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RANCHERO ROAD COMMERCIAL DEVELOPMENT

HESPERIA, CALIFORNIA

Prepared by:

DAVID EVANS AND ASSOCIATES INC.

REVISED DRAFT REPORT
November 13 , 2023

DAVID EVANS AND ASSOCIATES INC.

November 13, 2023 Job No. PMCO0000-0001

Mr. Joseph Nguyen
Primaco Inc.
16331 Gothard Street, Suite B
Huntington Beach, Ca 92547

RE: REVISED TRAFFIC IMPACT STUDY FOR THE RANCHERO ROAD COMMERCIAL DEVELOPMENT IN HESPERIA, CALIFORNIA

Dear Mr. Nguyen,

David Evans and Associates, Inc. is pleased to submit this Revised Traffic Impact Study (TIS) for your proposed shopping center project in the city of Hesperia known as the Ranchero Road Commercial Development.

This report integrates responses to the comments received from the City of Hesperia Engineering Department and conforms with the requirements of the City of Hesperia Traffic Impact Analysis Report Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment (July 2020).

Responses to the city's comments are provided under separate cover.

If you have any questions or comments, please feel free to contact me at 909-912-7304.

Sincerely,

DAVID EVANS AND ASSOCIATES, INC.

James M. Daisa, P.E.
Senior Project Manager / Associate

DAVID EVANS AND ASSOCIATES INC.

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DAVID EVANS AND ASSOCIATES INC.

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1 SUMMARY OF TECHNICAL FINDINGS AND RECOMMENDATIONS

This executive summary presents the findings and recommendations of this study to evaluate a proposed development project's effect on the Level of Service (LOS) policies and standards in the City of Hesperia's General Plan. This study is not intended to identify significant environmental effects under the California Environmental Quality Act (CEQA) and as demonstrated later, the proposed development project has been screened from requiring an analysis of environmental impacts.

1.1 Project Description

The project site is located at the northeast corner of Ranchero Road and Tamarisk Avenue in the City of Hesperia, California. The project proposes to construct an 84,000 square foot shopping center with a supermarket anchor (2 buildings), a fast-food restaurant with drive-through window, and convenience market/gas station with 16 vehicle fueling positions on approximately 10.08-acres with driveway access to surrounding streets including Ranchero Road and other intersecting streets that are part of one of three access alternatives analyzed in this study.

The project site is currently vacant and undeveloped property. Vacant and undeveloped land, as well as utility corridors, surrounds the project site to the north and east. The proposed project is bounded on the south by Ranchero Road and residential development, and to the west by residential development and Tamarisk Avenue.

1.2 Site Access Alternatives

This study analyzes the proposed project under the three access alternatives defined below:

Access Alternative 1 – Traffic Signal at Tamarisk Avenue. The intent of this alternative is to provide direct signalized access to the project site. This alternative improves Tamarisk Avenue along the project's western frontage (including construction of a standard half width street and site driveways) and installs a traffic signal at the three-leg intersection of Ranchero Road and Tamarisk Avenue providing full access to the project aimed at reducing the number of vehicles having to make U-turns on Ranchero Road. The signal would also include a protected pedestrian crossing of Ranchero Road linking the proposed shopping center with the residential neighborhoods south of Ranchero Road.

Frontage improvements to Ranchero Road (to the extent not already constructed as part of the Ranchero Road widening project) includes two right in / right out driveways between Tamarisk and Maple Avenues. Frontage improvements to Wells Fargo Street include half width street construction plus one lane for bi-directional travel, and two driveways with one accessing the loading docks of the primary anchor retail stores.

The intersection of Ranchero Road and Topaz Avenue located just west of Tamarisk Avenue would retain its existing side street stop control, while the intersection of Ranchero Road and Maple Avenue, located approximately ¼-mile east of Tamarisk Avenue is planned to have a traffic signal installed as part of the Ranchero Road widening project.

The intersection of Ranchero Road and Tamarisk Avenue meets one warrant justifying the installation of a traffic signal—Warrant 3 (Peak Hour) under opening day (2025) + project conditions.

Access Alternative 2 – Traffic Signal at Topaz Avenue. The intent of this alternative is to provide indirect signalized access to the proposed project from Ranchero Road while maintaining ½-mile spacing between traffic signals. This alternative restricts Tamarisk Avenue to right in / right out and left-in access and installs a traffic signal at the intersection of Ranchero Road and Topaz Avenue, located about ¼-mile west of Tamarisk Avenue and about ½-mile west of Maple Avenue.

One of the objectives of installing a traffic signal at Topaz Avenue is to reduce U-turns at Topaz Avenue (for drivers exiting the site and wanting to go eastbound on Ranchero Road) and at Maple Avenue (for eastbound drivers who observe the driveways in the opposite direction of Ranchero Road) by providing an opportunity to enter/exit the site using protected left turn movements at the signal installed at Topaz Avenue. However, drivers unfamiliar with the local circulation system would not know that one can access the shopping center via Topaz Avenue and Wells Fargo Street and make U-turns anyway.

The intersection of Ranchero Road and Topaz Avenue meets one warrant justifying the installation of a traffic signal—Warrant 3 (Peak Hour) under opening day (2025) + project conditions.

Access Alternative 3 – Wells Fargo Street Extension to Maple Avenue. The intent of this alternative is to relocate the project's primary driveway access to another street to reduce its impact on the capacity of Ranchero Road. This alternative provides primary access to the project from an extension of Wells Fargo Street eastward to create a new side-street stop-controlled intersection with Maple Avenue. The extension needs to cross land owned by others and requires obtaining access easements from three separate landowners, two of which are public utilities[1].

In this alternative, Tamarisk Avenue and project driveways on Ranchero Road are restricted to right in / right out only, and potentially enforced by a raised median on Ranchero Road. With only right turns in and out from Ranchero Road the number of vehicular conflicts between Topaz and Maple Avenues will reduce compared to access Alternatives 1 and 2.

1.3 Comparison of Site Access Alternatives

A comparison of the benefits and limitations of the three access alternatives helps in understanding how each alternative works and identifies factors that need to be considered in selecting a preferred alternative. This study analyzes each alternative equally and objectively so that Hesperia's decision-makers are provided the same level of analysis for each alternative for making informed decisions. **Figure 1-1, Figure 1-2**, and **Figure 1-3** present the following information for each alternative respectively:

- The objective or intent of the access scheme—the primary function(s) or benefit that the access alternative is intended to achieve.
- Diagrams showing the expected vehicle movements drivers will use to enter and exit the site under each access alternative.
- Key points that highlight the most important benefits and limitations.
- A comparison of the alternative's advantages and disadvantages.

Following the access evaluation is a synopsis of the traffic operations analysis and this study's recommendations for addressing LOS deficiencies.

1.4 Intersection Assessment Criteria

The criterion for identifying intersection deficiencies is level of service (LOS) as specified in the policies adopted in the City's General Plan[2]. Implementation Policy CI-2.1 is to *strive to achieve and maintain a LOS D or better on all roadways and intersections: LOS E during peak hours shall be considered acceptable through freeway interchanges and major corridors.*

The City of Hesperia *Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS)* establishes a LOS threshold of a ***minimum of LOS D*** within its jurisdictional boundaries. A "deficiency" exists when an intersection operates at LOS E or F.

A deficiency is considered "project-specific" if it can be demonstrated that the addition of project traffic to baseline (Opening Year) conditions without the project causes the level of service at an intersection to change from a LOS D or better to a LOS E or F.

[1] The extension of Wells Fargo Street from the eastern end of the project's property line to Maple Avenue would pass through parcels owned by (a) San Bernardino County (APN: 040538311) which is part of the County Service Area 70 Zone J—water services and sewage collection (CSA70 SP-2 Sewage collection district within the Oak Hills area) governed by the County Board of Supervisors, (b) Southern California Edison Company (APN: 040538316 and 040538316) used for the transmission of high voltage electricity via overhead 500KV and 220KV transmission lines located on towers, and (c) a privately owned parcel (APN: 040538313) zoned for single family residential.

[2] City of Hesperia General Plan 2010 Circulation Element.

Alternative 1 – Traffic Signal at Tamarisk Avenue

Objective: provide the most direct access to the proposed project from Ranchero Road

Key Points:

- Half of the project's traffic (7,700 trips each day) are retail "pass-by" trips meaning that the trip is an intermediate stop between the driver's origin and destination.
- A signalized main point of access from the major street is an efficient method of accommodating large numbers of pass-by trips in both directions.
- This alternative minimizes confusion and reduces vehicle miles traveled (VMT) by drivers circulating to find the entrance and returning to their original path of travel, especially having to make U-turns, which affects traffic operations.
- Provides good access for trucks.

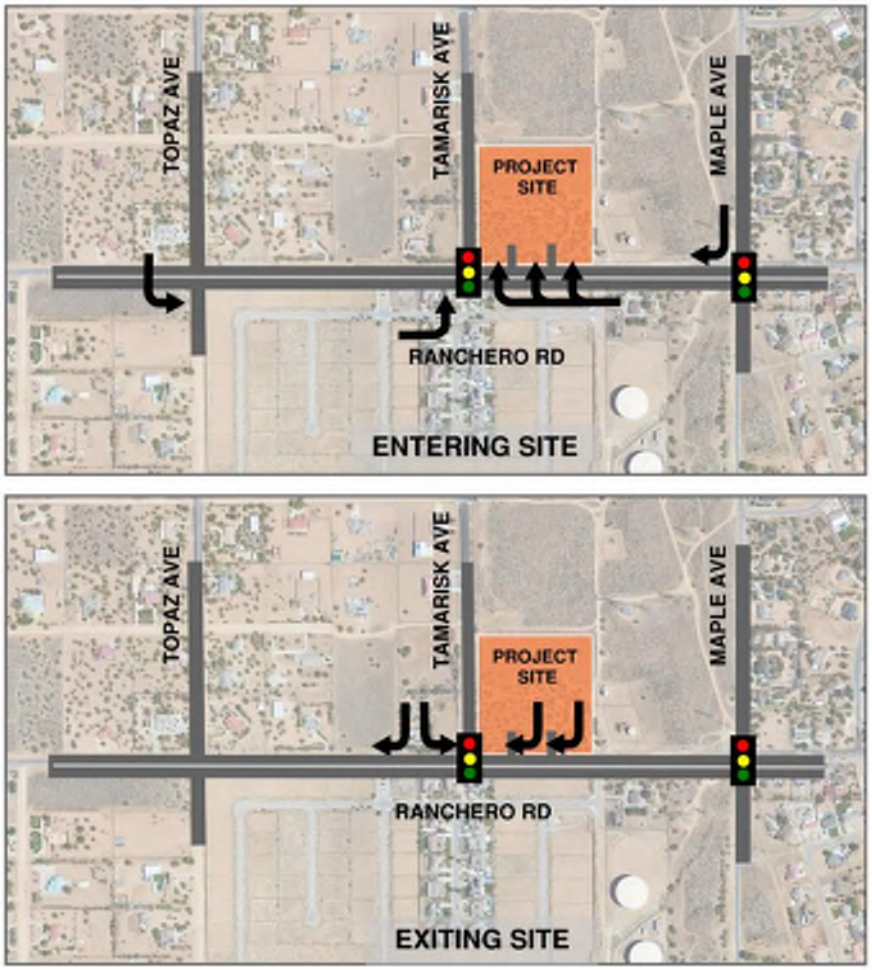

Diagram illustrating the primary movements for entering and exiting the project site under access Alternative 1.

Advantages:

- Provides a clear and intuitive main point of access.
- Minimizes U-turns at Ranchero / Maple and Topaz which use up intersection capacity.
- Keeps customer and truck traffic on the arterial and away from residential streets.
- Large trucks from I-15 can easily enter and leave the site to/from Ranchero Road.
- Provides a protected pedestrian crossing between retail and residential neighborhoods.
- The ¼-mile spacing from signal at Maple Street is within the minimum range for signal synchronization.
- Avoids having to construct a raised median on Ranchero Road to enforce right in / right out driveway restrictions.

Disadvantages:

- Spacing of the proposed signalized access is below the ½-mile spacing the city wants for high-capacity traffic flow on Ranchero Road.
- Traffic signal at Tamarisk Avenue may preclude a future traffic signal at Topaz Avenue (located ½-mile from Maple Avenue).
- Proposed signal on a local street does not benefit traffic using longer north-south collector streets (such as Topaz Avenue) that provide intracity connectivity.
- Signal at Tamarisk Avenue does not directly improve access to/from the residential subdivision served by Tropican Rose and Primrose Avenues except that the signal can create gaps in the traffic flow on Ranchero Road that assists left turns in and out of these streets.

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FIGURE 1-1: EVALUATION OF ACCESS ALTERNATIVE 1
RANCHERO ROAD COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

Alternative 2 – Traffic Signal at Topaz Avenue

Objective: provide indirect signalized access to the proposed project from Ranchero Road while maintaining ½-mile spacing between signals.

Key Points:

- Spacing between signals would be consistent with current minimum spacing on Ranchero Road.
- Provides optional routes to the project site from Ranchero Road depending on driver's initial direction.
- Generates many U-turns at Maple Street and at Topaz Avenue, which reduces intersection capacity.
- Confusing and increased circulation to/from the project site adds to traffic congestion and increased vehicle miles traveled (VMT).
- Poor access for delivery vehicles.
- A traffic signal at Topaz Avenue does not meet Manual on Uniform Traffic Control Devices (MUTCD) warrants for installing traffic signal in opening day conditions but does in 2040 conditions.

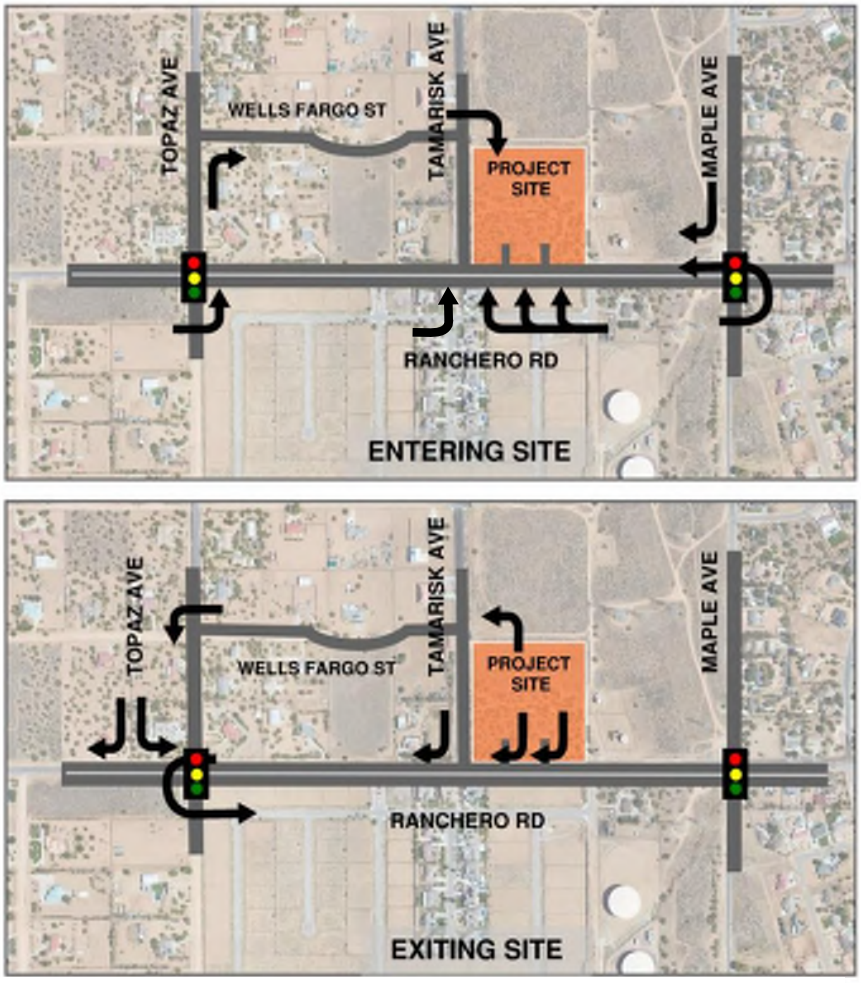

Diagram illustrating the primary movements for entering and exiting the project site for access Alternative 2.

Advantages:

- The ½ - mile spacing between the signal at Maple and Topaz Avenue is appropriate for signal progression in a high-capacity corridor.
- Accommodates the U-turns generated by the project at signal-controlled intersections east and west of the site.
- Good access for pass-by trips in the westbound direction.
- Eastbound left-turn-only into site at Tamarisk Avenue from Ranchero Road would reduce U-turns at Maple Avenue.
- Protected pedestrian crossing between retail and residential neighborhoods south of Ranchero Road provided at two intersections (Topaz and Maple).

Disadvantages:

- Access to site via Topaz Avenue and Wells Fargo Street is not intuitive or obvious.
- The intersection of Ranchero Road / Topaz will not meet warrants for installing a traffic signal when the project opens in 2025.
- Introduces shopping center traffic and trucks on a local residential street (Wells Fargo Street).
- Left-turn access for eastbound traffic at Tamarisk Avenue would be an uncontrolled movement.
- A high volume of U-turns at Maple Avenue to enter site from eastbound Ranchero Road and at Topaz Avenue when returning eastward on Ranchero Road without the left turn at Tamarisk Ave.
- Pedestrians from neighborhoods south of Ranchero Road will need to walk an additional ½-mile of out of direction travel each way to use the controlled crossings.
- Trucks will be required to approach site from southbound Maple Avenue or westbound Ranchero Road adding significant excess travel for delivery vehicles.

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FIGURE 1-2: EVALUATION OF ACCESS ALTERNATIVE 2
RANCHERO ROAD COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

Alternative 3 – Primary Access from Maple Avenue

Objective: Relocate primary driveway access to reduce its impact on the capacity of Ranchero Road.

