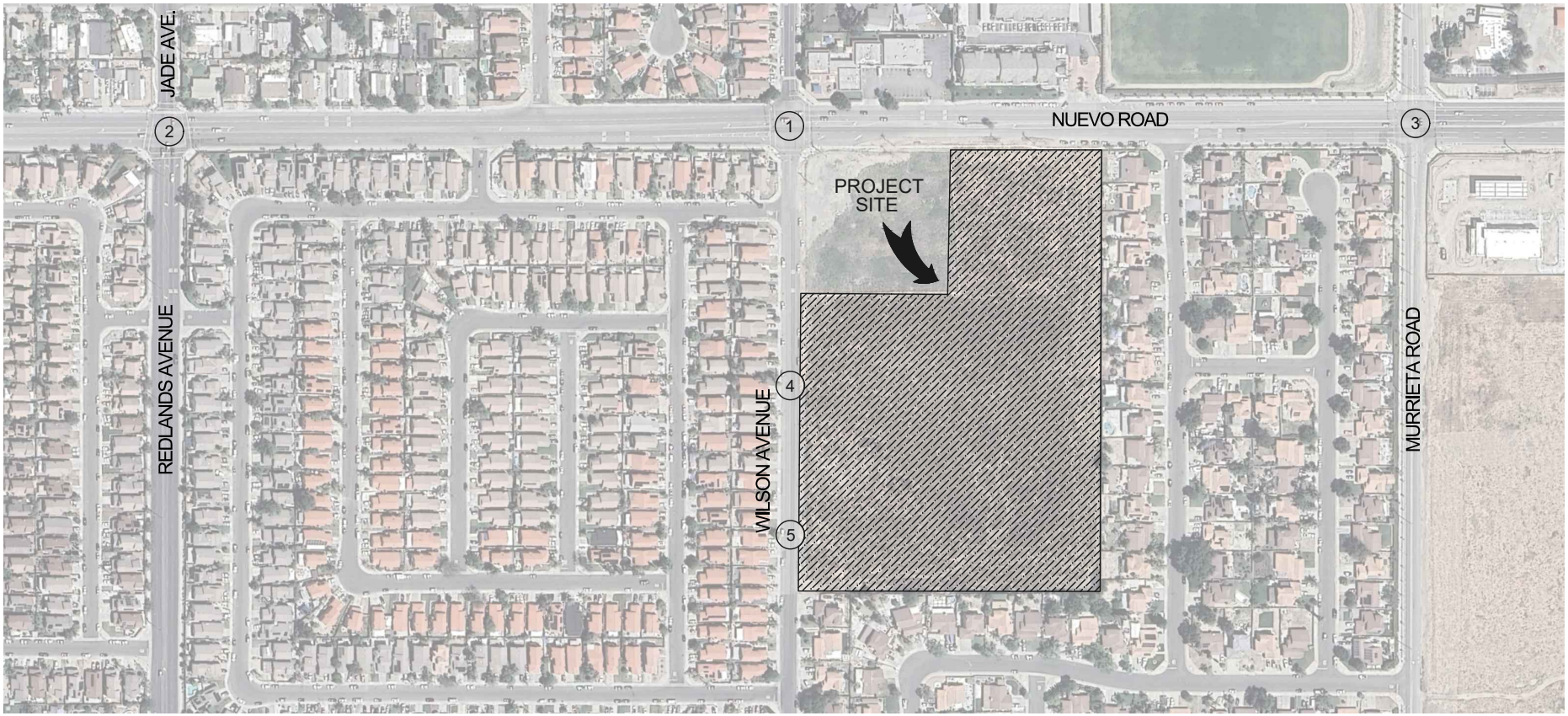
EP Traffic AM and PM peak hour intersection analysis is shown in **Table 8**. EP Traffic AM and PM peak hour volumes at the study intersections are shown in **Exhibit 11** and **Exhibit 12**. HCM analysis sheets are provided in **Appendix C**.

Table 8
Intersection Analysis – Existing Plus Project (EP) Traffic Conditions

Intersection			Control Type	Peak Hour	Existing Conditions		EP Conditions	
					Delay[1]	LOS	Delay[1]	LOS
1	Wilson Avenue	East Nuevo Road	Signal	AM	12.32	B	12.29	B
				PM	14.14	B	12.10	B
2	Redlands Avenue – Jade Avenue	East Nuevo Road	Signal	AM	20.12	C	20.57	C
				PM	18.75	B	19.12	B
3	Murrieta Road	East Nuevo Road	Signal	AM	28.82	C	28.82	C
				PM	23.84	C	23.86	C
4	Wilson Avenue	Project Driveway #1	OWSC	AM	-	-	8.95	A
				PM	-	-	8.86	A
5	Wilson Avenue	Project Driveway #2	OWSC	AM	-	-	8.77	A
				PM	-	-	8.75	A

Note: OWSC = One-Way Stop-Control; Delay shown in seconds per vehicle.
1 = Per the Highway Capacity Manual 7th Edition, overall average delay and LOS are shown for intersections with one or two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in **Table 8**, for Existing With Project traffic conditions, the two proposed project driveways are expected to operate an acceptable LOS during the AM and PM peak hours, and the three existing intersections are projected to continue operating at an acceptable LOS during the AM and PM peak hours.



Legend:

Project Site

(#) Study Intersection Location

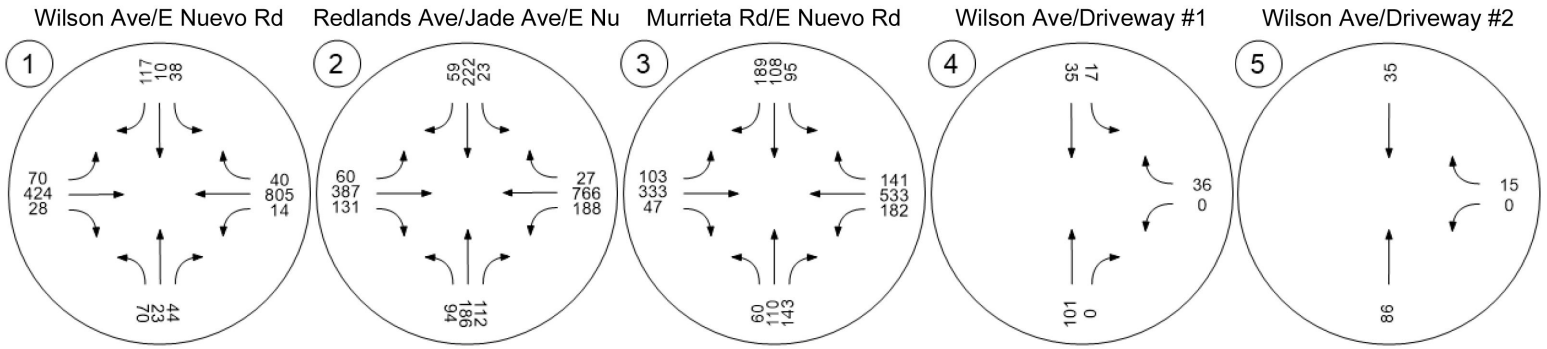


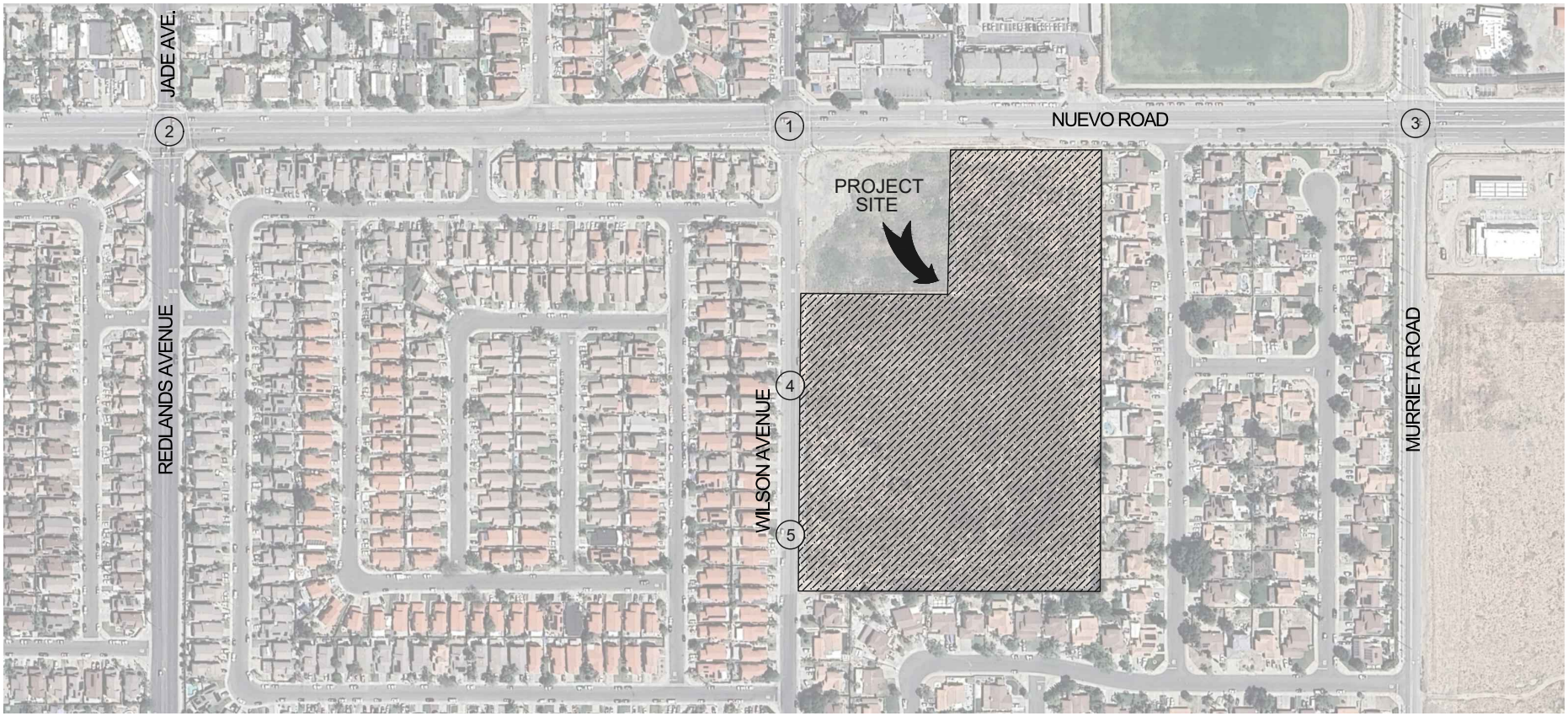
Exhibit 11: EP AM Peak Hour Volumes

Acacia Pointe Traffic Impact Analysis

DRH-23-005

Not to Scale

TJW Engineering, Inc.



Legend:

Project Site

(#) Study Intersection Location

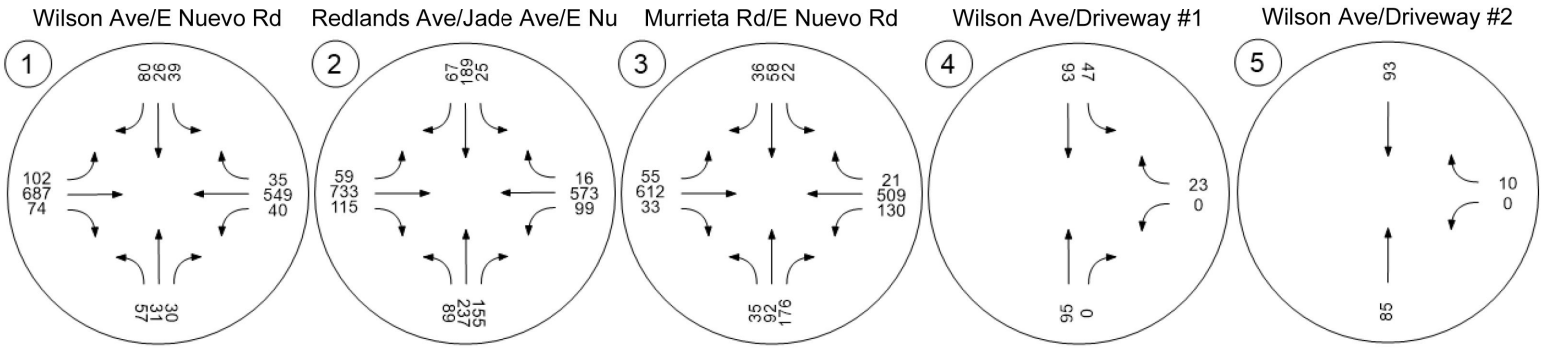


Exhibit 12: EP PM Peak Hour Volumes

Acacia Pointe Traffic Impact Analysis

DRH-23-005

Not to Scale

TJW ENGINEERING, INC.

6.0 OPENING YEAR TRAFFIC CONDITIONS (OY)

Opening Year Without Project (Existing + Ambient + Cumulative) Traffic Conditions (OY) analysis is intended to identify the traffic conditions in the near-term.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the OY scenario are consistent with those previously shown in **Exhibit 3**.

6.2 OY TRAFFIC VOLUMES

OY traffic condition volumes were estimated based on a yearly growth rate of 3% per year from base year, 2024, to the proposed project's estimated year of completion, 2026.

OY Traffic Volumes = (Existing (2024) Counts * 1.03^2)

6.3 OY TRAFFIC INTERSECTION LEVEL OF SERVICE ANALYSIS

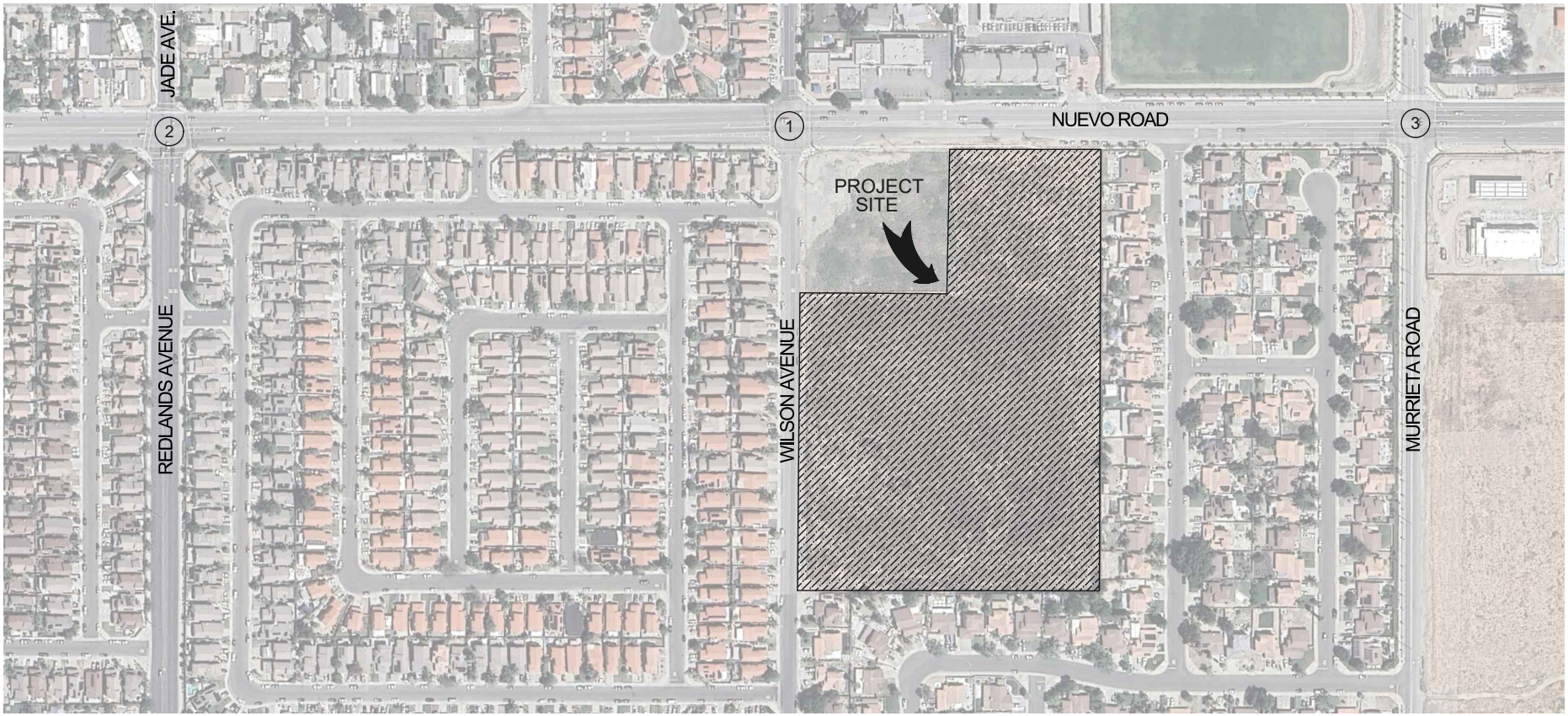
OY intersection analysis is shown in Table 9**.** OY traffic AM and PM peak hour volumes at the study intersections are shown in **Exhibit 13** and **Exhibit 14**. HCM analysis sheets are provided in **Appendix C.**

Table 9
Intersection Analysis – Opening Year (OY) Traffic Conditions

Intersection			Control Type	Peak Hour	OY Conditions	
					Delay	LOS
1	Wilson Avenue	East Nuevo Road	Signal	AM	12.74	B
				PM	14.92	B
2	Redlands Avenue – Jade Avenue	East Nuevo Road	Signal	AM	20.95	C
				PM	19.86	B
3	Murrieta Road	East Nuevo Road	Signal	AM	30.45	C
				PM	24.97	C

Note: OWSC = One-Way Stop-Control; Delay shown in seconds per vehicle.

As shown in **Table 9**, the study intersections are projected to continue to operate at an acceptable LOS during the AM and PM peak hours for OY Traffic Conditions.



Legend:

Project Site

(#) Study Intersection Location

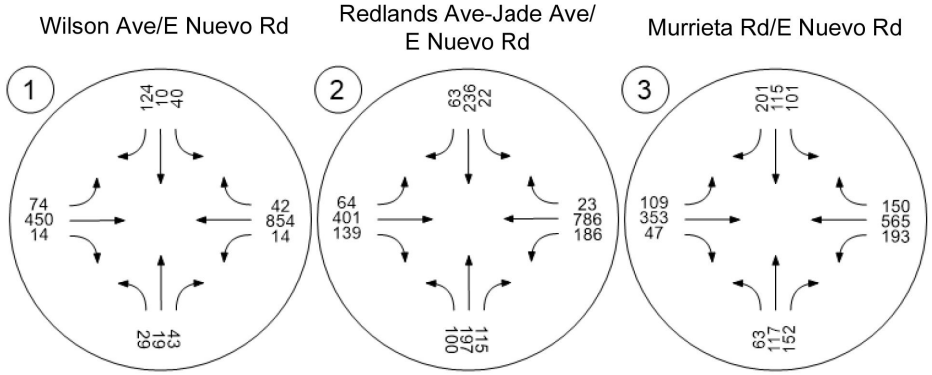


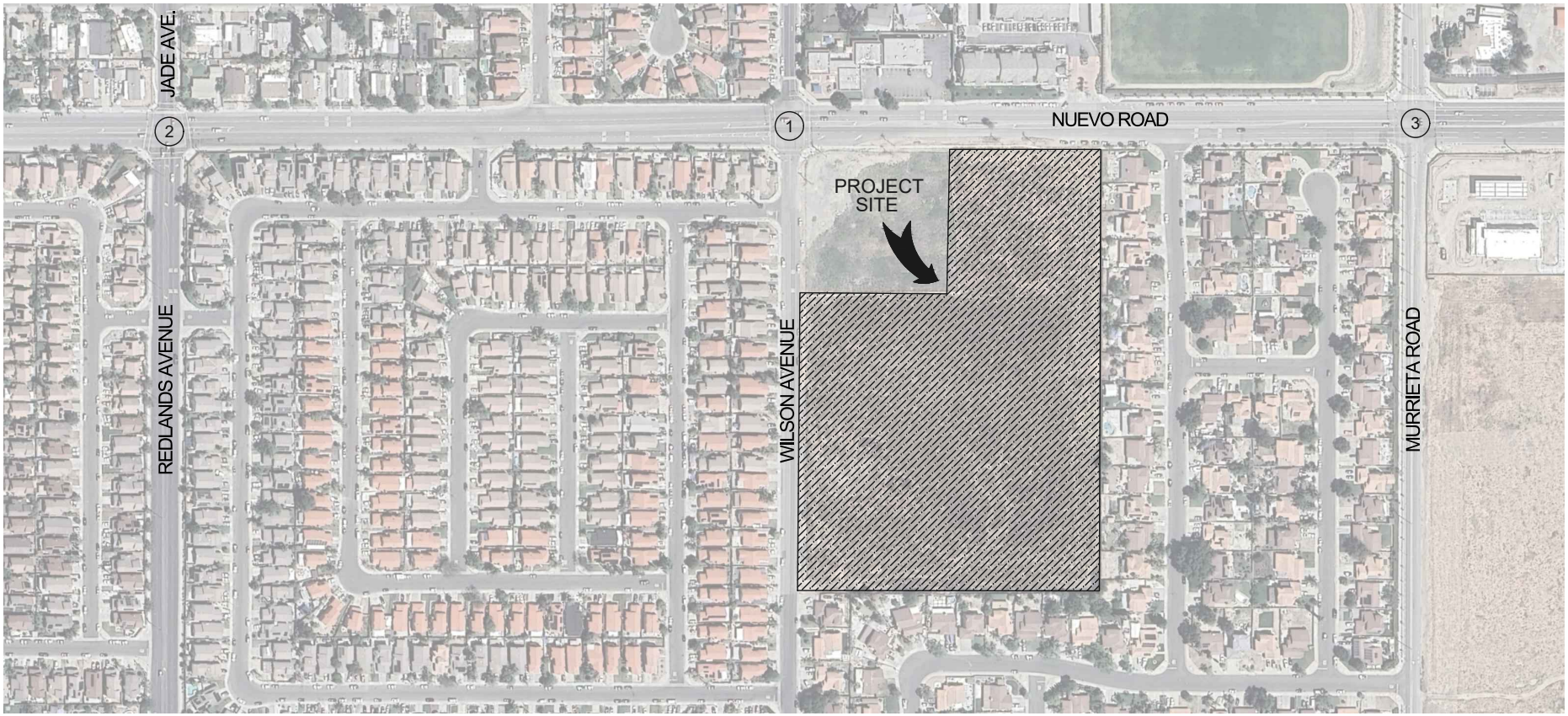
Exhibit 13: OY AM Peak Hour Volumes

Acacia Pointe Traffic Impact Analysis

DRH-23-005

Not to Scale

TJW Engineering, Inc.



Legend:

Project Site

(#) Study Intersection Location

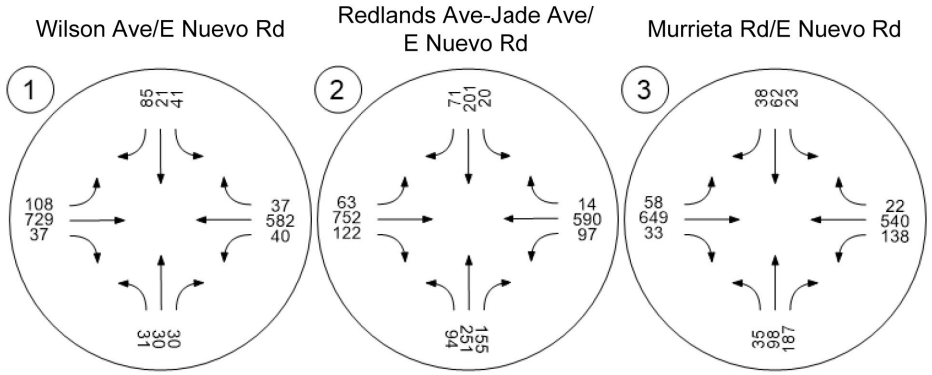


Exhibit 14: OY PM Peak Hour Volumes

Acacia Pointe Traffic Impact Analysis

DRH-23-005

Not to Scale

TJW Engineering, Inc.

7.0 OPENING YEAR PLUS PROJECT TRAFFIC CONDITIONS (OYP)

Opening Year Plus Project (Existing + Ambient + Cumulative + Project) Traffic Conditions (OYP) analysis is intended to identify the project-related impacts on both the existing and planned near-term circulation system.

7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for the OYP scenario are consistent with those previously shown in
Exhibit 6Exhibit 3.

7.2 CUMULATIVE PROJECTS

A list of cumulative projects in various stages of planning, entitlement, or construction was obtained for this analysis from the City of Perris. Of these, none were found to be located within a one-half mile radius from the proposed project and, therefore, are not considered to have a significant impact on the traffic conditions in the study area. Thus, trips generated by the cumulative projects were not included in this analysis.

7.3 OYP TRAFFIC VOLUMES

OYP traffic condition volumes were estimated based on a yearly growth rate of 3% per year from base year, 2024, to the proposed project's estimated year of completion, 2026.

OYP Traffic Volumes = (Existing (2024) Counts * 1.03^2) + Cumulative Projects + Project

7.4 OYP TRAFFIC INTERSECTION LEVEL OF SERVICE ANALYSIS

OYP traffic AM and PM peak hour intersection analysis is shown in **Table 10**. OYP traffic AM and PM peak hour volumes at the study intersections is shown in **Exhibit 15** Error! Reference source not found.and **Exhibit 16.** HCM analysis sheets are provided in **Appendix C**.

Table 10
Intersection Analysis – Opening Year Plus Project (OYP) Traffic Conditions

Intersection			Control Type	Peak Hour	OY Conditions		OYP Conditions		Change	Deficient
					Delay[1]	LOS	Delay[1]	LOS		
1	Wilson Avenue	East Nuevo Road	Signal	AM	12.74	B	12.63	B	-	-
				PM	14.92	B	12.32	B	-	-
2	Redlands Avenue – Jade Avenue	East Nuevo Road	Signal	AM	20.95	C	21.27	C	-	-
				PM	19.86	B	20.09	C	-	-
3	Murrieta Road	East Nuevo Road	Signal	AM	30.45	C	29.66	C	-	-
				PM	24.97	C	24.99	C	-	-
4	Wilson Avenue	Project Driveway #1 (northerly)	OWSC	AM	N/A	N/A	8.98	A	N/A	-
				PM	N/A	N/A	8.89	A	N/A	-
5	Wilson Avenue	Project Driveway #2 (southerly)	OWSC	AM	N/A	N/A	8.80	A	N/A	-
				PM	N/A	N/A	8.77	A	N/A	-

Note: OWSC = One-Way Stop-Control; N/A = Not Applicable; Delay shown in seconds per vehicle.
1 = Per the Highway Capacity Manual 7th Edition, overall average delay and LOS are shown for intersections with one-or-two-way stop-control, the delay and LOS for the worst individual movement is shown.

As shown in **Table 10**, the study intersections are projected to continue to operate at an acceptable LOS during the AM and PM peak hours for OYP Traffic Conditions.

7.5 OYP SIGNAL WARRANT ANALYSIS

To ensure signals are not warranted at the unsignalized study intersections a signal warrant analysis was conducted for Wilson Avenue and both proposed project driveways, currently unsignalized with no stops. The California Manual on Uniform Traffic Control Devices (CA MUTCD) contains Figure 4C-3, a tool which was utilized for this study to determine if a traffic signal is warranted. Based on OYP volumes, traffic signals are not warranted at either project driveway intersection with Wilson Avenue. Traffic signal warrant analysis worksheets are shown in **Appendix E**.

7.6 QUEUING ANALYSIS

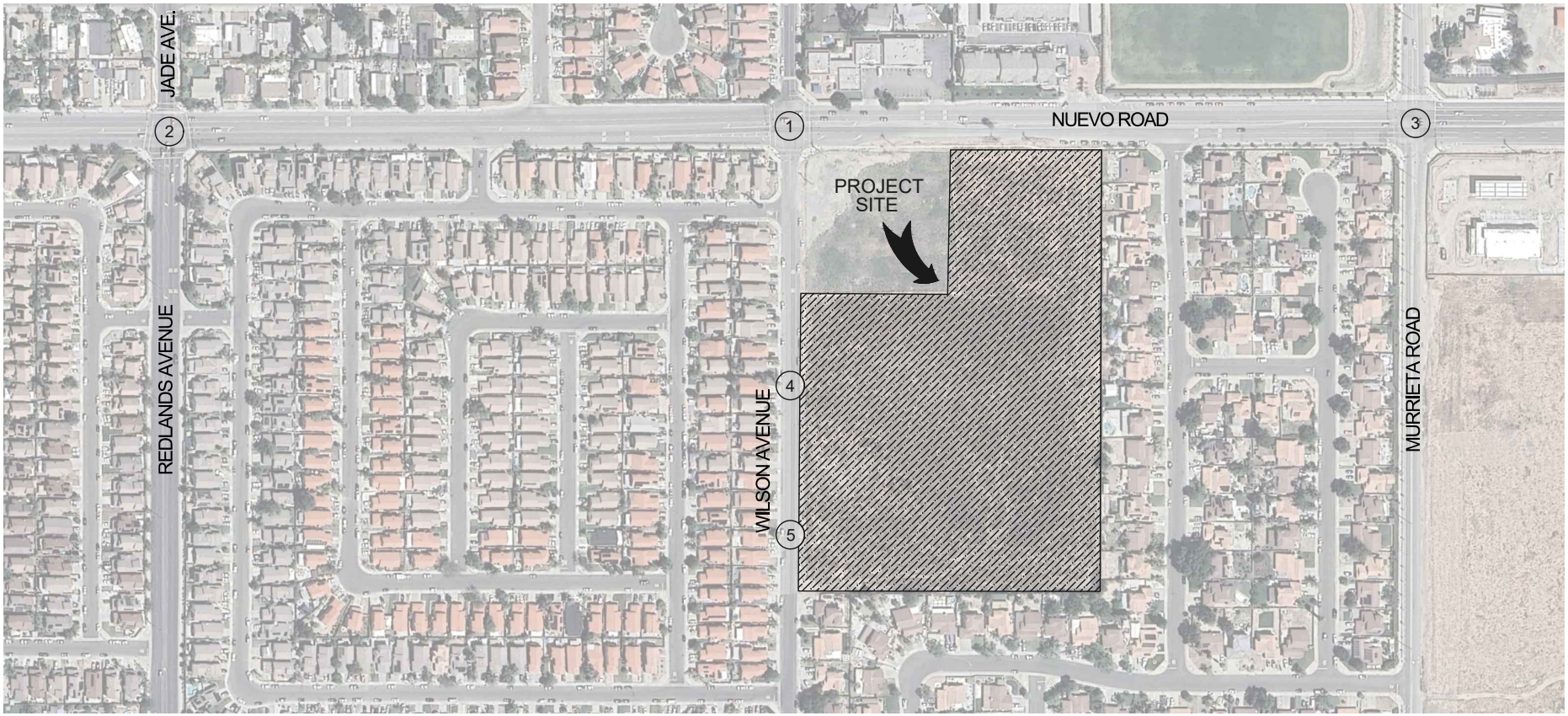
To ensure sufficient vehicular circulation, a queue analysis was conducted at both proposed project driveways. The results for the 95th percentile queue lengths are shown in **Table 11**. For the northerly driveway, a minimal queue length of four vehicles was found. As the maximum 95th percentile queue length calculated was just over two feet, the northerly driveway length is not anticipated to create significant queueing issues along Wilson Avenue. For the southerly driveway, a queue length of one vehicle was found. Based on the 95th percentile queue length less than one foot, the southerly driveway is also not anticipated to create queuing issues at the intersection with Wilson Avenue.

Table 11

Opening Year With Project Queuing Analysis

Intersection		Movement	Storage Length (ft)	AM Peak Hour 95th Percentile Queue Length (ft)	PM Peak Hour 95th Percentile Queue Length (ft)
1	Wilson Avenue/Project Driveway #1 (northerly)	SBL	-	<20[1]	<20[1]
		SBT	-	<20[1]	<20[1]
		WBL	80	<20[1]	<20[1]
		WBR	80	<20[1]	<20[1]
2	Wilson Avenue/Project Driveway #2 (southerly)	WBL	20	<20[1]	<20[1]
		WBR	20	<20[1]	<20[1]

1: If the reported queue length is less than 20 feet, a queue length of one vehicle = 20 feet is assumed.



Legend:

Project Site

(#) Study Intersection Location

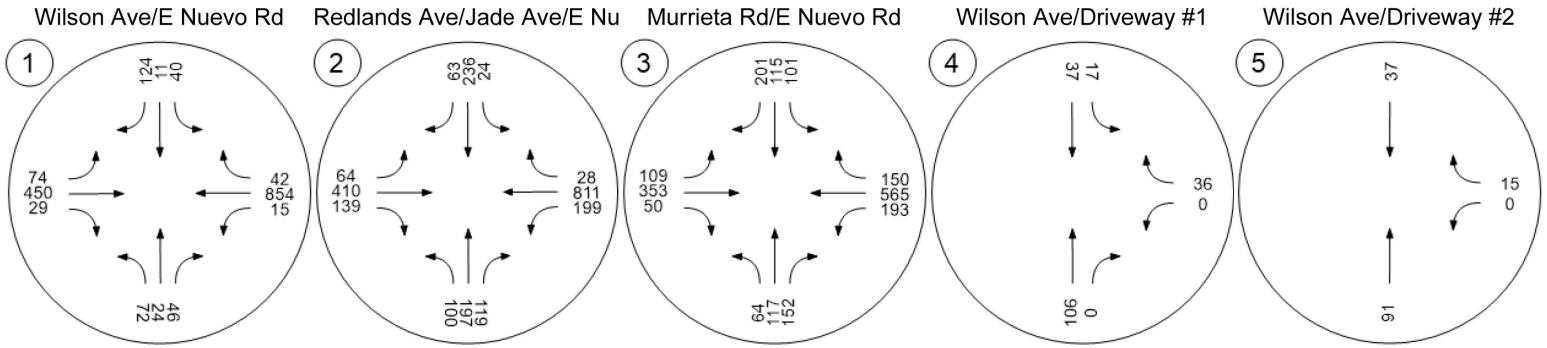


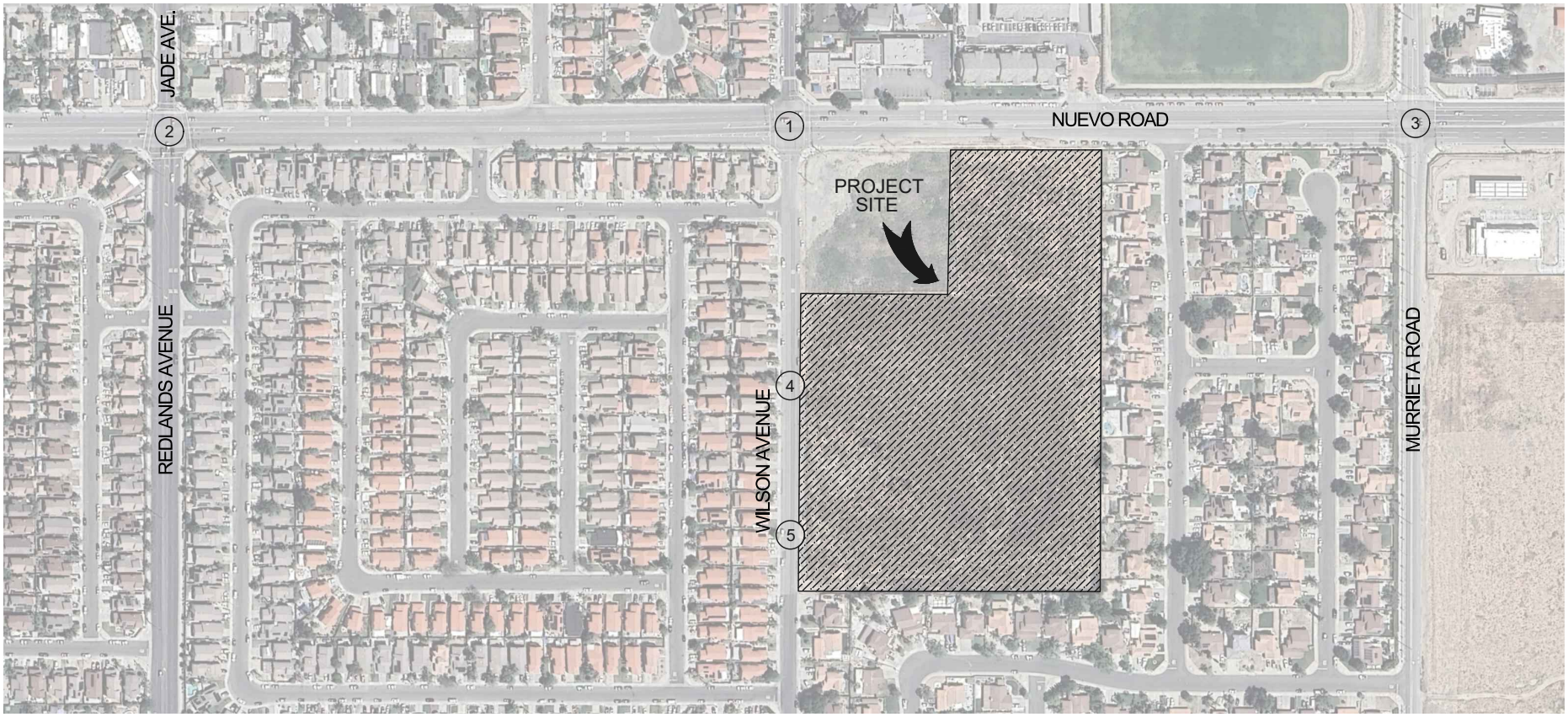
Exhibit 15: OYP AM Peak Hour Volumes

Acacia Pointe Traffic Impact Analysis

DRH-23-005

Not to Scale

TJW ENGINEERING, INC.



Legend:

Project Site

(#) Study Intersection Location

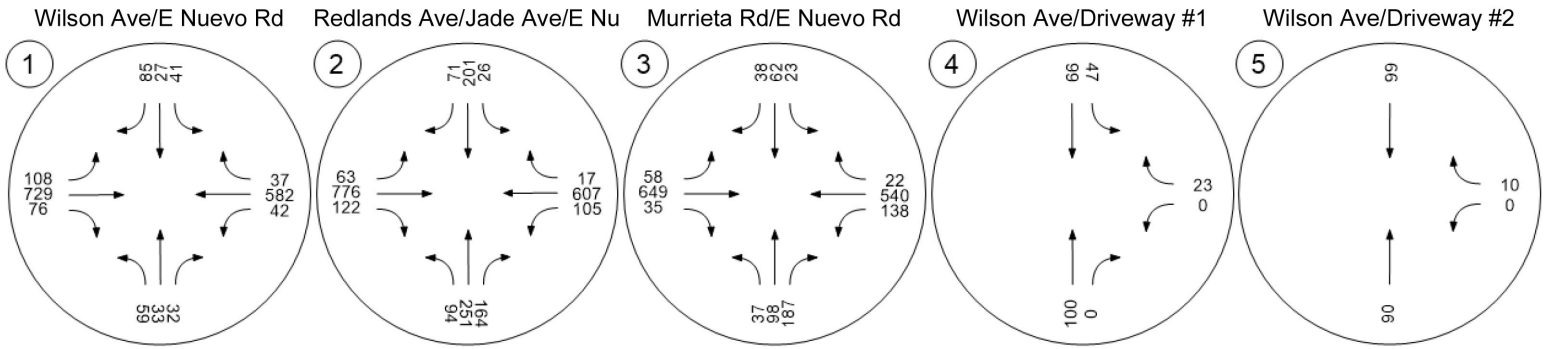


Exhibit 16: OYP PM Peak Hour Volumes

Acacia Pointe Traffic Impact Analysis

DRH-23-005

Not to Scale

TJW ENGINEERING, INC.

APPENDIX

Appendix A: Scoping Agreement and City Documents
Appendix B: Existing Traffic Counts and Model Volumes
Appendix C: HCM Analysis Sheets
Appendix D: Crommelin Reservoir Needs Nomograph
Appendix E: Traffic Signal Warrant Analysis Worksheets

APPENDIX A

SCOPING AGREEMENT AND CITY DOCUMENTS

January 11, 2024

TJW ENGINEERING, INC.
TRAFFIC ENGINEERING &
TRANSPORTATION PLANNING
CONSULTANTS

Mr. Ryan Woosley
D. R. Horton
2280 Wardlow Circle, Suite 100
Corona, CA 92880

Subject: Acacia Pointe Project (GPA 23–05247, ZC 23–05245, PDO 23–05246 & TPM 38775) Scoping Agreement & VMT Analysis Review #1, City of Perris – Response to Comments Letter

Dear Mr. Woosley:

TJW ENGINEERING, INC. (TJW) is pleased to submit this Response to Comments letter for the proposed project, Acacia Pointe, located at the southeast corner of East Nuevo Road and Wilson Road in the City of Perris. The comments and responses below are regarding your letter to Mr. Nathan Perez of the City of Perris Planning Division "Acacia Pointe Project (GPA 23–05247, ZC 23–05245, PDO 23–05246 & TPM 38775) Scoping Agreement & VMT Analysis Review #1, City of Perris" from November 1, 2023. The updated scoping agreement and trip generation and for the proposed project are dated January 11, 2024.

Comment #1
Please include the case numbers in the project name/title.
Response #1
In the Project Name field, the case numbers GPA 23–05247, ZC 23–05245, PDO 23–05246 & TPM 38775 were added.

Comment #2
The general plan and zoning will be amended for this project. The corrected general plan for land use and proposed zoning should be indicated.
Response #2
The Proposed GP Land Use and Zoning fields have been amended to "MFR-14" which is the City of Perris code for Multi-Family Residential, 3,000 Square Foot Minimum Lots.

Comment #3
Please indicate the project will generate over 50 peak hour trips, thus requiring a full traffic impact study.

Response #3

The box "Is the project screened from LOS analysis?" now includes the comment "The project will generate over 50 AM and 50 PM peak hour trips and therefore a full traffic impact analysis is required."

Comment #4

Please include a copy of the City of Perris VMT screening form and the appropriate results using either the RIVTAM or RIVCOM screening tool.

Response #4

A completed City of Perris VMT screening form and a screen capture of the results of the Western Riverside Council of Governments VMT Screening Tool have been attached to the scoping agreement.

Comment #5

Please use the ITE's Land Use 215: Single-Family Attached Housing as the appropriate trip rates for the project. Also provide a trip generation comparison of the proposed project to the existing general plan use and zoning for the property. Should there be a significant difference in daily and AM/PM peak hour trips then a general plan buildout analysis will be required.

Response #5

The project trip generation has been amended to use ITE code 215 and the updated volumes have been amended in the scoping agreement fields for proposed trip generation. A separate trip generation for the current zoning R-6000, single family residential, 6,000 square foot minimum lot, was created using ITE code 210, Single-Family Detached Housing. The dwelling unit quantity was determined by taking the maximum number of units per acre, seven (7), as documented in the City of Perris description of zoning code R-6000, and multiplying by the project's total acreage, 11.58, as documented on the project site plan. The volumes have been added to the "existing trip generation" fields of the scoping agreement for comparison to the proposed project trip generation volumes. In addition, for comparison purposes, the trip generation document has been amended to include the volumes from the existing zoning scenario. Changing zoning from existing R-6000 to the proposed MFR-14 does not make a significant impact on daily and AM/PM peak hour trips.

Comment #6

The City of Perris uses an annual ambient growth rate of 3% per year for traffic studies.

Response #6

The field "Annual Ambient Growth Rate" has been updated to "3%".

Comment #7

Please include the two project driveway intersections with Wilson Avenue. Also please provide an exhibit that shows the AM/PM peak hour trips at each of the study area intersections.

Response #7

The two project driveway intersections on Wilson Avenue were previously included in the original scoping agreement.

Comment #8

Please include "Existing Plus Project" traffic scenario.

Response #8

"Existing Plus Project" traffic scenario has been added to the list of Analysis Scenarios.

Comment #9

Please include these additional items:

- Traffic signal warrants at unsignalized intersections
- Queuing analysis at the project driveway intersections
- Queuing/stacking analysis at the proposed driveway gates
- Review the need for a turnaround at the gated northerly driveway for vehicles/trucks that cannot enter the project
- Speed survey on Wilson Avenue to determine the need for any traffic calming, and if needed identification of potential traffic calming to be considered
- The traffic study should address the potential cut-through issue for project vehicles cutting through the adjacent residential development to the west, to/from Redlands Avenue via Orange Creek Road and Arrow Creek Road.

Response #9

The following items were added to the box "Additional Items to be Addressed":

- Traffic signal warrants at unsignalized intersections
- Queuing analysis at project driveway intersections
- Queuing/stacking analysis at the project driveway gates
- Speed survey on Wilson Avenue to determine need for traffic calming on Wilson Avenue
- Review for potential issues if vehicles cut through adjacent residential area via Orange Creek Road and Arrow Creek Road.

The need for a turnaround at the gated northern driveway for vehicles/trucks that cannot enter the project has been resolved by SP2 & Co.

Comment #10

Please use ITE trip code 215. Also please remove footnote #2.

Response #10

The proposed project trip generation has been amended to use ITE trip code 215 and footnote #2 has been removed.

Comment 11

Please include a comparison of the forecasted trips of the proposed project vs the existing general plan land use and zoning designation. If there is a significant difference in daily and AM/PM peak hour trips then a general plan buildout analysis will be required.

Response #11

Daily and AM/PM peak hour trip generation volumes for both the existing general plan land use and for the proposed project have been entered in the scoping agreement trip generation volume table. See response #5 for further information.

Please contact us at (949) 878-3509 if you have any questions regarding this Response to Comments letter.

Sincerely,

Gene Kim, PE, TE
Principal Engineer
Registered Civil Engineer *#83175*
Registered Traffic Engineer *#2684*

David Chew, PTP
Transportation Planner

Daniel Flores, EIT
Project Engineer

Scoping Agreement for Traffic Impact Analysis

This form acknowledges the requirements for the traffic impact analysis of the following project. The analysis will follow the local jurisdiction's traffic impact analysis guidelines.

Project Name:	Acacia Pointe (GPA 23–05247, ZC 23–05245, PDO 23–05246 & TPM 38775)
Project Address:	Southeast corner of East Nuevo Road and Wilson Avenue, City of Perris, CA
Project Description:	142 multi-family residential dwelling units

	Consultant	Developer
Name:	TJW Engineering	D. R. Horton
Address:	9841 Irvine Center Drive, Suite 200	2280 Wardlow Circle, Suite 100
	Irvine, CA, 92618	Corona, CA 92880
Telephone:	949-878-3509	
Email:		

Trip Generation Source: ITE Trip Generation Manual, 11th Edition (2021)

Current GP Land Use:	R-6000	Proposed GP Land Use:	MFR-14
Current Zoning:	R-6000	Proposed Zoning:	MFR-14

Is the project screened from LOS analysis? [ ] Yes [X] No

Justification:	The project will generate over 50 AM and 50 PM peak hour trips and therefore a full traffic impact analysis is required.

Is the project screened from VMT analysis? [X] Yes [ ] No

Justification:	Per Western Riverside County Council of Governments VMT Tool, the project is within a low VMT generating traffic analysis zone (TAZ 1840). See attached City of Perris VMT Scoping Form.

	Existing Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips	15	42	57	17	51	68
PM Trips	48	28	76	47	33	80
Daily			764			1,015

Internal Trip Capture: [ ] Yes [X] No _____ % Trip Discount

Pass-By Allowance: [ ] Yes [X] No _____ % Trip Discount

Trip Distribution: See attached exhibit.

Project Build-out Year: 2026 Annual Ambient Growth Rate: 3%

Study Intersections:

1. Wilson Ave/E. Nuevo Rd
2. Redlands Ave/Jade Ave/E. Nuevo Rd
3. Murrieta Rd/E. Nuevo Rd
4. Wilson Ave/Project Driveway #1
5. Wilson Ave/Project Driveway #2
6.
7.
8.
9.
10.

Study Roadway Segments:

1.
2.
3.
4.

Analysis Scenarios:

1. Existing Traffic Conditions (Existing)
2. Existing Traffic Conditions plus Project Conditions (Existing + Project)
3. Opening Year Conditions (Existing + Ambient + Cumulative)
4. Opening Year plus Project Conditions (Existing + Ambient + Cumulative + Project)
5.

Other Jurisdiction Analyzed? [ ] Yes [X] No Name of Jurisdiction: _____

Date of Traffic Counts: _____

Additional Items to be Addressed:	Traffic signal warrants at unsignalized intersections, queuing analysis at project driveway intersections, qualitative queuing/stacking analysis at the project's proposed gates, speed survey to determine need for traffic calming on Wilson Avenue, review for potential issues if vehicles cut through adjacent residential area via Orange Creek Road and Arrow Creek Road.

Additional Notes:	

Names:

David Chew	
Consultant's Representative	City (Approved By)
Signatures: 	
Consultant's Representative	City (Approved By)
01/11/2024	
Date	Date

City of Perris
www.cityofperris.org

CITY OF PERRIS
VMT SCOPING FORM FOR LAND USE PROJECTS

This Scoping Form acknowledges the City of Perris requirements for the evaluation of transportation impacts under CEQA. The analysis provided in this form should follow the City of Perris TIA Guidelines, dated May 12, 2020.

I. Project Description

Tract/Case No.: GPA 23-05247, ZC 23-05245, PDO 23-05246, TPM 38775

Project Name: Acacia Pointe

Project Location: Southeast corner of East Nuevo Road and Wilson Avenue, City of Perris, CA

Project Description: 142 multi-family residential dwelling units
(Please attach a copy of the project Site Plan)

Current GP Land Use: R-6000 **Proposed GP Land Use:** MFR-14

Current Zoning: R-6000 **Proposed Zoning:** MFR-14

If a project requires a General Plan Amendment or Zone change, then additional information and analysis should be provided to ensure the project is consistent with RHNA and RTP/SCS Strategies.

II. VMT Screening Criteria

	YES		NO		Attachments:	
A. Is the Project 100% affordable housing?	YES		NO		Attachments:	
B. Is the Project within 1/2 mile of qualifying transit?	YES		NO		Attachments:	
C. Is the Project a local serving land use?	YES		NO		Attachments:	
D. Is the Project in a low VMT area?	YES	X	NO		Attachments:	X
E. Are the Project's Net Daily Trips less than 500 ADT?	YES		NO		Attachments:	

Low VMT Area Evaluation:

Citywide VMT Averages[1]		
Citywide Home-Based VMT =	15.05	VMT/Capita
Citywide Employment-Based VMT =	11.62	VMT/Employee

WRCOG VMT MAP

Project TAZ	VMT Rate for Project TAZ[1]		Type of Project	
1840	25.90	VMT/Capita	Residential:	X
		VMT/Employee	Non-Residential:	

[1] Base year (2012) projections from RIVTAM.

Trip Generation Evaluation:

Source of Trip Generation: ITE Trip Generation Manual 11th Edition 2021

Project Trip Generation: 957 **Average Daily Trips (ADT)**

Internal Trip Credit:	YES		NO	X	% Trip Credit:	
Pass-By Trip Credit:	YES		NO	X	% Trip Credit:	
Affordable Housing Credit:	YES		NO	X	% Trip Credit:	
Existing Land Use Trip Credit:	YES		NO	X	Trip Credit:	

Net Project Daily Trips: - - **Average Daily Trips (ADT)** Attachments:

Does project trip generation warrant an LOS evaluation outside of CEQA? YES X NO - -

III. VMT Screening Summary

A. Is the Project presumed to have a less than significant impact on VMT?

A Project is presumed to have a less than significant impact on VMT if the Project satisfies at least one (1) of the VMT screening criteria.

Yes

--

B. Is mitigation required?

If the Project does not satisfy at least one (1) of the VMT screening criteria, then mitigation is required to reduce the Project's impact on VMT.

No

--

C. Is additional VMT modeling required to evaluate Project impacts?

YES	--	NO	X

If the Project requires a zone change and/or General Plan Amendment AND generates 2,500 or more net daily trips, then additional VMT modeling using RIVTAM/RIVCOM is required. If the project generates less than 2,500 net daily trips, the Project TAZ VMT Rate can be used for mitigation purposes.

IV. MITIGATION

A. Citywide Average VMT Rate (Threshold of Significance) for Mitigation Purposes: -- --

B. Unmitigated Project TAZ VMT Rate: -- --

C. Percentage Reduction Required to Achieve the Citywide Average VMT: --

D. VMT Reduction Mitigation Measures:

Source of VMT Reduction Estimates:	
Project Location Setting	

	VMT Reduction Mitigation Measure:	Estimated VMT Reduction (%)
1.		0.00%
2.		0.00%
3.		0.00%
4.		0.00%
5.		0.00%
6.		0.00%
7.		0.00%
8.		0.00%
9.		0.00%
10.		0.00%
Total VMT Reduction (%)		**0.00%**

(Attach additional pages, if necessary, and a copy of all mitigation calculations.)

E. Mitigated Project TAZ VMT Rate: -- --

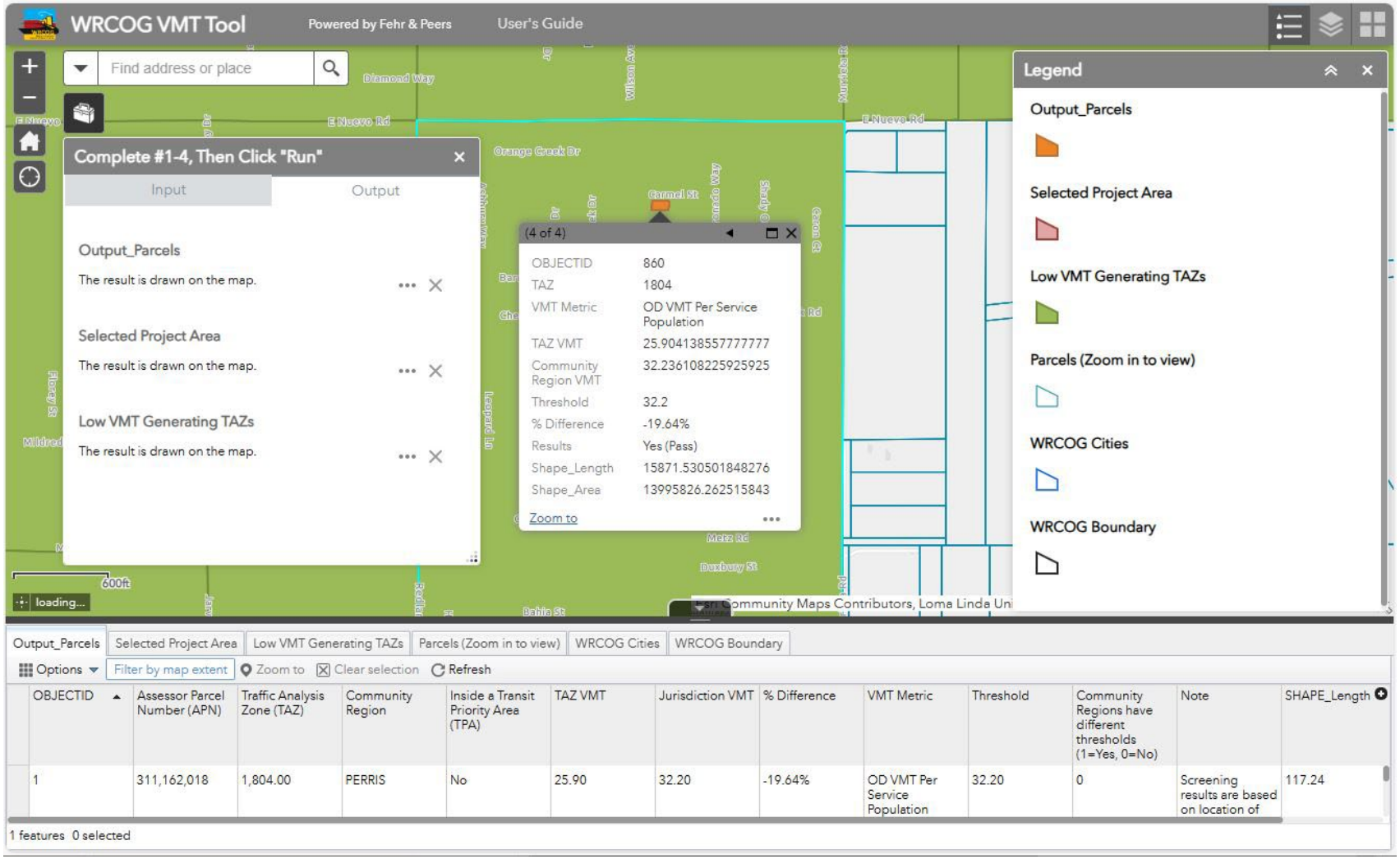
F. Is the project pressumed to have a less than significant impact with mitigation? --

If the mitigated Project VMT rate is below the Citywide Average Rate, then the Project is presumed to have a less than significant impact with mitigation. If the answer is no, then additional VMT modeling may be required and a potentially significant and unavoidable impact may occur. All mitigation measures identified in Section IV.D. are subject to become Conditions of Approval of the project. Development review and processing fees should be submitted with, or prior to the submittal of this Form. The Planning Department staff will not process the Form prior to fees being paid to the City.

Prepared By		Developer/Applicant	
Company:	TJW Engineering, Inc.	**Company:**	D. R. Horton
Contact:	Daniel Flores	**Contact:**	Ryan Woosley
Address:	9841 Irvine Center Dr., Suite 200, Irvine, CA 92618	**Address:**	2280 Wardlow Cir., Suite 100, Corona, CA 92880
Phone:	949-878-3509	**Phone:**	951-739-5441
Email:	daniel@tjwenginnering.com	**Email:**	RWoosely@drhorton.com
Date:	Novewmber 9, 2023	**Date:**	Novewmber 9, 2023

Approved by:

Perris Development Serivces Dept.	**Date**	**Perris Public Works Dept.**	**Date**



OBJECTID	Assessor Parcel Number (APN)	Traffic Analysis Zone (TAZ)	Community Region	Inside a Transit Priority Area (TPA)	TAZ VMT	Jurisdiction VMT	% Difference	VMT Metric	Threshold	Community Regions have different thresholds (1=Yes, 0=No)	Note	SHAPE_Length
1	311,162,018	1,804.00	PERRIS	No	25.90	32.20	-19.64%	OD VMT Per Service Population	32.20	0	Screening results are based on location of	117.24

1 features 0 selected

Table

Trip Generation Comparison - Existing Land Use/Zoning and Proposed Project

Land Use[1]	ITE Code	Qty	Unit	Daily		AM Peak Hour					PM Peak Hour				
				Rate	Volume	Rate	In:Out Split	Volume			Rate	In:Out Split	Volume		
								In	Out	Total			In	Out	Total
Single-Family Detached Housing (Existing)	210	81	DU	9.43	764	0.7	26:74	15	42	57	0.94	63:37	48	28	76
Single-Family Attached Housing (Proposed)	215	141	DU	7.2	1,015	0.48	25:75	17	51	68	0.57	59:41	47	33	80

1: Trip generation and pass-by rates from ITE Trip Generation (11th Edition, 2021).