Key Points:

- Exceeds the minimum traffic signal spacing the city wants for high-capacity traffic flow on Ranchero Road.
- Provides primary access on a future high-volume arterial street.
- Simplifies access for trucks traveling to/from I-15.
- Increases local street connectivity and provides alternative to Ranchero Road for residents and emergency vehicles.
- Primary access is not obvious to customers and not convenient for pass-by trips.
- Does not eliminate U-turns by customers on Ranchero Road many of which use the first driveway they see.
- The distance between new intersection on Maple Ave and Ranchero Rd precludes signalization, even as traffic increases on Maple Ave.

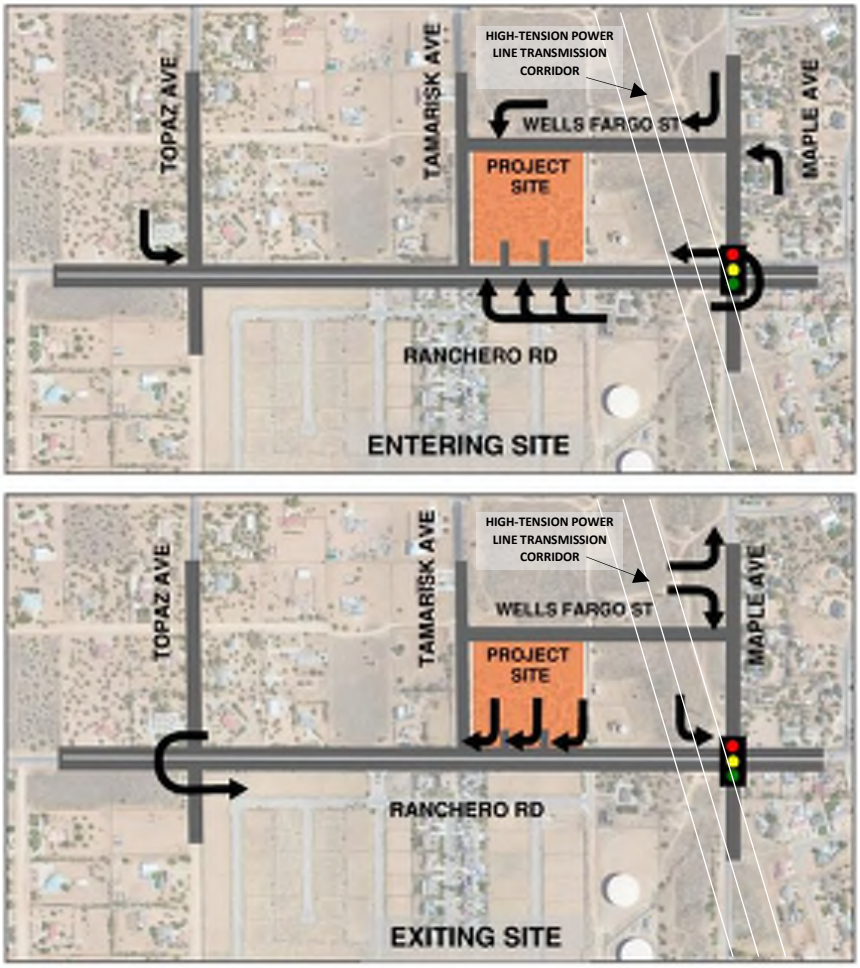

Diagram illustrating the primary movements for entering and exiting the project site under access Alternative 3.

Advantages:

- Provides a 1.5-mile stretch of Ranchero Road without signal control (Maple Ave to Escondido Ave). Signal synchronization is not needed, or applicable, with this distance.
- Once drivers are familiar with the site, delivery trucks from I-15 can reach the shopping center's loading docks without challenges such as out of direction travel or difficult to negotiate turns.
- The extension of Wells Fargo Street to Maple Avenue has other benefits including emergency vehicle access, access to residential neighborhoods, and a route for pedestrians and bicycles that avoids using high-speed and high-volume Ranchero Road.

Disadvantages:

- Primary access on Maple Avenue is counter-intuitive for customers unfamiliar with the site which has a Ranchero Road address.
- The inconvenience of eastbound site access requiring U-turns and diversion to other streets may reduce the volume of pass-by trips.
- A straight extension of Wells Fargo Street to Maple Avenue would not meet sight distance standards.
- Even correcting for sight distance, the distance of the new intersection from Ranchero Road precludes future signalization when Maple Avenue is widened, and traffic volumes increase.
- The extension of Wells Fargo Street requires permanent easements from two utility providers and a private property owner.

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FIGURE 1-3: EVALUATION OF ACCESS ALTERNATIVE 3
RANCHERO ROAD COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

The City of Hesperia requires development to mitigate their project-specific deficiency impacts at an intersection to LOS D or better.

A deficiency is considered "cumulative" if the addition of project traffic to future traffic volumes contributes to LOS E or F conditions. The city may require a development project to contribute its fair share portion of the cost of mitigating the cumulative LOS deficiency.

1.5 Programmed Improvements to Ranchero Road

The City of Hesperia is currently in the last phase of the three phase Ranchero Road Widening Project which extends 5-miles from the I-15 interchange eastward to the BNSF railroad undercrossing.

The project includes widening Ranchero Road from 63' to 92' curb-to-curb width and constructing two travel lanes in each direction, installing traffic signals at three intersections (7th, Cottonwood, and Maple), constructing a striped median between Escondido Avenue and Cottonwood Avenue allowing for eastbound and westbound left turn lanes at intersections, and other related multimodal and infrastructure improvements throughout the corridor. Construction of these improvements will occur over the next few years. Therefore, this configuration is assumed in all future analysis scenarios.

1.6 Summary of Traffic Operation Analysis

A. Opening Day Conditions With and Without the Project Under All Access Alternatives

The opening day scenario establishes conditions without the project in the year the project is expected to be completed and occupied. For this project, the opening year is 2025 and the forecasts reflect background growth—a combination of ambient growth in traffic and traffic from other nearby developments. To forecast the background traffic in this scenario, the city has approved a combined (ambient growth plus nearby development) annual growth rate of 2% applied to existing traffic counts.

Table 1-1, on the following page, compares intersection service levels between the opening day background conditions and opening day plus project conditions under access Alternatives 1, 2 and 3.

As shown in Error! Reference source not found., on the following page, under the opening day conditions without the project, the study intersections would operate at LOS D or better during the AM and PM peak hours, except at Ranchero Road / Fuente Avenue which would operate at a LOS E in the PM peak hour.

Under access Alternatives 1, 2, and 3 with the project, the analysis of the study intersections shows similar results for each access alternative. The study intersections operate at LOS D or better in both peak hours except the side-street stop-controlled intersections of Ranchero Road at Fuente and Topaz Avenues which operate at a LOS F deficiency in the PM peak hour.

B. Future Year (2040) Conditions With and Without the Project Under All Access Alternatives

The future scenario establishes conditions without the project for a year 2040 planning horizon. Forecasts for these conditions reflect regional growth and are derived from the San Bernardino Transportation Analysis Model (SBTAM). **Table 1-2**, on the page following next, compares intersection service levels between future 2040 conditions without the project and future 2040 plus project conditions under access Alternatives 1, 2 and 3.

As presented in **Table 1-2**, level of service deficits are projected in conditions without the project and conditions with the project across all access alternatives at two intersections—the side street stop-controlled intersections of Ranchero Road at Topaz Avenue and Ranchero Road at Fuente Avenue.

Finally, under access Alternative 3, the increase in traffic using the intersection of Ranchero Road / Maple Avenue turning left (eastbound to northbound) to access the project at the new intersection of Maple Avenue and Wells Fargo Street creates a LOS E deficit at Ranchero Road and Maple Avenue.

Table 1-1: Comparison of Opening Day Conditions (2025) Under All Access Scenarios

	Intersection	Control Type	Opening Day Conditions				Opening Day Plus Project Alternative 1 Conditions				Opening Day Plus Project Alternative 2 Conditions				Opening Day Plus Project Alternative 3 Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Ranchero Rd / Escondido Ave [1]	TS	9.8	A	35.2	D	10.5	B	37.5	D	10.5	B	37.5	D	10.4	B	37.1	D
2	Ranchero Rd / Fuente Ave [1]	SSSC	24.1	C	36.0	E	30.1	D	71.7	F	30.1	D	71.7	F	30.1	D	71.7	F
3	Ranchero Rd / Topaz Ave [1]	SSSC	23.3	C	34.7	D	25.4	D	59.8	F	17.4	B	26.9	C	25.0	D	50.8	F
4	Ranchero Rd / Tropican Rose Ave [1]	SSSC	13.8	B	14.8	B	15.1	C	16.4	C	17.2	C	20.0	C	15.1	C	16.3	C
5	Ranchero Rd / Primrose Ave [1]	SSSC	12.8	B	12.5	B	19.0	C	20.1	C	19.0	C	20.1	C	17.9	C	17.9	C
6	Ranchero Rd / Maple Ave [2]	TS	8.3	A	29.9	C	9.0	A	39.4	D	9.0	A	39.4	D	10.8	B	51.0	D
7	Ranchero Rd / Cottonwood Ave [2]	TS	7.5	A	8.3	A	7.9	A	8.9	A	7.9	A	8.9	A	7.9	A	9.0	A
8	Ranchero Rd / Tamarisk Ave	TS/RI/RO [3]	Not Applicable (Future Intersections)				19.2	B	20.7	C	10.8	B	12.8	B	11.2	B	14.2	B
9	Ranchero Rd / Project Driveway "A"	RI/RO					14.8	B	23.9	C	14.0	B	20.0	C	13.0	B	17.2	C
10	Ranchero Rd / Project Driveway "B"	RI/RO					11.2	B	13.3	B	11.2	B	13.3	B	11.0	B	12.9	B
11	Maple Ave / Wells Fargo St	SSSC					Not Applicable in this Scenario								11.7	B	11.0	B

Notes:
[1] The Ranchero Road Widening Project includes constructing two travel lanes in each direction, constructing a striped median within the project area from Escondido Ave to Cottonwood Ave, and other related multimodal and infrastructure improvements throughout the corridor. The traffic analysis assumes completion of the Ranchero Road widening.
[2] The Ranchero Road Widening Project includes installation of a traffic signal at the study intersections of Ranchero Rd / Maple Ave and Ranchero Rd / Cottonwood Ave. The traffic analysis of opening day (2025) and future year 2040 conditions with and without the project assumes completion of the Ranchero Road widening and traffic signal installations.
[3] Ranchero Road and Tamarisk Avenue is signalized in Alternative 1 and restricted to right in / right out + left-in in Alternatives 2 and right in / right out in Alternative 3.
Shaded cells represent conditions with a level of service deficit.
Abbreviations:
TS – Traffic signal-controlled intersection, SSSC – Side-street stop-controlled intersection, RI/RO = Right in / right out, LOS – Level of Service

Table 1-2: Comparison of Future 2040 Conditions Under All Scenarios

Intersection		Control Type	Future Conditions				Future Plus Alt 1 Project Conditions				Future Plus Alt 2 Project Conditions				Future Plus Alt 3 Project Conditions			
			AM		PM		AM		PM		AM		PM		AM		PM	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Ranchero Rd / Escondido Ave [1]	TS	12.2	B	47.1	D	12.8	B	50.6	D	12.8	B	50.6	D	12.8	B	50.9	D
2	Ranchero Rd / Fuente Ave [1]	SSSC	45.8	E	89.3	F	92.8	F	240.8	F	92.8	F	240.8	F	92.8	F	240.8	F
3	Ranchero Rd / Topaz Ave [1]	SSSC	42.4	F	79.7	F	55.4	F	137.3	F	20.7	C	25.8	C	55.4	F	137.3	F
4	Ranchero Rd / Tropican Rose Ave [1]	SSSC	16.2	C	23.8	C	17.5	C	26.4	D	19.5	C	33.7	D	17.5	C	26.4	D
5	Ranchero Rd / Primrose Ave [1]	SSSC	14.0	B	17.2	C	24.4	C	34.4	D	24.4	C	34.4	D	23.1	C	30.4	D
6	Ranchero Rd / Maple Ave [2]	TS	10.3	B	40.1	D	12.9	B	45.1	D	12.5	B	45.1	D	19.6	B	60.5	E
7	Ranchero Rd / Cottonwood Ave [2]	TS	8.1	A	9.0	A	8.9	A	10.1	B	8.7	A	10.1	B	8.9	A	10.2	B
8	Ranchero Rd / Tamarisk Ave	RI/RO [3]	Not Applicable (Future Intersections)				24.1	C	14.4	B	14.1	B	12.6	B	15.5	C	14.0	B
9	Ranchero Rd / Project Driveway "A"	RI/RO					22.5	C	21.6	C	20.3	C	18.8	C	18.3	C	16.6	C
10	Ranchero Rd / Project Driveway "B"	RI/RO					14.8	B	13.2	B	14.8	B	13.2	B	14.5	B	12.8	B
11	Maple Ave / Wells Fargo St	SSSC					Not Applicable in this Scenario				Not Applicable in this Scenario				12.1	B	12.0	B

Notes:
[1] The Ranchero Road Widening Project includes constructing two travel lanes in each direction, constructing a striped median within the project area from Escondido Ave to Cottonwood Ave, and other related multimodal and infrastructure improvements throughout the corridor. The traffic analysis assumes completion of the Ranchero Road widening.
[2] The Ranchero Road Widening Project includes installation of a traffic signal at the study intersections of Ranchero Rd / Maple Ave and Ranchero Rd / Cottonwood Ave. The traffic analysis of opening day (2025) and future year 2040 conditions with and without the project assumes completion of the Ranchero Road widening and traffic signal installations.
[3] Ranchero Road and Tamarisk Avenue is signalized in Alternative 1 and restricted to right in / right out + left-in in Alternatives 2 and right in / right out in Alternative 3.
Shaded cells represent conditions with a level of service deficit.
Abbreviations:
TS – Traffic signal-controlled intersection, SSSC – Side-street stop-controlled intersection, RI/RO = Right in / right out, LOS – Level of Service

1.7 Recommendations

A. Project Specific Improvements Applicable to All Access Scenarios

This section identifies the project's responsibilities for implementing standard improvements required for all development in Hesperia. Refer to **Chapter 8** for a detailed description of the recommended improvements listed below.

Ranchero Road Frontage Improvements

The project site plan conforms to the dedication requirements in the General Plan for the special street designation for Ranchero Road. The Ranchero Road widening project has, or will, construct(ed) the following:

- Ranchero Road widening of the curb to curb traveled way.
- Tamarisk Avenue southbound approach and curb returns.

Project responsibilities include:

- Construct the facilities behind the curb along their frontage including landscaping.
- Construct project driveways A and B on Ranchero Road and restrict the driveways to right in / right out only.

Tamarisk Avenue and Wells Fargo Road Frontage Improvements

The Ranchero Road widening project has, or will, construct(ed) the following:

- The intersection of Ranchero Road and Tamarisk Avenue's curb and gutter, curb returns, and handicapped ramps.
- The curb-to-curb traveled way of Tamarisk Avenue from Ranchero Road to Wells Fargo Street.
- The intersection of Tamarisk Avenue and Wells Fargo Street east approach curb and gutter, curb returns, and pavement.

Project responsibilities include:

- Complete the eastern side of Tamarisk Avenue from Ranchero Road to Wells Fargo Street with sidewalk, landscaping, and other appurtenances as required in the city's standards, including the two Tamarisk Avenue driveways.
- Construct the two Wells Fargo Street driveways.
- Complete Wells Fargo Street improvements along the project's frontage.

B. Improvements Specific to Access Alternatives

Table 1-3 identifies improvements, in addition to the standard frontage improvements described above, specific to each of the three access alternatives. Without these alternative-specific improvements, the access concepts would not function as described.

Table 1-3: Access Alternative-Specific Improvements

Access Alternative	Improvements Specific to Access Alternatives [a]				
	Ranchero Road [b]	Tamarisk Avenue [b]	Topaz Avenue [b]	Wells Fargo Street [b]	Maple Avenue
Alternative 1 – Traffic Signal at Ranchero / Tamarisk Intersection	• Install a traffic signal at the intersection of Ranchero Road and Tamarisk Avenue	Frontage Improvements Only	No Required Improvements	Frontage Improvements Only	No Required Improvements
Alternative 2 - Traffic Signal at Ranchero / Topaz Intersection	• Contribute fair share of the cost to install a traffic signal at the intersection of Ranchero Road and Topaz Avenue.	• Restrict Ranchero Rd / Tamarisk Avenue to RI/RO and left in only. • Restrict Ranchero Rd / Project driveways to RI/RO only	• Improve Topaz Avenue—pavement, signing, and striping on from Ranchero Road to Wells Fargo Street.	• Improve Wells Fargo Street from Topaz Avenue to Tamarisk Avenue per the city's standard for local streets.	No Required Improvements
Alternative 3 – Wells Fargo Street Extension to Maple Avenue	• Restrict Tamarisk Avenue, and the project's Ranchero Road driveways to RI / RO enforced by installing vertical delineators or a raised median	• Restrict Ranchero Rd / Tamarisk Avenue to RI/RO only. • Restrict Ranchero Rd / Project driveways to RI/RO only	No Required Improvements	• Obtain required permanent access easements prior to construction of the Wells Fargo Street extension. • Contribute fair share of cost to extend Wells Fargo Street from the project's eastern property line to intersect with Maple Avenue as a local street conforming to city standards.	Configure the intersection of Maple Avenue and Wells Fargo Street: • Wells Fargo St eastbound approach: Left and right turn lane • Maple Avenue northbound approach: Left turn deceleration / storage lane. • Maple Avenue southbound approach: Right turn deceleration / storage lane.

Notes:
[a] The improvements listed in this table are required for the intended function of each access alternative and are in addition to the standard frontage improvements described in Chapter 8.
[b] See Chapter 8 for a description of the standard frontage improvements.

1.8 Off-Site Measures to Mitigate Level of Service Deficiencies

A. Recommended Improvements to Ranchero Road at Topaz Avenue and Fuente Avenue to Mitigate Level of Service Deficiencies

Restrict both approaches of Topaz Avenue and Fuente Avenue (northbound and southbound) be to right turn in / right turn out. Left turn movements from Ranchero Road onto Topaz Avenue and Fuente Avenue should be permitted in both directions under all access alternatives, except at Ranchero Road / Topaz Avenue in access Alternative 2.

1.9 Summary of Vehicle Miles of Travel (VMT) Screening

The city's guidelines include several screening criteria of which only two are relevant for this project: "Low VMT Area" screening and, "Project Type" screening. A screening assessment using these two criteria determined the individual buildings on the project site are locally serving retail or restaurant use under 50,000 square feet and is within the threshold of the project type screening criterion and does not require a VMT analysis.

2 INTRODUCTION

The remainder of this report documents the technical analysis used in evaluating intersection levels of service in conformance with the City of Hesperia's Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment. The analysis assesses local intersections for level of service (LOS) deficiencies and project driveway operations and recommends measures to mitigate deficiencies as applicable.

The proposed Ranchero Road Commercial Development is located at the northeast corner of Ranchero Road and Tamarisk Avenue in the City of Hesperia, California. The proposed project is to construct shopping plaza with supermarket (2 buildings), fast-food restaurant with drive-through window, and convenience market/gas station with 16 vehicle fueling positions on approximately 10.08-acres with driveway access to Ranchero Road and Tamarisk Avenue. **Figure 2-1** illustrates the vicinity map. **Figure 2-2** shows the proposed site plan.

This study analyzes the proposed project's potential impacts under three access alternatives will review three proposed access alternatives. Section 1.3 in Chapter 1, the executive summary, describes the three access alternatives and compares and summarizes the advantages and disadvantages of each. The description of each access alternative is repeated below, but the comparison is not repeated in this section.

Access Alternative 1 – Traffic Signal at Tamarisk Avenue. The intent of this alternative is to provide direct signalized access to the project site. This alternative improves Tamarisk Avenue along the project's western frontage (including construction of a standard half width street and site driveways) and installs a traffic signal at the three-leg intersection of Ranchero Road and Tamarisk Avenue providing full access to the project aimed at reducing the number of vehicles having to make U-turns on Ranchero Road. The signal would also include a protected pedestrian crossing of Ranchero Road linking the proposed shopping center with the residential neighborhoods south of Ranchero Road.

Frontage improvements to Ranchero Road (to the extent not already constructed as part of the Ranchero Road widening project) includes two right in / right out driveways between Tamarisk and Maple Avenues. Frontage improvements to Wells Fargo Street include half width street construction plus one lane for bi-directional travel, and two driveways with one accessing the loading docks of the primary anchor retail stores.

The intersection of Ranchero Road and Topaz Avenue located just west of Tamarisk Avenue would retain its existing side street stop control, while the intersection of Ranchero Road and Maple Avenue, located approximately ¼-mile east of Tamarisk Avenue is planned to have a traffic signal installed as part of the Ranchero Road widening project.

The intersection of Ranchero Road and Tamarisk Avenue meets one warrant justifying the installation of a traffic signal—Warrant 3 (Peak Hour) under opening day (2025) + project conditions.

Access Alternative 2 – Traffic Signal at Topaz Avenue. The intent of this alternative is to provide indirect signalized access to the proposed project from Ranchero Road while maintaining ½-mile spacing between traffic signals. This alternative restricts Tamarisk Avenue to right in / right out and left-in access and installs a traffic signal at the intersection of Ranchero Road and Topaz Avenue, located about ¼-mile west of Tamarisk Avenue and about ½-mile west of Maple Avenue.

One of the objectives of installing a traffic signal at Topaz Avenue is to reduce U-turns at Topaz Avenue (for drivers exiting the site and wanting to go eastbound on Ranchero Road) and at Maple Avenue (for eastbound drivers who observe the driveways in the opposite direction of Ranchero Road) by providing an opportunity to enter/exit the site using protected left turn movements at the signal installed at Topaz Avenue. However, drivers unfamiliar with the local circulation system

would not know that one can access the shopping center via Topaz Avenue and Wells Fargo Street and make U-turns anyway.

The intersection of Ranchero Road and Topaz Avenue meets one warrant justifying the installation of a traffic signal—Warrant 3 (Peak Hour) under opening day (2025) + project conditions.

Access Alternative 3 – Wells Fargo Street Extension to Maple Avenue. The intent of this alternative is to relocate the project's primary driveway access to another street to reduce its impact on the capacity of Ranchero Road. This alternative provides primary access to the project from an extension of Wells Fargo Street eastward to create a new side-street stop-controlled intersection with Maple Avenue. The extension needs to cross land owned by others and requires obtaining access easements from three separate landowners, two of which are public utilities[3].

In this alternative, Tamarisk Avenue and project driveways on Ranchero Road are restricted to right in / right out only, and potentially enforced by a raised median on Ranchero Road. With only right turns in and out from Ranchero Road the number of vehicular conflicts between Topaz and Maple Avenues will reduce compared to access Alternatives 1 and 2.

2.1 Traffic Study Scenarios

This report identifies intersection level of service deficiencies that may be caused by, or contributed to, by the proposed development and analyzes the following scenarios to determine project specific or cumulative deficiencies:

- Existing Conditions
- Opening Day Conditions – Year 2025
- Opening Day plus Project Conditions – Year 2025
- Future Conditions – Year 2040
- Future plus Project Conditions – Year 2040

The **Existing Conditions** scenario represents existing transportation conditions at the time this report was prepared. Data includes traffic counts collected in August 2022 and intersection geometries.

The **Opening Day Conditions – Year 2025** scenario evaluates impacts due to ambient growth up to the project buildout year of 2025. This scenario is comprised of a conservative estimate of the combined area growth and traffic generated by planned and approved nearby development assumed at 2% annual growth rate.

The **Opening Day plus Project Conditions – Year 2025** scenario adds the project's estimated traffic generation at opening day (2025) to the Opening Day Conditions scenario described above.

The **Future Conditions – Year 2040** scenario addresses impacts due to ambient growth of the surrounding regional area up to the year 2040. Ambient growth derived from forecasts from the San Bernardino Transportation Analysis Model (SBTAM).

The **Future plus Project Conditions – Year 2040** scenario adds the project's estimated traffic generation up to the year 2040. to the Future Conditions scenario described above.

[3] The extension of Wells Fargo Street from the eastern end of the project's property line to Maple Avenue would pass through parcels owned by (a) San Bernardino County (APN: 040538311) which is part of the County Service Area 70 Zone J—water services and sewage collection (CSA70 SP-2 Sewage collection district within the Oak Hills area) governed by the County Board of Supervisors, (b) Southern California Edison Company (APN: 040538316 and 040538316) used for the transmission of high voltage electricity via overhead 500KV and 220KV transmission lines located on towers, and (c) a privately owned parcel (APN: 040538313) zoned for single family residential.

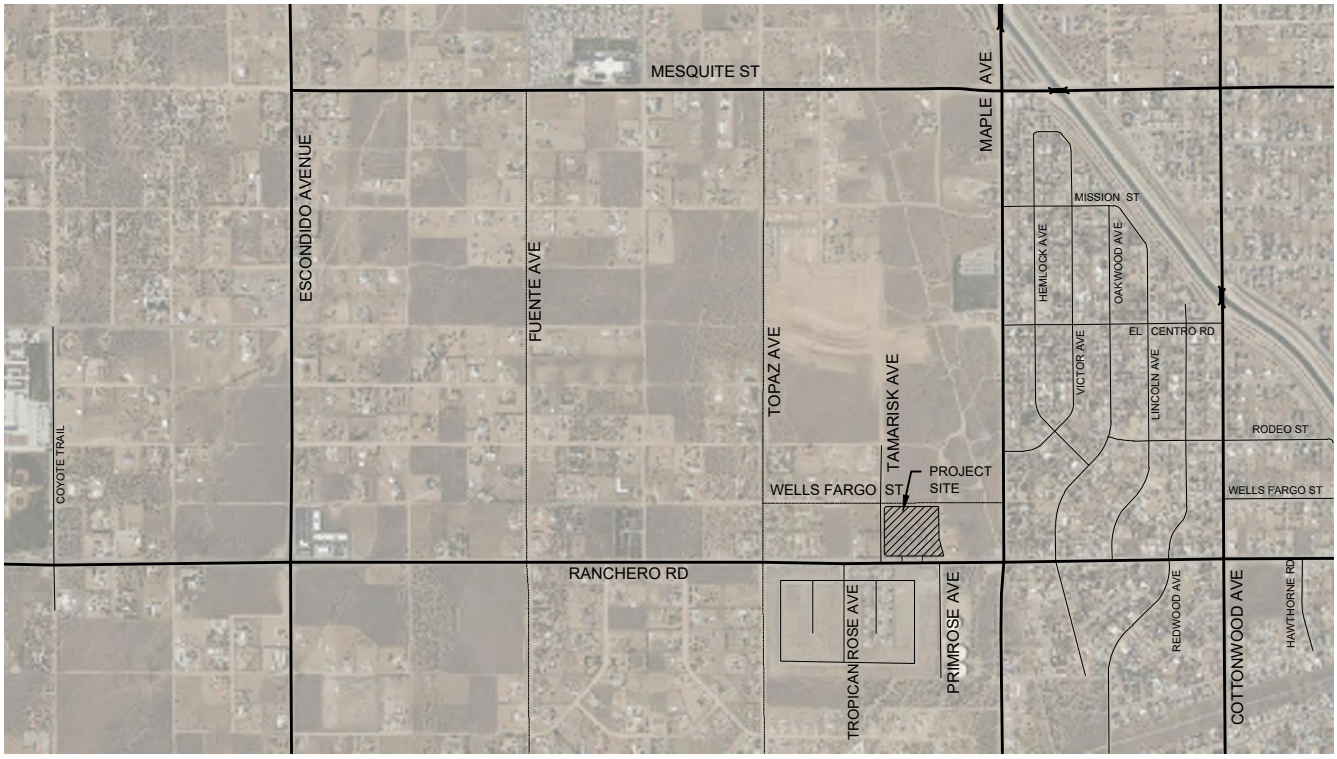

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FIGURE 2-1: VICINITY MAP
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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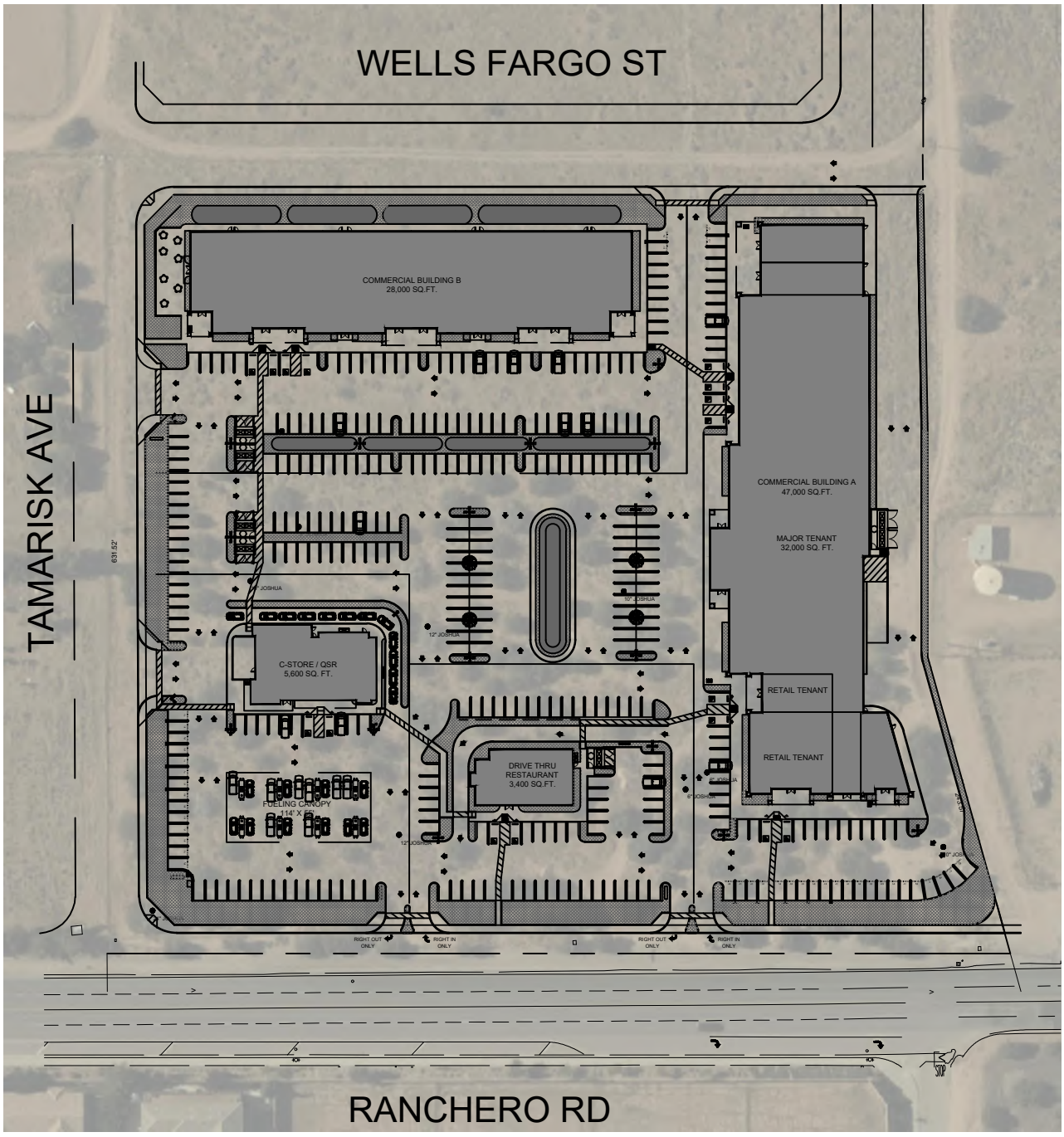

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FIGURE 2-2: SITE PLAN
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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Programmed Improvements to Ranchero Road

Currently, within the study area between Escondido Avenue and Cottonwood Avenue, Ranchero Road is primarily four lanes with median turn pockets at major intersections (e.g., Maple Avenue). The exception is westbound Ranchero Road which transitions to a single lane starting at Tropican Rose Avenue.

The City of Hesperia is currently in the last phase of the three phase Ranchero Road Widening Project which extends 5-miles from the I-15 interchange eastward to the BNSF railroad undercrossing. The project includes widening Ranchero Road from 63' to 92' curb-to-curb, install traffic signals at three intersections (7th, Cottonwood, and Maple), construct two travel lanes in each direction, construct a striped median on some segments including from the segment between Escondido to Cottonwood, and other related multimodal and infrastructure improvements throughout the corridor. Construction of these improvements will occur over the next few years. Therefore, this configuration is assumed in all future analysis scenarios.

City of Hesperia Level of Service Policy and Deficiency Criteria

A deficiency is considered project-specific if the addition of project traffic to baseline (Project Opening Year) traffic volumes causes the LOS at an intersection to change from a LOS D or better to a LOS E or F. The City of Hesperia requires a development project to mitigate a project-specific deficiency to a LOS D or better.

A deficiency is considered cumulative if the addition of project traffic to future traffic volumes contributes to a LOS operating at a LOS E or F in the "with project" condition. The city may require a development project to contribute a fair share portion of the funding for mitigation of a cumulative deficiency.

3 EXISTING CONDITIONS

Currently, the project site is comprised of vacant and undeveloped land. The proposed project is located at the northeast corner of Ranchero Road and Tamarisk Avenue in the City of Hesperia, California. The proposed project is to construct a shopping plaza with a supermarket (2 buildings), fast-food restaurant with drive-through window, and convenience market/gas station with 16 vehicle fueling positions.

3.1 Local and Major Roadways

Ranchero Road is an east-west primarily six-lane road (three in each direction, with turn pockets at key intersections). Ranchero Road provides direct access between the I-15 freeway and the project site. It is identified as a Special Street on the City of Hesperia Traffic Circulation Plan. The posted speed limit within the project area is 50 mph.

Escondido Avenue is a north-south primarily two-lane road (one lane in each direction) in the project study area. It is identified as a local street on the City of Hesperia Traffic Circulation Plan. The posted speed limit within the project area is 50 mph.

Topaz Avenue is a north-south primarily two-lane road (one lane in each direction) in the project study area. It is identified as a local street on the City of Hesperia Traffic Circulation Plan. Topaz Avenue is currently a dirt road and is proposed to be paved prior to the project opening.

Tropican Rose Avenue is a north-south primarily two-lane road (one lane in each direction) in the project study area. It is identified as a local street on the City of Hesperia Traffic Circulation Plan.

Primrose Avenue is a north-south primarily two-lane road (one lane in each direction) in the project study area. It is identified as a local street on the City of Hesperia Traffic Circulation Plan.

Maple Avenue is a north-south primarily two-lane road (one lane in each direction) in the project study area. It is identified as a local street on the City of Hesperia Traffic Circulation Plan. The posted speed limit within the project area is 50 mph.

Cottonwood Avenue is a north-south primarily two-lane road (one lane in each direction) in the project study area. It is identified as a local street on the City of Hesperia Traffic Circulation Plan. The posted speed limit within the project area is 45 mph.