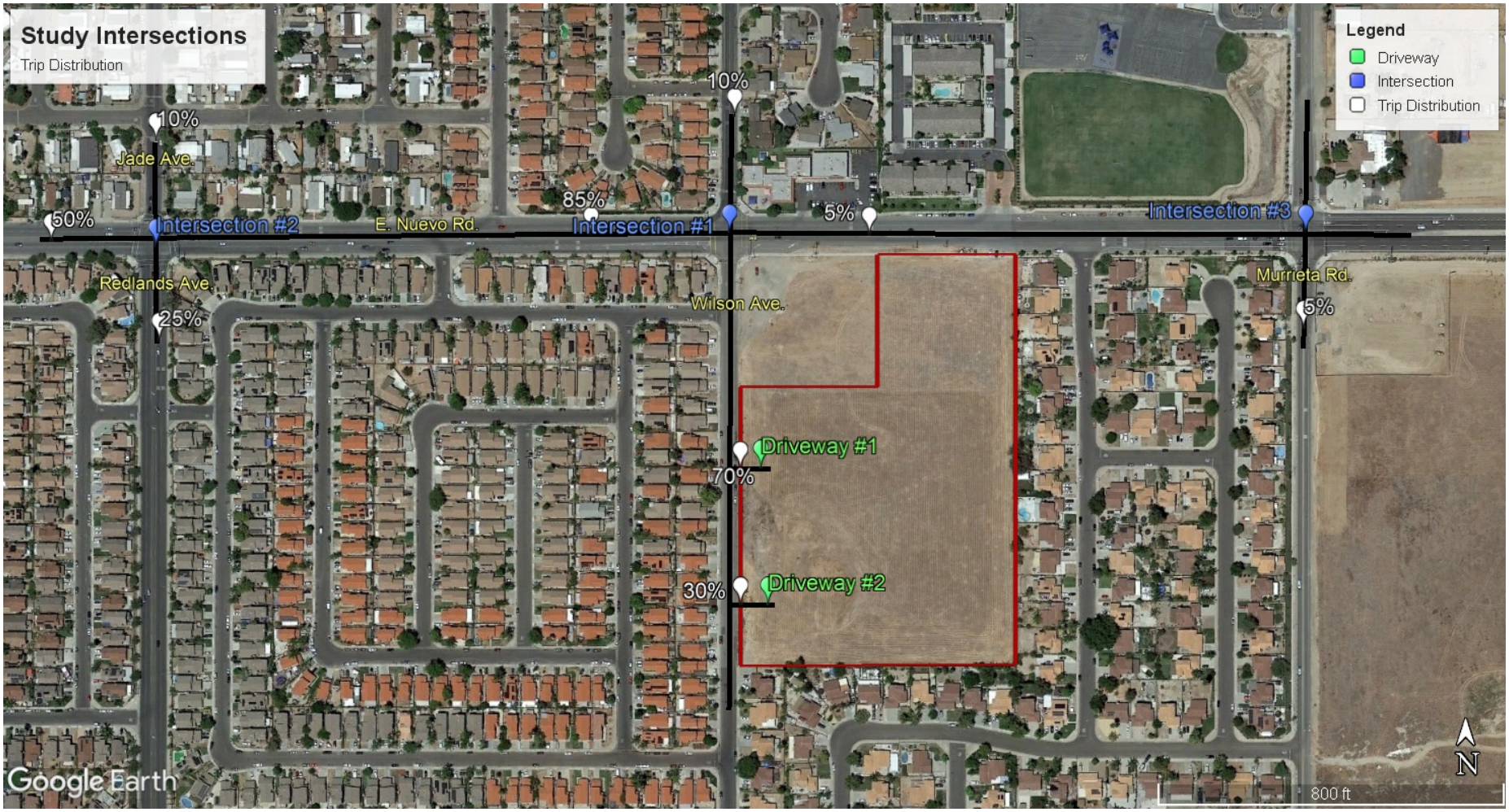


Exhibit 1: Proposed Project Location and Trip Generation

Acacia Pointe

DRH-23-005

Not to Scale

REVISIONS		
NO.	BY	DESCRIPTION

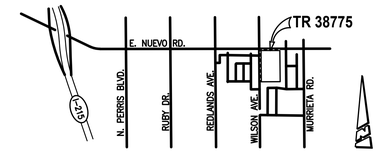
"ACACIA POINTE"

FINAL SITE DEVELOPMENT PLAN

CITY OF PERRIS, CALIFORNIA

30' 0 30' 60' 90'

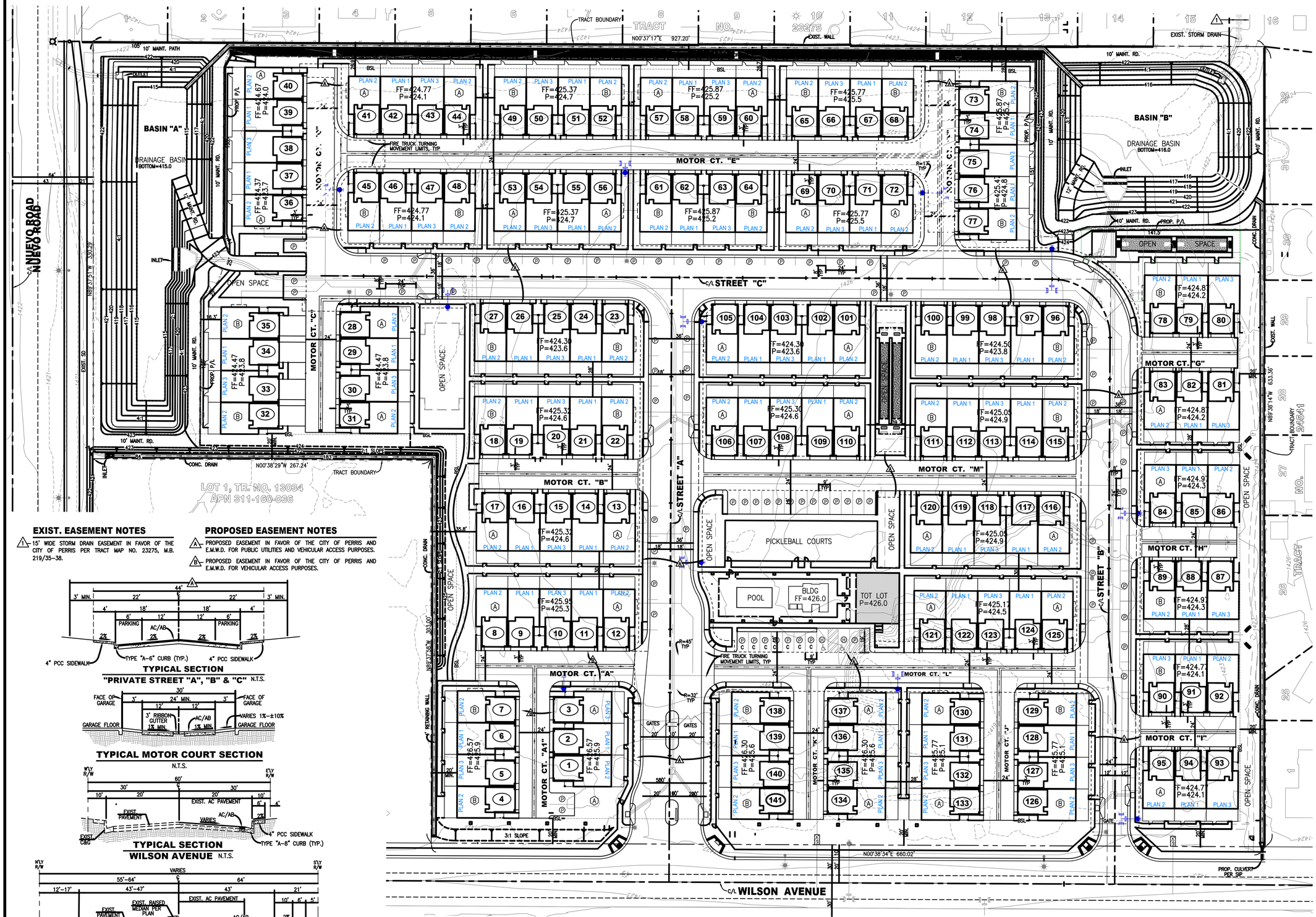
SCALE: 1"=30'



VICINITY MAP

(SECTION 29, T. 4 S., R. 3 W., S.B.B.M.)

N.T.S.



EXIST. EASEMENT NOTES

1. 15' WIDE STORM DRAIN EASEMENT IN FAVOR OF THE CITY OF PERRIS PER TRACT MAP NO. 23275, M.B. 219/35-38.

PROPOSED EASEMENT NOTES

A. PROPOSED EASEMENT IN FAVOR OF THE CITY OF PERRIS AND E.M.W.D. FOR PUBLIC UTILITIES AND VEHICULAR ACCESS PURPOSES.

B. PROPOSED EASEMENT IN FAVOR OF THE CITY OF PERRIS AND E.M.W.D. FOR VEHICULAR ACCESS PURPOSES.

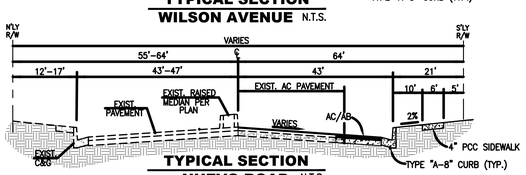
TYPICAL SECTION

"PRIVATE STREET "A", "B" & "C" N.T.S.

TYPICAL MOTOR COURT SECTION

TYPICAL SECTION

WILSON AVENUE N.T.S.



TYPICAL SECTION

NUEVO ROAD N.T.S.

ASSESSOR'S PARCEL TABLE

311-161-001	311-161-016	311-161-030	311-162-009
311-161-002	311-161-017	311-161-031	311-162-010
311-161-003	311-161-018	311-161-032	311-162-011
311-161-004	311-161-019	311-161-033	311-162-012
311-161-005	311-161-020	311-161-034	311-162-013
311-161-006	311-161-021	311-161-035	311-162-014
311-161-007	311-161-022	311-162-001	311-162-015
311-161-008	311-161-023	311-162-002	311-162-016
311-161-009	311-161-024	311-162-003	311-162-017
311-161-010	311-161-025	311-162-004	311-162-018
311-161-011	311-161-026	311-162-005	311-162-019
311-161-012	311-161-027	311-162-006	311-162-020
311-161-013	311-161-028	311-162-007	311-162-021
311-161-014	311-161-029	311-162-008	311-162-022
311-161-015	311-161-030	311-162-009	

UTILITY PURVEYORS

WATER:	EASTERN MUNICIPAL WATER DISTRICT
SEWER:	EASTERN MUNICIPAL WATER DISTRICT
STORM DRAIN:	CITY OF PERRIS
ELECTRIC:	SOUTHERN CALIFORNIA EDISON CO.
GAS:	SOUTHERN CALIFORNIA GAS CO.
TELEPHONE:	VERIZON
TELEVISION:	VERIZON

LEGEND:

- CENTERLINE
- TRACT BOUNDARY
- XXX CONTOUR LINE
- INDICATES SETBACK LINE
- BSL INDICATES BUILDING SETBACK LINE
- PROPOSED RETAINING WALL
- (1) CONDOMINIUM UNIT NUMBER
- SD PROP. STORM DRAIN
- W PROP. POTABLE WATER MAIN
- S PROP. SEWER LINE
- (P) PARKING STALL
- FF FINISHED FLOOR
- P PAD ELEVATION
- (X) PLAN ELEVATION (A-SPANISH/B-ITALIANTE)

FLOOD ZONE DESIGNATION

ZONE X, MAP PANEL #06065C1440H

EFFECTIVE DATE: AUGUST 18, 2014

AREA OF 0.2% ANNUAL FLOOD CHANCE; OF 1% ANNUAL FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE, AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.

LEGAL DESCRIPTION:

LOTS 1 – 57, OF TRACT NO. 31651, AS PER MAP FILED IN BOOK 419, PAGES 12–14, OF MAPS, RECORDS OF RIVERSIDE COUNTY, IN THE CITY OF PERRIS, STATE OF CALIFORNIA.

GENERAL NOTES:

1. MAP PREPARATION DATE: 10/16/2023
2. TOTAL SITE ACREAGE: 11.62 ACRES GROSS
3. ZONING DATA: EXISTING:
   R-6,000 (SINGLE FAMILY RESIDENTIAL)
   PROPOSED: PDD (PLANNED DEVELOPMENT OVERLAY)
4. GENERAL PLAN DATA:
   EXISTING: MDR (MEDIUM DENSITY RESIDENTIAL, 7 DU/AC)
   PROPOSED: MFR (MULTI-FAMILY RESIDENTIAL, 14 DU/AC
5. PROPOSED LOT DATA:
   LOT 1: 10.30 ACRES (142 SINGLE FAMILY TOWNHOMES)
   LOT 2: 0.71 ACRES (OPEN SPACE/DRAINAGE MITIGATION BASIN)
   LOT 3: 0.61 ACRES (OPEN SPACE/DRAINAGE MITIGATION BASIN)
6. TOPOGRAPHY SOURCE: AEROTECH MAPPING, INC. DATED 12/2020
7. BOUNDARY DATA SHOWN HEREON IS BASED ON A FIELD BOUNDARY SURVEY CONDUCTED IN 12/2020.
8. PRELIMINARY EARTHWORK QUANTITIES (EXCLUDED REMEDIAL GRADING):
   CUT: 29,000 C.Y.
   FILL: 29,000 C.Y.
9. THE PROPERTY IS CURRENTLY VACANT AND UNDEVELOPED.
10. SEWER AND WATER SERVICE FOR THE SITE WILL BE PROVIDED BY E.M.W.D.
11. THE TENTAITVE MAP INCLUDES THE ENTIRE CONTIGUOUS OWNERSHIP OF THE LAND DIVIDER.
12. THE SITE IS NOT WITHIN A COUNTY SERVICE AREA (CSA).
13. THE SITE IS NOT WITHIN A FAULT ZONE *.
14. THE SITE HAS A MODERATE POTENTIAL FOR LIQUEFACTION *.
15. THE SITE IS DESIGNATED AS VERY HIGH FIRE HAZARD SEVERITY ZONE (NON-VHFHSZ) PER CAL FIRE HAZARD SEVERITY ZONE MAP ID: FHSZL_C33_MENIFEE
    * PER RIVERSIDE COUNTY GIS DATA
16. PARKING STALLS PROVIDED:
    – GARAGE SPACES: 284 SPACES
    – OPEN GUEST SPACES: 66 STANDARD, 16 COMPACT, AND 3 HANDICAP
    – PARKING STALLS REQUIRED: 29 STALLS (1 STALL PER 5 DU–142/5=28.4)
17. SITE MAINTENANCE PLAN: FUTURE HOME OWNER'S ASSOCIATION OR PROPERTY MANAGEMENT COMPANY HIRED BY THE OWNER TO MAINTAIN THE FOLLOWING:
    – PRIVATE STREETS, COMMON LANDSCAPE AND HARDSCAPE AREAS, WATER QUALITY BASINS, ON-SITE DRAINAGE FACILITIES NOT MAINTAINED BY THE CITY OF PERRIS, AND ON-SITE SEWER AND WATER FACILITIES NOT MAINTAINED BY EMWD.
18. BUILDING SETBACKS:
    – FRONT YARD: 20'
    – REAR YARD: 20' (TRACT BOUNDARY)
    – SIDE YARD (ADJACENT TO ST.): 10' (TRACT BOUNDARY)
    – BUILDING SEPARATION: 10' MIN. (5' ADDITIONAL PER STORY)
19. REQUIRED OPEN SPACE:
    – TOTAL OPEN SPACE REQUIRED: 42,600 SF (300 SF PER DU)
    – COMMON: 21,300 (150 SF PER DU)
    – PRIVATE: 21,300 (150 SF PER DU–10' MIN. DIM.)
20. OPEN SPACE PROVIDED:
    – TOTAL OPEN SPACE PROVIDED: ±100,500 SF
    – COMMON (USABLE): ±65,000 SF
    – PRIVATE: 35,500 (250 SF PER DU–10'X25' YARD AREA)

LANDSCAPE ARCHITECT:
SLA
7859 SITIO COCO
CARLSBAD, CA 92009
PHONE: (9491) 276–6500
CONTACT: JACK NORTON

PREPARED BY (ENGINEER):
SP2 & Co.
A LAND DEVELOPMENT SERVICES COMPANY
451 W. LAMBERT ROAD, SUITE 216
BREA, CA 92821
PHONE: (714) 490–1500
CONTACT: HENRY LOZANO

ARCHITECT:
WHA
680 NEWPORT CENTER DRIVE #300
NEWPORT BEACH, CA 92660
PHONE: (949) 250–0607

PREPARED FOR (OWNER/APPLICANT):
D·R·HORTON
America's Builder
SOUTH COAST, INLAND EMPIRE DIVISION
2280 WARDLOW CIRCLE, SUITE 100
CORONA, CALIFORNIA 92880
(951) 272–9000

Circulation Element

(City Council Adoption – June 14, 2005)
CE1 (City Council Amendment (GPA 08-07-0010) – August 26, 2008)
CE2 (City Council Amendment (GPA 12-11-0005) – February 12, 2013)
CE3 (City Council Amendment (GPA20-01577) – December 8, 2020
CE4 (City Council Amendment (North Truck Route GPA) January 11, 2022)
CE5 (City Council Amendment(GPA22-05068 – Southerly Truck Route GPA) August 26, 2022)

Existing Conditions

This section of the Element describes the existing transportation system within the City's General Plan study area. A number of transportation systems are described including:

- Streets and Highways;
- Public/Mass Transportation;
- Non-Motorized Systems;
- Aviation;
- Goods Movement;
- Transportation Systems Management; and
- Intelligent Transportation Systems.

Street and Highway System

Referencing Exhibit CE-4, the northern portion of the City of Perris is mainly bordered by the I-215 Freeway on the west and Oleander Avenue to the north, while the central and southern portion of the City straddles I-215. The only other state maintained roadway in the City is SR 74, which joins Ethanac Road in the east to 4th Street via I-215. The local network is comprised of a variety of roadways that are defined below.

Functional Roadway Classification System

Functional classification is the process by which streets and highways are grouped into classes, or systems, according to the type of service they are intended to provide. Fundamental to this process is the recognition that most travel involves movement through a network of roads.
Streets and highways shown on the Circulation Roadway Plan are described and classified according to their primary functions. This current hierarchal system of roadways consists of five basic classifications as follows:

- Freeways and Expressways;
- Primary arterials;
- Secondary arterials;
- Collector streets; and
- Local streets.

Exhibit CE-4 depicts the current roadway network and classification system for the City of Perris.

Roadway Standards

The City of Perris has adopted roadway standards for its local street network. A description of the lane requirements for the various types of roadways within the City of Perris is provided below and typical cross-sections are provided in Exhibit CE-5.

Freeways and Expressways
Interstate 215 runs north to south through the City of Perris and is designated as a freeway. The freeway is 4 lanes south of Redlands Avenue and 6 lanes north of Redlands Avenue. State Route 74 generally runs east-west, connecting Ethanac Road east of Perris with the downtown area and continuing to Navajo Road. Between Case Road and 4th Street, State Route 74 and I-215 are the same roadway. SR 74 is 4 lanes from I-215 west through downtown Perris and is 2 lanes west of Navajo Road and east of I-215. Both roads are owned and maintained by Caltrans. Ramona Expressway is a four-lane expressway providing major east-west travel in northern Perris.

Secondary and Primary Arterial Streets
Arterial streets in general vary from a curb-to-curb width of 64 feet to 86 feet in accordance with the cross sections shown in Exhibit CE-5.

Collector Streets

The width of collector streets can range from 40 feet to 64 feet curb-to-curb with six feet of sidewalk on both sides depending on the particular design and traffic volumes to be served. Collector streets should have adequate capacity at their intersections with arterial streets in order to provide adequate numbers of traffic lanes to serve anticipated volumes within the prescribed level of service standard. This may mean that the curb-to-curb width may be wider for portions of the collector street at the approach to a particular intersection depending on the requirements based on a traffic study.

Local Streets

As general policy, local streets have a 60 feet right-of-way and a curb-to-curb width of 40 feet. Six-foot wide sidewalks are generally included in general on both sides of local streets. In industrial areas, the curb-to-curb width may be widened from 44 feet to 56 feet.

Exhibit CE-4: City of Perris Existing Roadway Network

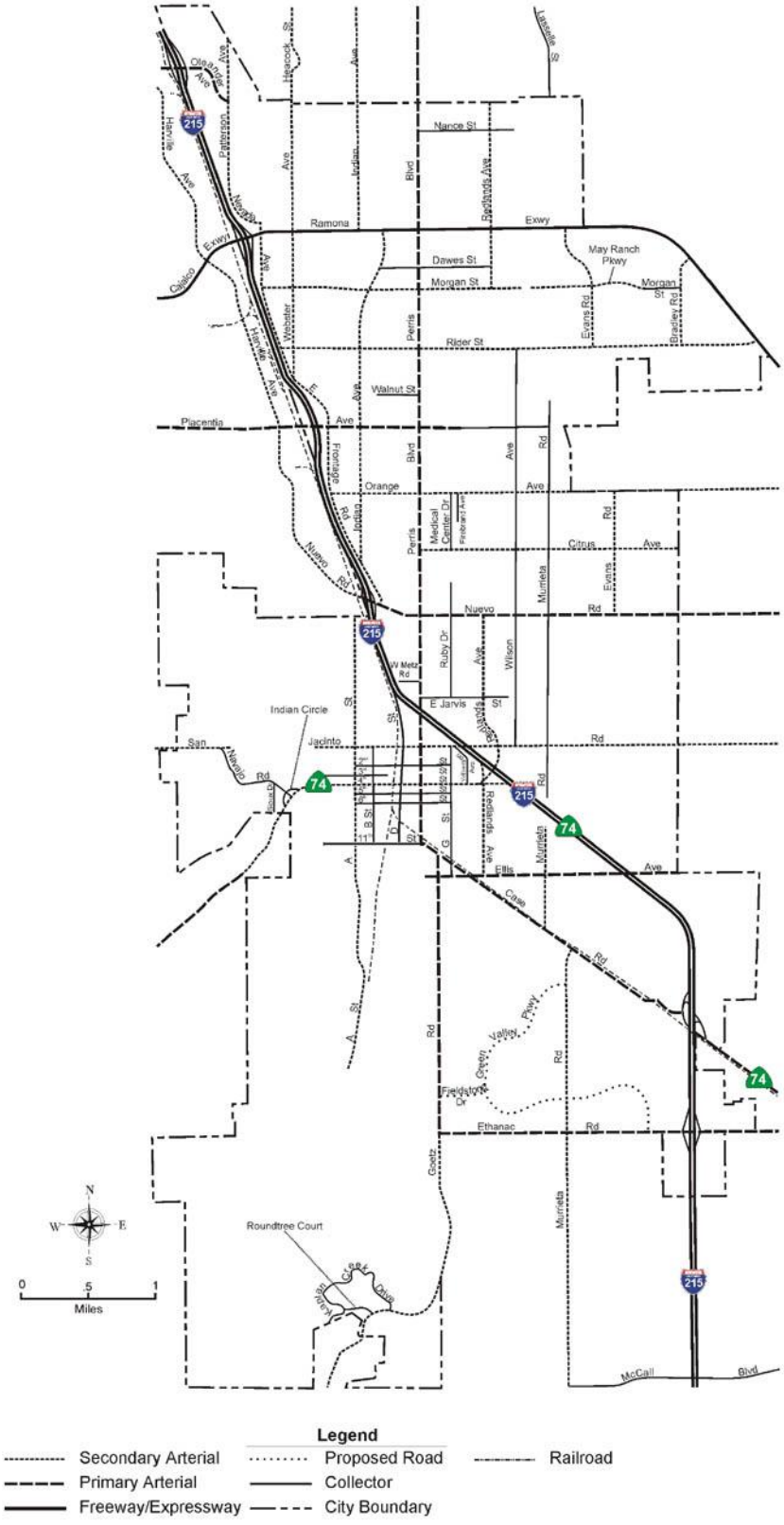
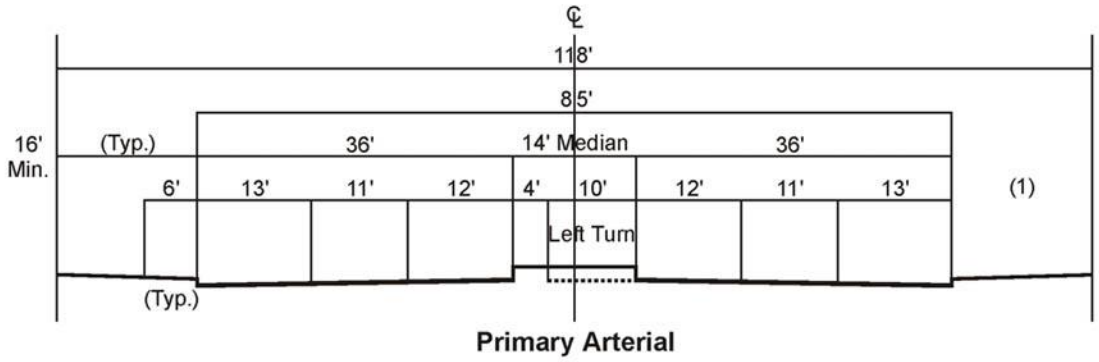
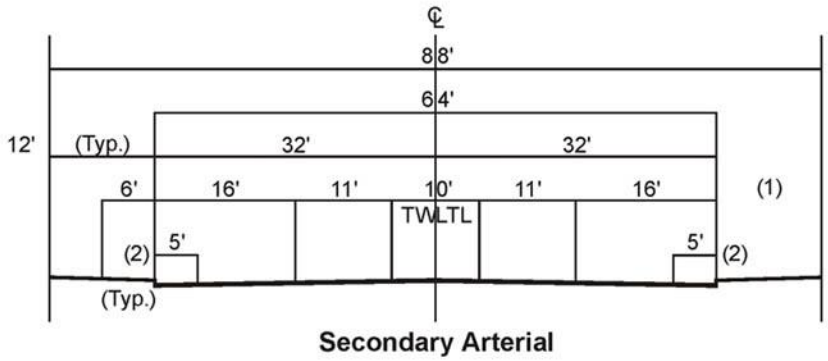


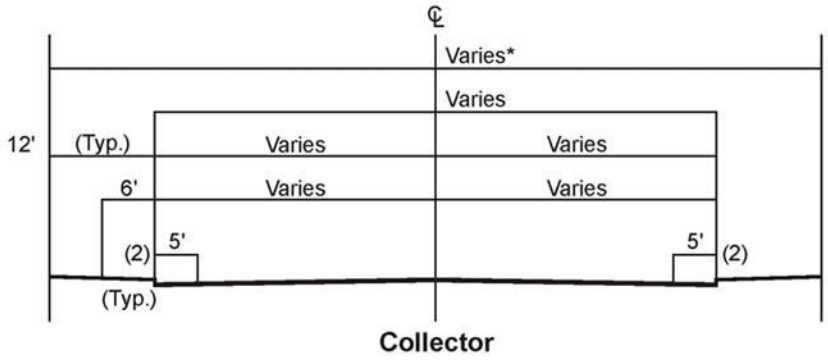
Exhibit CE-5: Typical Roadway Cross-Sections



Primary Arterial



Secondary Arterial



Collector

Legend

(1) No stopping any time both sides.

(2) Bike lane where designated.

* The width of the collector street can range from 40 feet to 64 feet curb-to-curb.

TWLTL = Two Way Left Turn Lane

Level of Service Analysis:
The Circulation Element has been developed in recognition of the need to relieve existing congestion and to provide a circulation system that can accommodate future anticipated growth. Levels of Service (LOS) standards are used to assess the performance of a street or highway system and the capacity of a roadway. An important goal when planning the transportation system is to maintain acceptable levels of service along the federal and state highways and the local roadway network. To accomplish this, the California Department of Transportation (Caltrans), City of Perris, the County of Riverside, and other local agencies adopt minimum levels of service to determine future infrastructure needs.

According to Caltrans policy, roadways maintained by Caltrans (I-215 and SR 74 in the City of Perris) must maintain a minimum LOS of "D". The City of Perris currently has an adopted minimum LOS of "E" (based on the 1991 General Plan Circulation Element) along its local roads. The process of evaluating roadways can be accomplished by applying this minimum LOS method to both segments and intersections.

Segment Analysis:
Segment LOS is important in order to understand whether the capacity of the entire roadway can accommodate future traffic volumes. Table CE-1 provides a definition of segment LOS. The performance criteria used for evaluating volumes and capacities on the City street system for this Element were estimated using the Modified Highway Capacity Manual (HCM)-Based LOS Tables (Table CE-2 and Appendix A). These LOS Tables were also used to calculate segment LOS during development of the Riverside County General Plan Circulation Element. The Tables indicate the capacity of individual street and highway segments based on numerous roadway variables (design speed, signalized intersections per mile, number of lanes, etc.). These variables were identified and applied to reflect existing traffic LOS conditions in the City of Perris.

Traffic volumes used to develop these LOS calculations were obtained through a count program conducted for this Circulation Element and from various relevant studies conducted by the City of Perris within the past year. Table CE-3 and Exhibit CE-6 document the existing Average Daily Traffic (ADT) for segments within the City and the corresponding LOS, based on Table CE-2.

Referencing Table CE-3 and Exhibit CE-6 the LOS of roadways in Perris ranges from LOS "A" through "C". On I-215 the range is LOS "A" through "D". Since the current city adopted minimum LOS is "E" there are no deficiencies at this time on any City streets and the number of through lanes is currently adequate for capacity.

Table CE-1: Segment Level of Service Definitions (2000 Highway Capacity Manual)

Level of Service	Definition
A	Represents free flow. Individual vehicles are virtually unaffected by the presence of others in the traffic stream.
B	Is in the range of stable flow, but the presence of other vehicles in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.
C	Is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual vehicles becomes significantly affected by interactions with other vehicles in the traffic stream.
D	Is a crowded segment of roadway with a large number of vehicles restricting mobility and a stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.
E	Represents operating conditions at or near the level capacity. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.
F	Is used to define forced or breakdown flow (stop-and-go gridlock). This condition exists when the amount of traffic approaches a point that exceeds the amount that can travel to a destination. Operations within the queues are characterized by stop and go waves, and they are extremely unstable.

Table CE-2: Perris Roadway Capacity / Level of Service [1]

Roadway Classification	*Number of Lanes*	*Maximum Two-Way Average Daily Traffic (ADT)* [2]				
		LOS A	*LOS B*	*LOS C*	*LOS D*	*LOS E*
Collector	2	7,800	9,100	10,400	11,700	13,000
Collector	4	15,540	18,130	20,700	23,300	25,900
Arterial	2	10,800	12,600	14,400	16,200	18,000
Arterial	4	21,540	25,130	28,700	32,300	35,900
Arterial	6	32,340	37,730	43,100	48,500	53,900
Expressway	4	24,540	28,630	32,700	36,800	40,900
Expressway	6	36,780	42,910	49,000	55,200	61,300
Expressway	8	49,020	57,190	65,400	73,500	81,700
Freeway	4	45,900	53,550	61,200	68,900	76,500
Freeway	6	70,500	82,250	94,000	105,800	117,500
Freeway	8	96,300	112,350	128,400	144,500	160,500
Freeway	10	120,360	140,420	160,500	180,500	200,600

[1] All Capacity Exhibits are based on optimum conditions and are intended as guidelines for planning purposes only.
[2] Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables.

Intersection Analysis:
The circulation system of the City of Perris is primarily composed of a system of signalized and unsignalized arterial and collector facilities. The vast majority of system vehicle delay occurs at the signalized intersections because vehicles are stopped to allow cross traffic to clear. In addition to evaluating the LOS for roadway segments, some major intersections within the City of Perris were evaluated to determine current LOS. The level of service standards applied to calculate intersection LOS are in accordance with the current edition of the Highway Capacity Manual (HCM) which includes the input of truck percentages at each intersection.

Tables CE-4 and CE-5 indicate the ranges of average stop time delay for a vehicle at signalized and unsignalized intersections for the various levels of service ranging from "A" through "F". Intersection turning movements were counted, roadway geometrics identified and various studies conducted by the City of Perris were reviewed in calculating LOS. Appendix B contains the Highway Capacity Manual LOS analysis at the seven major intersections counted for this study. Table CE-6 and Exhibit CE-7 show the existing LOS at major intersections in the City of Perris. Appendix "B" contains the actual counts and calculations used in determining these current Levels of Service.

Referencing Table CE-6 and Exhibit CE-7, the intersection LOS in the City ranges from "C" through "F". Based on the current City adopted minimum LOS of "E" the following intersections are deficient within the City:

- I-215 SB and Cajalco Expressway – PM
- I-215 NB and Ramona Expressway – PM
- Nuevo Road and Ruby Drive – AM and PM (unsignalized)
- I-215 NB and Redlands Avenue – PM

In the case of existing conditions in the City of Perris, the segment analysis indicated favorable levels of service while the intersection analysis indicated several deficiencies. This indicates that the number of through lanes currently provided for city streets is appropriate for existing conditions and that some intersection improvements are needed.