Study Intersections

As approved in the focused traffic study scope, the potential traffic impacts to the area roadways within the study area identified for analysis include seven existing intersection, two future intersections, and two future driveway intersections:

1. Ranchero Road at Escondido Avenue
2. Ranchero Road at Fuente Avenue
3. Ranchero Road at Topaz Avenue
4. Ranchero Road at Tropican Rose Avenue
5. Ranchero Road at Primrose Avenue
6. Ranchero Road at Maple Avenue
7. Ranchero Road at Cottonwood Avenue
8. Ranchero Road at Tamarisk Avenue (Future Intersection)
9. Ranchero Road at Project Driveway “A” (Future Driveway)
10. Ranchero Road at Project Driveway “B” (Future Driveway)
11. Maple Avenue at Wells Fargo Street (Future Intersection)

The study intersection locations are illustrated in **Figure 3-1.**

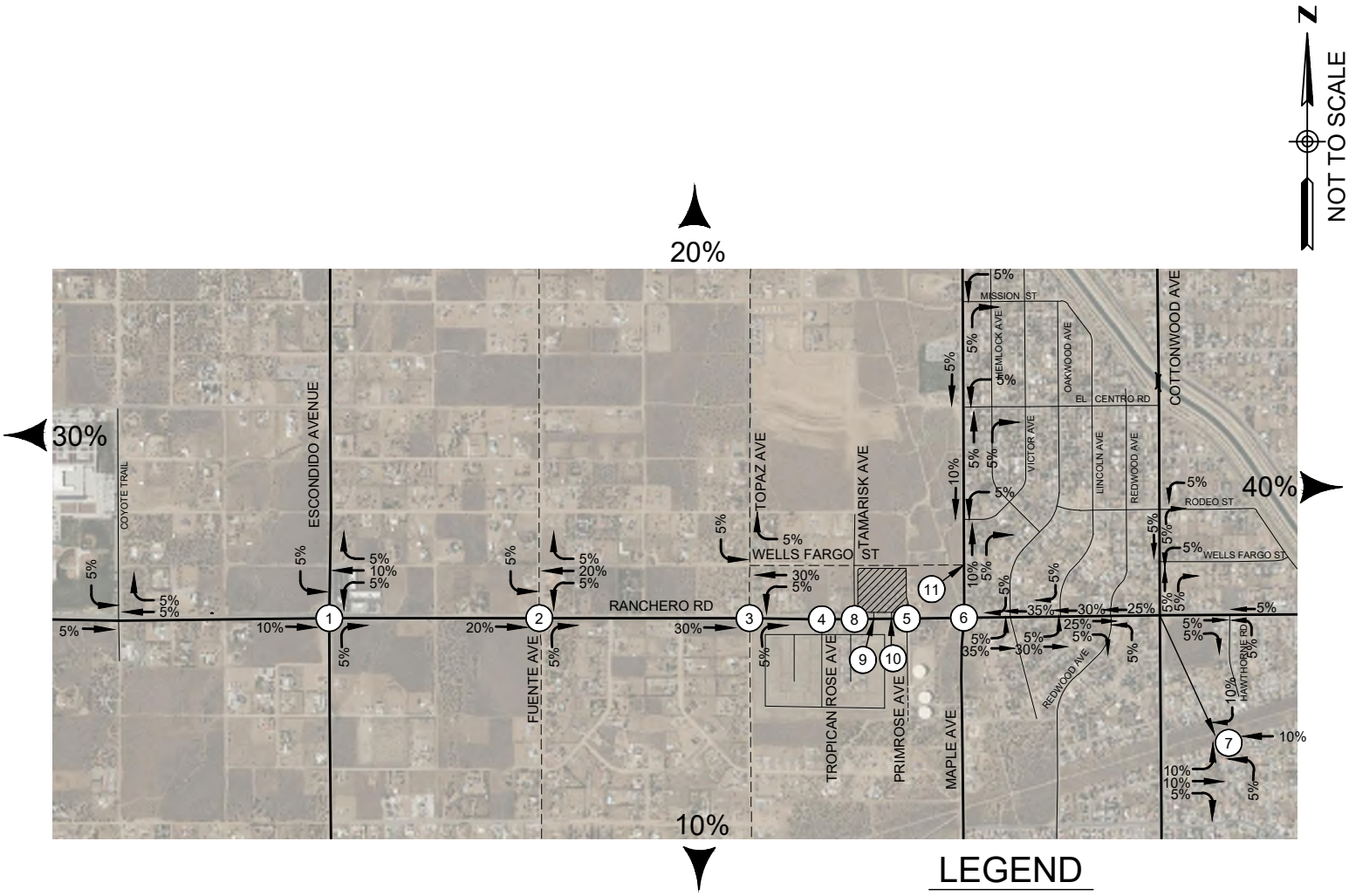

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FIGURE 3-1: STUDY INTERSECTIONS LOCATIONS AND PROJECT DISTRIBUTION
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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3.2 Existing Transit, Pedestrian, and Bicycle Facilities

The Victor Valley Transit currently has one route, Route 25 Hesperia Post Office to Super Target, with stops within the project area. There is an outbound stop located north of Ranchero Road and on the east side of Escondido Avenue, served approximately every two hours.

Currently there are no paved sidewalks along most of Ranchero Road. The majority of Ranchero Road consists of a soft dirt shoulder.

The City of Hesperia is currently in the last phase of the three phase Ranchero Road Widening Project. Upon completion of the Widening Project five-foot bike lanes will be provided eastbound and westbound within the project area. New marked crosswalks, curb return, and handicapped ramps will be installed at the newly signalized intersections of Ranchero Road at Maple and Ranchero Road at Cottonwood Avenue as part of the widening project.

3.3 Intersection Capacity Analysis Methodology and Assumptions

Intersection capacity analyses were conducted using Synchro software [4], which implements the methods of the Highway Capacity Manual, 6th Edition (HCM 6)[5] used in this report. The intersection capacity analyses utilize existing intersection geometrics and existing and forecasted traffic volumes in analyzing AM and PM peak hour intersection operating conditions. The traffic analysis methodology concepts presented in Chapters 19, 20, and Chapter 21 of the Highway Capacity Manual, (HCM 6) were utilized to calculate intersection Level of Service (LOS) based on the average control delay (in seconds per vehicle) of vehicles utilizing intersections.

Table 3-1 provides the Signalized intersection HCM 6 LOS thresholds. **Table 3-2** provides the Two Way Stop Controlled (TWSC) intersection HCM 6 LOS thresholds. **Table 3-3** provides the All Way Stop Controlled (AWSC) intersection HCM 6 LOS thresholds.

The analysis determines a LOS that quantitatively describes the operating characteristics of signalized intersections. **Table 3-1** provides LOS thresholds for signalized intersections as provided in the HCM 6 Chapter 19.

Table 3-1: HCM 6 – LOS Criteria for Signalized Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio (v/c) [a]	
	≤1.0	>1.0
≤ 10	A	F
> 10 – 20	B	F
> 20 – 35	C	F
> 35 – 55	D	F
> 55 – 80	E	F
> 80	F	F

Note: [a] For approach-based and intersection-wide assessments, LOS is defined solely by control delay.
Source: Highway Capacity Manual 6th Edition, Exhibit 19-8.

The LOS for a Two-Way Stop Controlled (TWSC) intersection is determined by the computed or measured control delay. The LOS is determined for each minor street movement (or shared movement) by using the criteria provided in **Table 3-2** referenced from HCM 6 Chapter 20.

4 Trafficware Ltd, Version 10.
5 Transportation Research Board, Washington D.C., 2010.

Table 3-2: HCM 6 – LOS Criteria for TWSC

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio (v/c)	
	v/c ≤1.0	v/c >1.0
0 – 10	A	F
> 10 -15	B	F
> 15 – 25	C	F
> 25 – 35	D	F
> 35 – 50	E	F
> 50	F	F
Note: The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-Street approaches or for the intersection as a whole. Source: Highway Capacity Manual 6th Edition, Exhibit 20-2.		

The level of service for an all-way (or multiway) stop-controlled (AWSC) intersection is determined by the computed or measured control delay. The LOS is determined for the intersection by using the criteria provided in **Table 3-3.**

Table 3-3: Level of Service Criteria (HCM 6) for All Way Stop Controlled Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio (v/c) [a]	
	v/c ≤1.0	v/c >1.0
0 – 10	A	F
> 10 -15	B	F
> 15 – 25	C	F
> 25 – 35	D	F
> 35 – 50	E	F
> 50	F	F
[a] For approach-based and intersection-wide assessments, LOS is defined solely by control delay. Source: Highway Capacity Manual 6th Edition, Exhibit 21-8.		

Intersection Capacity Analysis Assumptions

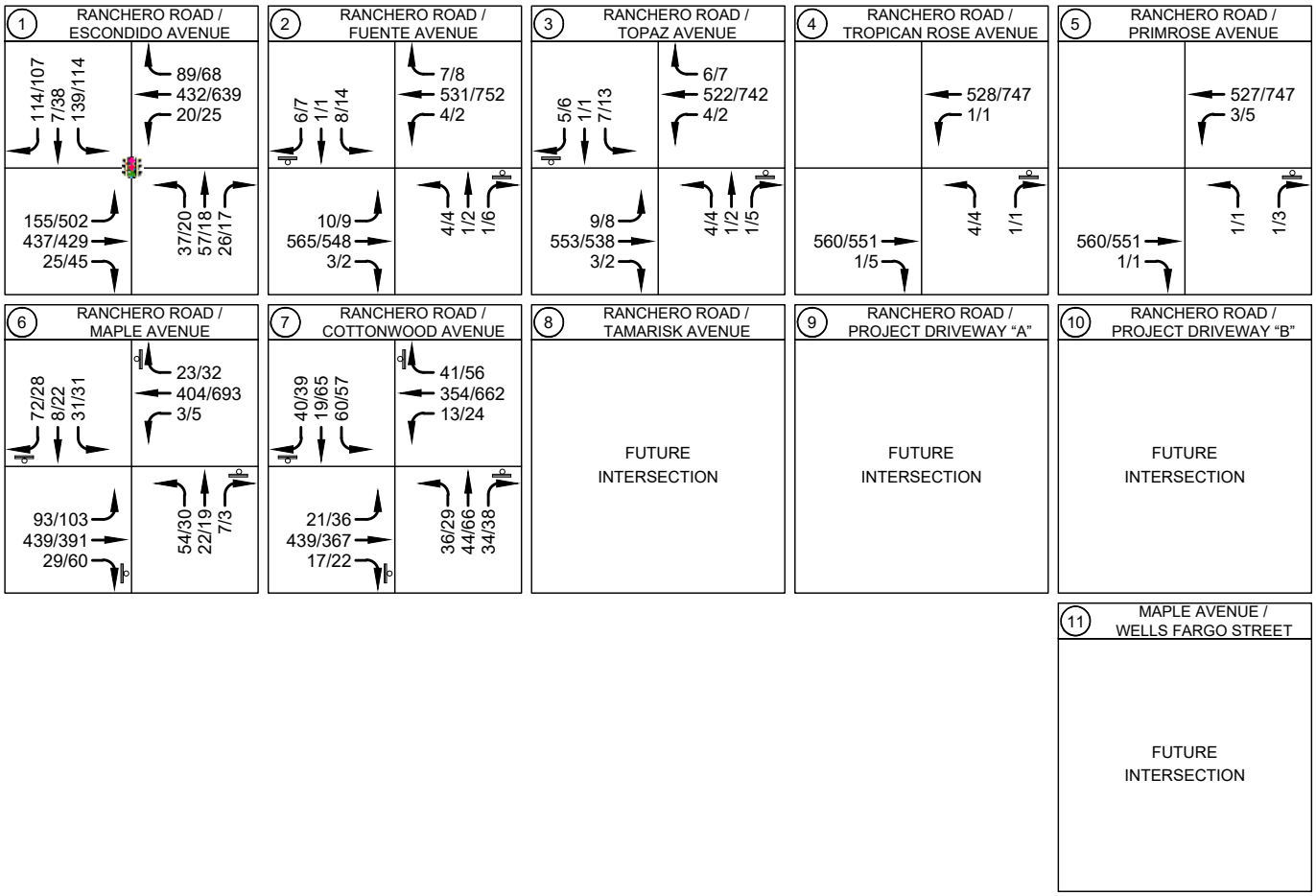
- Intersection signal timing/phasing is optimized for each study scenario.
- A PHF of 0.95 is used for each study scenario.
- The adjusted saturation flow rates provided in the City of Hesperia Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment specify the parameters for analyzing intersection level of service. Parameters include an adjusted saturation flow rates of 1,800 vehicles per hour green per lane (vphgpl) for exclusive through lanes and exclusive right turn lanes, 1,700 vphgpl for exclusive left turn lanes, and 1,600 vphgpl for exclusive double left turn lanes.

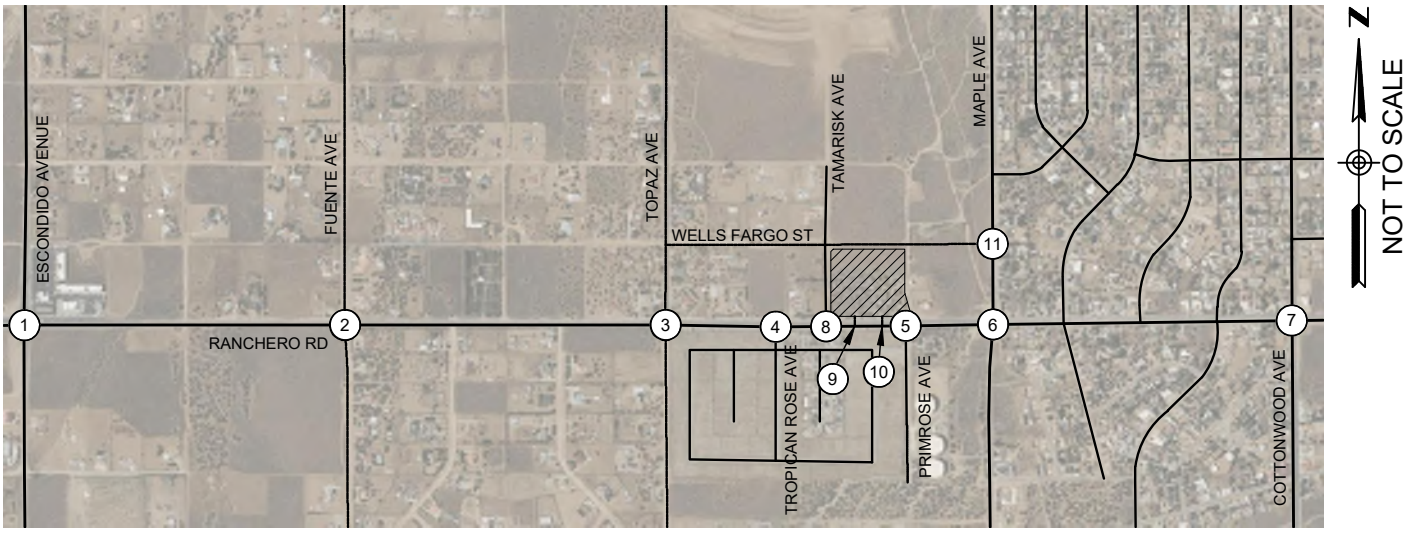
Level of Service Standard

The Congestion Management Program (CMP) Guidelines establish a roadway network Level of Service threshold LOS E or better operation within the CMP network. The City of Hesperia Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT) and Level of Service Assessment (LOS) Guidelines establish the city's Level of Service threshold as a ***minimum LOS D*** within its jurisdictional boundaries.

3.4 Existing Traffic Volumes

Figure 3-2 provides the existing intersection traffic volumes. Turn movement counts were collected August 2022, during the AM (7:00-9:00 AM) and PM (4:00-6:00 PM) peak periods. The raw turning movement counts are included in **Appendix B** of this study.





LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

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FIGURE 3-2: EXISTING TRAFFIC VOLUMES
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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3.5 Existing Traffic Conditions

Existing intersection geometrics and existing AM and PM peak hour traffic counts are used in analyzing existing intersection capacity. **Table 3-4** and **Appendix D** provide the results of the analysis. **Figure 3-3** illustrates the existing intersection geometrics utilized in the capacity analysis.

Table 3-4: Intersection Capacity Analysis – Existing Conditions

Intersection		Intersection Control Type	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Ranchero Rd / Escondido Ave	TS	9.0	A	46.1	D
2	Ranchero Rd / Fuente Ave	SSSC				
3	Ranchero Rd / Topaz Ave	SSSC	35.2	E	43.0	E
4	Ranchero Rd / Tropican Rose Ave	SSSC	17.2	C	20.2	C
5	Ranchero Rd / Primrose Ave	SSSC	14.6	B	13.5	B
6	Ranchero Rd / Maple Ave	AWSC	15.1	C	20.3	C
7	Ranchero Rd / Cottonwood Ave	AWSC	13.5	B	23.5	C
8	Ranchero Rd / Tamarisk Ave	RI/RO [1]	Not Applicable (Future Intersections)			
9	Ranchero Rd / Project Dwy "A"	RI/RO [1]				
10	Ranchero Rd / Project Dwy "B"	RI/RO [1]				
11	Maple Ave / Wells Fargo St	SSSC				

Notes:
[1] The Project Driveway "A" and Project Driveway "B" are assumed as Right in – Right out only intersections.
Abbreviations:
TS – Traffic signal-controlled intersection, SSSC – Side-street stop-controlled intersection, Delay – seconds per vehicle
LOS – Level of Service, N/A – Not Applicable / Future Intersection

As presented in **Table 3-4**, under existing conditions, the study intersections are currently operating at LOS C during the AM and PM peak hours, except for the side street stop-controlled intersection of Ranchero Road at Topaz Ave, operating at LOS E during the AM and PM peak hours.