Table CE-4: Unsignalized Intersection Level of Service Definitions (2000 Highway Capacity Manual)

Level of Service	Definition	Average Delay (sec/veh)
A	Describes operations with very low delay. This level of service occurs when there is no conflicting traffic for minor street.	‹10
B	Describes operations with moderately low delay. This level generally occurs with a small amount of conflicting traffic causing higher levels of average delay.	›10 to 15
C	Describes operations with average delays. These higher delays may result from a moderate amount of minor street traffic. Queues begin to get longer.	›15 to 25
D	Describes a crowded operation, with below average delays. At level D, the influence of congestion becomes more noticeable. Longer delays may result from shorter gaps on the mainline and an increase of minor street traffic. The queues of vehicles are increasing.	›25 to 35
E	Describes operations at or near capacity. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor gaps for the minor street to cross and large queues.	›35 to 50
F	Describes operations that are at the failure point. This level, considered unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. Insufficient gaps of suitable size exist therefore not allowing minor traffic to cross safely.	›50

Table CE-5: Signalized Intersections Level of Service Definitions (2000 Highway Capacity Manual)

Level of Service	Definition	Average Delay (sec/veh)
A	Describes operations with very low delay.	<10.0
B	Describes operations with moderately low delay. This level occurs with good progression, short cycle lengths, or both.	› 10.0 and <20.0
C	Describes operations with average delays. These higher delays may result from fair progression, longer cycle lengths, or both.	› 20.0 and <35.0
D	Describes a crowded operation, with below average delays. At level D, the influence of congestion becomes more noticeable. Many vehicles stop, and the proportion of vehicles not stopping declines.	› 35.0 and <50.0
E	Describes operations at or near capacity. This level is considered by many agencies to be the limit of acceptable delay.	› 55.0 and <80.0
F	Describes operations that are at the failure point. This level, considered unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection.	› 80.0

Table CE-6: Existing Intersection Delay and Level of Service (LOS)

Intersection Number	*Intersection*	*AM Average Delay*	*AM LOS*	*PM Average Delay*	*PM LOS*
1	*I-215 SB and Cajalco Expressway*	*46.2*	*D*	*›80.0*	*F*
2	*I-215 NB and Ramona Expressway*	*32.0*	*C*	*›80.0*	*F*
3	*Ramona Expressway and Indian Avenue*	*21.9*	*C*	*34.9*	*C*
4	*Ramona Expressway and Perris Boulevard*	*43.8*	*D*	*47.1*	*D*
5	*Nuevo Road and Perris Boulevard*	*38.8*	*D*	*43.0*	*D*
6	*Nuevo Road and Ruby Drive*[1]	*›50*	*F*	*›50*	*F*
7	*I-215 NB and Redlands Avenue*[1]	*15.9*	*C*	*›50*	*F*

Exhibit CE-14: Bikeway Systems

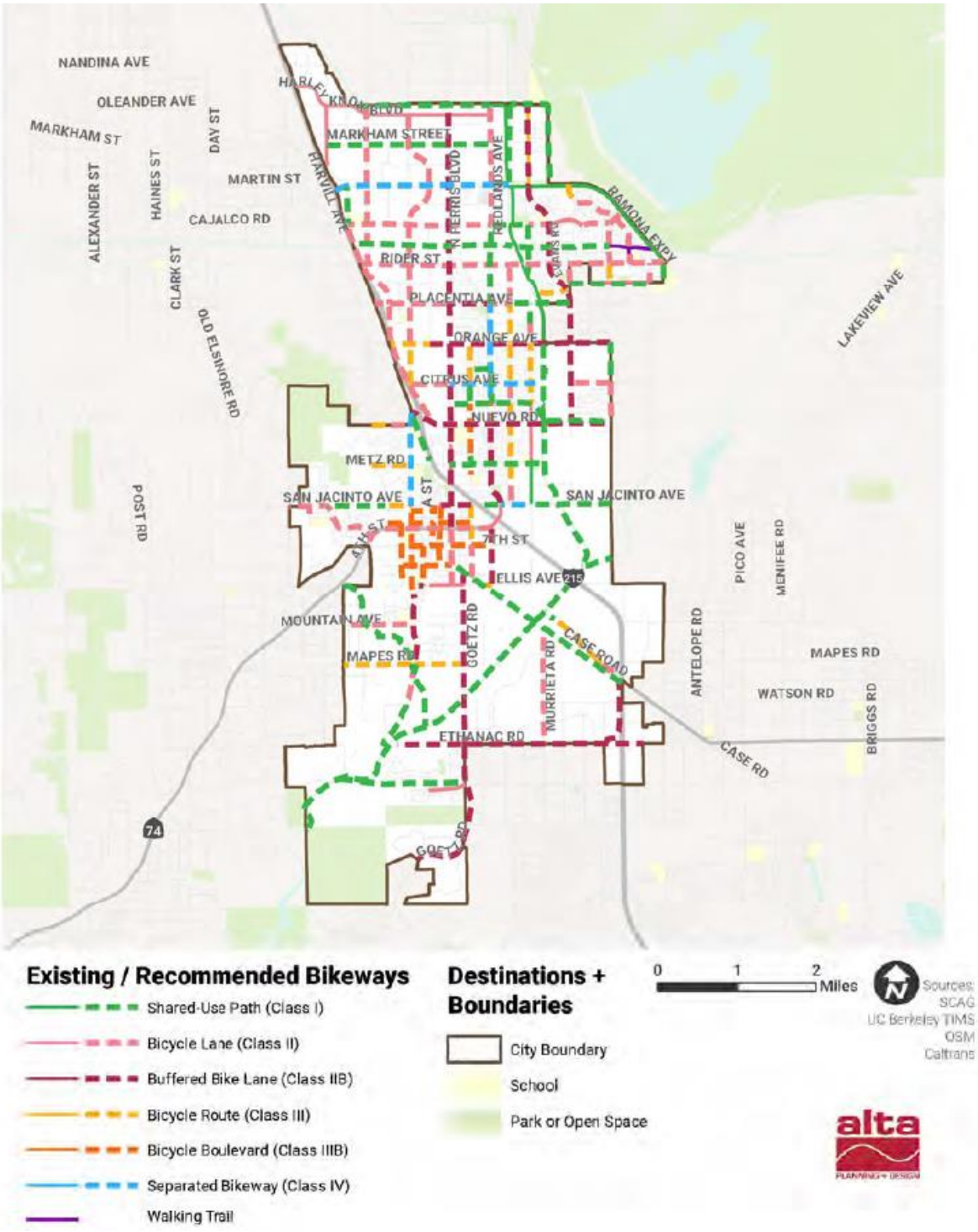
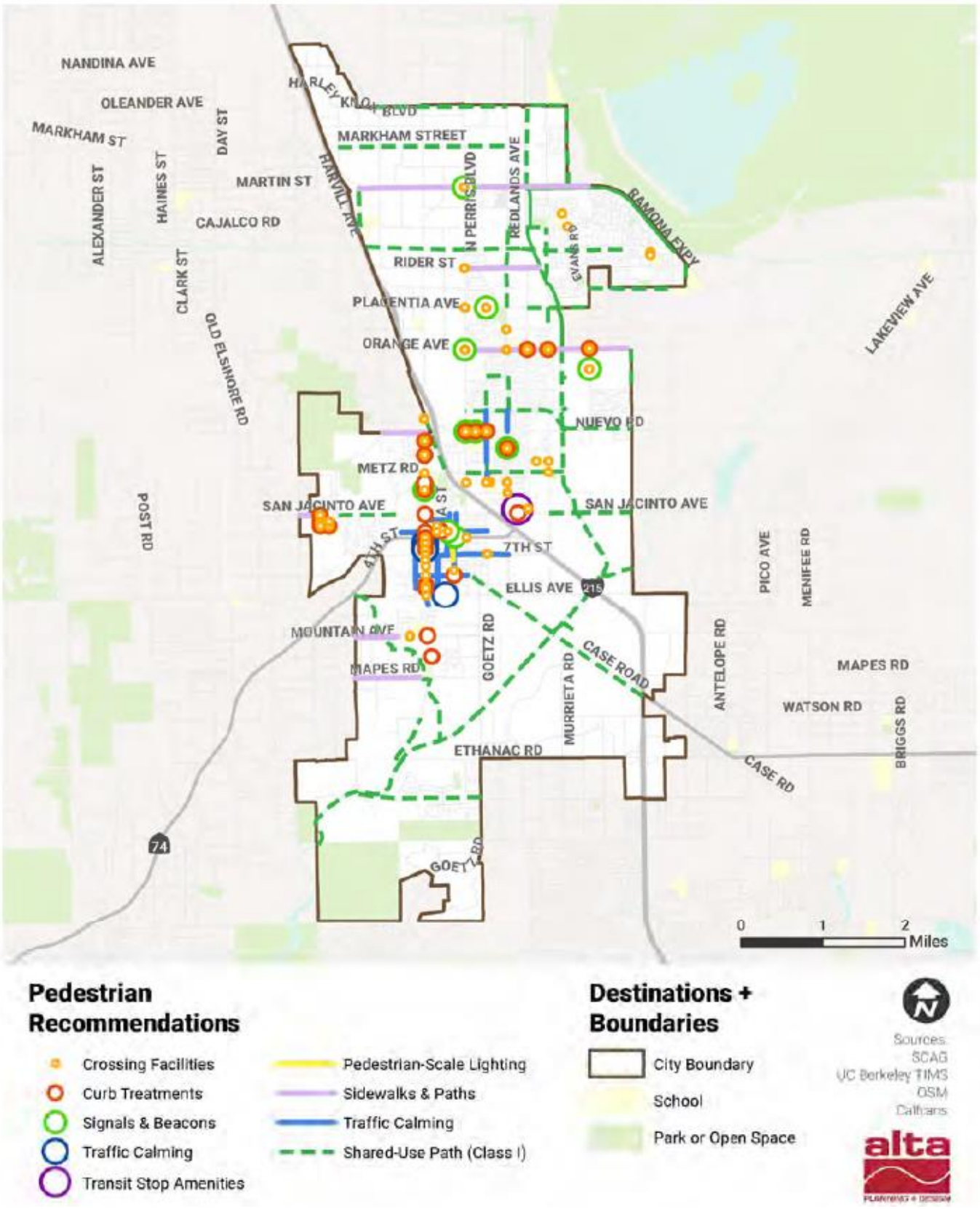


Exhibit CE-15: Pedestrian Facilities



Bikeways

The City of Perris's bikeway system is included as a part of the Active Tansportation Plan and County's circulation system. The development of the bikeway system will be guided through the application of the General Plan's policies, programs, and standards, in conjunction with adopted bicycle routes as shown on the Bikeways and Trails Plan.

California Vehicle Code (Section 21200[a]) states that every person riding a bicycle upon a highway has all the rights and is subject to all the provisions applicable to the driver of a vehicle. While bicycles are permitted on all roads except the I-215 freeway in the City of Perris, many people will not consider a bicycle as a means of transportation unless some accommodation has been made for their safety and convenience. In order to entice these prospective bicycle riders, a variety of bicycle facility types are necessary.

Investment in bikeways provides an environmental-friendly transportation opportunity. Bicycle usage will continue to offer important relief to congested roadways, provide air quality benefits, and reduce energy consumption. Bicycling is considered an effective alternative mode of transportation that can help to improve air quality and reduce the number of vehicles traveling along existing highways, especially within the cities and unincorporated communities. However, the numbers of cyclists is small in comparison to the amount of auto traffic.

A number of barriers currently impede the increased usage of bicycles as an alternative non-motorized mode of travel. These barriers include negative perceptions about non-motorized commuting: unsafe, insufficient, and inconvenient bikeways; and crime, including personal safety and security of property. Given the favorable climate for cycling most of the year, overcoming these institutional barriers would help increase bicyclist ridership throughout the City of Perris.

The term "Bikeway" describes all facilities that provide for bicycle travel. The Active Transportation Plan identifies six types of bike path classifications: Class I Shared-Use Path, Class II Bicycle Lane, Class IIB Buffered Bicycle Lane, Class III Bicycle Route, Class IIIB Bicycle Boulevard, and Class IV Separated Bikeway and is further described below. These six types of trails consist of a greater interconnected network of trails across the County. Reducing redundancy and maximizing connectivity among the six trail types will allow the system to be implemented faster and more efficiently over time, allowing greater use by residents in the future.

Class I Shared-Use Path provides paths completely separated from motor vehicle traffic used by people walking and biking. Comfortable for people of all ages and abilities. Typically located immediately adjacent and parallel to roadway or in its own independent right-of-way, such as within a park or along a body of water.

Class II (Bike Lane) provides a dedicated lane for bicycle travel adjacent to traffic. A painted white line separates the bicycle lane from motor vehicle traffic.

Class IIB Buffered Bicycle Lane provides a dedicatd lane for bicycle travel separated from vehicle traffic by a painted buffer.

Class III Bicycle Route provides a signed bike route that people biking shared with motor vehicles. Can include pavement marking. Comfortable facility for more confident bicyclist. Recommended when space for a bike lane may not be feasible.

Class IIIB Bicycle Boulevard provides calm local streets where bicyclist have priority but share roadway space with motor vehicles. Shared roadway bicycle markings on the pavement as well as traffic calming features such as speed humps and traffic diverters to keep these streets more comfortable for bicyclists. Comfortable facility for bicyclists with a wide range of abilities.

Class IV Separated Bikeway provides an on-street bikeway separated from motor vehicle traffic by a curb, median, planters, parking delineators, or other physical barriers.

Pedestrian Facilities

Pedestrian facilities include sidewalks, paths, crossing facilities, curb treatments, walkways, bridges, crosswalks, beacons, traffic calming, signals, pedestrian-scale lighting, illumination, and benches, among other items. These facilities are an important part of the City of Perris non-motorized transportation network. Pedestrian facilities provide a vital link between many other modes of travel and can make up a considerable portion of short-range trips made in the community. Where such facilities exist, people will be much more likely to make shorter trips by walking rather than by vehicle. Pedestrian facilities also provide a vital link for commuters who use other transportation facilities such as rail, bus, and park-n-rides. Without adequate pedestrian facilities, many commuters may be forced to utilize an automobile because of difficult or unsafe conditions that exist at their origin or destination. To promote walking in a safe and comfortable atmosphere, pedestrian facilities will follow the guidelines promulgated in the Active Transportation Plan whenever possible.

Pedestrian facilities within the immediate vicinity of schools and recreational facilities are important components of the non-motorized transportation system. Such facilities, typically in the form of sidewalks, are provided where they are appropriate and enhance the safety of those who choose to walk to and from their destination.

Pedestrian facilities may be warranted when any one or combination of the following conditions is present: any type of residential development; any type of activity center; any type of commercial center; downtown business districts; any type or combination of parks and recreation facilities; along or near transit routes and/or facilities; any type of business or office center; and, along or near any type of watercourse or body.

For the most part, sidewalks are installed in most urban environments when the roadway frontage is developed. Because development occurs in stages, numerous missing links can occur in the sidewalk system. Eventually these are filled in, but this can take many years.

Aviation

The 2001 SCAG RTP analyzed four airport scenarios for the region. It was further identified that a regional aviation plan needed to be completed as a component of the RTP. Specific to Perris is the possibility of March Air Reserve Base being converted to a civilian airport.

The March Inland Port Authority (MIPAA) was formed by the March JPA in 1996 for the purpose of creating a new civilian airport. This airport is being created as a joint use facility in cooperation with the U.S. Air Force Reserve Command at March Air Reserve Base in Riverside County, California.

APPENDIX B

EXISTING TRAFFIC COUNTS AND MODEL VOLUMES

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Perris
N/S: Wilson Avenue
E/W: Nuevo Road
Weather: Clear

File Name : 02_PER_Wilson_Nuevo AM
Site Code : 23624088
Start Date : 1/31/2024
Page No : 1

Groups Printed- Total Volume

	Wilson Avenue Southbound				Nuevo Road Westbound				Wilson Avenue Northbound				Nuevo 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	10	0	22	32	0	103	8	111	4	4	6	14	2	74	0	76	233
07:15 AM	13	2	18	33	1	129	2	132	5	4	7	16	6	90	3	99	280
07:30 AM	13	2	22	37	1	188	5	194	10	5	16	31	8	105	3	116	378
07:45 AM	10	2	27	39	5	216	18	239	9	8	16	33	17	102	4	123	434
Total	46	6	89	141	7	636	33	676	28	21	45	94	33	371	10	414	1325
08:00 AM	12	1	36	49	4	198	14	216	4	2	5	11	24	124	4	152	428
08:15 AM	3	4	32	39	3	203	3	209	4	3	4	11	21	93	2	116	375
08:30 AM	2	0	22	24	3	110	6	119	3	4	0	7	13	89	6	108	258
08:45 AM	5	3	11	19	2	133	4	139	3	0	4	7	8	77	1	86	251
Total	22	8	101	131	12	644	27	683	14	9	13	36	66	383	13	462	1312
Grand Total	68	14	190	272	19	1280	60	1359	42	30	58	130	99	754	23	876	2637
Apprch %	25	5.1	69.9		1.4	94.2	4.4		32.3	23.1	44.6		11.3	86.1	2.6		
Total %	2.6	0.5	7.2	10.3	0.7	48.5	2.3	51.5	1.6	1.1	2.2	4.9	3.8	28.6	0.9	33.2	

	Wilson Avenue Southbound				Nuevo Road Westbound				Wilson Avenue Northbound				Nuevo 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	**13**	2	22	37	1	188	5	194	**10**	5	**16**	31	8	105	3	116	378
07:45 AM	10	2	27	39	**5**	**216**	**18**	**239**	9	**8**	16	**33**	17	102	**4**	123	**434**
08:00 AM	12	1	**36**	**49**	4	198	14	216	4	2	5	11	**24**	**124**	4	**152**	428
08:15 AM	3	**4**	32	39	3	203	3	209	4	3	4	11	21	93	2	116	375
Total Volume	38	9	117	164	13	805	40	858	27	18	41	86	70	424	13	507	1615
% App. Total	23.2	5.5	71.3		1.5	93.8	4.7		31.4	20.9	47.7		13.8	83.6	2.6		
PHF	.731	.563	.813	.837	.650	.932	.556	.897	.675	.563	.641	.652	.729	.855	.813	.834	.930

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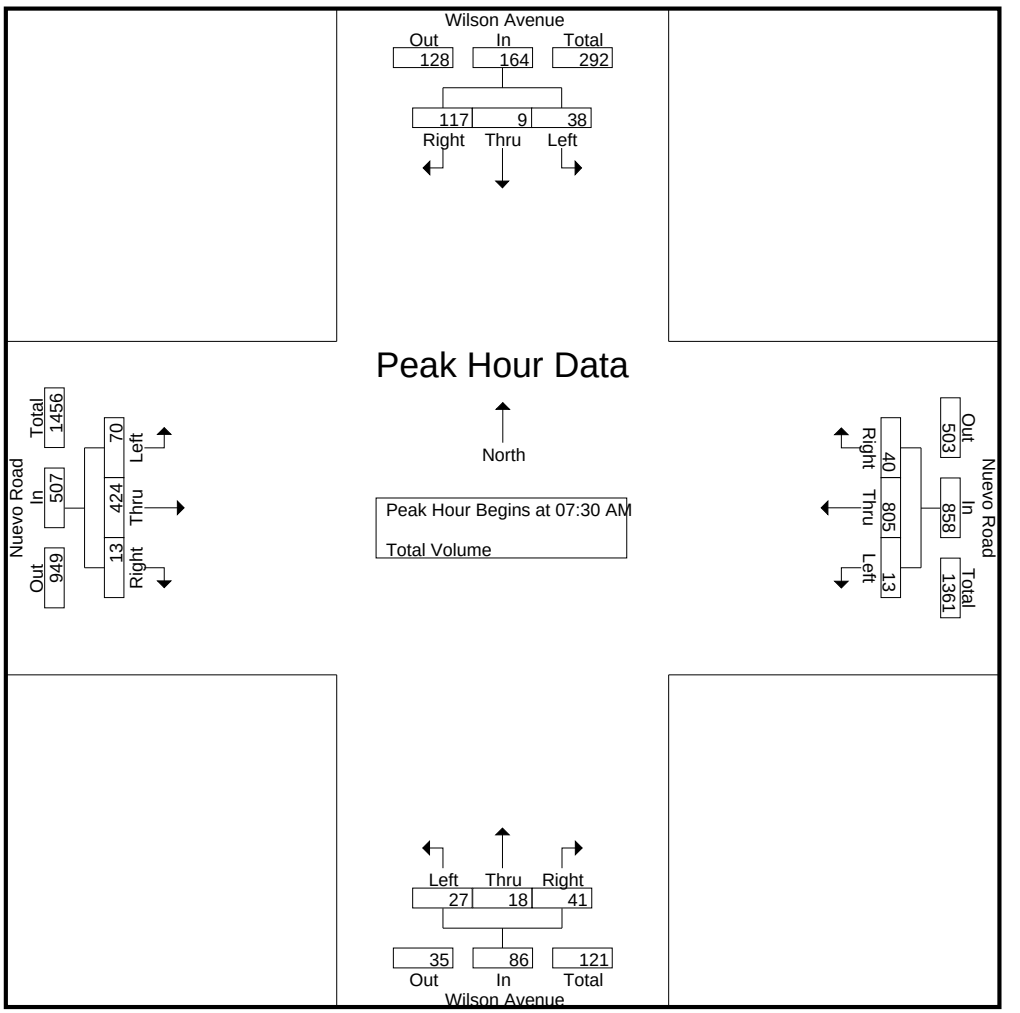
City of Perris
N/S: Wilson Avenue
E/W: Nuevo Road
Weather: Clear

File Name : 02_PER_Wilson_Nuevo AM
Site Code : 23624088
Start Date : 1/31/2024
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:

	07:30 AM				07:30 AM				07:00 AM				07:30 AM			
+0 mins.	**13**	2	22	37	1	188	5	194	4	4	6	14	8	105	3	116
+15 mins.	10	2	27	39	**5**	**216**	**18**	**239**	5	4	7	16	17	102	**4**	123
+30 mins.	12	1	**36**	**49**	4	198	14	216	**10**	5	**16**	31	**24**	**124**	4	**152**
+45 mins.	3	**4**	32	39	3	203	3	209	9	**8**	16	**33**	21	93	2	116
Total Volume	38	9	117	164	13	805	40	858	28	21	45	94	70	424	13	507
% App. Total	23.2	5.5	71.3		1.5	93.8	4.7		29.8	22.3	47.9		13.8	83.6	2.6	
PHF	.731	.563	.813	.837	.650	.932	.556	.897	.700	.656	.703	.712	.729	.855	.813	.834

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City of Perris
N/S: Wilson Avenue
E/W: Nuevo Road
Weather: Clear

File Name : 02_PER_Wilson_Nuevo PM
Site Code : 23624088
Start Date : 1/31/2024
Page No : 1

Groups Printed- Total Volume

	Wilson Avenue Southbound				Nuevo Road Westbound				Wilson Avenue Northbound				Nuevo 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	10	5	20	35	8	180	7	195	5	2	3	10	23	160	6	189	429
04:15 PM	7	7	14	28	9	136	7	152	2	9	1	12	20	166	8	194	386
04:30 PM	3	5	21	29	1	168	8	177	4	9	4	17	27	128	12	167	390
04:45 PM	6	7	22	35	7	150	6	163	4	6	6	16	31	152	9	192	406
Total	26	24	77	127	25	634	28	687	15	26	14	55	101	606	35	742	1611
05:00 PM	12	8	18	38	6	120	8	134	5	9	3	17	21	167	11	199	388
05:15 PM	11	4	17	32	10	136	13	159	4	5	10	19	32	163	7	202	412
05:30 PM	5	4	18	27	16	145	7	168	9	3	8	20	19	195	12	226	441
05:45 PM	11	4	27	42	6	148	7	161	11	11	7	29	30	162	5	197	429
Total	39	20	80	139	38	549	35	622	29	28	28	85	102	687	35	824	1670
Grand Total	65	44	157	266	63	1183	63	1309	44	54	42	140	203	1293	70	1566	3281
Apprch %	24.4	16.5	59		4.8	90.4	4.8		31.4	38.6	30		13	82.6	4.5		
Total %	2	1.3	4.8	8.1	1.9	36.1	1.9	39.9	1.3	1.6	1.3	4.3	6.2	39.4	2.1	47.7	

	Wilson Avenue Southbound				Nuevo Road Westbound				Wilson Avenue Northbound				Nuevo 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	**12**	**8**	18	38	6	120	8	134	5	9	3	17	21	167	11	199	388
05:15 PM	11	4	17	32	10	136	**13**	159	4	5	**10**	19	**32**	163	7	202	412
05:30 PM	5	4	18	27	**16**	145	7	**168**	9	3	8	20	19	**195**	**12**	**226**	**441**
05:45 PM	11	4	**27**	**42**	6	**148**	7	161	**11**	**11**	7	**29**	30	162	5	197	429
Total Volume	39	20	80	139	38	549	35	622	29	28	28	85	102	687	35	824	1670
% App. Total	28.1	14.4	57.6		6.1	88.3	5.6		34.1	32.9	32.9		12.4	83.4	4.2		
PHF	.813	.625	.741	.827	.594	.927	.673	.926	.659	.636	.700	.733	.797	.881	.729	.912	.947

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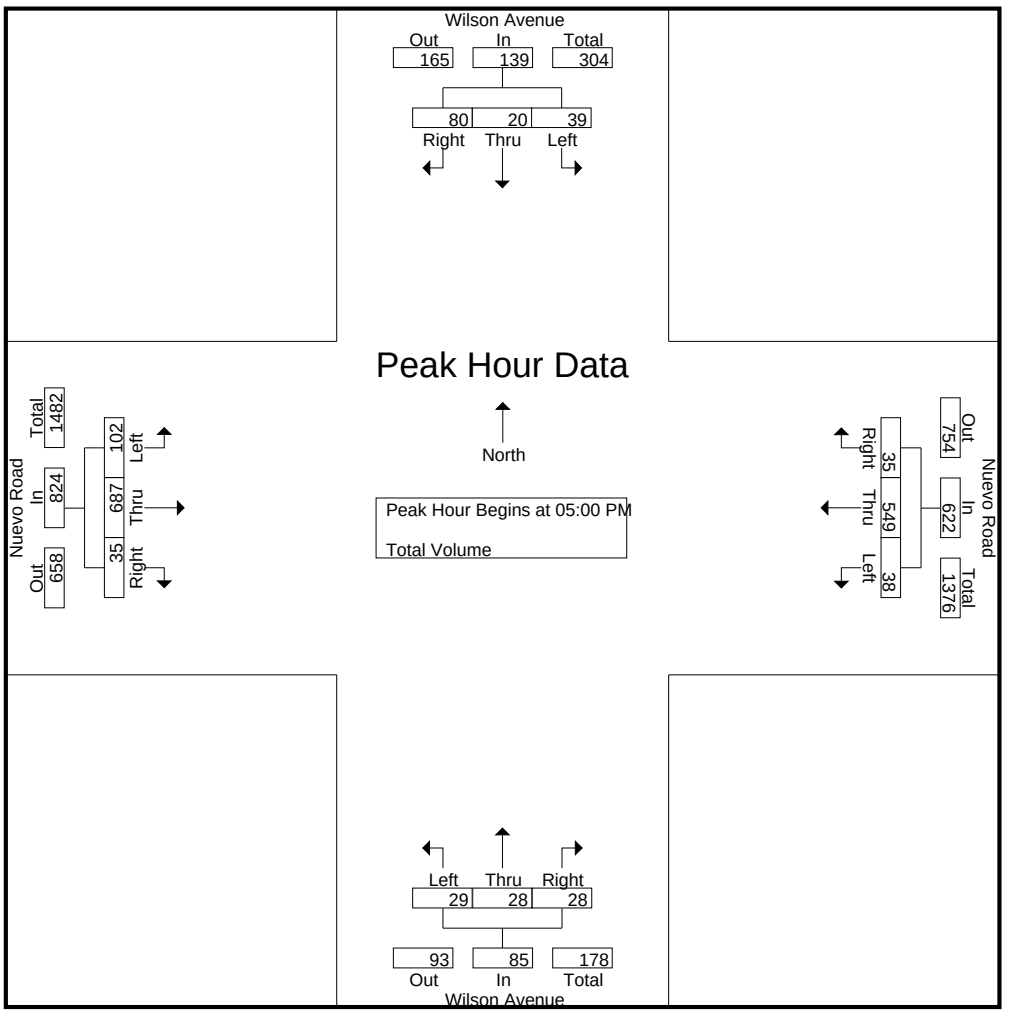
Page No : 2



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

	05:00 PM				04:00 PM				05:00 PM				05:00 PM			
+0 mins.	**12**	**8**	18	38	8	**180**	7	**195**	5	9	3	17	21	167	11	199
+15 mins.	11	4	17	32	**9**	136	7	152	4	5	**10**	19	**32**	163	7	202
+30 mins.	5	4	18	27	1	168	**8**	177	9	3	8	20	19	**195**	**12**	**226**
+45 mins.	11	4	**27**	**42**	7	150	6	163	**11**	**11**	7	**29**	30	162	5	197
Total Volume	39	20	80	139	25	634	28	687	29	28	28	85	102	687	35	824
% App. Total	28.1	14.4	57.6		3.6	92.3	4.1		34.1	32.9	32.9		12.4	83.4	4.2	
PHF	.813	.625	.741	.827	.694	.881	.875	.881	.659	.636	.700	.733	.797	.881	.729	.912

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City of Perris
N/S: Redlands Avenue
E/W: Nuevo Road
Weather: Clear

File Name : 01_PER_Red_Nuevo AM
Site Code : 23624088
Start Date : 1/31/2024
Page No : 1

Groups Printed- Total Volume

	Redlands Avenue Southbound				Nuevo Road Westbound				Redlands Avenue Northbound				Nuevo 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	5	38	4	47	21	108	1	130	13	32	15	60	6	64	7	77	314
07:15 AM	1	75	14	90	38	112	8	158	13	59	25	97	5	66	17	88	433
07:30 AM	6	69	8	83	46	155	6	207	20	50	34	104	14	68	24	106	500
07:45 AM	6	68	12	86	48	192	10	250	27	56	28	111	15	97	32	144	591
Total	18	250	38	306	153	567	25	745	73	197	102	372	40	295	80	415	1838
08:00 AM	6	48	15	69	42	202	2	246	21	39	26	86	12	120	31	163	564
08:15 AM	3	37	24	64	39	192	4	235	26	41	20	87	19	93	44	156	542
08:30 AM	2	34	13	49	22	118	2	142	15	30	17	62	23	92	32	147	400
08:45 AM	2	31	10	43	20	126	2	148	26	20	18	64	6	72	17	95	350
Total	13	150	62	225	123	638	10	771	88	130	81	299	60	377	124	561	1856
Grand Total	31	400	100	531	276	1205	35	1516	161	327	183	671	100	672	204	976	3694
Apprch %	5.8	75.3	18.8		18.2	79.5	2.3		24	48.7	27.3		10.2	68.9	20.9		
Total %	0.8	10.8	2.7	14.4	7.5	32.6	0.9	41	4.4	8.9	5	18.2	2.7	18.2	5.5	26.4	

	Redlands Avenue Southbound				Nuevo Road Westbound				Redlands Avenue Northbound				Nuevo 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	**6**	**69**	8	83	46	155	6	207	20	50	**34**	104	14	68	24	106	500
07:45 AM	6	68	12	**86**	**48**	192	**10**	**250**	**27**	**56**	28	**111**	15	97	32	144	**591**
08:00 AM	6	48	15	69	42	**202**	2	246	21	39	26	86	12	**120**	31	**163**	564
08:15 AM	3	37	**24**	64	39	192	4	235	26	41	20	87	**19**	93	**44**	156	542
Total Volume	21	222	59	302	175	741	22	938	94	186	108	388	60	378	131	569	2197
% App. Total	7	73.5	19.5		18.7	79	2.3		24.2	47.9	27.8		10.5	66.4	23		
PHF	.875	.804	.615	.878	.911	.917	.550	.938	.870	.830	.794	.874	.789	.788	.744	.873	.929

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N/S: Redlands Avenue
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File Name : 01_PER_Red_Nuevo AM
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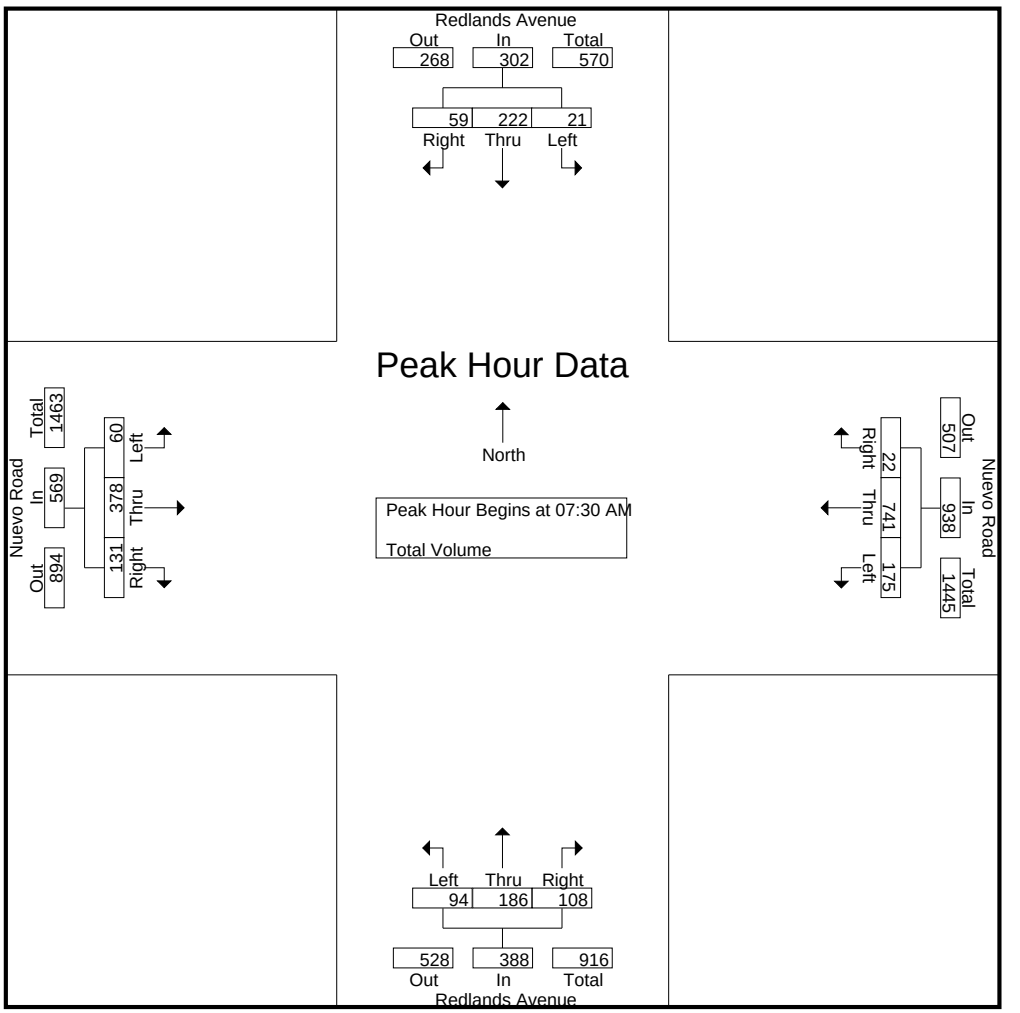
Start Date : 1/31/2024
Page No : 2



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

	07:15 AM				07:30 AM				07:15 AM				07:45 AM			
+0 mins.	1	**75**	14	**90**	46	155	6	207	13	**59**	25	97	15	97	32	144
+15 mins.	**6**	69	8	83	**48**	192	**10**	**250**	20	50	**34**	104	12	**120**	31	**163**
+30 mins.	6	68	12	86	42	**202**	2	246	**27**	56	28	**111**	19	93	**44**	156
+45 mins.	6	48	**15**	69	39	192	4	235	21	39	26	86	**23**	92	32	147
Total Volume	19	260	49	328	175	741	22	938	81	204	113	398	69	402	139	610
% App. Total	5.8	79.3	14.9		18.7	79	2.3		20.4	51.3	28.4		11.3	65.9	22.8	
PHF	.792	.867	.817	.911	.911	.917	.550	.938	.750	.864	.831	.896	.750	.838	.790	.936

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Perris
N/S: Redlands Avenue
E/W: Nuevo Road
Weather: Clear

File Name : 01_PER_Red_Nuevo PM
Site Code : 23624088
Start Date : 1/31/2024
Page No : 1

Groups Printed- Total Volume

	Redlands Avenue Southbound				Nuevo Road Westbound				Redlands Avenue Northbound				Nuevo 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	73	16	98	32	149	7	188	23	61	30	114	14	158	35	207	607
04:15 PM	5	40	10	55	42	125	1	168	19	61	36	116	17	167	28	212	551
04:30 PM	3	50	12	65	31	146	6	183	28	46	27	101	16	151	26	193	542
04:45 PM	4	60	19	83	28	156	6	190	22	51	32	105	17	159	24	200	578
Total	21	223	57	301	133	576	20	729	92	219	125	436	64	635	113	812	2278
05:00 PM	5	54	15	74	19	110	4	133	19	69	40	128	12	166	30	208	543
05:15 PM	7	45	12	64	23	140	1	164	18	55	38	111	13	184	32	229	568
05:30 PM	3	30	21	54	21	150	2	173	30	62	36	128	17	200	29	246	601
05:45 PM	3	46	16	65	29	142	5	176	14	66	29	109	14	156	29	199	549
Total	18	175	64	257	92	542	12	646	81	252	143	476	56	706	120	882	2261
Grand Total	39	398	121	558	225	1118	32	1375	173	471	268	912	120	1341	233	1694	4539
Apprch %	7	71.3	21.7		16.4	81.3	2.3		19	51.6	29.4		7.1	79.2	13.8		
Total %	0.9	8.8	2.7	12.3	5	24.6	0.7	30.3	3.8	10.4	5.9	20.1	2.6	29.5	5.1	37.3	

	Redlands Avenue Southbound				Nuevo Road Westbound				Redlands Avenue Northbound				Nuevo 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	4	**60**	19	**83**	**28**	**156**	**6**	**190**	22	51	32	105	**17**	159	24	200	578
05:00 PM	5	54	15	74	19	110	4	133	19	**69**	**40**	**128**	12	166	30	208	543
05:15 PM	**7**	45	12	64	23	140	1	164	18	55	38	111	13	184	**32**	229	568
05:30 PM	3	30	**21**	54	21	150	2	173	**30**	62	36	128	17	**200**	29	**246**	**601**
Total Volume	19	189	67	275	91	556	13	660	89	237	146	472	59	709	115	883	2290
% App. Total	6.9	68.7	24.4		13.8	84.2	2		18.9	50.2	30.9		6.7	80.3	13		
PHF	.679	.788	.798	.828	.813	.891	.542	.868	.742	.859	.913	.922	.868	.886	.898	.897	.953

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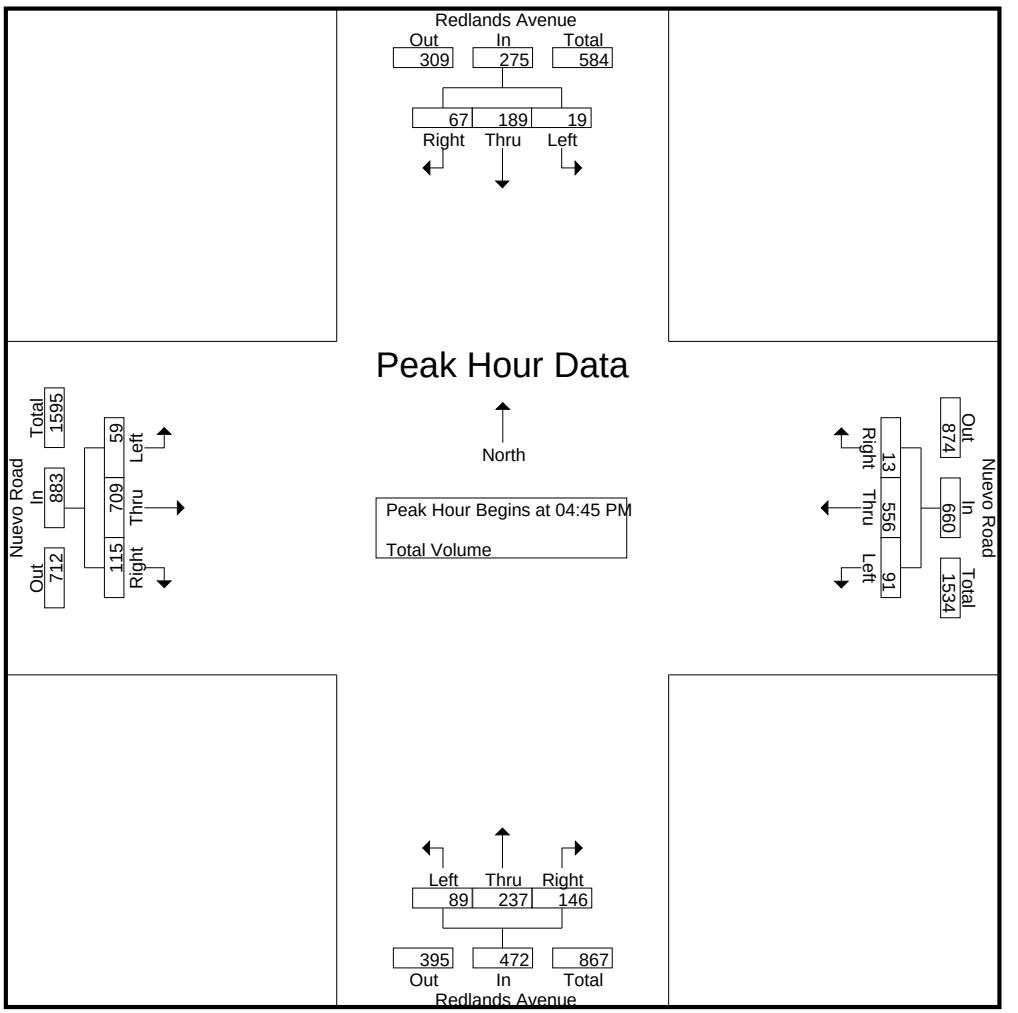
City of Perris
N/S: Redlands Avenue
E/W: Nuevo Road
Weather: Clear

File Name : 01_PER_Red_Nuevo PM
Site Code : 23624088
Start Date : 1/31/2024
Page No : 2



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

	04:00 PM				04:00 PM				05:00 PM				04:45 PM			
+0 mins.	**9**	**73**	16	**98**	32	149	**7**	188	19	**69**	**40**	**128**	**17**	159	24	200
+15 mins.	5	40	10	55	**42**	125	1	168	18	55	38	111	12	166	30	208
+30 mins.	3	50	12	65	31	146	6	183	**30**	62	36	128	13	184	**32**	229
+45 mins.	4	60	**19**	83	28	**156**	6	**190**	14	66	29	109	17	**200**	29	**246**
Total Volume	21	223	57	301	133	576	20	729	81	252	143	476	59	709	115	883
% App. Total	7	74.1	18.9		18.2	79	2.7		17	52.9	30		6.7	80.3	13	
PHF	.583	.764	.750	.768	.792	.923	.714	.959	.675	.913	.894	.930	.868	.886	.898	.897

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City of Perris
N/S: Murrieta Road
E/W: Nuevo Road
Weather: Clear

File Name : 03_PER_Murr_Nuevo AM
Site Code : 23624088
Start Date : 1/31/2024
Page No : 1

Groups Printed- Total Volume

	Murrieta Road Southbound				Nuevo Road Westbound				Murrieta Road Northbound				Nuevo 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	7	10	9	26	24	86	9	119	3	21	49	73	13	75	4	92	310
07:15 AM	13	25	16	54	39	106	16	161	6	23	35	64	15	68	9	92	371
07:30 AM	28	35	50	113	57	124	50	231	16	20	43	79	34	88	9	131	554
07:45 AM	25	28	71	124	54	158	53	265	23	45	37	105	39	72	19	130	624
Total	73	98	146	317	174	474	128	776	48	109	164	321	101	303	41	445	1859
08:00 AM	29	20	52	101	32	145	22	199	14	22	28	64	15	105	7	127	491
08:15 AM	1	16	22	39	26	159	8	193	8	12	15	35	12	85	4	101	368
08:30 AM	5	13	7	25	15	106	4	125	4	12	18	34	10	73	2	85	269
08:45 AM	4	8	9	21	21	109	4	134	5	5	18	28	8	69	3	80	263
Total	39	57	90	186	94	519	38	651	31	51	79	161	45	332	16	393	1391
Grand Total	112	155	236	503	268	993	166	1427	79	160	243	482	146	635	57	838	3250
Apprch %	22.3	30.8	46.9		18.8	69.6	11.6		16.4	33.2	50.4		17.4	75.8	6.8		
Total %	3.4	4.8	7.3	15.5	8.2	30.6	5.1	43.9	2.4	4.9	7.5	14.8	4.5	19.5	1.8	25.8	

	Murrieta Road Southbound				Nuevo Road Westbound				Murrieta Road Northbound				Nuevo 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	13	25	16	54	39	106	16	161	6	23	35	64	15	68	9	92	371
07:30 AM	28	**35**	50	113	**57**	124	50	231	16	20	**43**	79	34	88	9	**131**	554
07:45 AM	25	28	**71**	**124**	54	**158**	**53**	**265**	**23**	**45**	37	**105**	**39**	72	**19**	130	**624**
08:00 AM	**29**	20	52	101	32	145	22	199	14	22	28	64	15	**105**	7	127	491
Total Volume	95	108	189	392	182	533	141	856	59	110	143	312	103	333	44	480	2040
% App. Total	24.2	27.6	48.2		21.3	62.3	16.5		18.9	35.3	45.8		21.5	69.4	9.2		
PHF	.819	.771	.665	.790	.798	.843	.665	.808	.641	.611	.831	.743	.660	.793	.579	.916	.817

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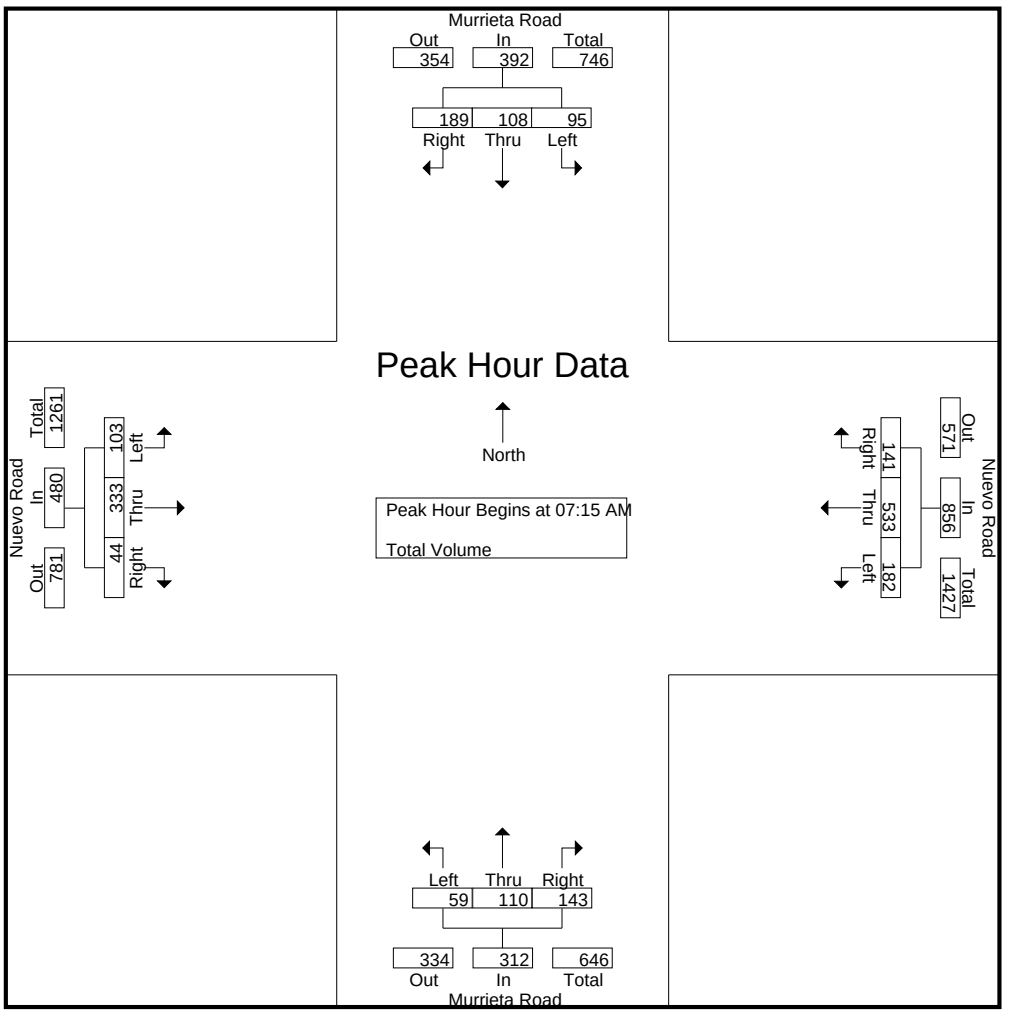
City of Perris
N/S: Murrieta Road
E/W: Nuevo Road
Weather: Clear

File Name : 03_PER_Murr_Nuevo AM
Site Code : 23624088
Start Date : 1/31/2024
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:

	07:15 AM				07:30 AM				07:00 AM				07:30 AM			
+0 mins.	13	25	16	54	**57**	124	50	231	3	21	**49**	73	34	88	9	**131**
+15 mins.	28	**35**	50	113	54	158	**53**	**265**	6	23	35	64	**39**	72	**19**	130
+30 mins.	25	28	**71**	**124**	32	145	22	199	16	20	43	79	15	**105**	7	127
+45 mins.	**29**	20	52	101	26	**159**	8	193	**23**	**45**	37	**105**	12	85	4	101
Total Volume	95	108	189	392	169	586	133	888	48	109	164	321	100	350	39	489
% App. Total	24.2	27.6	48.2		19	66	15		15	34	51.1		20.4	71.6	8	
PHF	.819	.771	.665	.790	.741	.921	.627	.838	.522	.606	.837	.764	.641	.833	.513	.933

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City of Perris
N/S: Murrieta Road
E/W: Nuevo Road
Weather: Clear

File Name : 03_PER_Murr_Nuevo PM
Site Code : 23624088
Start Date : 1/31/2024
Page No : 1

Groups Printed- Total Volume

	Murrieta Road Southbound				Nuevo Road Westbound				Murrieta Road Northbound				Nuevo 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	10	13	17	40	37	161	10	208	9	17	42	68	16	147	8	171	487
04:15 PM	11	14	23	48	21	117	8	146	9	22	35	66	18	140	5	163	423
04:30 PM	12	10	14	36	49	148	3	200	4	18	34	56	11	111	3	125	417
04:45 PM	11	8	8	27	39	141	4	184	3	11	36	50	15	130	3	148	409
Total	44	45	62	151	146	567	25	738	25	68	147	240	60	528	19	607	1736
05:00 PM	3	14	8	25	24	105	0	129	6	27	38	71	12	141	3	156	381
05:15 PM	5	3	8	16	40	127	4	171	6	14	40	60	5	158	3	166	413
05:30 PM	7	13	6	26	36	150	7	193	11	27	54	92	21	177	11	209	520
05:45 PM	7	28	14	49	30	127	10	167	10	24	44	78	17	136	14	167	461
Total	22	58	36	116	130	509	21	660	33	92	176	301	55	612	31	698	1775
Grand Total	66	103	98	267	276	1076	46	1398	58	160	323	541	115	1140	50	1305	3511
Apprch %	24.7	38.6	36.7		19.7	77	3.3		10.7	29.6	59.7		8.8	87.4	3.8		
Total %	1.9	2.9	2.8	7.6	7.9	30.6	1.3	39.8	1.7	4.6	9.2	15.4	3.3	32.5	1.4	37.2	

	Murrieta Road Southbound				Nuevo Road Westbound				Murrieta Road Northbound				Nuevo 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	3	14	8	25	24	105	0	129	6	**27**	38	71	12	141	3	156	381
05:15 PM	5	3	8	16	**40**	127	4	171	6	14	40	60	5	158	3	166	413
05:30 PM	**7**	13	6	26	36	**150**	7	**193**	**11**	27	**54**	**92**	**21**	**177**	11	**209**	**520**
05:45 PM	7	**28**	**14**	**49**	30	127	**10**	167	10	24	44	78	17	136	**14**	167	461
Total Volume	22	58	36	116	130	509	21	660	33	92	176	301	55	612	31	698	1775
% App. Total	19	50	31		19.7	77.1	3.2		11	30.6	58.5		7.9	87.7	4.4		
PHF	.786	.518	.643	.592	.813	.848	.525	.855	.750	.852	.815	.818	.655	.864	.554	.835	.853

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City of Perris
N/S: Murrieta Road
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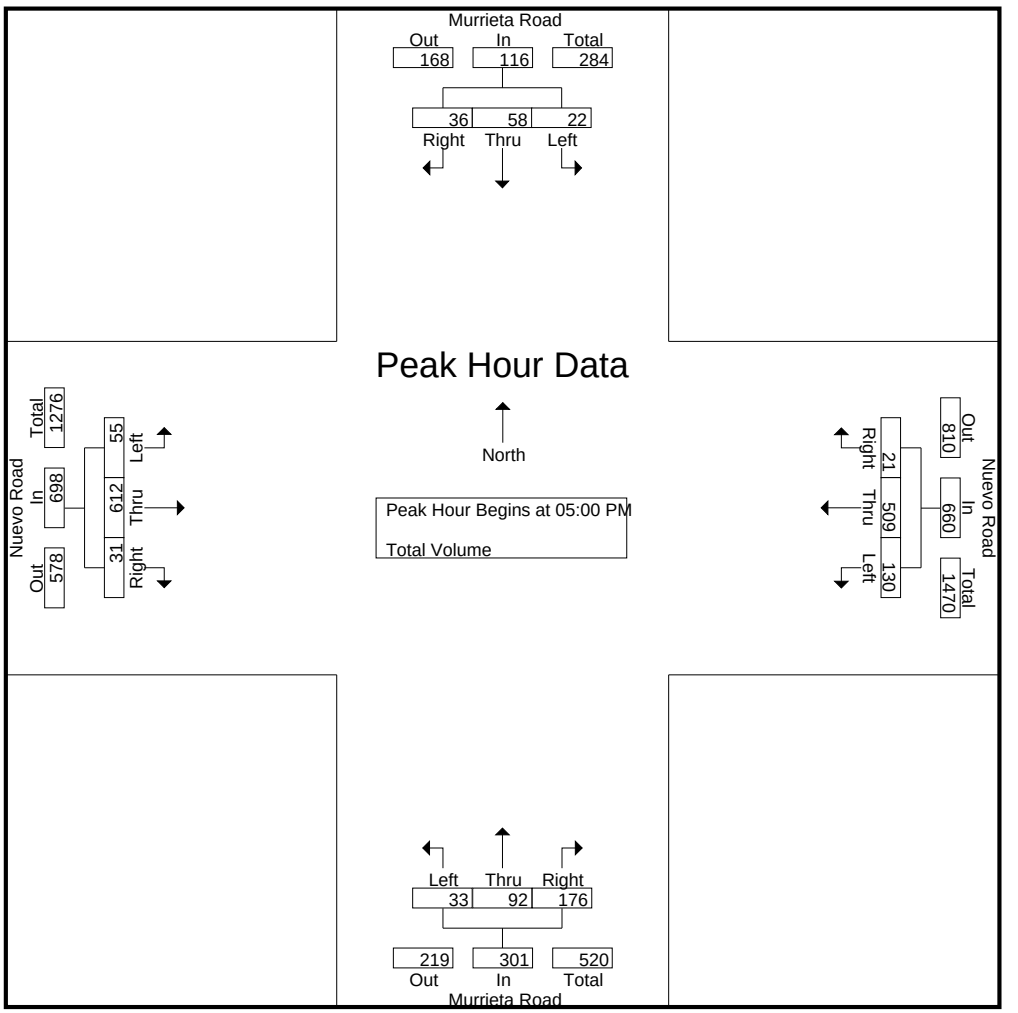
File Name : 03_PER_Murr_Nuevo PM
Site Code : 23624088
Start Date : 1/31/2024
Page No : 2



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

	04:00 PM				04:00 PM				05:00 PM				05:00 PM			
+0 mins.	10	13	17	40	37	**161**	**10**	**208**	6	**27**	38	71	12	141	3	156
+15 mins.	11	**14**	**23**	**48**	21	117	8	146	6	14	40	60	5	158	3	166
+30 mins.	**12**	10	14	36	**49**	148	3	200	**11**	27	**54**	**92**	**21**	**177**	11	**209**
+45 mins.	11	8	8	27	39	141	4	184	10	24	44	78	17	136	**14**	167
Total Volume	44	45	62	151	146	567	25	738	33	92	176	301	55	612	31	698
% App. Total	29.1	29.8	41.1		19.8	76.8	3.4		11	30.6	58.5		7.9	87.7	4.4	
PHF	.917	.804	.674	.786	.745	.880	.625	.887	.750	.852	.815	.818	.655	.864	.554	.835

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Perris
Wilson Avenue
B/ Nuevo Road - Cherry Vista Drive
24 Hour Directional Speed Survey

PER001
Site Code: 236-24088

Northbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
01/31/24	1	0	0	1	0	1	0	0	0	0	0	1	0	0	4
01:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
02:00	0	0	0	0	1	3	0	0	1	0	0	0	0	0	5
03:00	1	0	1	0	5	2	1	0	0	0	0	0	0	0	10
04:00	0	1	0	5	6	3	8	1	0	1	0	0	0	0	25
05:00	0	0	2	6	13	5	3	0	0	0	0	0	0	0	29
06:00	0	0	2	1	2	13	4	2	0	0	0	0	0	0	24
07:00	0	1	4	8	20	9	5	0	0	0	0	0	0	0	47
08:00	2	0	0	7	8	7	3	1	0	0	0	0	0	0	28
09:00	0	2	1	2	6	7	4	1	0	0	0	0	0	0	23
10:00	0	0	1	3	6	1	2	0	1	0	0	0	0	0	14
11:00	1	0	4	4	8	9	2	1	0	0	0	0	0	0	29
12 PM	0	0	2	5	6	11	5	0	0	0	0	0	0	0	29
13:00	1	0	1	3	13	8	2	0	0	0	0	0	0	0	28
14:00	1	0	1	4	11	12	7	1	0	0	0	0	0	0	37
15:00	3	1	2	8	10	10	4	2	0	0	0	0	0	0	40
16:00	0	0	2	7	11	6	4	0	1	0	0	0	0	0	31
17:00	0	0	3	10	26	8	5	5	0	0	0	0	0	0	57
18:00	1	0	1	9	11	7	3	1	0	0	0	0	0	0	33
19:00	0	0	2	8	11	19	2	2	2	0	0	0	0	0	46
20:00	2	0	0	2	1	2	2	0	0	0	0	0	0	10	19
21:00	0	0	0	0	0	0	2	0	3	1	1	4	1	6	18
22:00	0	0	0	0	0	0	0	2	0	1	3	2	0	1	9
23:00	0	1	1	0	0	0	1	2	0	1	3	0	0	0	9
Total	13	6	30	93	175	143	69	22	8	4	7	7	1	17	595

Daily

15th Percentile :	27 MPH
50th Percentile :	34 MPH
85th Percentile :	42 MPH
95th Percentile :	49 MPH

Statistics

Mean Speed(Average) :	35 MPH
10 MPH Pace Speed :	31-40 MPH
Number in Pace :	318
Percent in Pace :	53.4%
Number of Vehicles > 55 MPH :	36
Percent of Vehicles > 55 MPH :	6.1%

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Perris
Wilson Avenue
B/ Nuevo Road - Cherry Vista Drive
24 Hour Directional Speed Survey

PER001
Site Code: 236-24088

Southbound

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
01/31/24	0	0	0	2	2	0	1	0	0	0	0	0	0	0	5
01:00	1	1	0	1	1	2	0	0	0	0	0	0	0	0	6
02:00	1	0	0	0	1	1	1	0	1	0	0	0	0	0	5
03:00	0	1	0	0	2	0	0	0	0	0	0	0	0	0	3
04:00	1	0	1	1	2	2	4	1	0	1	0	0	0	0	13
05:00	0	0	0	1	2	5	3	0	0	0	0	0	0	0	11
06:00	0	1	1	3	2	2	2	0	0	0	0	0	0	0	11
07:00	0	0	1	2	5	9	0	2	0	0	0	0	0	0	19
08:00	0	0	0	3	9	6	2	1	0	0	0	0	1	0	22
09:00	1	0	1	5	2	4	5	1	0	0	0	0	0	0	19
10:00	0	0	0	6	6	10	1	0	0	0	0	0	0	0	23
11:00	0	0	0	6	10	4	0	1	0	0	0	0	0	0	21
12 PM	0	0	4	5	18	10	2	0	2	0	0	0	0	0	41
13:00	1	2	2	7	16	12	3	3	0	0	1	0	0	0	47
14:00	0	1	0	7	8	13	4	2	0	0	0	0	0	0	35
15:00	1	0	7	10	20	18	3	2	1	0	0	0	0	0	62
16:00	2	0	2	9	18	15	9	3	0	0	0	0	0	0	58
17:00	1	0	1	20	17	16	4	2	0	0	0	0	0	0	61
18:00	2	0	2	11	20	12	8	2	0	0	0	0	0	0	57
19:00	0	1	1	15	14	12	3	1	0	0	0	0	0	0	47
20:00	3	0	0	1	6	1	1	1	0	0	0	0	0	15	28
21:00	0	0	0	0	0	0	0	1	0	1	1	2	1	12	18
22:00	0	0	0	0	0	0	0	1	2	1	3	1	4	2	14
23:00	0	0	0	0	0	0	1	0	1	2	3	1	2	1	11
Total	14	7	23	115	181	154	57	24	7	5	8	4	8	30	637