Queuing Analysis

As presented in **Table 3-4**, under existing conditions, the intersection of Ranchero Road at Escondido Avenue is operating at LOS D in the PM peak hour and the intersection of Ranchero Road at Topaz Avenue is operating at LOS E during both the AM and PM peak hours. The intersection of Ranchero Road at Topaz Avenue consists of only single lane approaches. As such no queuing information is provided for the unsignalized intersection of Ranchero Road at Topaz Avenue.

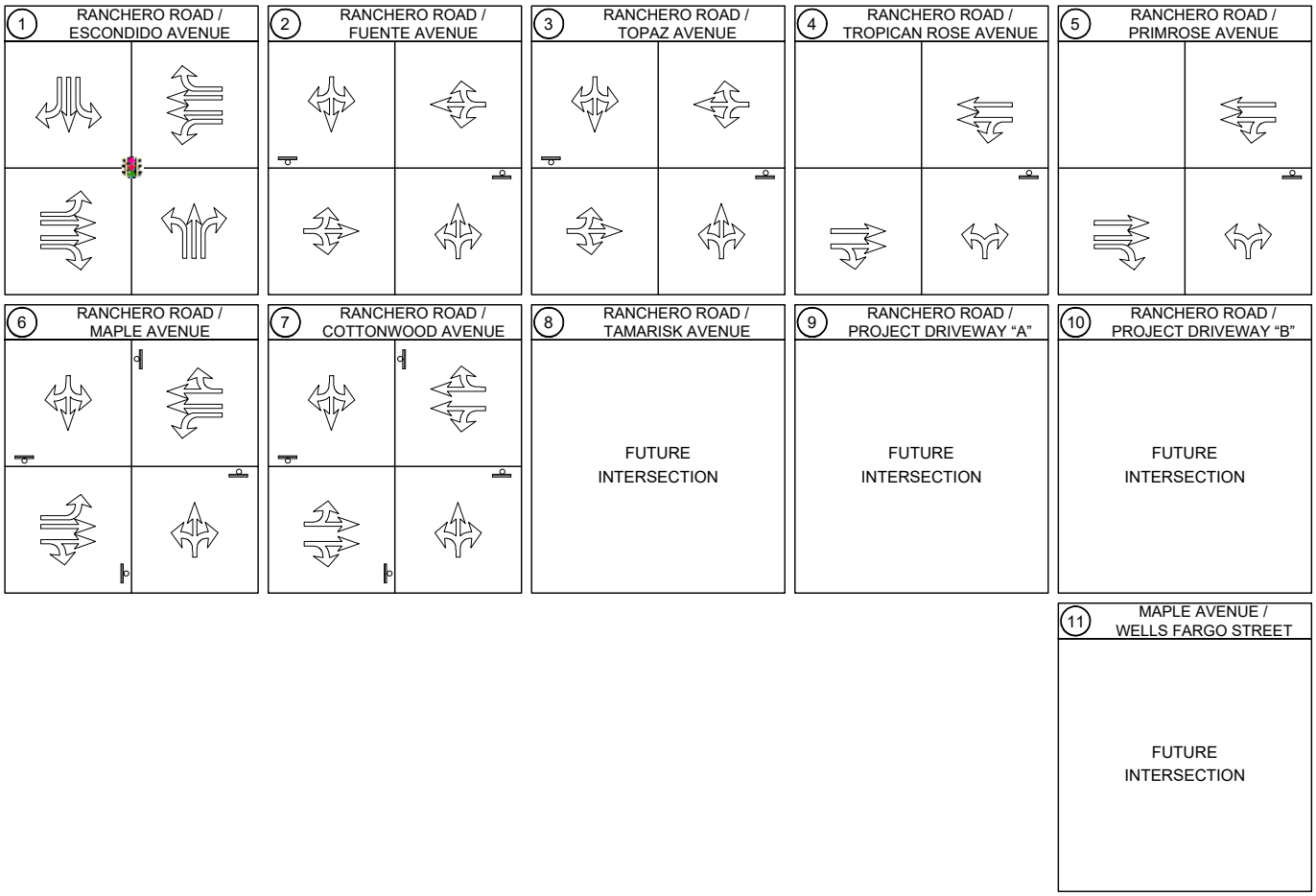
The computed 95th percentile queue is provided in **Table 3-5** for intersections with exclusive lanes at signalized and stop controlled intersections with movements or total intersection operating at LOS D or worse under existing conditions.

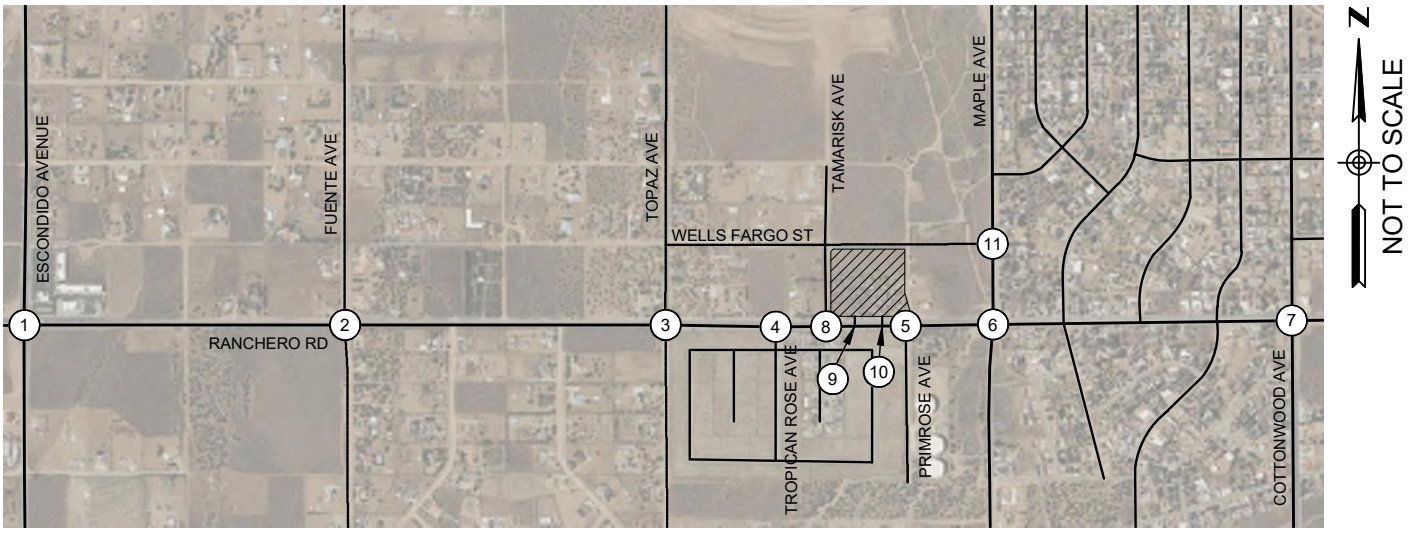
Table 3-5: Queuing Analysis – Existing Conditions

Intersection		Movement	Storage Length (feet)	95% Percentile Queue (Feet)	
				AM Peak Hour	PM Peak Hour
1	Ranchero Rd / Escondido Ave	EBL	200	**#150**	**#700**
		EBR	175	25	25
		WBL	200	25	50
		WBR	-	25	25
		NBL	100	25	50
		NBR	100	0	0
		SBL	100	**100**	**125**
		SBR	200	25	50

Queue – In Feet (rounded up to the nearest 25 feet)
95% - 95 Percentile Queue Length
95th percentile queue exceeds capacity, queue may be longer
Queue shown is maximum after two cycles

As presented in **Table 3-5**, under existing conditions, denoted in bold are the 95 percentile queue lengths that exceed the existing storage length.





LEGEND

- EXISTING GEOMETRICS
- (#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH

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FIGURE 3-3: EXISTING INTERSECTION GEOMETRICS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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4 OPENING DAY CONDITIONS – YEAR 2025

The opening day scenario evaluates conditions at the time the project is anticipated to be fully constructed and occupied (project opening year, which is the year 2025) but without traffic generated by the project. The ambient growth is a general rate of growth in traffic from overall regional growth (and traffic generated by planned and approved nearby development (assumed to be 2% annually for this study).

Programmed Improvements to Ranchero Road

The City of Hesperia is currently in the last phase of the three phase Ranchero Road Widening Project which extends 5-miles from the I-15 interchange eastward to the BNSF railroad undercrossing. The project includes widening Ranchero Road from 63' to 92' curb-to-curb and constructing two travel lanes in each direction, installing traffic signals at three intersections (7th, Cottonwood, and Maple), constructing a striped median on some segments including from the segment between Escondido to Cottonwood, and other related multimodal and infrastructure improvements throughout the corridor. Construction of these improvements will occur over the next few years. Therefore, this configuration is assumed in all future scenarios.

4.1 Opening Day Conditions Traffic Analysis

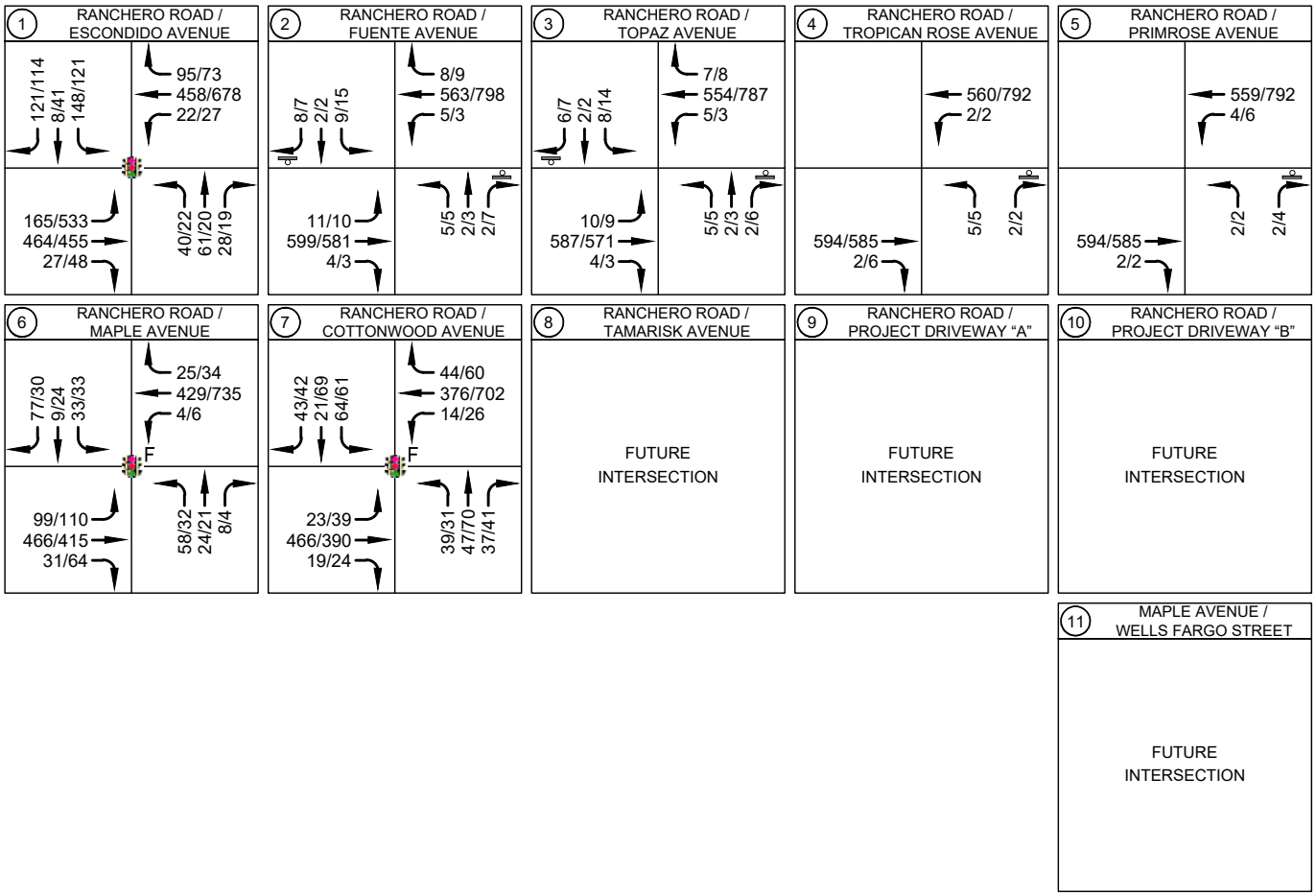
As outlined in the City of Hesperia TIA guidelines and **Chapter 3.3** of this report, the intersection signal timing and phasing is optimized for each study scenario. The opening day conditions intersection capacity analysis utilized the projected AM and PM peak hour traffic shown in **Figure 4-1**. **Figure 4-2** illustrates the approved Ranchero Road Widening Project intersection geometrics used in the capacity analysis. **Table 4-1** and **Appendix D** provide the results of the analysis.

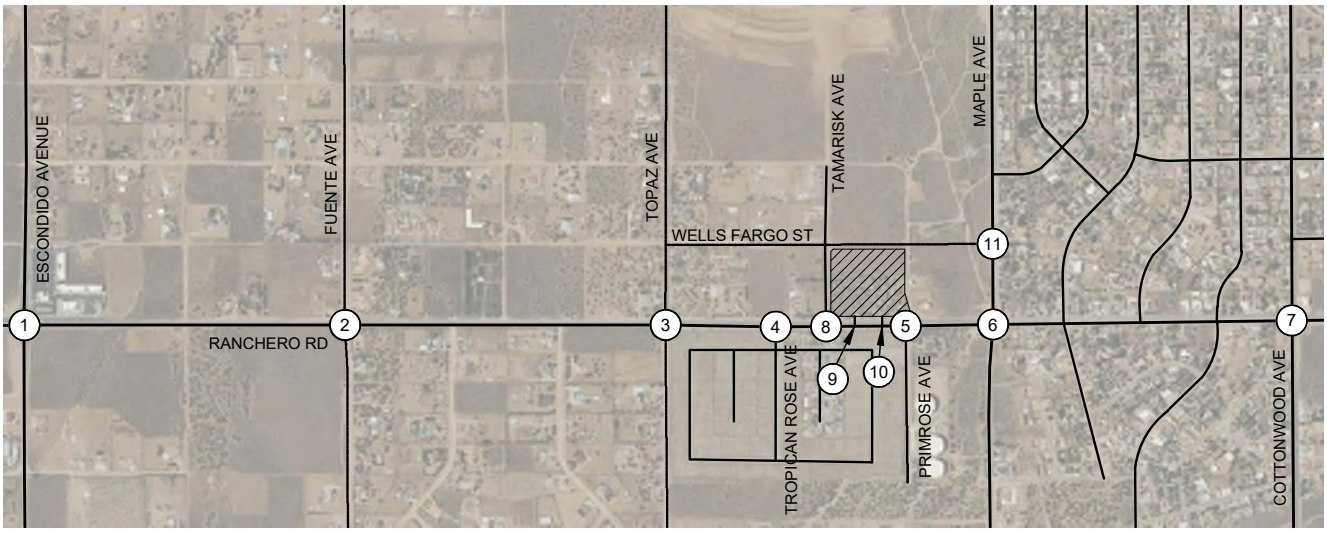
Table 4-1: Intersection Capacity Analysis – Opening Day Conditions

Intersection		Intersection Control Type	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Ranchero Rd / Escondido Ave [1]	TS	9.8	A	35.2	D
2	Ranchero Rd / Fuente Ave	SSSC	24.1	C	36.0	E
3	Ranchero Rd / Topaz Ave [1]	SSSC	23.3	C	34.7	D
4	Ranchero Rd / Tropican Rose Ave [1]	SSSC	13.8	B	14.8	B
5	Ranchero Rd / Primrose Ave [1]	SSSC	12.8	B	12.5	B
6	Ranchero Rd / Maple Ave [2]	AWSC	8.3	A	29.9	C
7	Ranchero Rd / Cottonwood Ave [2]	AWSC	7.5	A	8.3	A
8	Ranchero Rd / Tamarisk Ave	RI/RO [3]	Not Applicable (Future Intersections)			
9	Ranchero Rd / Project Dwy "A"	RI/RO [3]				
10	Ranchero Rd / Project Dwy "B"	RI/RO [3]				
11	Maple Ave / Wells Fargo St	SSSC				

Notes:
[1] The Ranchero Road Widening Project includes constructing two travel lanes in each direction, constructing a striped median within the project area from Escondido Ave to Cottonwood Ave, and other related multimodal and infrastructure improvements throughout the corridor. The traffic analysis assumes completion of the Ranchero Road widening.
[2] The Ranchero Road Widening Project includes installation of a traffic signal at the study intersections of Ranchero Rd / Maple Ave and Ranchero Rd / Cottonwood Ave. The traffic analysis of opening day (2025) and future year 2040 conditions with and without the project assumes completion of the Ranchero Road widening and traffic signal installations.
[3] Ranchero Road and Tamarisk Avenue is signalized in Alternative 1 and restricted to right in / right out in Alternatives 2 and 3.
Shaded cells represent conditions with a level of service deficit.
Abbreviations:
TS – Traffic signal-controlled intersection, SSSC – Side-street stop-controlled intersection, RI/RO = Right in / right out, LOS – Level of Service

As shown in **Table 4-1**, under opening day conditions, the study intersections are anticipated to continue to operate at LOS C or better during the AM and PM peak hours with the existing and Approved Ranchero Road Widening Project intersection geometrics. The side street stop-controlled intersection of Ranchero Road at Topaz Avenue is anticipated to operate at LOS D during the PM peak hour.





LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

F - FUTURE SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

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FIGURE 4-1: OPENING DAY TRAFFIC VOLUMES
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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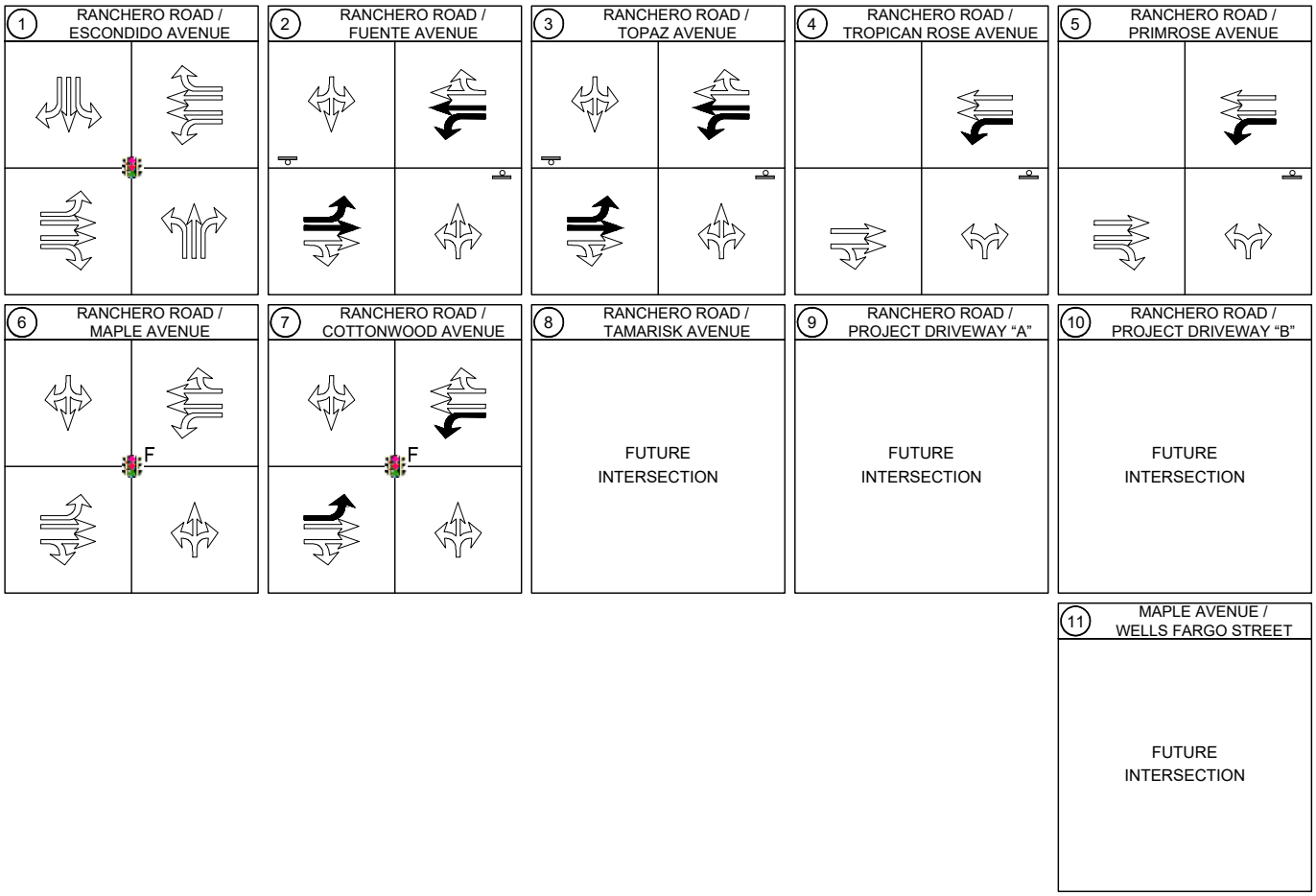

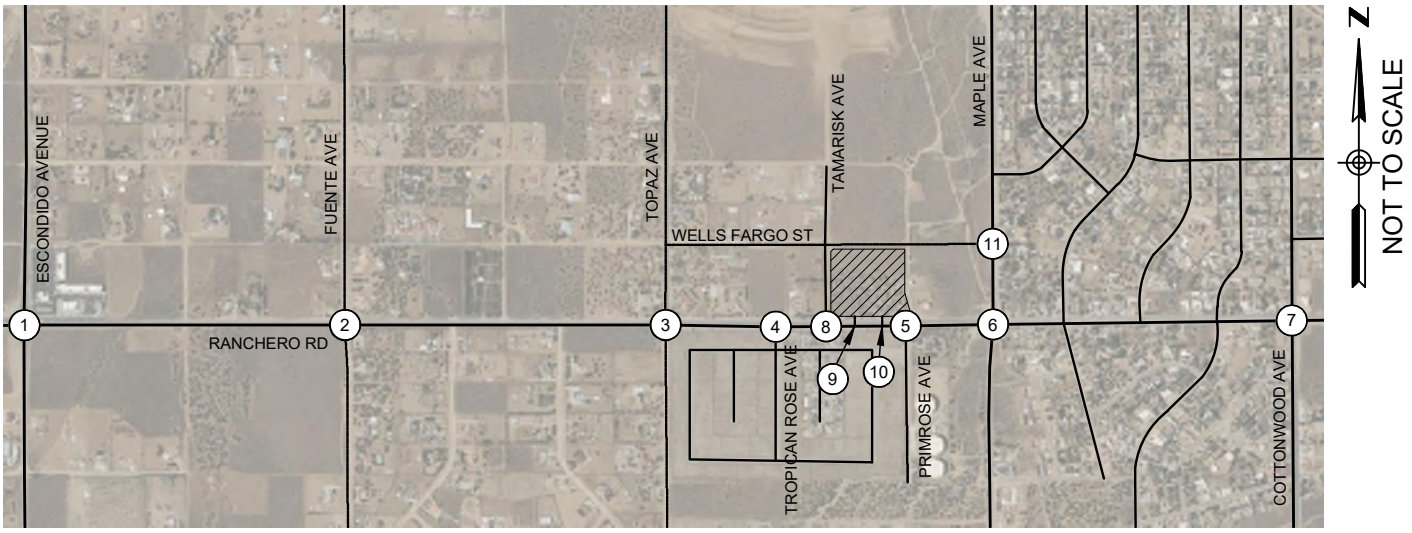

LEGEND

- (#) - STUDY INTERSECTIONS
- - SIGNALIZED INTERSECTION
- F - FUTURE SIGNALIZED INTERSECTION
- - STOP CONTROLLED APPROACH
- - EXISTING GEOMETRICS
- - RANCHERO ROAD WIDENING PROJECT GEOMETRICS

DAVID EVANS AND ASSOCIATES INC.

FIGURE 4-2: OPENING DAY INTERSECTION GEOMETRICS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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Queuing Analysis

As presented in **Table 4-1***,* under opening day conditions, the intersection of Ranchero Road at Escondido Avenue is operating at LOS D in the PM peak hour and the intersection of Ranchero Road at Topaz Avenue is operating at LOS D during both the AM peak hour and LOS E during the PM peak hour.

The computed 95th percentile queue is provided in **Table 4-2** for the intersections for turning movements with exclusive lanes at signalized and stop controlled intersections with movements or total intersection operating at LOS D or worse under opening day conditions.

Table 4-2: Queuing Analysis – Opening Day Conditions

Intersection		Movement	Storage Length (feet)	95% Percentile Queue	
				AM Peak Hour	PM Peak Hour
1	Ranchero Rd / Escondido Ave	EBL	200	**#275**	**#950**
		EBR	175	25	25
		WBL	200	50	75
		WBR	-	50	25
		NBL	100	50	50
		NBR	100	0	0
		SBL	100	**150**	**175**
		SBR	200	50	50
2	Ranchero Rd / Topaz Ave	EBL	150	0	0
		WBL	150	0	0

Queue – In Feet (rounded up to the nearest 25 feet)
95% - 95 Percentile Queue Length
95th percentile volume exceeds capacity; queue may be longer
Queue shown is maximum after two cycles

As presented in **Table 4-2***,* under opening day conditions, denoted in bold are the 95 percentile queue lengths that exceed the existing storage length.

5 OPENING DAY WITH PROJECT CONDITIONS– YEAR 2025

The opening day with project conditions scenario adds the project's estimated traffic generation to the opening day conditions traffic volumes described above.

5.1 Project Trip Generation

Based on the current General Plan Land Use Map (dated February 7, 2020) the project site's zoning designation is General Commercial (C2). The trip generation estimates represent the peak hours of the adjacent street traffic (which occurs between 7-9 AM and 4-6 PM). A substantial proportion of the trips generated by the site will be pass-by trips—trips attracted to the site while passing by on an adjacent street as an interim stop between the trip's origin and destination. Trips where the intended destination is the project are primary trips. Pass-by factors are from the Institute of Transportation Engineers (ITE) Trip Generation manual, 11th Edition by land use and subcategory. The proposed project land uses include Shopping Plaza (ITE Land Use 821) subcategory (40-150k) with Supermarket, Fast-Food Restaurant with Drive-Through Window (ITE Land Use 934), and Convenience Market/Gas Station (ITE Land Use 945) subcategory 16-24 vehicle fueling positions.

Table 5-1 summarizes the estimated trip generation for the project site on a typical weekday, AM peak hour, and PM peak hour. The proposed project is estimated to generate 8,184 primary daily trips, 463 AM primary peak hour trips, and 568 PM primary peak hour trips during the adjacent street peak hours.

Table 5-1: Estimated Project Trip Generation

	Use	Size/ Quantity	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
1	**Shopping Plaza w/Supermarket- Land Use Category (ITE 821) – 2 Buildings**								
	Per 1,000 Sq. Ft. GLA	75,000	94.49	2.19	1.34	3.53	4.33	4.70	9.03
	Trips		7,087	164	101	265	325	353	678
	Pass-By Trips (0%, 40%)		1,418	0	0	0	130	141	271
	Primary Trips (100%, 60%)		5,669	164	101	265	195	212	407
2	**Fast-Food Restaurant with Drive-Through Window – Land Use Category (ITE 934)**								
	Per 1,000 Sq. Ft. GLA	3,400	467.48	22.75	21.86	44.61	17.18	15.85	33.03
	Trips		1,590	77	75	152	58	54	112
	Pass-By Trips (50%, 55%)		835	39	38	77	32	30	62
	Primary Trips (50%, 45%)		755	38	37	75	26	24	50
3	**Convenience Market/Gas Station – VFP (16-24) Land Use Category (ITE 945)**								
	Per 1,000 Sq. Ft. GLA	5,600	1283.38	46.59	44.76	91.35	41.05	37.90	78.95
	Trips		7,187	261	251	512	230	212	442
	Pass-By Trips (76%, 75%)		5,427	198	191	389	172	159	331
	Primary Trips (24%, 25%)		1,760	63	60	123	58	53	111
	Total Project Trips		15,864	502	427	929	613	619	1,232
	Total Pass-By Trips		7,680	237	229	466	334	330	664
	Total Primary Trips		**8,184**	265	198	**463**	279	289	**568**

(1) Pass-By Trips rates obtained from Trip Generation Handbook 3rd Edition for Land Use Category ITE 934 and Land Use Category ITE 945

Source: "Trip Generation Manual, Institute of Transportation Engineers", 11th Edition

5.2 Project Trip Distribution and Assignment by Access Alternative

The overall trip distribution of project trips was presented in Figure 3-1. Each access alternative, however, has a micro-distribution to/from the project's driveways accessing the site.

Figures presenting the distribution and assignment developed for each access alternative are in Appendix A2: Distribution and Assignment of Project Trips for Each Access Alternative.

5.3 Opening Day with Project Traffic Analysis

As outlined in the City of Hesperia TIA Guidelines and **Chapter 3.3** of this report, the intersection signal timing/phasing is optimized for each study scenario. The intersection capacity analysis for each access alternative under opening day plus project conditions utilizes the opening day with project AM and PM peak hour traffic volumes and the intersection geometrics illustrated in figures found in **Appendix A2. Table 5-2** shows the results of the analysis for each access alternative.

Table 5-2: Intersection Capacity Analysis Comparison – Opening Day, with Alt 1, Alt 2 and Alt 3 Conditions

	Intersection	Control	Opening Day Conditions (W/O Project)				Opening Day Plus Project Alternative 1 Conditions				Opening Day Plus Project Alternative 2 Conditions				Opening Day Plus Project Alternative 3 Conditions			
			AM		PM		AM		PM		AM		PM		AM		PM	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Ranchero Rd / Escondido Ave [1]	TS	9.8	A	35.2	D	10.5	B	37.5	D	10.5	B	37.5	D	10.4	B	37.1	D
2	Ranchero Rd / Fuente Ave [1]	SSSC	24.1	C	36.0	E	30.1	D	71.7	F	30.1	D	71.7	F	30.1	D	71.7	F
3	Ranchero Rd / Topaz Ave [1]	SSSC	23.3	C	34.7	D	25.4	D	52.6	F	17.4	B	26.2	C	25.0	D	50.8	F
4	Ranchero Rd / Tropican Rose Ave [1]	SSSC	13.8	B	14.8	B	15.1	C	16.4	C	17.2	C	20.0	C	15.1	C	16.3	C
5	Ranchero Rd / Primrose Ave [1]	SSSC	12.8	B	12.5	B	19.0	C	20.1	C	19.0	C	20.1	C	17.9	C	17.9	C
6	Ranchero Rd / Maple Ave [2]	TS	8.3	A	29.9	C	9.0	A	39.4	D	9.0	A	39.4	D	10.8	B	13.2	B
7	Ranchero Rd / Cottonwood Ave [2]	TS	7.5	A	8.3	A	7.9	A	8.9	A	7.9	A	8.9	A	7.9	A	9.1	A
8	Ranchero Rd / Tamarisk Ave	TS/RI/RO [3]	Not Applicable (Future Intersections)				19.2	B	20.7	C	10.8	B	12.8	B	11.2	B	14.2	B
9	Ranchero Rd / Project Dwy "A"	RI/RO					14.8	B	23.9	C	14.0	B	20.0	C	13.0	B	17.2	C
10	Ranchero Rd / Project Dwy "B"	RI/RO					11.2	B	13.3	B	11.2	B	13.3	B	11.0	B	12.9	B
11	Maple Ave / Wells Fargo St	SSSC					Not Applicable in this Scenario								11.7	B	11.0	B

Notes:
[1] The Ranchero Road Widening Project includes constructing two travel lanes in each direction, constructing a striped median within the project area from Escondido Ave to Cottonwood Ave, and other related multimodal and infrastructure improvements throughout the corridor. The traffic analysis assumes completion of the Ranchero Road widening.
[2] The Ranchero Road Widening Project includes installation of a traffic signal at the study intersections of Ranchero Rd / Maple Ave and Ranchero Rd / Cottonwood Ave. The traffic analysis of opening day (2025) and future year 2040 conditions with and without the project assumes completion of the Ranchero Road widening and traffic signal installations.
[3] Ranchero Road and Tamarisk Avenue is signalized in Alternative 1 and restricted to right in / right out + left-in in Alternatives 2 and right in / right out in Alternative 3.
Shaded cells represent conditions with a level of service deficit.
Abbreviations:
TS – Traffic signal-controlled intersection, SSSC – Side-street stop-controlled intersection, RI/RO = Right in / right out, LOS – Level of Service

As shown in **Table 5-2**, under opening day conditions, the study intersections would operate at LOS D or better during the AM and PM peak hours. The exceptions include the stop-controlled intersections of Ranchero Road at Fuente and Topaz Avenues where the worst stop-controlled (left turn from side street) operate at LOS E or LOS F in the PM peak hour in the baseline opening day conditions and in all three access alternatives.

Queuing Analysis

As presented in **Table 5-2**, under the opening day scenarios, the intersections of Ranchero Road at Escondido Avenue, Fuente Avenue, Topaz Avenue, and Maple Avenue operate at LOS D or below during the AM peak hour, the PM peak hour, or both. The city's guidelines require a queuing analysis under these conditions.

The 95th percentile queuing is shown in **Table 5-3** at intersections with exclusive left or right turn lanes at signalized and stop controlled intersections with movements or total intersection operating at LOS D or worse under opening day conditions for the three access alternatives.

Table 5-3: Queuing Analysis Comparison – Opening Day, with Alt 1, with Alt 2, and Alt 3 Conditions

Intersection		Movement	Storage Length (feet)	Opening Day Conditions		Opening Day Plus Project Alternative 1 Conditions		Opening Day Plus Project Alternative 2 Conditions		Opening Day Plus Project Alternative 3 Conditions	
				95%		95%		95%		195%	
				AM	PM	AM	PM	AM	PM	AM	PM
1	Ranchero Rd / Escondido Ave[1]	EBL	200	**#275**	**#950**	**#275**	**#950**	**#275**	**#950**	**#275**	**#1500**
		EBR	175	25	25	25	25	25	25	25	50
		WBL	200	50	75	75	75	75	75	75	125
		WBR	-	50	25	50	50	50	50	50	100
		NBL	100	50	50	50	50	50	50	50	75
		NBR	100	0	0	25	25	25	25	25	25
		SBL	100	**150**	**175**	**175**	**175**	**175**	**175**	**175**	**300**
		SBR	200	50	50	50	50	50	50	50	75
2	Ranchero Rd / Topaz Ave[1]	EBL	150	0	0	0	0	-	-	0	0
		WBL	150	0	0	25	25	-	-	25	25
5	Ranchero Rd / Maple Ave [2]	EBL	200	-	-	**150**	**#250**	**150**	**#250**	**#300**	**#475**
		WBL	140	-	-	25	25	25	25	25	25

"-" Not applicable in accordance with the city's guidelines only requiring a queuing analysis if the intersection operates at a LOS D or worse.
Queue – In Feet (rounded up to the nearest 25 feet)
95% - 95 Percentile Queue Length
95th percentile volume exceeds capacity; queue may be longer
Queue shown is maximum after two cycles

As presented in **Table 5-3**, the queuing denoted in bold are the 95 percentile queue lengths that exceed the storage length and the queues with a # in front are lanes which exceed capacity and the queues may be longer than shown. The project does not cause excessive queuing, but it does contribute to them.