Daily

15th Percentile :	27 MPH
50th Percentile :	33 MPH
85th Percentile :	41 MPH
95th Percentile :	51 MPH

Statistics

Mean Speed(Average) :	35 MPH
10 MPH Pace Speed :	31-40 MPH
Number in Pace :	335
Percent in Pace :	52.6%
Number of Vehicles > 55 MPH :	55
Percent of Vehicles > 55 MPH :	8.6%

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Perris
Wilson Avenue
B/ Nuevo Road - Cherry Vista Drive
24 Hour Directional Speed Survey
Northbound, Southbound

PER001
Site Code: 236-24088

Start	1	16	21	26	31	36	41	46	51	56	61	66	71	76	
Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999	Total
01/31/24	1	0	0	3	2	1	1	0	0	0	0	1	0	0	9
01:00	1	1	0	1	1	2	0	1	0	0	0	0	0	0	7
02:00	1	0	0	0	2	4	1	0	2	0	0	0	0	0	10
03:00	1	1	1	0	7	2	1	0	0	0	0	0	0	0	13
04:00	1	1	1	6	8	5	12	2	0	2	0	0	0	0	38
05:00	0	0	2	7	15	10	6	0	0	0	0	0	0	0	40
06:00	0	1	3	4	4	15	6	2	0	0	0	0	0	0	35
07:00	0	1	5	10	25	18	5	2	0	0	0	0	0	0	66
08:00	2	0	0	10	17	13	5	2	0	0	0	0	1	0	50
09:00	1	2	2	7	8	11	9	2	0	0	0	0	0	0	42
10:00	0	0	1	9	12	11	3	0	1	0	0	0	0	0	37
11:00	1	0	4	10	18	13	2	2	0	0	0	0	0	0	50
12 PM	0	0	6	10	24	21	7	0	2	0	0	0	0	0	70
13:00	2	2	3	10	29	20	5	3	0	0	1	0	0	0	75
14:00	1	1	1	11	19	25	11	3	0	0	0	0	0	0	72
15:00	4	1	9	18	30	28	7	4	1	0	0	0	0	0	102
16:00	2	0	4	16	29	21	13	3	1	0	0	0	0	0	89
17:00	1	0	4	30	43	24	9	7	0	0	0	0	0	0	118
18:00	3	0	3	20	31	19	11	3	0	0	0	0	0	0	90
19:00	0	1	3	23	25	31	5	3	2	0	0	0	0	0	93
20:00	5	0	0	3	7	3	3	1	0	0	0	0	0	25	47
21:00	0	0	0	0	0	0	2	1	3	2	2	6	2	18	36
22:00	0	0	0	0	0	0	0	3	2	2	6	3	4	3	23
23:00	0	1	1	0	0	0	2	2	1	3	6	1	2	1	20
Total	27	13	53	208	356	297	126	46	15	9	15	11	9	47	1232

Daily

15th Percentile :	27 MPH
50th Percentile :	34 MPH
85th Percentile :	42 MPH
95th Percentile :	49 MPH

Statistics

Mean Speed(Average) :	35 MPH
10 MPH Pace Speed :	31-40 MPH
Number in Pace :	653
Percent in Pace :	53.0%
Number of Vehicles > 55 MPH :	91
Percent of Vehicles > 55 MPH :	7.4%

APPENDIX C

HCM ANALYSIS WORKSHEETS

EXISTING TRAFFIC CONDITION

Vistro File: C:\...\DRH23005 Vistro.vistro
Report File: C:\...\E AM.pdf

Scenario 1 E AM
2/21/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Wilson Ave/E Nuevo Rd	Signalized	HCM 7th Edition	WB Left	0.540	12.3	B
2	Redlands Ave/Jade Ave/E Nuevo Rd	Signalized	HCM 7th Edition	EB Left	0.587	20.1	C
3	Murrieta Rd/E Nuevo Rd	Signalized	HCM 7th Edition	NB Left	0.685	28.8	C

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

Intersection Level Of Service Report
Intersection 1: Wilson Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	12.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

Intersection Setup

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	27	18	41	38	9	117	70	424	13	13	805	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	27	18	41	38	9	117	70	424	13	13	805	40
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	5	11	10	2	31	19	114	3	3	216	11
Total Analysis Volume [veh/h]	29	19	44	41	10	126	75	456	14	14	866	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	26	0	0	26	0	18	24	0	10	16	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	7	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	C	L	C	R	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	4	37	37	1	35	35
g / C, Green / Cycle	0.16	0.16	0.06	0.62	0.62	0.02	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.06	0.12	0.05	0.27	0.01	0.01	0.27	0.27
s, saturation flow rate [veh/h]	1547	1498	1629	1710	1454	1629	1710	1682
c, Capacity [veh/h]	325	312	100	1063	904	32	991	975
d1, Uniform Delay [s]	22.58	23.99	27.77	5.87	4.35	29.17	7.26	7.26
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	1.61	10.53	1.27	0.03	9.35	1.55	1.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.28	0.57	0.75	0.43	0.02	0.44	0.46	0.46
d, Delay for Lane Group [s/veh]	23.05	25.61	38.31	7.13	4.38	38.53	8.81	8.84
Lane Group LOS	C	C	D	A	A	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.13	2.36	1.30	2.49	0.06	0.27	3.00	2.96
50th-Percentile Queue Length [ft/ln]	28.31	59.10	32.48	62.27	1.40	6.82	74.98	73.92
95th-Percentile Queue Length [veh/ln]	2.04	4.25	2.34	4.48	0.10	0.49	5.40	5.32
95th-Percentile Queue Length [ft/ln]	50.97	106.37	58.47	112.09	2.52	12.28	134.97	133.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.05	23.05	23.05	25.61	25.61	25.61	38.31	7.13	4.38	38.53	8.83	8.84
Movement LOS	C	C	C	C	C	C	D	A	A	D	A	A
d_A, Approach Delay [s/veh]	23.05			25.61			11.35			9.28		
Approach LOS	C			C			B			A		
d_I, Intersection Delay [s/veh]	12.32											
Intersection LOS	B											
Intersection V/C	0.540											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
l_p,int, Pedestrian LOS Score for Intersectio	1.759	1.849	2.627	2.624
Crosswalk LOS	A	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	732	732	666	399
d_b, Bicycle Delay [s]	12.07	12.07	13.37	19.24
l_b,int, Bicycle LOS Score for Intersection	1.711	1.852	2.459	2.321
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Redlands Ave/Jade Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.587

Intersection Setup

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	94	186	108	21	222	59	60	378	131	175	741	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	94	186	108	21	222	59	60	378	131	175	741	22
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	50	29	6	60	16	16	102	35	47	199	6
Total Analysis Volume [veh/h]	101	200	116	23	239	64	65	407	141	188	798	24
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	26	0	0	26	0	10	26	0	18	34	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	20	20	20	4	29	29	10	35	35
g / C, Green / Cycle	0.28	0.28	0.28	0.28	0.05	0.41	0.41	0.14	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.10	0.12	0.08	0.20	0.04	0.17	0.17	0.12	0.24	0.24
s, saturation flow rate [veh/h]	984	1710	1454	1611	1629	1710	1562	1629	1710	1692
c, Capacity [veh/h]	179	482	410	509	86	695	635	229	845	836
d1, Uniform Delay [s]	26.38	20.48	19.65	22.54	32.76	14.83	14.87	29.27	11.84	11.84
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.75	0.57	0.37	1.35	12.43	1.79	1.99	7.12	2.02	2.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.41	0.28	0.64	0.75	0.41	0.41	0.82	0.49	0.49
d, Delay for Lane Group [s/veh]	29.13	21.05	20.02	23.88	45.19	16.62	16.86	36.39	13.86	13.88
Lane Group LOS	C	C	C	C	D	B	B	D	B	B
Critical Lane Group	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.71	2.59	1.44	4.70	1.35	3.30	3.09	3.40	4.25	4.21
50th-Percentile Queue Length [ft/ln]	42.74	64.81	36.08	117.57	33.78	82.44	77.21	84.93	106.25	105.28
95th-Percentile Queue Length [veh/ln]	3.08	4.67	2.60	8.26	2.43	5.94	5.56	6.12	7.63	7.58
95th-Percentile Queue Length [ft/ln]	76.94	116.67	64.94	206.49	60.81	148.39	138.97	152.88	190.77	189.42

Movement, Approach, & Intersection Results

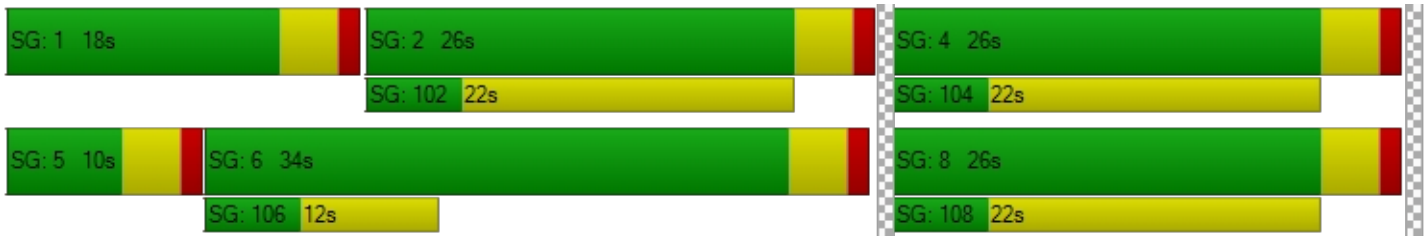
d_M, Delay for Movement [s/veh]	29.13	21.05	20.02	23.88	23.88	23.88	45.19	16.69	16.86	36.39	13.87	13.88
Movement LOS	C	C	C	C	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	22.72			23.88			19.75			18.06		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	20.12											
Intersection LOS	C											
Intersection V/C	0.587											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.61	26.61	26.61	26.61
l_p,int, Pedestrian LOS Score for Intersectio	2.481	2.004	2.740	2.625
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	628	628	628	856
d_b, Bicycle Delay [s]	16.49	16.49	16.49	11.45
l_b,int, Bicycle LOS Score for Intersection	2.248	2.098	2.065	2.393
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Murrieta Rd/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	28.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.685

Intersection Setup

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	300.00	150.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	59	110	143	95	108	189	103	333	44	182	533	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	110	143	95	108	189	103	333	44	182	533	141
Peak Hour Factor	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	34	44	29	33	58	32	102	13	56	163	43
Total Analysis Volume [veh/h]	72	135	175	116	132	231	126	408	54	223	652	173
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	34	0	11	30	0	12	19	0	16	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	10	0	0	14	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	18	7	21	21	8	27	27	12	31	31
g / C, Green / Cycle	0.06	0.23	0.09	0.26	0.26	0.10	0.34	0.34	0.15	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.04	0.20	0.07	0.08	0.16	0.08	0.13	0.04	0.14	0.20	0.12
s, saturation flow rate [veh/h]	1629	1555	1629	1710	1454	1629	3256	1454	1629	3256	1454
c, Capacity [veh/h]	93	353	144	442	376	157	1089	486	245	1265	565
d1, Uniform Delay [s]	37.31	29.93	35.89	23.90	26.23	35.49	20.30	18.44	33.54	18.74	17.02
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.78	7.02	10.06	0.37	1.64	9.12	0.99	0.46	12.31	1.50	1.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.88	0.81	0.30	0.62	0.80	0.37	0.11	0.91	0.52	0.31
d, Delay for Lane Group [s/veh]	50.09	36.94	45.95	24.28	27.87	44.61	21.29	18.91	45.85	20.25	18.42
Lane Group LOS	D	D	D	C	C	D	C	B	D	C	B
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.69	6.24	2.58	1.99	3.91	2.75	2.92	0.73	4.98	4.62	2.32
50th-Percentile Queue Length [ft/ln]	42.37	155.92	64.42	49.87	97.82	68.80	73.10	18.24	124.46	115.47	57.94
95th-Percentile Queue Length [veh/ln]	3.05	10.33	4.64	3.59	7.04	4.95	5.26	1.31	8.64	8.14	4.17
95th-Percentile Queue Length [ft/ln]	76.27	258.32	115.96	89.77	176.08	123.84	131.58	32.83	215.95	203.59	104.30

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	50.09	36.94	36.94	45.95	24.28	27.87	44.61	21.29	18.91	45.85	20.25	18.42
Movement LOS	D	D	D	D	C	C	D	C	B	D	C	B
d_A, Approach Delay [s/veh]	39.42			31.26			26.07			25.39		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	28.82											
Intersection LOS	C											
Intersection V/C	0.685											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.56	31.56	31.56	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.193	2.349	2.699	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	749	649	374	474
d_b, Bicycle Delay [s]	15.67	18.27	26.46	23.31
l_b,int, Bicycle LOS Score for Intersection	2.190	2.350	2.045	2.424
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Vistro File: C:\...\DRH23005 Vistro.vistro
Report File: C:\...\E PM.pdf

Scenario 2 E PM
2/21/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Wilson Ave/E Nuevo Rd	Signalized	HCM 7th Edition	EB Left	0.681	14.1	B
2	Redlands Ave/Jade Ave/E Nuevo Rd	Signalized	HCM 7th Edition	EB Left	0.612	18.7	B
3	Murrieta Rd/E Nuevo Rd	Signalized	HCM 7th Edition	EB Left	0.668	23.8	C

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

Intersection Level Of Service Report
Intersection 1: Wilson Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.681

Intersection Setup

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	29	28	28	39	20	80	102	687	35	38	549	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	28	28	39	20	80	102	687	35	38	549	35
Peak Hour Factor	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	7	7	10	5	21	27	181	9	10	145	9
Total Analysis Volume [veh/h]	31	30	30	41	21	84	108	725	37	40	580	37
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	26	0	0	26	0	18	25	0	9	16	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	7	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	C	L	C	R	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	9	5	36	36	3	34	34
g / C, Green / Cycle	0.15	0.15	0.08	0.61	0.61	0.04	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.06	0.10	0.07	0.42	0.03	0.02	0.18	0.18
s, saturation flow rate [veh/h]	1592	1513	1629	1710	1454	1629	1710	1674
c, Capacity [veh/h]	325	309	140	1033	878	70	959	939
d1, Uniform Delay [s]	22.84	23.74	26.92	8.18	4.84	28.26	7.09	7.09
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	1.12	8.68	3.98	0.09	7.26	0.90	0.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.28	0.47	0.77	0.70	0.04	0.57	0.32	0.33
d, Delay for Lane Group [s/veh]	23.30	24.87	35.60	12.16	4.93	35.52	7.99	8.01
Lane Group LOS	C	C	D	B	A	D	A	A
Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.13	1.90	1.77	5.79	0.16	0.68	1.92	1.89
50th-Percentile Queue Length [ft/ln]	28.18	47.62	44.26	144.86	4.06	16.95	48.03	47.28
95th-Percentile Queue Length [veh/ln]	2.03	3.43	3.19	9.74	0.29	1.22	3.46	3.40
95th-Percentile Queue Length [ft/ln]	50.72	85.71	79.66	243.56	7.30	30.51	86.46	85.11

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.30	23.30	23.30	24.87	24.87	24.87	35.60	12.16	4.93	35.52	8.00	8.01
Movement LOS	C	C	C	C	C	C	D	B	A	D	A	A
d_A, Approach Delay [s/veh]	23.30			24.87			14.76			9.67		
Approach LOS	C			C			B			A		
d_I, Intersection Delay [s/veh]	14.14											
Intersection LOS	B											
Intersection V/C	0.681											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
l_p,int, Pedestrian LOS Score for Intersectio	1.788	1.852	2.630	2.622
Crosswalk LOS	A	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	732	732	699	399
d_b, Bicycle Delay [s]	12.07	12.07	12.71	19.24
l_b,int, Bicycle LOS Score for Intersection	1.710	1.801	2.995	2.102
Bicycle LOS	A	A	C	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Redlands Ave/Jade Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	18.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.612

Intersection Setup

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	89	237	146	19	189	67	59	709	115	91	556	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	89	237	146	19	189	67	59	709	115	91	556	13
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	62	38	5	50	18	15	186	30	24	146	3
Total Analysis Volume [veh/h]	93	249	153	20	198	70	62	744	121	95	583	14
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	11	26	0	14	29	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	18	18	18	4	35	35	5	36	36
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.05	0.50	0.50	0.07	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.09	0.15	0.11	0.19	0.04	0.26	0.26	0.06	0.18	0.18
s, saturation flow rate [veh/h]	1016	1710	1454	1517	1629	1710	1628	1629	1710	1696
c, Capacity [veh/h]	178	446	379	451	82	846	805	119	885	878
d1, Uniform Delay [s]	26.32	22.40	21.39	23.35	32.83	12.06	12.06	31.93	9.87	9.87
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.35	1.10	0.69	1.52	13.36	2.31	2.43	11.41	1.04	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.56	0.40	0.64	0.76	0.52	0.52	0.80	0.34	0.34
d, Delay for Lane Group [s/veh]	28.68	23.49	22.08	24.87	46.19	14.37	14.49	43.34	10.90	10.92
Lane Group LOS	C	C	C	C	D	B	B	D	B	B
Critical Lane Group	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.55	3.49	2.04	4.21	1.31	4.69	4.49	1.90	2.61	2.59
50th-Percentile Queue Length [ft/ln]	38.82	87.18	50.98	105.18	32.69	117.28	112.30	47.62	65.28	64.85
95th-Percentile Queue Length [veh/ln]	2.79	6.28	3.67	7.57	2.35	8.24	7.97	3.43	4.70	4.67
95th-Percentile Queue Length [ft/ln]	69.87	156.93	91.77	189.27	58.85	206.09	199.19	85.72	117.50	116.72

Movement, Approach, & Intersection Results

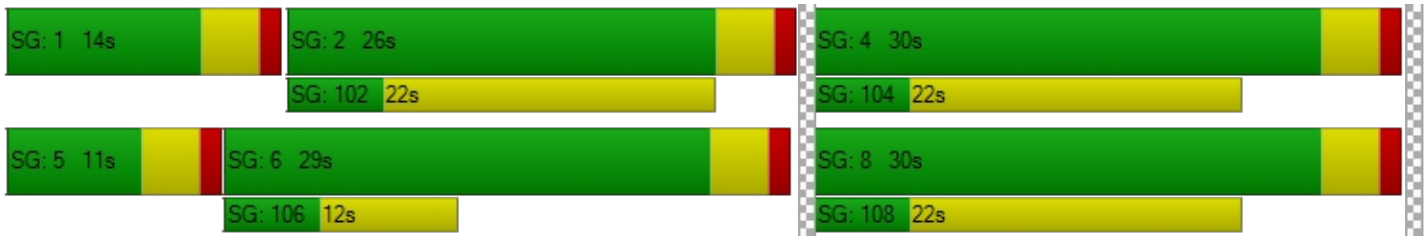
d_M, Delay for Movement [s/veh]	28.68	23.49	22.08	24.87	24.87	24.87	46.19	14.42	14.49	43.34	10.91	10.92
Movement LOS	C	C	C	C	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	24.03			24.87			16.56			15.36		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	18.75											
Intersection LOS	B											
Intersection V/C	0.612											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	26.58	26.58
l_p,int, Pedestrian LOS Score for Intersectio	2.466	2.003	2.747	2.631
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	743	743	629	714
d_b, Bicycle Delay [s]	13.83	13.83	16.46	14.47
l_b,int, Bicycle LOS Score for Intersection	2.376	2.035	2.324	2.131
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Murrieta Rd/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	23.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.668

Intersection Setup

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	300.00	150.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	33	92	176	22	58	36	55	612	31	130	509	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	92	176	22	58	36	55	612	31	130	509	21
Peak Hour Factor	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	27	52	6	17	11	16	179	9	38	149	6
Total Analysis Volume [veh/h]	39	108	206	26	68	42	64	717	36	152	597	25
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	18	19	0	22	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	10	0	0	14	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	19	2	18	18	4	34	34	9	39	39
g / C, Green / Cycle	0.04	0.23	0.03	0.22	0.22	0.05	0.43	0.43	0.12	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.02	0.20	0.02	0.04	0.03	0.04	0.22	0.02	0.09	0.18	0.02
s, saturation flow rate [veh/h]	1629	1533	1629	1710	1454	1629	3256	1454	1629	3256	1454
c, Capacity [veh/h]	62	355	47	381	324	83	1379	616	189	1592	711
d1, Uniform Delay [s]	38.04	29.77	38.42	25.22	24.94	37.62	17.10	13.67	34.55	12.83	10.66
k, delay calibration	0.11	0.12	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.22	7.97	9.54	0.22	0.18	14.11	1.41	0.18	7.70	0.68	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.88	0.55	0.18	0.13	0.77	0.52	0.06	0.80	0.38	0.04
d, Delay for Lane Group [s/veh]	48.26	37.74	47.97	25.44	25.12	51.73	18.50	13.85	42.25	13.51	10.75
Lane Group LOS	D	D	D	C	C	D	B	B	D	B	B
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.92	6.40	0.62	1.04	0.64	1.54	4.82	0.40	3.22	3.24	0.23
50th-Percentile Queue Length [ft/ln]	22.90	160.03	15.52	26.11	15.99	38.51	120.59	9.92	80.53	80.96	5.83
95th-Percentile Queue Length [veh/ln]	1.65	10.55	1.12	1.88	1.15	2.77	8.43	0.71	5.80	5.83	0.42
95th-Percentile Queue Length [ft/ln]	41.22	263.77	27.93	46.99	28.78	69.33	210.64	17.85	144.96	145.72	10.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.26	37.74	37.74	47.97	25.44	25.12	51.73	18.50	13.85	42.25	13.51	10.75
Movement LOS	D	D	D	D	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	38.90			29.65			20.90			19.06		
Approach LOS	D			C			C			B		
d_I, Intersection Delay [s/veh]	23.84											
Intersection LOS	C											
Intersection V/C	0.668											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.56	31.56	31.56	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.134	2.208	2.692	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	649	649	374	474
d_b, Bicycle Delay [s]	18.27	18.27	26.46	23.31
l_b,int, Bicycle LOS Score for Intersection	2.142	1.784	2.234	2.198
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

EXISTING PLUS PROJECT (EP) TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Wilson Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	12.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.432

Intersection Setup

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	29	28	28	39	20	80	102	687	35	38	549	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	3	2	0	5	0	0	0	41	2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	57	31	30	39	25	80	102	687	76	40	549	35
Peak Hour Factor	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	8	8	10	7	21	27	181	20	11	145	9
Total Analysis Volume [veh/h]	60	33	32	41	26	84	108	725	80	42	580	37
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	14	21	0	9	16	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	21	0	0	7	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	C	L	C	R	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	9	5	36	36	3	34	34
g / C, Green / Cycle	0.15	0.15	0.08	0.60	0.60	0.04	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.08	0.10	0.07	0.22	0.06	0.03	0.18	0.18
s, saturation flow rate [veh/h]	1481	1554	1629	3256	1454	1629	1710	1674
c, Capacity [veh/h]	318	317	139	1959	875	72	958	938
d1, Uniform Delay [s]	23.33	23.75	26.96	6.14	5.05	28.21	7.10	7.11
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.79	1.12	8.98	0.54	0.21	7.31	0.90	0.92
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.48	0.78	0.37	0.09	0.58	0.32	0.33
d, Delay for Lane Group [s/veh]	24.12	24.87	35.93	6.68	5.26	35.52	8.00	8.03
Lane Group LOS	C	C	D	A	A	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.60	1.97	1.78	1.89	0.37	0.71	1.93	1.89
50th-Percentile Queue Length [ft/ln]	39.90	49.27	44.51	47.25	9.17	17.75	48.13	47.37
95th-Percentile Queue Length [veh/ln]	2.87	3.55	3.21	3.40	0.66	1.28	3.47	3.41
95th-Percentile Queue Length [ft/ln]	71.82	88.69	80.13	85.06	16.51	31.96	86.63	85.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.12	24.12	24.12	24.87	24.87	24.87	35.93	6.68	5.26	35.52	8.02	8.03
Movement LOS	C	C	C	C	C	C	D	A	A	D	A	A
d_A, Approach Delay [s/veh]	24.12			24.87			10.02			9.77		
Approach LOS	C			C			B			A		
d_I, Intersection Delay [s/veh]	12.10											
Intersection LOS	B											
Intersection V/C	0.432											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
l_p,int, Pedestrian LOS Score for Intersectio	1.829	1.856	2.785	2.623
Crosswalk LOS	A	A	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	865	865	566	399
d_b, Bicycle Delay [s]	9.67	9.67	15.45	19.24
l_b,int, Bicycle LOS Score for Intersection	1.766	1.809	2.313	2.103
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Redlands Ave/Jade Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	19.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.638

Intersection Setup

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	89	237	146	19	189	67	59	709	115	91	556	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	12	5	0	0	0	24	0	8	17	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	89	237	158	24	189	67	59	733	115	99	573	16
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	62	41	6	50	18	15	192	30	26	150	4
Total Analysis Volume [veh/h]	93	249	166	25	198	70	62	769	121	104	601	17
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	34	0	0	34	0	11	26	0	10	25	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	19	19	19	4	34	34	6	36	36
g / C, Green / Cycle	0.26	0.26	0.26	0.26	0.05	0.48	0.48	0.08	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.09	0.15	0.11	0.20	0.04	0.27	0.27	0.06	0.18	0.18
s, saturation flow rate [veh/h]	1016	1710	1454	1480	1629	1710	1630	1629	1710	1693
c, Capacity [veh/h]	180	454	385	448	82	828	789	129	878	869
d1, Uniform Delay [s]	26.02	22.12	21.34	23.28	32.83	12.71	12.71	31.69	10.13	10.13
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.28	1.04	0.76	1.62	13.36	2.63	2.76	10.99	1.12	1.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.55	0.43	0.65	0.76	0.55	0.55	0.80	0.35	0.35
d, Delay for Lane Group [s/veh]	28.30	23.16	22.10	24.90	46.19	15.34	15.46	42.68	11.25	11.26
Lane Group LOS	C	C	C	C	D	B	B	D	B	B
Critical Lane Group	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.54	3.46	2.22	4.40	1.31	5.04	4.83	2.06	2.76	2.74
50th-Percentile Queue Length [ft/ln]	38.62	86.45	55.52	109.95	32.69	125.96	120.76	51.58	69.09	68.55
95th-Percentile Queue Length [veh/ln]	2.78	6.22	4.00	7.84	2.35	8.72	8.43	3.71	4.97	4.94
95th-Percentile Queue Length [ft/ln]	69.51	155.60	99.94	195.93	58.85	217.99	210.87	92.85	124.37	123.38

Movement, Approach, & Intersection Results

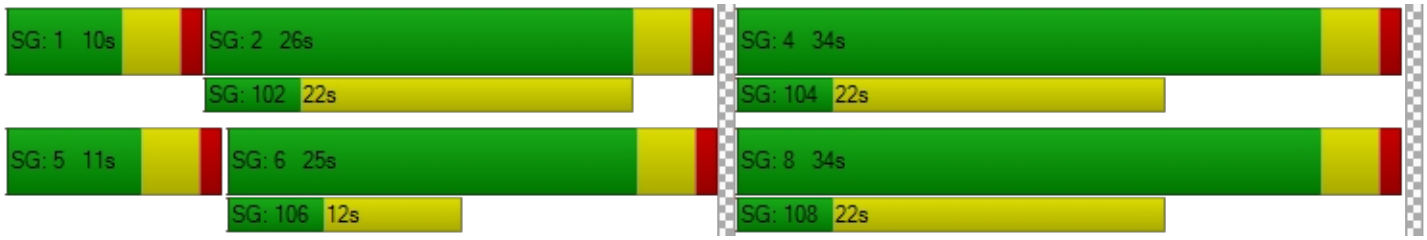
d_M, Delay for Movement [s/veh]	28.30	23.16	22.10	24.90	24.90	24.90	46.19	15.39	15.46	42.68	11.26	11.26
Movement LOS	C	C	C	C	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	23.75			24.90			17.40			15.78		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	19.12											
Intersection LOS	B											
Intersection V/C	0.638											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	26.58	26.58
l_p,int, Pedestrian LOS Score for Intersectio	2.470	2.006	2.756	2.652
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	857	857	629	600
d_b, Bicycle Delay [s]	11.43	11.43	16.46	17.15
l_b,int, Bicycle LOS Score for Intersection	2.398	2.043	2.345	2.155
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Murrieta Rd/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	23.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.668

Intersection Setup

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	300.00	150.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	33	92	176	22	58	36	55	612	31	130	509	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	92	176	22	58	36	55	612	33	130	509	21
Peak Hour Factor	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	27	52	6	17	11	16	179	10	38	149	6
Total Analysis Volume [veh/h]	41	108	206	26	68	42	64	717	39	152	597	25
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	18	0	21	30	0	18	19	0	22	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	10	0	0	14	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	19	2	18	18	4	34	34	9	39	39
g / C, Green / Cycle	0.04	0.23	0.03	0.22	0.22	0.05	0.43	0.43	0.12	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.03	0.20	0.02	0.04	0.03	0.04	0.22	0.03	0.09	0.18	0.02
s, saturation flow rate [veh/h]	1629	1533	1629	1710	1454	1629	3256	1454	1629	3256	1454
c, Capacity [veh/h]	64	355	47	379	322	83	1379	616	189	1592	711
d1, Uniform Delay [s]	38.00	29.77	38.42	25.29	25.01	37.62	17.10	13.70	34.55	12.83	10.66
k, delay calibration	0.11	0.12	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.46	7.96	9.54	0.22	0.18	14.11	1.41	0.20	7.70	0.68	0.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.88	0.55	0.18	0.13	0.77	0.52	0.06	0.80	0.38	0.04
d, Delay for Lane Group [s/veh]	48.46	37.74	47.97	25.52	25.19	51.73	18.50	13.90	42.25	13.51	10.75
Lane Group LOS	D	D	D	C	C	D	B	B	D	B	B
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.96	6.40	0.62	1.05	0.64	1.54	4.82	0.43	3.22	3.24	0.23
50th-Percentile Queue Length [ft/ln]	24.09	160.03	15.52	26.16	16.02	38.51	120.60	10.77	80.53	80.96	5.83
95th-Percentile Queue Length [veh/ln]	1.73	10.55	1.12	1.88	1.15	2.77	8.43	0.78	5.80	5.83	0.42
95th-Percentile Queue Length [ft/ln]	43.35	263.76	27.93	47.08	28.83	69.33	210.64	19.39	144.96	145.72	10.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.46	37.74	37.74	47.97	25.52	25.19	51.73	18.50	13.90	42.25	13.51	10.75
Movement LOS	D	D	D	D	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	38.98			29.71			20.88			19.06		
Approach LOS	D			C			C			B		
d_I, Intersection Delay [s/veh]	23.86											
Intersection LOS	C											
Intersection V/C	0.668											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.56	31.56	31.56	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.135	2.208	2.692	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	350	649	374	474
d_b, Bicycle Delay [s]	27.28	18.27	26.46	23.31
l_b,int, Bicycle LOS Score for Intersection	2.145	1.784	2.236	2.198
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Wilson Ave/Driveway #1

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name	Wilson Avenue		Wilson Avenue		Driveway #1	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Wilson Avenue		Wilson Avenue		Driveway #1	
Base Volume Input [veh/h]	85	0	0	93	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	0	48	0	0	23
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	0	48	93	0	23
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	0	13	25	0	6
Total Analysis Volume [veh/h]	102	0	52	100	0	25
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	7.46	0.00	10.51	8.86
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.09	0.09	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.23	2.23	2.01	2.01
d_A, Approach Delay [s/veh]	0.00		2.55		8.86	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.18					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Wilson Ave/Driveway #2

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Wilson Avenue		Wilson Avenue		Driveway #2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Wilson Avenue		Wilson Avenue		Driveway #2	
Base Volume Input [veh/h]	85	0	0	93	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	85	0	0	93	0	10
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	0	0	25	0	3
Total Analysis Volume [veh/h]	91	0	0	100	0	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	9.53	8.75
Movement LOS	A			A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.86	0.86
d_A, Approach Delay [s/veh]	0.00		0.00		8.75	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.48					
Intersection LOS	A					

OPENING YEAR (OY) TRAFFIC CONDITIONS

Vistro File: C:\...\DRH23005 Vistro.vistro
Report File: C:\...\EAC AM.pdf

Scenario 5 EAC AM
2/21/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Wilson Ave/E Nuevo Rd	Signalized	HCM 7th Edition	EB Left	0.572	12.7	B
2	Redlands Ave/Jade Ave/E Nuevo Rd	Signalized	HCM 7th Edition	EB Left	0.623	21.0	C
3	Murrieta Rd/E Nuevo Rd	Signalized	HCM 7th Edition	WB Left	0.727	30.5	C

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

Intersection Level Of Service Report
Intersection 1: Wilson Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	12.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.572

Intersection Setup

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	27	18	41	38	9	117	70	424	13	13	805	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	29	19	43	40	10	124	74	450	14	14	854	42
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	5	12	11	3	33	20	121	4	4	230	11
Total Analysis Volume [veh/h]	31	20	46	43	11	133	80	484	15	15	918	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	26	0	0	26	0	18	24	0	10	16	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	7	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	C	L	C	R	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	4	37	37	1	35	35
g / C, Green / Cycle	0.16	0.16	0.06	0.62	0.62	0.02	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.06	0.12	0.05	0.28	0.01	0.01	0.28	0.28
s, saturation flow rate [veh/h]	1526	1502	1629	1710	1454	1629	1710	1682
c, Capacity [veh/h]	324	315	104	1059	900	33	985	969
d1, Uniform Delay [s]	22.57	24.08	27.74	6.08	4.41	29.13	7.55	7.55
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.51	1.78	11.49	1.42	0.03	9.09	1.76	1.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.59	0.77	0.46	0.02	0.45	0.49	0.49
d, Delay for Lane Group [s/veh]	23.08	25.86	39.24	7.51	4.44	38.21	9.31	9.34
Lane Group LOS	C	C	D	A	A	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.20	2.52	1.40	2.75	0.06	0.29	3.30	3.26
50th-Percentile Queue Length [ft/ln]	29.92	62.94	35.10	68.63	1.52	7.22	82.62	81.46
95th-Percentile Queue Length [veh/ln]	2.15	4.53	2.53	4.94	0.11	0.52	5.95	5.87
95th-Percentile Queue Length [ft/ln]	53.85	113.29	63.19	123.53	2.73	12.99	148.71	146.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.08	23.08	23.08	25.86	25.86	25.86	39.24	7.51	4.44	38.21	9.32	9.34
Movement LOS	C	C	C	C	C	C	D	A	A	D	A	A
d_A, Approach Delay [s/veh]	23.08			25.86			11.81			9.76		
Approach LOS	C			C			B			A		
d_I, Intersection Delay [s/veh]	12.74											
Intersection LOS	B											
Intersection V/C	0.572											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
l_p,int, Pedestrian LOS Score for Intersectio	1.763	1.857	2.649	2.644
Crosswalk LOS	A	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	732	732	666	399
d_b, Bicycle Delay [s]	12.07	12.07	13.37	19.24
l_b,int, Bicycle LOS Score for Intersection	1.720	1.868	2.515	2.366
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Redlands Ave/Jade Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	21.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.623

Intersection Setup

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	94	186	108	21	222	59	60	378	131	175	741	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	197	115	22	236	63	64	401	139	186	786	23
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	53	31	6	64	17	17	108	37	50	212	6
Total Analysis Volume [veh/h]	108	212	124	24	254	68	69	432	150	200	846	25
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	26	0	0	26	0	10	26	0	18	34	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	21	21	21	4	27	27	10	34	34
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.05	0.38	0.38	0.15	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.11	0.12	0.09	0.21	0.04	0.18	0.18	0.12	0.26	0.26
s, saturation flow rate [veh/h]	967	1710	1454	1610	1629	1710	1562	1629	1710	1693
c, Capacity [veh/h]	183	508	432	533	87	656	600	241	817	809
d1, Uniform Delay [s]	26.32	19.76	18.92	21.91	32.76	16.16	16.19	29.01	12.83	12.83
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.01	0.55	0.36	1.34	14.54	2.32	2.59	7.27	2.51	2.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.42	0.29	0.65	0.79	0.46	0.47	0.83	0.54	0.54
d, Delay for Lane Group [s/veh]	29.33	20.31	19.29	23.25	47.30	18.48	18.78	36.27	15.34	15.36
Lane Group LOS	C	C	B	C	D	B	B	D	B	B
Critical Lane Group	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.84	2.69	1.51	4.92	1.47	3.77	3.52	3.61	4.84	4.80
50th-Percentile Queue Length [ft/ln]	45.90	67.22	37.66	123.06	36.80	94.24	88.07	90.24	121.02	119.96
95th-Percentile Queue Length [veh/ln]	3.30	4.84	2.71	8.56	2.65	6.79	6.34	6.50	8.45	8.39
95th-Percentile Queue Length [ft/ln]	82.62	121.00	67.79	214.03	66.23	169.64	158.52	162.43	211.22	209.77

Movement, Approach, & Intersection Results

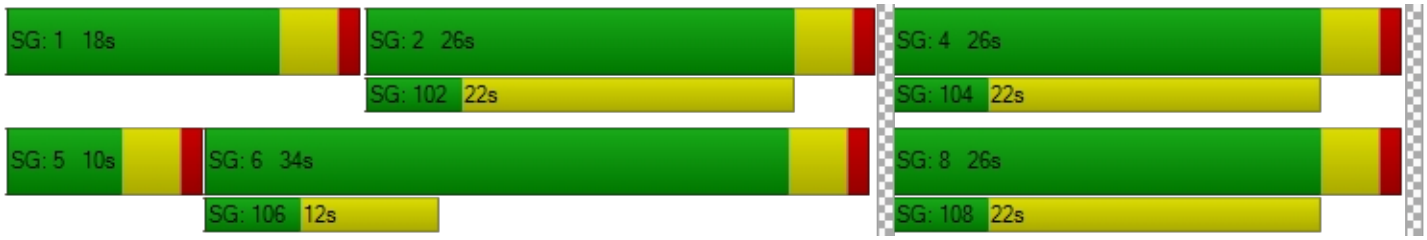
d_M, Delay for Movement [s/veh]	29.33	20.31	19.29	23.25	23.25	23.25	47.30	18.57	18.78	36.27	15.35	15.36
Movement LOS	C	C	B	C	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	22.22			23.25			21.66			19.26		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	20.95											
Intersection LOS	C											
Intersection V/C	0.623											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.59	26.59	26.59	26.59
l_p,int, Pedestrian LOS Score for Intersectio	2.493	2.022	2.769	2.645
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	628	628	628	857
d_b, Bicycle Delay [s]	16.47	16.47	16.47	11.44
l_b,int, Bicycle LOS Score for Intersection	2.292	2.131	2.097	2.443
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Murrieta Rd/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	30.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.727

Intersection Setup

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	300.00	150.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	59	110	143	95	108	189	103	333	44	182	533	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	63	117	152	101	115	201	109	353	47	193	565	150
Peak Hour Factor	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	36	47	31	35	62	33	108	14	59	173	46
Total Analysis Volume [veh/h]	77	143	186	124	141	246	133	432	58	236	692	184
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	34	0	11	30	0	12	19	0	16	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	10	0	0	14	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	19	7	21	21	8	26	26	12	30	30
g / C, Green / Cycle	0.06	0.24	0.09	0.27	0.27	0.10	0.32	0.32	0.15	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.05	0.21	0.08	0.08	0.17	0.08	0.13	0.04	0.14	0.21	0.13
s, saturation flow rate [veh/h]	1629	1555	1629	1710	1454	1629	3256	1454	1629	3256	1454
c, Capacity [veh/h]	99	372	144	456	387	164	1050	469	245	1212	541
d1, Uniform Delay [s]	37.12	29.45	36.08	23.51	25.97	35.32	21.23	19.18	33.85	20.08	18.10
k, delay calibration	0.11	0.13	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.04	8.42	13.77	0.38	1.73	9.15	1.19	0.54	19.20	1.96	1.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.88	0.86	0.31	0.63	0.81	0.41	0.12	0.96	0.57	0.34
d, Delay for Lane Group [s/veh]	49.16	37.87	49.85	23.90	27.70	44.47	22.42	19.72	53.06	22.03	19.80
Lane Group LOS	D	D	D	C	C	D	C	B	D	C	B
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.79	6.74	2.89	2.11	4.17	2.90	3.20	0.81	5.73	5.19	2.59
50th-Percentile Queue Length [ft/ln]	44.74	168.43	72.18	52.85	104.16	72.48	80.11	20.14	143.25	129.69	64.64
95th-Percentile Queue Length [veh/ln]	3.22	10.99	5.20	3.81	7.50	5.22	5.77	1.45	9.66	8.92	4.65
95th-Percentile Queue Length [ft/ln]	80.53	274.85	129.93	95.13	187.49	130.46	144.20	36.25	241.40	223.07	116.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.16	37.87	37.87	49.85	23.90	27.70	44.47	22.42	19.72	53.06	22.03	19.80
Movement LOS	D	D	D	D	C	C	D	C	B	D	C	B
d_A, Approach Delay [s/veh]	40.01			32.02			26.88			28.25		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	30.45											
Intersection LOS	C											
Intersection V/C	0.727											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.56	31.56	31.56	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.209	2.363	2.715	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	749	649	374	474
d_b, Bicycle Delay [s]	15.67	18.27	26.46	23.31
l_b,int, Bicycle LOS Score for Intersection	2.230	2.403	2.074	2.477
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Vistro File: C:\...\DRH23005 Vistro.vistro
Report File: C:\...\6 EAC PM.pdf

Scenario 6 EAC PM
2/21/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Wilson Ave/E Nuevo Rd	Signalized	HCM 7th Edition	WB Left	0.723	14.9	B
2	Redlands Ave/Jade Ave/E Nuevo Rd	Signalized	HCM 7th Edition	EB Left	0.649	19.9	B
3	Murrieta Rd/E Nuevo Rd	Signalized	HCM 7th Edition	EB Left	0.709	25.0	C

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

Intersection Level Of Service Report
Intersection 1: Wilson Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	14.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.723

Intersection Setup

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	29	28	28	39	20	80	102	687	35	38	549	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	31	30	30	41	21	85	108	729	37	40	582	37
Peak Hour Factor	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	8	8	11	6	22	29	192	10	11	154	10
Total Analysis Volume [veh/h]	33	32	32	43	22	90	114	770	39	42	615	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	26	0	0	26	0	18	25	0	9	16	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	7	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	C	L	C	R	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	9	5	36	36	3	33	33
g / C, Green / Cycle	0.15	0.15	0.09	0.60	0.60	0.04	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.06	0.10	0.07	0.45	0.03	0.03	0.19	0.19
s, saturation flow rate [veh/h]	1581	1518	1629	1710	1454	1629	1710	1674
c, Capacity [veh/h]	326	313	148	1027	873	72	948	928
d1, Uniform Delay [s]	22.82	23.78	26.75	8.72	4.93	28.21	7.40	7.40
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.50	1.22	8.30	5.02	0.10	7.31	1.01	1.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.50	0.77	0.75	0.04	0.58	0.35	0.35
d, Delay for Lane Group [s/veh]	23.32	24.99	35.05	13.74	5.02	35.52	8.41	8.44
Lane Group LOS	C	C	D	B	A	D	A	A
Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.20	2.03	1.85	6.69	0.17	0.71	2.12	2.08
50th-Percentile Queue Length [ft/ln]	30.09	50.78	46.23	167.22	4.34	17.75	52.97	52.12
95th-Percentile Queue Length [veh/ln]	2.17	3.66	3.33	10.93	0.31	1.28	3.81	3.75
95th-Percentile Queue Length [ft/ln]	54.16	91.40	83.21	273.26	7.82	31.96	95.35	93.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.32	23.32	23.32	24.99	24.99	24.99	35.05	13.74	5.02	35.52	8.43	8.44
Movement LOS	C	C	C	C	C	C	D	B	A	D	A	A
d_A, Approach Delay [s/veh]	23.32			24.99			16.00			10.06		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	14.92											
Intersection LOS	B											
Intersection V/C	0.723											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
l_p,int, Pedestrian LOS Score for Intersectio	1.793	1.861	2.651	2.642
Crosswalk LOS	A	A	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	732	732	699	399
d_b, Bicycle Delay [s]	12.07	12.07	12.71	19.24
l_b,int, Bicycle LOS Score for Intersection	1.720	1.815	3.083	2.134
Bicycle LOS	A	A	C	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Redlands Ave/Jade Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	19.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.649

Intersection Setup

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	89	237	146	19	189	67	59	709	115	91	556	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	94	251	155	20	201	71	63	752	122	97	590	14
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	66	41	5	53	19	17	197	32	25	155	4
Total Analysis Volume [veh/h]	99	263	163	21	211	75	66	789	128	102	619	15
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	11	26	0	14	29	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	21	21	21	4	32	32	5	34	34
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.05	0.46	0.46	0.08	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.10	0.15	0.11	0.20	0.04	0.27	0.27	0.06	0.19	0.19
s, saturation flow rate [veh/h]	999	1710	1454	1535	1629	1710	1628	1629	1710	1696
c, Capacity [veh/h]	179	503	428	507	84	780	742	128	826	819
d1, Uniform Delay [s]	25.88	20.61	19.64	21.51	32.81	14.28	14.28	31.71	11.51	11.51
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.63	0.84	0.56	1.17	14.64	3.43	3.60	10.80	1.36	1.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.52	0.38	0.61	0.78	0.60	0.60	0.80	0.39	0.39
d, Delay for Lane Group [s/veh]	28.51	21.45	20.20	22.68	47.45	17.72	17.89	42.51	12.87	12.88
Lane Group LOS	C	C	C	C	D	B	B	D	B	B
Critical Lane Group	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.66	3.48	2.05	4.25	1.41	5.74	5.50	2.02	3.12	3.10
50th-Percentile Queue Length [ft/ln]	41.56	87.03	51.33	106.32	35.30	143.48	137.46	50.48	78.11	77.57
95th-Percentile Queue Length [veh/ln]	2.99	6.27	3.70	7.64	2.54	9.67	9.34	3.63	5.62	5.59
95th-Percentile Queue Length [ft/ln]	74.81	156.66	92.39	190.88	63.55	241.71	233.60	90.86	140.59	139.63

Movement, Approach, & Intersection Results

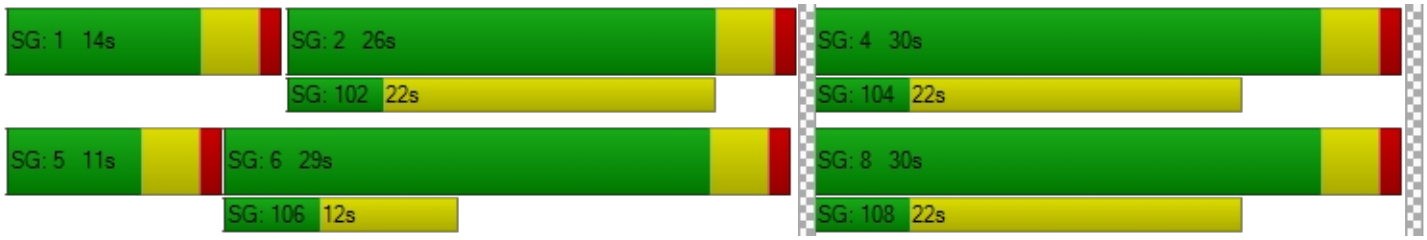
d_M, Delay for Movement [s/veh]	28.51	21.45	20.20	22.68	22.68	22.68	47.45	17.78	17.89	42.51	12.87	12.88
Movement LOS	C	C	C	C	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	22.39			22.68			19.79			16.98		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	19.86											
Intersection LOS	B											
Intersection V/C	0.649											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.58	26.58	26.58	26.58
l_p,int, Pedestrian LOS Score for Intersectio	2.477	2.021	2.776	2.652
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	743	743	629	714
d_b, Bicycle Delay [s]	13.83	13.83	16.46	14.46
l_b,int, Bicycle LOS Score for Intersection	2.426	2.066	2.371	2.167
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Murrieta Rd/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	25.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.709

Intersection Setup

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	300.00	150.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	33	92	176	22	58	36	55	612	31	130	509	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	35	98	187	23	62	38	58	649	33	138	540	22
Peak Hour Factor	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	29	55	7	18	11	17	190	10	40	158	6
Total Analysis Volume [veh/h]	41	115	219	27	73	45	68	761	39	162	633	26
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	18	19	0	22	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	10	0	0	14	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	20	2	19	19	4	32	32	10	38	38
g / C, Green / Cycle	0.04	0.24	0.03	0.23	0.23	0.05	0.40	0.40	0.12	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.03	0.22	0.02	0.04	0.03	0.04	0.23	0.03	0.10	0.19	0.02
s, saturation flow rate [veh/h]	1629	1533	1629	1710	1454	1629	3256	1454	1629	3256	1454
c, Capacity [veh/h]	64	374	49	402	342	88	1314	586	200	1538	687
d1, Uniform Delay [s]	38.00	29.29	38.39	24.51	24.22	37.46	18.62	14.66	34.26	13.86	11.37
k, delay calibration	0.11	0.14	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.46	9.59	9.53	0.21	0.17	13.30	1.87	0.22	7.57	0.82	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.89	0.56	0.18	0.13	0.77	0.58	0.07	0.81	0.41	0.04
d, Delay for Lane Group [s/veh]	48.46	38.88	47.92	24.73	24.39	50.76	20.49	14.88	41.83	14.67	11.47
Lane Group LOS	D	D	D	C	C	D	C	B	D	B	B
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.96	6.95	0.64	1.10	0.67	1.62	5.48	0.45	3.42	3.64	0.25
50th-Percentile Queue Length [ft/ln]	24.09	173.73	16.07	27.56	16.83	40.39	137.09	11.27	85.41	91.01	6.33
95th-Percentile Queue Length [veh/ln]	1.73	11.27	1.16	1.98	1.21	2.91	9.32	0.81	6.15	6.55	0.46
95th-Percentile Queue Length [ft/ln]	43.35	281.81	28.93	49.60	30.29	72.70	233.09	20.28	153.74	163.82	11.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.46	38.88	38.88	47.92	24.73	24.39	50.76	20.49	14.88	41.83	14.67	11.47
Movement LOS	D	D	D	D	C	C	D	C	B	D	B	B
d_A, Approach Delay [s/veh]	39.93			28.94			22.61			19.93		
Approach LOS	D			C			C			B		
d_I, Intersection Delay [s/veh]	24.97											
Intersection LOS	C											
Intersection V/C	0.709											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.56	31.56	31.56	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.147	2.213	2.706	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	649	649	374	474
d_b, Bicycle Delay [s]	18.27	18.27	26.46	23.31
l_b,int, Bicycle LOS Score for Intersection	2.178	1.799	2.276	2.237
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

OPENING YEAR PLUS PROJECT (OYP) TRAFFIC CONDITIONS

Vistro File: Z:\...\DRH23005 Vistro 09182024.vistro
Report File: Z:\...\7 EACP AM RTC.pdf

Scenario 7 EACP AM
9/18/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Wilson Ave/E Nuevo Rd	Signalized	HCM 7th Edition	EB Left	0.568	12.6	B
2	Redlands Ave/Jade Ave/E Nuevo Rd	Signalized	HCM 7th Edition	EB Left	0.639	21.3	C
3	Murrieta Rd/E Nuevo Rd	Signalized	HCM 7th Edition	NB Left	0.727	29.7	C
4	Wilson Ave/Driveway #1	Two-way stop	HCM 7th Edition	WB Right	0.041	9.0	A
5	Wilson Ave/Driveway #2	Two-way stop	HCM 7th Edition	WB Right	0.017	8.8	A

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

Intersection Level Of Service Report
Intersection 1: Wilson Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	12.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.568

Intersection Setup

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	27	18	41	38	9	117	70	424	13	13	805	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	43	5	3	0	1	0	0	0	15	1	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	72	24	46	40	11	124	74	450	29	15	854	42
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	19	6	12	11	3	33	20	121	8	4	230	11
Total Analysis Volume [veh/h]	77	26	49	43	12	133	80	484	31	16	918	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	14	21	0	9	16	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	21	0	0	7	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	C	L	C	R	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	4	37	37	1	35	35
g / C, Green / Cycle	0.16	0.16	0.06	0.62	0.62	0.02	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.12	0.12	0.05	0.15	0.02	0.01	0.28	0.28
s, saturation flow rate [veh/h]	1316	1550	1629	3256	1454	1629	1710	1682
c, Capacity [veh/h]	302	323	103	2012	898	35	985	969
d1, Uniform Delay [s]	23.74	24.09	27.74	5.16	4.49	29.08	7.55	7.55
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.30	1.66	11.53	0.28	0.07	8.85	1.76	1.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.58	0.77	0.24	0.03	0.45	0.49	0.49
d, Delay for Lane Group [s/veh]	25.04	25.75	39.27	5.44	4.56	37.93	9.31	9.34
Lane Group LOS	C	C	D	A	A	D	A	A
Critical Lane Group	No	Yes	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.01	2.53	1.40	1.06	0.13	0.30	3.31	3.26
50th-Percentile Queue Length [ft/ln]	50.33	63.17	35.12	26.61	3.19	7.60	82.66	81.50
95th-Percentile Queue Length [veh/ln]	3.62	4.55	2.53	1.92	0.23	0.55	5.95	5.87
95th-Percentile Queue Length [ft/ln]	90.59	113.70	63.22	47.91	5.75	13.69	148.78	146.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.04	25.04	25.04	25.75	25.75	25.75	39.27	5.44	4.56	37.93	9.33	9.34
Movement LOS	C	C	C	C	C	C	D	A	A	D	A	A
d_A, Approach Delay [s/veh]	25.04			25.75			9.94			9.79		
Approach LOS	C			C			A			A		
d_I, Intersection Delay [s/veh]	12.62											
Intersection LOS	B											
Intersection V/C	0.568											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
l_p,int, Pedestrian LOS Score for Intersection	1.798	1.861	2.823	2.645
Crosswalk LOS	A	A	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	865	865	566	399
d_b, Bicycle Delay [s]	9.67	9.67	15.45	19.24
l_b,int, Bicycle LOS Score for Intersection	1.810	1.870	2.050	2.367
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Redlands Ave/Jade Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.639

Intersection Setup

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	94	186	108	21	222	59	60	378	131	175	741	22
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	4	2	0	0	0	9	0	13	25	5
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	197	119	24	236	63	64	410	139	199	811	28
Peak Hour Factor	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290	0.9290
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	53	32	6	64	17	17	110	37	54	218	8
Total Analysis Volume [veh/h]	108	212	128	26	254	68	69	441	150	214	873	30
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	26	0	0	26	0	28	26	0	18	16	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	21	21	21	4	26	26	11	33	33
g / C, Green / Cycle	0.30	0.30	0.30	0.30	0.05	0.37	0.37	0.16	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.11	0.12	0.09	0.22	0.04	0.18	0.18	0.13	0.27	0.27
s, saturation flow rate [veh/h]	967	1710	1454	1606	1629	1710	1564	1629	1710	1690
c, Capacity [veh/h]	183	510	434	534	88	639	585	255	815	805
d1, Uniform Delay [s]	26.26	19.69	18.92	21.87	32.74	16.74	16.77	28.69	13.07	13.07
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.03	0.54	0.38	1.35	14.07	2.58	2.86	7.25	2.74	2.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.42	0.30	0.65	0.78	0.48	0.48	0.84	0.56	0.56
d, Delay for Lane Group [s/veh]	29.29	20.23	19.29	23.22	46.81	19.32	19.64	35.94	15.82	15.85
Lane Group LOS	C	C	B	C	D	B	B	D	B	B
Critical Lane Group	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.84	2.68	1.56	4.95	1.46	3.94	3.68	3.85	5.13	5.08
50th-Percentile Queue Length [ft/ln]	45.91	67.09	38.93	123.80	36.56	98.42	92.04	96.17	128.17	126.90
95th-Percentile Queue Length [veh/ln]	3.31	4.83	2.80	8.60	2.63	7.09	6.63	6.92	8.84	8.77
95th-Percentile Queue Length [ft/ln]	82.64	120.76	70.07	215.03	65.81	177.16	165.68	173.11	221.00	219.28

Movement, Approach, & Intersection Results

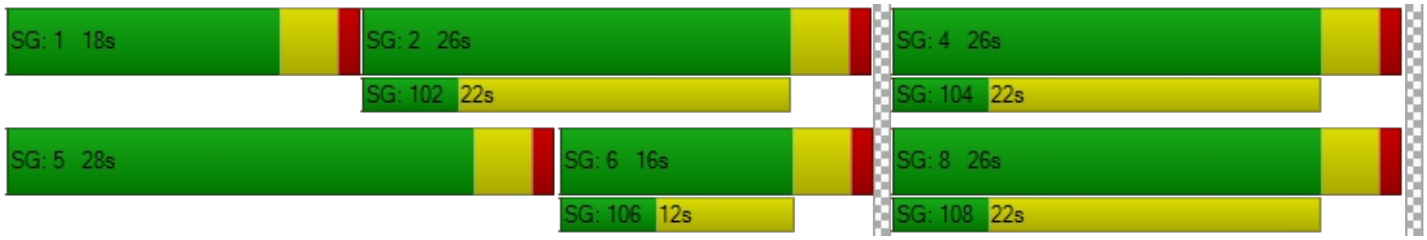
d_M, Delay for Movement [s/veh]	29.29	20.23	19.29	23.22	23.22	23.22	46.81	19.41	19.64	35.94	15.83	15.85
Movement LOS	C	C	B	C	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	22.15			23.22			22.33			19.69		
Approach LOS	C			C			C			B		
d_I, Intersection Delay [s/veh]	21.27											
Intersection LOS	C											
Intersection V/C	0.639											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.59	26.59	26.59	26.59
l_p,int, Pedestrian LOS Score for Intersection	2.497	2.025	2.776	2.660
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	628	628	628	343
d_b, Bicycle Delay [s]	16.47	16.47	16.47	24.04
l_b,int, Bicycle LOS Score for Intersection	2.299	2.134	2.104	2.481
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Murrieta Rd/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.727

Intersection Setup

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	300.00	150.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1000.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	59	110	143	95	108	189	103	333	44	182	533	141
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	0	0	0	0	0	0	0	3	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	117	152	101	115	201	109	353	50	193	565	150
Peak Hour Factor	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170	0.8170
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	36	47	31	35	62	33	108	15	59	173	46
Total Analysis Volume [veh/h]	78	143	186	124	141	246	133	432	61	236	692	184
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	32	0	12	30	0	12	19	0	17	24	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	10	0	0	14	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	19	8	22	22	8	24	24	13	29	29
g / C, Green / Cycle	0.06	0.24	0.09	0.27	0.27	0.10	0.31	0.31	0.16	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.05	0.21	0.08	0.08	0.17	0.08	0.13	0.04	0.14	0.21	0.13
s, saturation flow rate [veh/h]	1629	1555	1629	1710	1454	1629	3256	1454	1629	3256	1454
c, Capacity [veh/h]	101	371	155	465	395	164	990	442	265	1192	532
d1, Uniform Delay [s]	37.09	29.49	35.55	23.17	25.59	35.32	22.41	20.28	32.87	20.47	18.46
k, delay calibration	0.11	0.13	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.98	8.57	9.17	0.36	1.61	9.15	1.40	0.65	9.86	2.07	1.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.89	0.80	0.30	0.62	0.81	0.44	0.14	0.89	0.58	0.35
d, Delay for Lane Group [s/veh]	49.06	38.06	44.72	23.53	27.19	44.47	23.81	20.94	42.73	22.54	20.23
Lane Group LOS	D	D	D	C	C	D	C	C	D	C	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.81	6.75	2.71	2.09	4.12	2.90	3.32	0.88	5.07	5.26	2.62
50th-Percentile Queue Length [ft/ln]	45.25	168.87	67.81	52.37	103.07	72.48	83.12	22.02	126.83	131.45	65.49
95th-Percentile Queue Length [veh/ln]	3.26	11.02	4.88	3.77	7.42	5.22	5.98	1.59	8.77	9.02	4.72
95th-Percentile Queue Length [ft/ln]	81.46	275.43	122.06	94.27	185.52	130.46	149.61	39.63	219.17	225.46	117.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	49.06	38.06	38.06	44.72	23.53	27.19	44.47	23.81	20.94	42.73	22.54	20.23
Movement LOS	D	D	D	D	C	C	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	40.17			30.44			27.92			26.44		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	29.66											
Intersection LOS	C											
Intersection V/C	0.727											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.56	31.56	31.56	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.211	2.363	2.715	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	699	649	374	499
d_b, Bicycle Delay [s]	16.95	18.27	26.46	22.55
l_b,int, Bicycle LOS Score for Intersection	2.231	2.403	2.076	2.477
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Wilson Ave/Driveway #1