Traffic Signal Warrant Analysis for Ranchero Road and Topaz Avenue

Under existing conditions, opening day, and opening day plus project access alternative 1 conditions, the intersection of Ranchero Road and Topaz Avenue does not meet the peak hour warrant justifying the installation of a traffic signal based on warrants in the 2014 California Manual of Uniform Traffic Control Devices (MUTCD). Under opening day plus project under access alternative 2 conditions **the intersection does meet the Warrant #3 (peak hour volume) for the installation of a traffic signal.** The traffic signal warrant analysis worksheets are provided in **Appendix E** of this report.

6 FUTURE CONDITIONS – YEAR 2040

The future conditions scenario represents regional growth in traffic up to the year 2040. Regional growth is derived from forecasts from the San Bernardino Transportation Analysis Model (SBTAM). Intersection turn movements were derived from post processing forecasted approach volumes and balancing the turn movement volumes for each study intersection. The SBTAM traffic model volume plots are provided in **Appendix C**.

6.1 Future Conditions Traffic Analysis

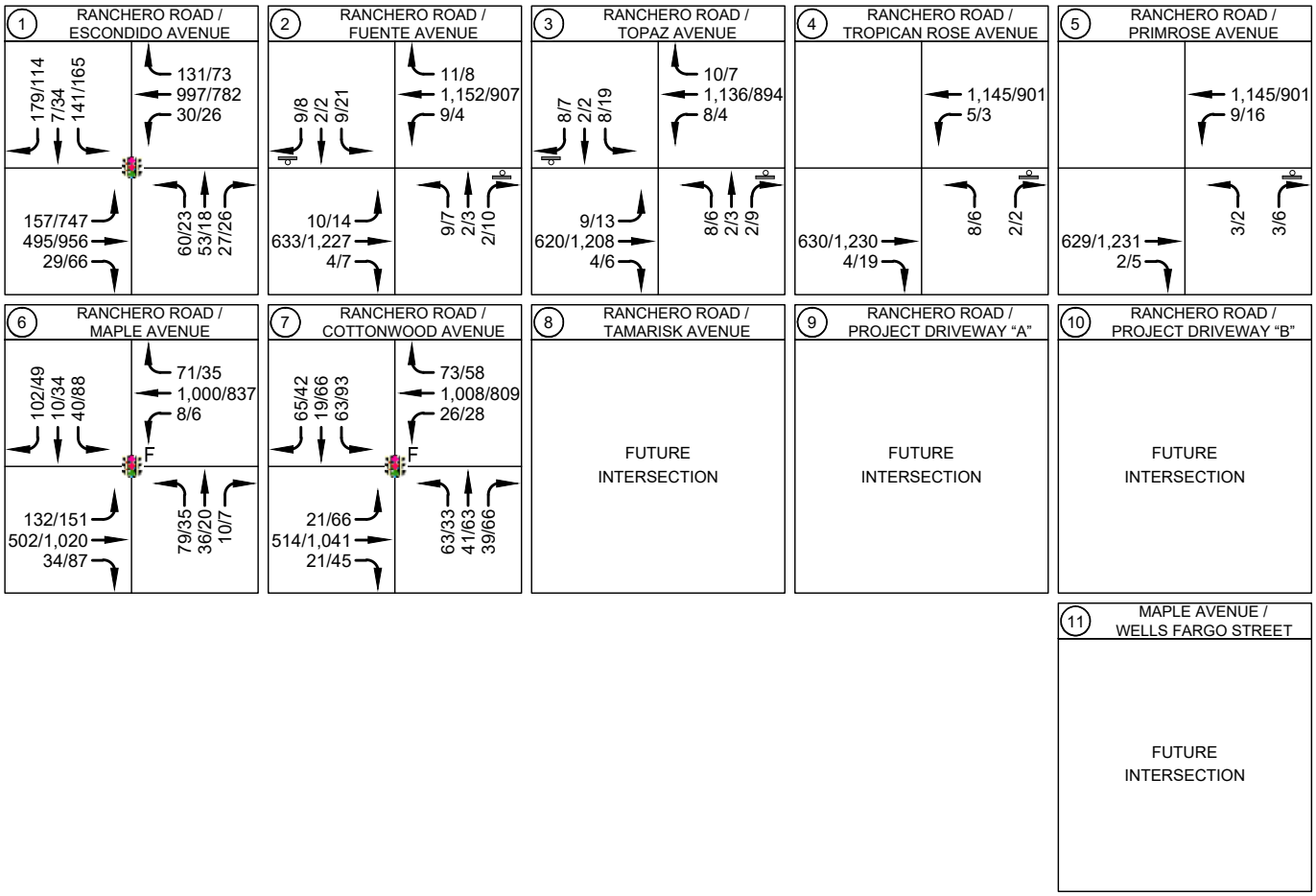
As outlined in the City of Hesperia TIA guidelines and **Chapter 3.3** of this report, the intersection signal timing and phasing is optimized for each study scenario. The future conditions intersection capacity analysis assumes completion of the Ranchero Road Widening Project and its intersection geometrics, and the projected AM and PM peak hour traffic volumes presented in **Figure 6-1**: Future Traffic Volumesand the intersection geometrics shown in **Figure 6-2. Table 6-1** and **Appendix D** provide the results of the capacity analysis.

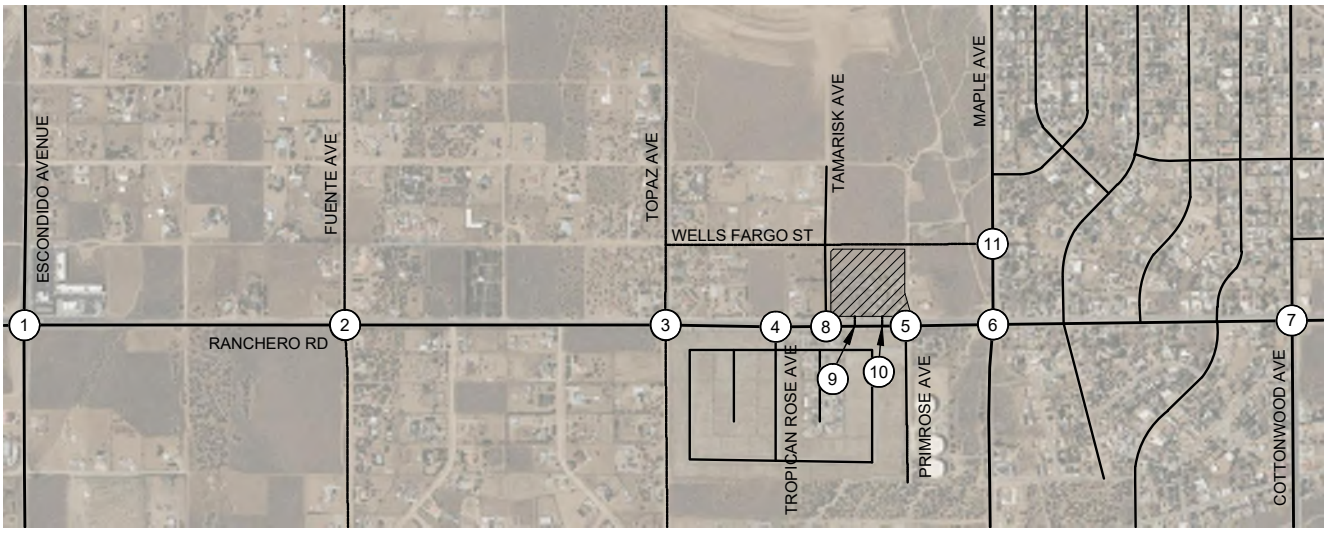
Table 6-1: Intersection Capacity Analysis – Future Conditions Without Project

Intersection		Intersection Control Type	AM Peak Hour		PM Peak Hour	
			Delay	LOS	Delay	LOS
1	Ranchero Rd / Escondido Ave [1]	TS	12.2	B	47.1	D
2	Ranchero Rd / Fuente Ave [1]	SSSC	45.8	E	89.3	F
3	Ranchero Rd / Topaz Ave [1]	SSSC	42.4	F	79.7	F
4	Ranchero Rd / Tropican Rose Ave [1]	SSSC	16.2	C	23.8	C
5	Ranchero Rd / Primrose Ave [1]	SSSC	14.0	B	17.2	C
6	Ranchero Rd / Maple Ave [2]	AWSC	10.3	B	40.1	D
7	Ranchero Rd / Cottonwood Ave [2]	AWSC	8.1	A	9.0	A
8	Ranchero Rd / Tamarisk Ave	RI/RO [3]	Not Applicable (Future Intersections)			
9	Ranchero Rd / Project Dwy "A"	RI/RO [3]				
10	Ranchero Rd / Project Dwy "B"	RI/RO [3]				
11	Maple Ave / Wells Fargo St	SSSC				

Notes:
[1] The Ranchero Road Widening Project includes constructing two travel lanes in each direction, constructing a striped median within the project area from Escondido Ave to Cottonwood Ave, and other related multimodal and infrastructure improvements throughout the corridor. The traffic analysis assumes completion of the Ranchero Road widening.
[2] The Ranchero Road Widening Project includes installation of a traffic signal at the study intersections of Ranchero Rd / Maple Ave and Ranchero Rd / Cottonwood Ave. The traffic analysis of opening day (2025) and future year 2040 conditions with and without the project assumes completion of the Ranchero Road widening and traffic signal installations.
[3] Ranchero Road and Tamarisk Avenue is signalized in Alternative 1 and restricted to right in / right out in Alternatives 2 and 3.
Shaded cells represent conditions with a level of service deficit.
Abbreviations:
TS – Traffic signal-controlled intersection, SSSC – Side-street stop-controlled intersection, RI/RO = Right in / right out, LOS – Level of Service

As shown in **Table 6-1**, under future conditions without the project, the study intersections are anticipated to operate at LOS D or better during the AM and PM peak hours with the exception of Ranchero Road / Fuente Avenue and Ranchero Road / Topaz Avenue at which the worst stop-controlled movements operate at LOS E or F in both peak hours.





LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

F - FUTURE SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

FIGURE 6-1: FUTURE TRAFFIC VOLUMES
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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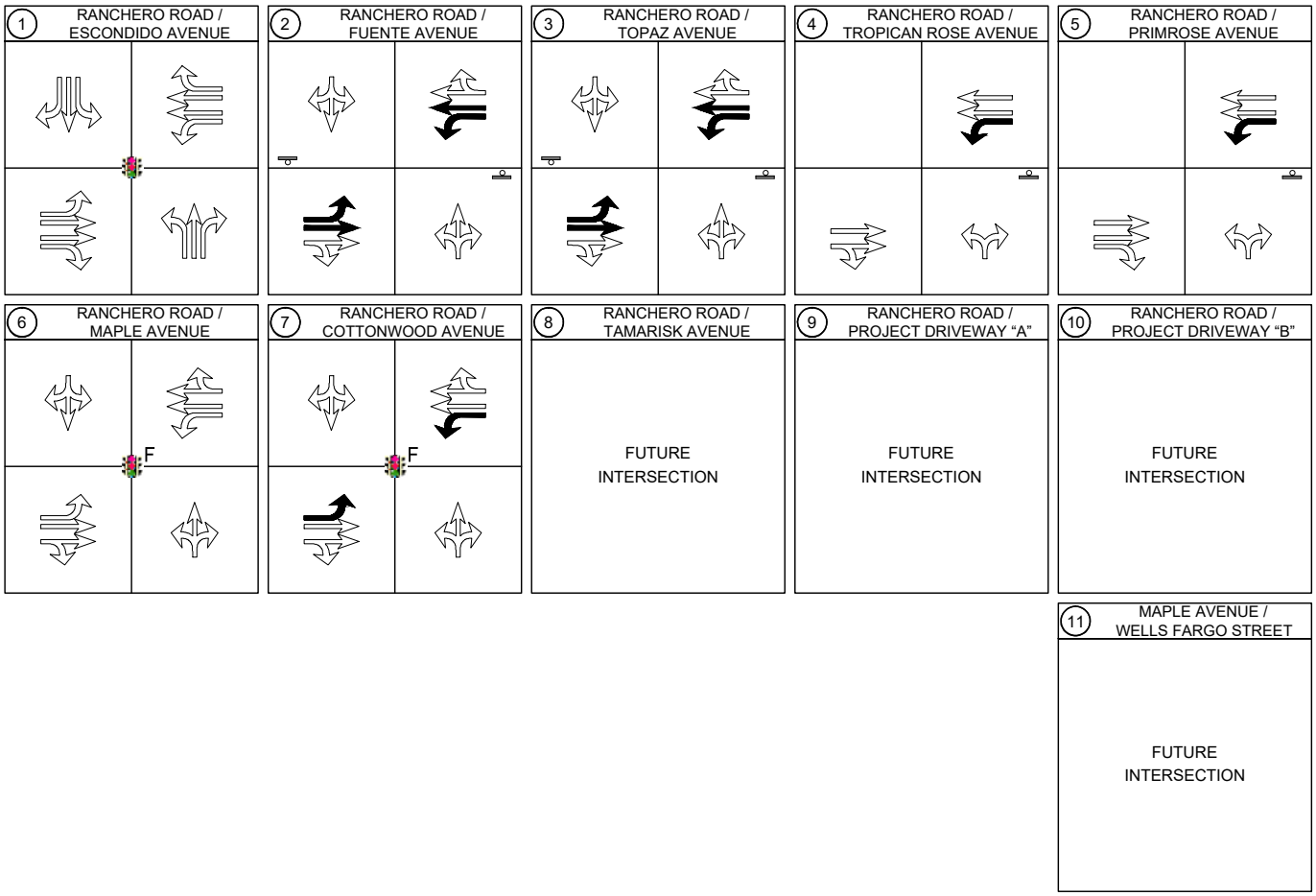

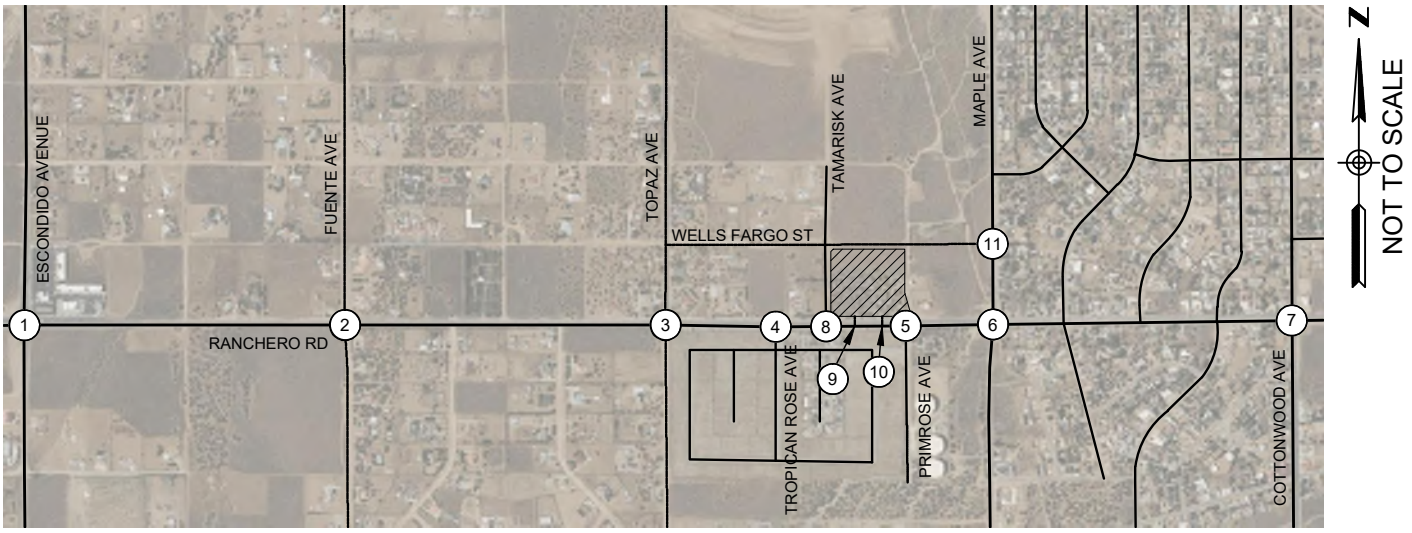

LEGEND

- (#) - STUDY INTERSECTIONS
- - SIGNALIZED INTERSECTION
- F - FUTURE SIGNALIZED INTERSECTION
- - STOP CONTROLLED APPROACH
- - EXISTING GEOMETRICS
- - RANCHERO ROAD WIDENING PROJECT GEOMETRICS

FIGURE 6-2: FUTURE CONDITIONS
INTERSECTION GEOMETRICS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.

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Queuing Analysis

As shown previously in **Table 6-1**, under future conditions without the project, the intersections of Ranchero Road at Escondido Avenue, Topaz Avenue, and Maple Avenue operate at LOS D or below during the AM peak hour, the PM peak hour, or both. The city's guidelines require a queuing analysis under these conditions.

The 95th percentile queuing is shown in **Table 6-2** at intersections with exclusive left or right turn lanes at signalized and stop controlled intersections with movements or total intersection operating at LOS D or worse under opening day conditions for the three access alternatives.

Table 6-2: Queuing Analysis – Future Conditions Without Project

Intersection		Movement	Storage Length (feet)	95th Percentile Queue	
				AM	PM
1	Ranchero Rd / Escondido Ave	EBL	200	**#350**	**#1325**
		EBR	175	25	25
		WBL	200	75	75
		WBR	-	50	50
		NBL	100	100	50
		NBR	100	0	0
		SBL	100	**200**	**225**
		SBR	200	75	50
2	Ranchero Rd / Topaz Ave	EBL	150	25	25
		WBL	150	0	0
5	Ranchero Rd / Maple Ave	EBL	200	**#200**	**#200**
		WBL	140	25	25

Queue – In Feet (rounded up to the nearest 25 feet)
95% - 95 Percentile Queue Length
95th percentile volume exceeds capacity; queue may be longer
Queue shown is maximum after two cycles

As presented in **The 95th** percentile queuing is shown in **Table 6-2** at intersections with exclusive left or right turn lanes at signalized and stop controlled intersections with movements or total intersection operating at LOS D or worse under opening day conditions for the three access alternatives.