Control Type:	Two-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.041

Intersection Setup

Name	Wilson Avenue		Wilson Avenue		Driveway #1	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Wilson Avenue		Wilson Avenue		Driveway #1	
Base Volume Input [veh/h]	86	0	0	35	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	0	17	0	0	36
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	106	0	17	37	0	36
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	0	5	10	0	10
Total Analysis Volume [veh/h]	114	0	18	40	0	39
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.00	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	7.44	0.00	9.70	8.98
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.76	0.76	3.23	3.23
d_A, Approach Delay [s/veh]	0.00		2.31		8.98	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.29					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Wilson Ave/Driveway #2

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Wilson Avenue		Wilson Avenue		Driveway #2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Wilson Avenue		Wilson Avenue		Driveway #2	
Base Volume Input [veh/h]	86	0	0	35	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0609	1.0000	1.0000	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	15
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	91	0	0	37	0	15
Peak Hour Factor	0.9300	1.0000	1.0000	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	0	0	10	0	4
Total Analysis Volume [veh/h]	98	0	0	40	0	16
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	9.25	8.80
Movement LOS	A			A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	1.27	1.27
d_A, Approach Delay [s/veh]	0.00		0.00		8.80	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.91					
Intersection LOS	A					

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Report File: Z:\...\8 EACP PM RTC.pdf

Scenario 8 EACP PM
9/18/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Wilson Ave/E Nuevo Rd	Signalized	HCM 7th Edition	WB Left	0.459	12.3	B
2	Redlands Ave/Jade Ave/E Nuevo Rd	Signalized	HCM 7th Edition	EB Left	0.678	20.1	C
3	Murrieta Rd/E Nuevo Rd	Signalized	HCM 7th Edition	EB Left	0.709	25.0	C
4	Wilson Ave/Driveway #1	Two-way stop	HCM 7th Edition	WB Right	0.026	8.9	A
5	Wilson Ave/Driveway #2	Two-way stop	HCM 7th Edition	WB Right	0.011	8.8	A

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

Intersection Level Of Service Report
Intersection 1: Wilson Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	12.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.459

Intersection Setup

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Wilson Avenue			Wilson Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	29	28	28	39	20	80	102	687	35	38	549	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	28	3	2	0	6	0	0	0	39	2	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	59	33	32	41	27	85	108	729	76	42	582	37
Peak Hour Factor	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470	0.9470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	9	8	11	7	22	29	192	20	11	154	10
Total Analysis Volume [veh/h]	62	35	34	43	29	90	114	770	80	44	615	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	60
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	30	0	0	30	0	14	19	0	11	16	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	21	0	0	7	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	C	L	C	R	L	C	C
C, Cycle Length [s]	60	60	60	60	60	60	60	60
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	9	5	36	36	3	33	33
g / C, Green / Cycle	0.16	0.16	0.09	0.60	0.60	0.04	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.09	0.10	0.07	0.24	0.06	0.03	0.19	0.19
s, saturation flow rate [veh/h]	1455	1563	1629	3256	1454	1629	1710	1674
c, Capacity [veh/h]	316	321	146	1947	869	74	947	927
d1, Uniform Delay [s]	23.34	23.80	26.79	6.36	5.14	28.17	7.42	7.43
k, delay calibration	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.87	1.23	8.60	0.60	0.21	7.37	1.01	1.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.50	0.78	0.40	0.09	0.59	0.35	0.35
d, Delay for Lane Group [s/veh]	24.20	25.03	35.39	6.97	5.35	35.54	8.44	8.47
Lane Group LOS	C	C	D	A	A	D	A	A
Critical Lane Group	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.68	2.13	1.86	2.08	0.37	0.74	2.12	2.09
50th-Percentile Queue Length [ft/ln]	42.00	53.16	46.51	51.96	9.31	18.56	53.10	52.25
95th-Percentile Queue Length [veh/ln]	3.02	3.83	3.35	3.74	0.67	1.34	3.82	3.76
95th-Percentile Queue Length [ft/ln]	75.59	95.70	83.71	93.53	16.75	33.41	95.58	94.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.20	24.20	24.20	25.03	25.03	25.03	35.39	6.97	5.35	35.54	8.45	8.47
Movement LOS	C	C	C	C	C	C	D	A	A	D	A	A
d_A, Approach Delay [s/veh]	24.20			25.03			10.19			10.16		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	12.35											
Intersection LOS	B											
Intersection V/C	0.459											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	21.72	21.72	21.72	21.72
l_p,int, Pedestrian LOS Score for Intersection	1.834	1.866	2.803	2.643
Crosswalk LOS	A	A	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	865	865	499	399
d_b, Bicycle Delay [s]	9.67	9.67	16.91	19.24
l_b,int, Bicycle LOS Score for Intersection	1.776	1.827	2.355	2.135
Bicycle LOS	A	A	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 2: Redlands Ave/Jade Ave/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.678

Intersection Setup

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	1	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	1900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Redlands Avenue			Jade Avenue			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	89	237	146	19	189	67	59	709	115	91	556	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	9	6	0	0	0	24	0	8	17	3
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	94	251	164	26	201	71	63	776	122	105	607	17
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	66	43	7	53	19	17	204	32	28	159	4
Total Analysis Volume [veh/h]	99	263	172	27	211	75	66	814	128	110	637	18
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Maximum Green [s]	0	30	0	0	30	0	30	30	0	30	30	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	0	26	0	0	26	0	28	32	0	12	16	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	17	0	0	17	0	0	17	0	0	7	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	R	C	L	C	C	L	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	20	20	20	4	32	32	6	34	34
g / C, Green / Cycle	0.29	0.29	0.29	0.29	0.05	0.46	0.46	0.08	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.10	0.15	0.12	0.21	0.04	0.28	0.28	0.07	0.19	0.19
s, saturation flow rate [veh/h]	999	1710	1454	1475	1629	1710	1630	1629	1710	1693
c, Capacity [veh/h]	177	491	418	480	85	781	745	138	837	829
d1, Uniform Delay [s]	26.00	21.02	20.17	22.26	32.79	14.39	14.39	31.48	11.31	11.31
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.75	0.91	0.65	1.51	14.10	3.64	3.82	10.14	1.39	1.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.54	0.41	0.65	0.78	0.62	0.62	0.80	0.39	0.39
d, Delay for Lane Group [s/veh]	28.75	21.93	20.82	23.77	46.89	18.03	18.20	41.62	12.70	12.71
Lane Group LOS	C	C	C	C	D	B	B	D	B	B
Critical Lane Group	No	No	No	Yes	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.67	3.54	2.22	4.46	1.40	5.93	5.69	2.15	3.18	3.16
50th-Percentile Queue Length [ft/ln]	41.85	88.58	55.54	111.41	35.05	148.23	142.21	53.71	79.57	78.92
95th-Percentile Queue Length [veh/ln]	3.01	6.38	4.00	7.92	2.52	9.92	9.60	3.87	5.73	5.68
95th-Percentile Queue Length [ft/ln]	75.33	159.44	99.98	197.96	63.10	248.07	239.99	96.68	143.22	142.06

Movement, Approach, & Intersection Results

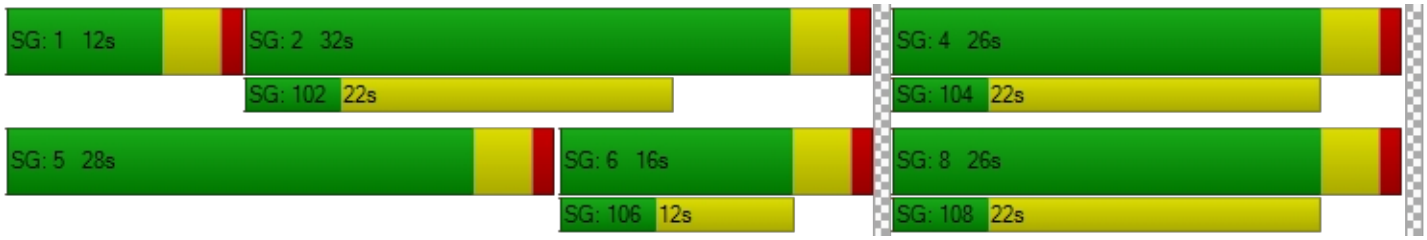
d_M, Delay for Movement [s/veh]	28.75	21.93	20.82	23.77	23.77	23.77	46.89	18.10	18.20	41.62	12.71	12.71
Movement LOS	C	C	C	C	C	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	22.84			23.77			20.00			16.86		
Approach LOS	C			C			B			B		
d_I, Intersection Delay [s/veh]	20.11											
Intersection LOS	C											
Intersection V/C	0.678											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	9.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	26.59	26.59	26.59	26.59
l_p,int, Pedestrian LOS Score for Intersection	2.480	2.025	2.784	2.674
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	628	628	800	343
d_b, Bicycle Delay [s]	16.46	16.46	12.61	24.04
l_b,int, Bicycle LOS Score for Intersection	2.441	2.076	2.391	2.191
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Murrieta Rd/E Nuevo Rd

Control Type:	Signalized	Delay (sec / veh):	25.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.709

Intersection Setup

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	200.00	100.00	300.00	150.00	100.00	300.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	Murrieta Road			Murrieta Road			East Nuevo Road			East Nuevo Road		
Base Volume Input [veh/h]	33	92	176	22	58	36	55	612	31	130	509	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	0	0	0	0	0	0	0	2	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	37	98	187	23	62	38	58	649	35	138	540	22
Peak Hour Factor	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530	0.8530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	29	55	7	18	11	17	190	10	40	158	6
Total Analysis Volume [veh/h]	43	115	219	27	73	45	68	761	41	162	633	26
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	80
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	30	0	9	30	0	18	19	0	22	23	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	21	0	0	10	0	0	14	0
Delayed Vehicle Green [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
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	80	80	80	80	80	80	80	80	80	80	80
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	3	20	2	19	19	4	32	32	10	38	38
g / C, Green / Cycle	0.04	0.24	0.03	0.23	0.23	0.05	0.40	0.40	0.12	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.03	0.22	0.02	0.04	0.03	0.04	0.23	0.03	0.10	0.19	0.02
s, saturation flow rate [veh/h]	1629	1533	1629	1710	1454	1629	3256	1454	1629	3256	1454
c, Capacity [veh/h]	65	374	49	400	340	88	1314	586	200	1538	687
d1, Uniform Delay [s]	37.96	29.29	38.39	24.58	24.28	37.46	18.63	14.69	34.26	13.86	11.37
k, delay calibration	0.11	0.14	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.74	9.59	9.53	0.22	0.17	13.30	1.87	0.23	7.57	0.82	0.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.89	0.56	0.18	0.13	0.77	0.58	0.07	0.81	0.41	0.04
d, Delay for Lane Group [s/veh]	48.70	38.88	47.92	24.80	24.46	50.76	20.49	14.92	41.83	14.68	11.47
Lane Group LOS	D	D	D	C	C	D	C	B	D	B	B
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	1.01	6.95	0.64	1.10	0.67	1.62	5.48	0.47	3.42	3.64	0.25
50th-Percentile Queue Length [ft/ln]	25.29	173.72	16.07	27.60	16.86	40.39	137.09	11.86	85.41	91.01	6.33
95th-Percentile Queue Length [veh/ln]	1.82	11.27	1.16	1.99	1.21	2.91	9.32	0.85	6.15	6.55	0.46
95th-Percentile Queue Length [ft/ln]	45.52	281.80	28.93	49.69	30.34	72.70	233.10	21.35	153.74	163.82	11.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.70	38.88	38.88	47.92	24.80	24.46	50.76	20.49	14.92	41.83	14.68	11.47
Movement LOS	D	D	D	D	C	C	D	C	B	D	B	B
d_A, Approach Delay [s/veh]	40.00			29.00			22.60			19.93		
Approach LOS	D			C			C			B		
d_I, Intersection Delay [s/veh]	24.99											
Intersection LOS	C											
Intersection V/C	0.709											

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0	9.0	9.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	31.56	31.56	31.56	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.148	2.213	2.707	0.000
Crosswalk LOS	B	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	649	649	374	474
d_b, Bicycle Delay [s]	18.27	18.27	26.46	23.31
l_b,int, Bicycle LOS Score for Intersection	2.182	1.799	2.277	2.237
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 4: Wilson Ave/Driveway #1

Control Type:	Two-way stop	Delay (sec / veh):	8.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.026

Intersection Setup

Name	Wilson Avenue		Wilson Avenue		Driveway #1	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Wilson Avenue		Wilson Avenue		Driveway #1	
Base Volume Input [veh/h]	85	0	0	93	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0609	1.0609	1.0609	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	10	0	47	0	0	23
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	100	0	47	99	0	23
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	27	0	13	27	0	6
Total Analysis Volume [veh/h]	108	0	51	106	0	25
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.03	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	7.47	0.00	10.59	8.89
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.09	0.09	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.00	0.00	2.19	2.19	2.02	2.02
d_A, Approach Delay [s/veh]	0.00		2.43		8.89	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.08					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Wilson Ave/Driveway #2

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Wilson Avenue		Wilson Avenue		Driveway #2	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Wilson Avenue		Wilson Avenue		Driveway #2	
Base Volume Input [veh/h]	85	0	0	93	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0609	1.0000	1.0000	1.0609	1.0609	1.0609
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	90	0	0	99	0	10
Peak Hour Factor	0.9300	1.0000	1.0000	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	0	0	27	0	3
Total Analysis Volume [veh/h]	97	0	0	106	0	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

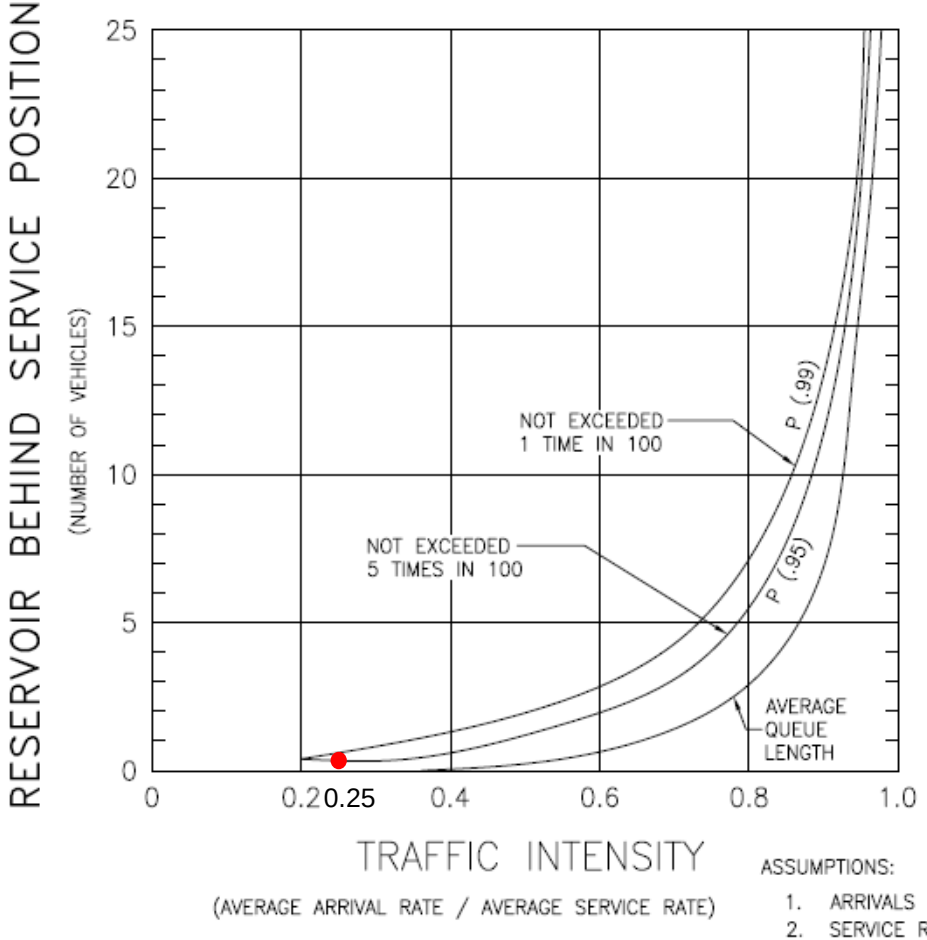
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	9.60	8.77
Movement LOS	A			A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.86	0.86
d_A, Approach Delay [s/veh]	0.00		0.00		8.77	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	A					

APPENDIX D

CROMMELIN RESERVOIR NEEDS NOMOGRAPH

RESERVOIR NEEDS VS TRAFFIC INTENSITY



1

ASSUMPTIONS:

1. ARRIVALS FOLLOW A POISSON DISTRIBUTION
2. SERVICE RATE CAN BE REPRESENTED BY AN EXPONENTIAL PROBABILITY FUNCTION.
3. FLOW IS EQUALLY DIVIDED BETWEEN EACH LANE IF MORE THAN ONE IS AVAILABLE.

APPENDIX E

TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

PEAK HOUR VOLUME WARRANT
URBAN CONDITIONS

Peak Hour: AM

Scenario: OYP

Major Street: Wilson Avenue

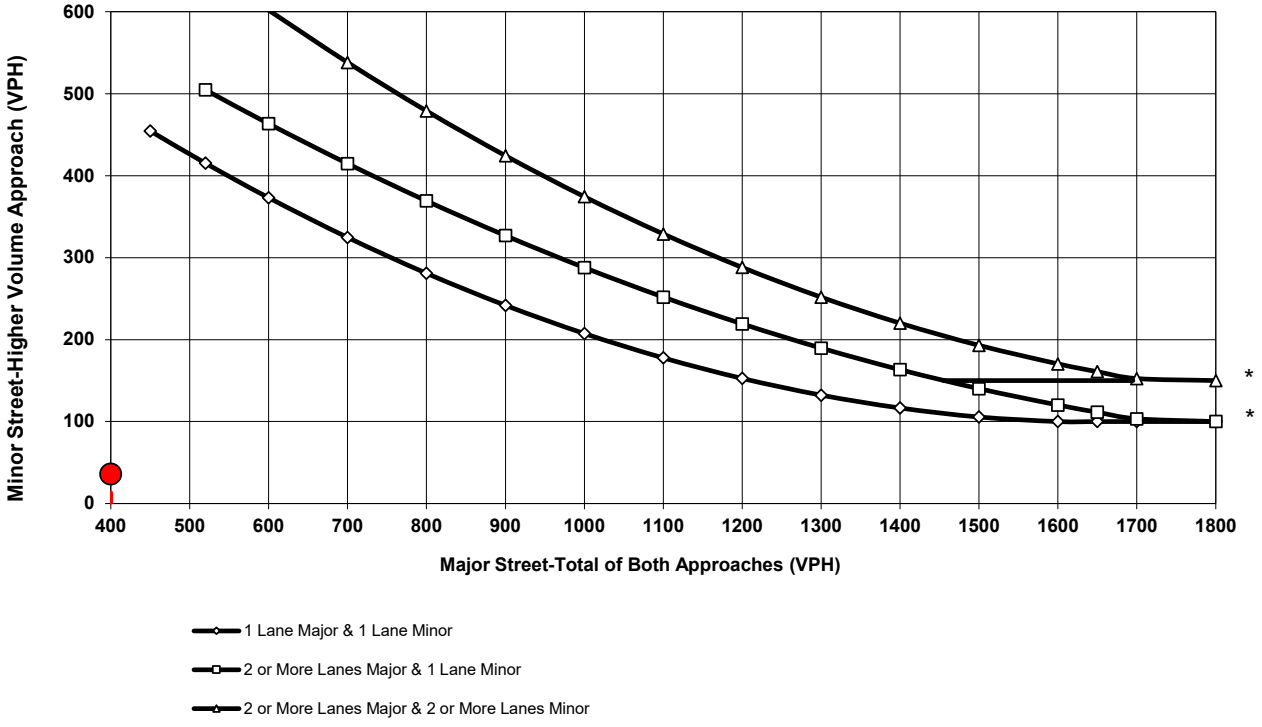
Minor Street: Project Driveway #1

Total of Both Approaches (VPH): 161
Number of Approach Lanes: 1

Higher Volume Approach (VPH): 36
Number of Approach Lanes: 1

SIGNAL WARRANT NOT SATISFIED

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



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

Source: MUTCD 2014 California Supplement Including Revision 3 (March 9, 2018)

OYP Conditions
AM Peak Hour Volume Warrant
Wilson Avenue / Project Driveway #1

PEAK HOUR VOLUME WARRANT
URBAN CONDITIONS

Peak Hour: PM

Scenario: OYP

Major Street: Wilson Avenue

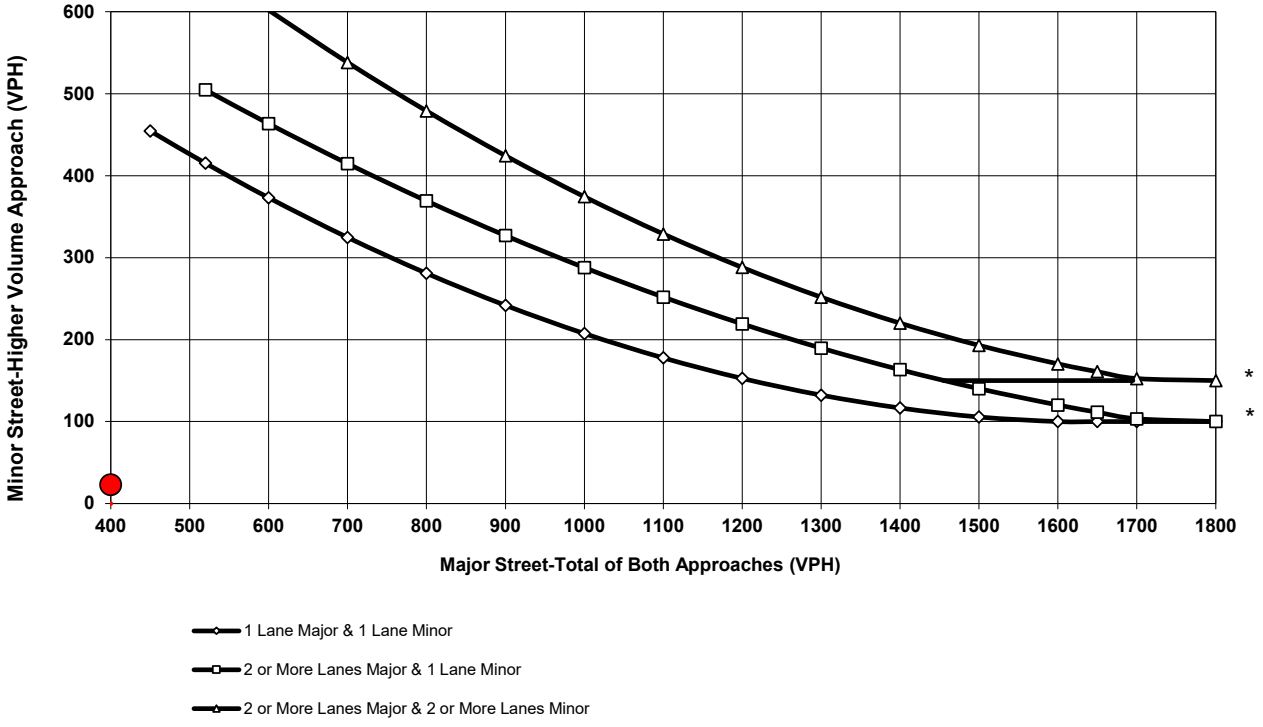
Minor Street: Project Driveway #1

Total of Both Approaches (VPH): 247
Number of Approach Lanes: 1

Higher Volume Approach (VPH): 23
Number of Approach Lanes: 1

SIGNAL WARRANT NOT SATISFIED

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



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

Source: MUTCD 2014 California Supplement Including Revision 3 (March 9, 2018)

OYP Conditions
PM Peak Hour Volume Warrant
Wilson Avenue / Project Driveway #1

PEAK HOUR VOLUME WARRANT
URBAN CONDITIONS

Peak Hour: AM

Scenario: OYP

Major Street: Wilson Avenue

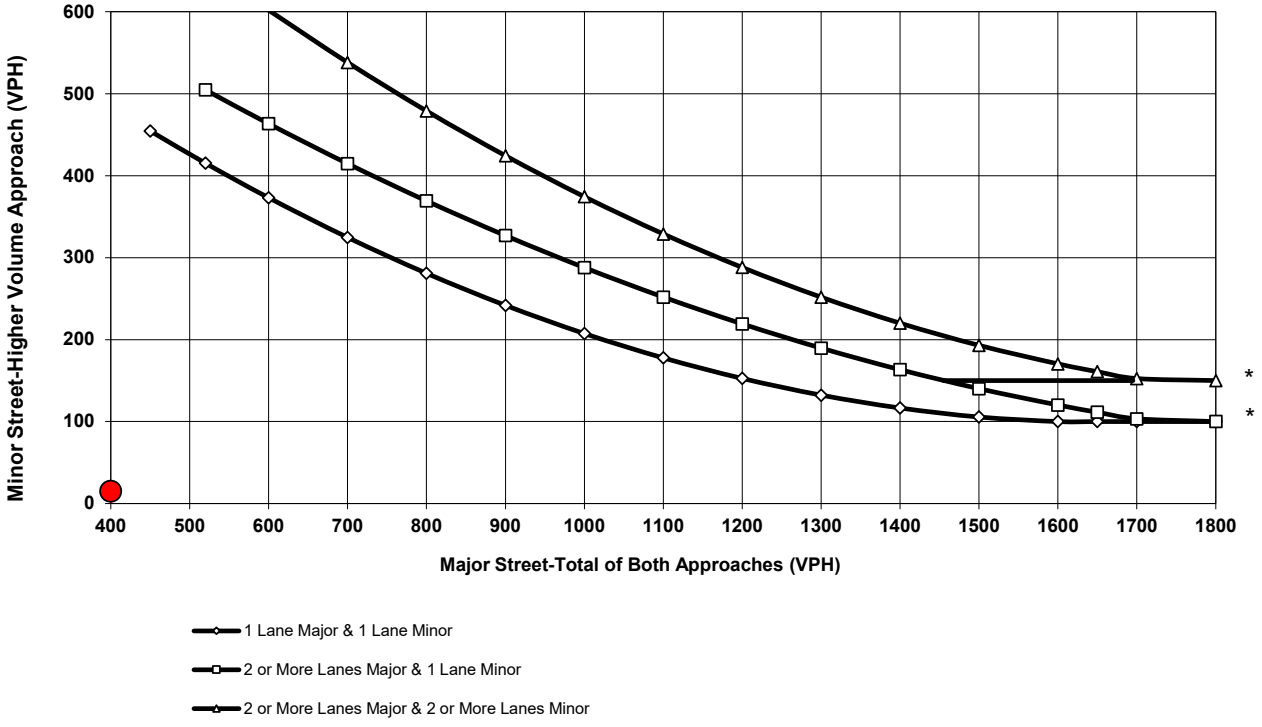
Minor Street: Project Driveway #2

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

Higher Volume Approach (VPH): 15
Number of Approach Lanes: 1

SIGNAL WARRANT NOT SATISFIED

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



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

Source: MUTCD 2014 California Supplement Including Revision 3 (March 9, 2018)

OYP Conditions
AM Peak Hour Volume Warrant
Wilson Avenue / Project Driveway #2

PEAK HOUR VOLUME WARRANT
URBAN CONDITIONS

Peak Hour: PM

Scenario: OYP

Major Street: Wilson Avenue

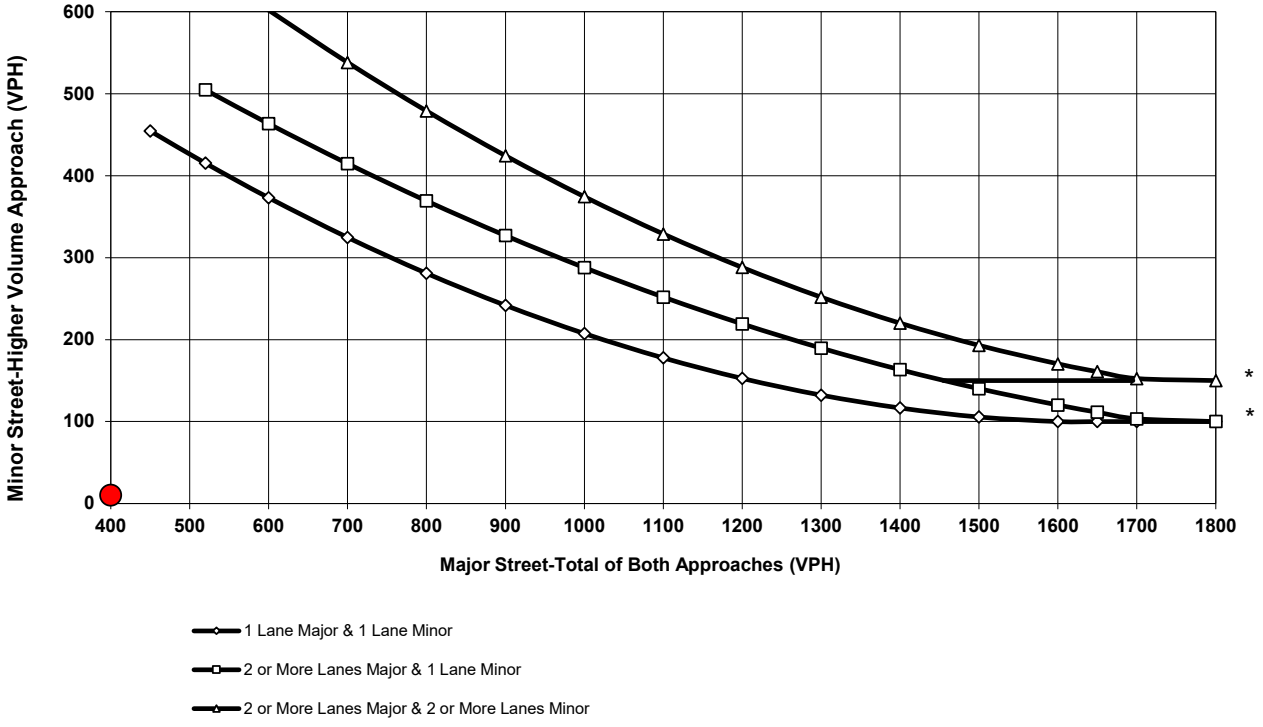
Minor Street: Project Driveway #1

Total of Both Approaches (VPH): 189
Number of Approach Lanes: 1

Higher Volume Approach (VPH): 10
Number of Approach Lanes: 1

SIGNAL WARRANT NOT SATISFIED

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



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

Source: MUTCD 2014 California Supplement Including Revision 3 (March 9, 2018)

OYP Conditions
PM Peak Hour Volume Warrant
Wilson Avenue / Project Driveway #1