Table 6-2, under future conditions, denoted in bold are the 95 percentile queue lengths that exceed the existing storage length.

7 FUTURE WITH PROJECT CONDITIONS – YEAR 2040

The future with project conditions scenario adds the project's estimated traffic generation to the future conditions traffic volumes described above under the three access alternatives.

7.1 Future with Project Traffic Analysis

As outlined in the City of Hesperia TIA Guidelines and **Chapter 3.3** of this report, the intersection signal timing/phasing is optimized for each study scenario. **Appendix A2** contains the future plus project AM and PM peak hour traffic projections for all three access alternatives. **Table 7-1** shows the results of the analysis.

Table 7-1: Intersection Capacity Analysis –Future with Project Conditions

	Intersection	Control	Future Year 2040 (W/O Project)				Future Year 2040 Plus Project Alternative 1 Conditions				Future Year 2040 Plus Project Alternative 2 Conditions				Future Year 2040 Plus Project Alternative 3 Conditions			
			AM		PM		AM		PM		AM		PM		AM		PM	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Ranchero Rd / Escondido Ave [1]	TS	12.2	B	47.1	D	12.8	B	50.6	D	12.8	B	50.6	D	12.8	B	50.9	D
2	Ranchero Rd / Fuente Ave	SSSC	45.8	E	89.3	F	92.8	F	240.8	F	92.8	F	240.8	F	92.8	F	240.8	F
3	Ranchero Rd / Topaz Ave [1]	SSSC	42.4	F	79.7	F	55.4	F	137.3	F	20.7	C	25.8	C	55.4	F	137.3	F
4	Ranchero Rd / Tropican Rose Ave [1]	SSSC	16.2	C	23.8	C	17.5	C	26.4	D	19.5	C	33.7	D	17.5	C	26.4	D
5	Ranchero Rd / Primrose Ave [1]	SSSC	14.0	B	17.2	C	24.4	C	34.4	D	24.4	C	34.4	D	23.1	C	30.4	D
6	Ranchero Rd / Maple Ave [2]	TS	10.3	B	40.1	D	12.9	B	45.1	D	12.5	B	45.1	D	19.6	B	16.9	B
7	Ranchero Rd / Cottonwood Ave [2]	TS	8.1	A	9.0	A	8.9	A	10.1	B	8.7	A	10.1	B	8.9	A	10.3	B
8	Ranchero Rd / Tamarisk Ave	RI/RO [3]	Not Applicable (Future Intersections)				24.1	C	14.4	B	14.1	B	12.6	B	15.5	C	14.0	B
9	Ranchero Rd / Project Dwy "A"	RI/RO [4]					22.5	C	21.6	C	20.3	C	18.8	C	18.3	C	16.6	C
10	Ranchero Rd / Project Dwy "B"	RI/RO [4]					14.8	B	13.2	B	14.8	B	13.2	B	14.5	B	12.8	B
11	Maple Ave / Wells Fargo St	SSSC					N/A		N/A		N/A		N/A		12.1	B	12.0	B

Notes:
[1] The Ranchero Road Widening Project includes constructing two travel lanes in each direction, constructing a striped median within the project area from Escondido Ave to Cottonwood Ave, and other related multimodal and infrastructure improvements throughout the corridor. The traffic analysis assumes completion of the Ranchero Road widening.
[2] The Ranchero Road Widening Project includes installation of a traffic signal at the study intersections of Ranchero Rd / Maple Ave and Ranchero Rd / Cottonwood Ave. The traffic analysis of opening day (2025) and future year 2040 conditions with and without the project assumes completion of the Ranchero Road widening and traffic signal installations.
[3] Ranchero Road and Tamarisk Avenue is signalized in Alternative 1 and restricted to right in / right out + left-in in Alternatives 2 and right in / right out in Alternative 3.
Shaded cells represent conditions with a level of service deficit.
Abbreviations:
TS – Traffic signal-controlled intersection, SSSC – Side-street stop-controlled intersection, RI/RO = Right in / right out, LOS – Level of Service

As presented in **Table 7-1**, under future conditions, the intersections of Ranchero Road at Fuente Avenue and Ranchero Road at Topaz Avenue, operate at LOS F during one or both peak hours under all three access alternatives.

Queuing Analysis

As shown previously in **Table 7-1**, under future conditions with the project, the intersections of Ranchero Road at Escondido Avenue, Topaz Avenue, Tropican Rose, Primrose, and Maple Avenue operate at LOS D or below during the AM peak hour, the PM peak hour, or both. The city's guidelines require a queuing analysis under these conditions.

The computed 95th percentile queue is provided in **Table 7-2** for intersections with exclusive turning lanes at signalized and stop controlled intersections with movements or total intersection operating at LOS D or worse under future conditions scenarios.

Table 7-2: Queuing Analysis Comparison – Future Under All Three Access Alternatives

Intersection		Movement	Storage Length (feet)	Future Conditions		Future Plus Alt 1 Project Conditions		Future Plus Alt 2 Project Conditions		Future Plus Alt 3 Project Conditions	
				95% Queue		95% Queue		95% Queue		95% Queue	
				AM	PM	AM	PM	AM	PM	AM	PM
1	Ranchero Rd / Escondido Ave	EBL	200	**#350**	**#1325**	**#375**	**#1350**	**#375**	**#1350**	**#350**	**#2075**
		EBR	175	25	25	25	50	25	50	25	75
		WBL	200	75	75	100	75	100	75	100	125
		WBR	-	50	50	50	50	50	50	75	100
		NBL	100	100	50	100	50	100	50	100	75
		NBR	100	0	0	25	25	25	25	25	25
		SBL	100	**200**	**225**	**200**	**225**	**200**	**225**	**200**	**350**
		SBR	200	75	50	75	50	75	50	75	75
2	Ranchero Rd / Topaz Ave	EBL	150	25	25	25	25	-	-	25	25
		WBL	150	0	0	25	25	-	-	25	25
										0	0
3	Ranchero Rd / Tropican Rose Ave	WBL	60	**#200**	**#200**	0	0	0	0	0	0
				25	25	0	0	0	0	0	0
4	Ranchero Rd / Primrose Ave	EBR	275			0	0	0	0	0	0
		WBL	50			0	25	0	25	0	25
5	Ranchero Rd / Maple Ave	EBL	200			**#300**	**#300**	**#300**	**#300**	**#350**	**#535**
		WBL	140			25	25	25	25	25	25

"-" Not Applicable to the Scenario
Queue – In Feet (rounded up to the nearest 25 feet)
95% - 95 Percentile Queue Length
95th percentile volume exceeds capacity, queue may be longer
Queue shown is maximum after two cycles

As presented in **Table 7-2**, the queues denoted in bold are the 95 percentile queue lengths that exceed the storage length.

Traffic Signal Warrant Analysis for Ranchero Road and Topaz Avenue

Under future year background, and future plus project access alternative 1 conditions, the intersection does not meet the peak hour warrant justifying the installation of a traffic signal based on warrant 3 from the 2014 California Manual of Uniform Traffic Control Devices (MUTCD). Under future plus project access alternative 2 conditions **the intersection does meet warrant #3 (peak hour volume) for the installation of a traffic signal.** The traffic signal warrant analysis worksheets are provided in **Appendix E** of this report.

A traffic signal warrant analysis was conducted for the intersections of Ranchero Road / Topaz Avenue and Ranchero Road / Fuente Avenue using California MUTCD[6] warrant #3 (peak hour volume) applied to future 2040 background conditions, and future 2040 plus project conditions for all access alternatives. Only the intersection of Ranchero Road / Topaz Avenue warrants installation of a traffic signal under future 2040 plus project conditions in access Alternative 2.

[6] California Manual on Uniform Traffic Control Devices (CA MUTCD), Revision 7 (Rev 7) to the 2014 CA MUTCD, March 2023.

8 RECOMMENDATIONS

This chapter summarizes the typical frontage improvements required for new development in Hesperia as well as improvements specific to each of the access alternatives.

8.1 Project-Specific Frontage Improvements Applicable to All Access Scenarios

A. Ranchero Road Frontage Improvements

The Hesperia General Plan circulation element identifies Ranchero Road as a Special Street with a half-width right of way of 70-feet and the curb face 46-feet from the street centerline to accommodate its ultimate six-lane cross-section. The project site plan conforms to the requirements.

The Ranchero Road widening project is currently ongoing and will construct at least the curb to curb (96 feet) traveled way, as well as the Tamarisk Avenue approach and curb returns. Project responsibilities include:

- Construct the facilities behind the curb along their frontage including landscaping.
- Construct project driveways A and B on Ranchero Road and restrict the driveways to right in / right out only. Enforcement of these restrictions may be through construction of a raised median at the discretion of the city. A raised median is not included in the current widening project and may be included in the project's conditions of approval.

B. Tamarisk Avenue and Wells Fargo Road Frontage Improvements

The Hesperia General Plan circulation element identifies Tamarisk Avenue and Wells Fargo Road as local streets. Local streets have a curb-to-curb traveled way width of 50-feet-feet. As part of the widening project, the city (or other entity) constructed the intersection of Ranchero Road and Tamarisk Avenue to include curb and gutter along the curb returns and handicapped ramps. The city has also paved Tamarisk Avenue at least to Wells Fargo Street. Further, the improvements to Tamarisk Avenue include the east approach of Wells Fargo Street to include curb and gutter and pavement along the curb returns.

The project's responsibilities for Tamarisk Avenue and Wells Fargo Street include:

- Extend the curb and gutter from the recently completed curb returns on the eastern side of Tamarisk Avenue along the project's frontage to Wells Fargo Street, and provide sidewalk, streetlights, landscaping, and other appurtenances as required in the city's standards.
- Construct the two 36-foot-wide driveways on Tamarisk Avenue as shown on the project site plan.
- Construct the two 36-foot-wide driveways on Wells Fargo Street as shown on the project site plan.
- Improvements for Wells Fargo Street include constructing the half width of the street (plus one full lane for two-way travel) along the project's frontage.

8.2 Improvements Specific to Access Alternatives

Table 8-1 summarizes improvements specific to each access alternative and that are not part of the project's frontage. These improvements are elemental to the function of the access scheme.

For example, access Alternative 3 requires an extension of Wells Fargo Road to Maple Avenue, but the extension is outside of the project's property and will need to obtain permanent access easements. In this example, without the elemental extension, the concept of Alternative 3 won't function. Following **Table 8-1** are additional details regarding these alternative-specific improvements.

Table 8-1: Alternative-Specific Non-Frontage Improvements Required of Each Access Alternative

Access Alternative	Improvements Specific to Access Alternatives [a]				
	Ranchero Road [b]	Tamarisk Avenue [b]	Topaz Avenue [b]	Wells Fargo Street [b]	Maple Avenue
Alternative 1 – Traffic Signal at Ranchero / Tamarisk Intersection	• Install a traffic signal at the intersection of Ranchero Road and Tamarisk Avenue	Frontage Improvements Only	No Required Improvements	Frontage Improvements Only	No Required Improvements
Alternative 2 - Traffic Signal at Ranchero / Topaz Intersection	• Contribute fair share of the cost to install a traffic signal at the intersection of Ranchero Road and Topaz Avenue.	• Restrict Ranchero Rd / Tamarisk Avenue to RI/RO and left in only. • Restrict Ranchero Rd / Project driveways to RI/RO only	• Improve Topaz Avenue—pavement, signing, and striping on from Ranchero Road to Wells Fargo Street.	• Improve Wells Fargo Street from Topaz Avenue to Tamarisk Avenue per the city's standard for local streets.	No Required Improvements
Alternative 3 – Wells Fargo Street Extension to Maple Avenue	• Restrict Tamarisk Avenue, and the project's Ranchero Road driveways to RI / RO enforced by installing vertical delineators or a raised median	• Restrict Ranchero Rd / Tamarisk Avenue to RI/RO only. • Restrict Ranchero Rd / Project driveways to RI/RO only	No Required Improvements	• Obtain required permanent access easements prior to construction of the Wells Fargo Street extension. • Contribute fair share of cost to extend Wells Fargo Street from the project's eastern property line to intersect with Maple Avenue as a local street conforming to city standards.	Configure the intersection of Maple Avenue and Wells Fargo Street: • Wells Fargo St eastbound approach: Left and right turn lane • Maple Avenue northbound approach: Left turn deceleration / storage lane. • Maple Avenue southbound approach: Right turn deceleration / storage lane.

Notes:
[a] The improvements listed in this table are required for the intended function of each access alternative and are in addition to the standard frontage improvements described above and in Chapter 8.
[b] See Section 8.1 for a description of the standard frontage improvements.

A. Further Discussion of Access Alternative-Specific Improvements

Access Alternative 1 – Ranchero Road Improvements

In addition to the frontage improvements described above, Access Alternative 1 requires the project to:

- Install a traffic signal at the intersection of Ranchero Road and Tamarisk Avenue (with a pedestrian crosswalk of Ranchero Road on the east side of the intersection). The traffic signal installation could include the raised median from Tamarisk Avenue to Primrose Avenue as described above.

Access Alternative 1 – Wells Fargo Street Improvements

In access Alternative 1, Wells Fargo Street is extended to the eastern end of the project's property line providing access via two driveways with the easternmost driveway accessing the rear of Commercial Building A and the building's loading dock.

Access Alternative 2 – Ranchero Road Improvements

In addition to the frontage improvements described above, Access Alternative 2 requires the project to pay its fair share of the cost to install a traffic signal at the intersection of Ranchero Road and Topaz Avenue.

Access Alternative 2 – Topaz Avenue and Wells Fargo Street Improvements

The proposed traffic signal at Topaz Avenue is intended to encourage project ingress and egress via Topaz Avenue and Wells Fargo Street which currently is an unpaved and unimproved roadway. Therefore, in addition to the improvements recommended above, to use Topaz Avenue and Wells Fargo Street for access to the project site, the project would improve the pavement, signing, and pavement markings on Topaz Avenue from Ranchero Road to Wells Fargo Street. Wells Fargo Street would be improved for the full street width from Topaz Avenue to Tamarisk Avenue per the city's standard for local streets.

Access Alternative 3 – Ranchero Road Improvements

In access Alternative 3, primary access to the project site is via Maple Street and an easterly extension of Wells Fargo Street. Tamarisk Avenue, and the project's Ranchero Road driveways will be restricted to right in / right out. These restrictions should be enforced by constructing a raised median from just west of Tamarisk Avenue to Primrose Avenue.

Access Alternative 3 – Wells Fargo Street and Maple Avenue Improvements

In addition to the frontage improvements described above, Access Alternative 3 requires the project to:

- Construct Wells Fargo Street from its current terminus to intersect with Maple Avenue as a local street conforming to city standards. The extension of Wells Fargo Street passes through private and public-owned property requiring permanent access easements that need to be obtained prior to construction.
- Improve the intersection of Maple Avenue and Wells Fargo Street:
    a. As part of the extension of Wells Fargo Street, widen the eastbound approach to accommodate a left and a right turn lane and appropriate tapers—combined, the lanes and tapers should be about 200 feet in length.
    b. Widen Maple Avenue to accommodate a northbound deceleration / left turn storage lane equaling 200 feet in length plus appropriate taper.
    c. Widen Maple Avenue to accommodate a southbound deceleration / right turn storage lane equaling 200 feet in length plus appropriate taper.

8.3 Off-Site Measures to Mitigate Level of Service Deficiencies

This section presents measures to mitigate level of service deficiencies which the project contributes to a cumulative LOS deficiency along with other development, or where the project causes the deficiency.

B. Ranchero Road / Topaz Avenue Recommended Improvements to Ranchero Road at Topaz Avenue and Fuente Avenue Mitigate Level of Service Deficiencies

There are only two measures to mitigate the LOS F conditions at the stop-controlled left turn movements at Topaz Avenue and Fuente Avenue, a) install a traffic signal to control all of the movements at the intersection, or b) prohibit the movements experiencing the highest delays (i.e., left turns and through movements) at least during peak periods.

The intersections do not meet warrants for installing a traffic signal under opening day or future 2040 conditions except in access Alternative 2 which proposes a traffic signal at Ranchero Road and Topaz Avenue and encourages site visitors to use the intersection.

This study recommends restricting the north-south approaches of Fuente Avenue and Topaz Avenue to right turn in / right turn out. This restriction affects left turns and cross movements, left turns into these side streets from Ranchero Road are not affected. These restrictions should initially be enforced with signs and pavement markings but may require raised channelizing medians in the future if violations result in collisions. The LOS deficit at both intersections occurs with or without the project and therefore, should be implemented under all three access alternatives, except at Ranchero Road / Topaz Avenue in access Alternative 2.

9 VEHICLE MILES TRAVELED (VMT) SCREENING

The City of Hesperia has developed guidelines for analyzing a development project's VMT in conformance with SB 743. According to the guidelines a VMT analysis would apply to projects that have the potential to increase the average VMT per service population (e.g., population plus employment) compared to the County of San Bernardino VMT average of 32.7 VMT per service population.

The city's guidelines include several screening criteria of which only two are relevant for this project: "Low VMT Area" screening and, "Project Type" screening. A screening assessment of these two criteria is summarized below.

Low VMT Area Screening

To identify if the project may be screened from the need to conduct a project-level assessment under the low VMT area criteria, the SBCTA screening tool is used to identify if a proposed development is in a "low-VMT generating Traffic Analysis Zone (TAZ)" that would exempt the project from requiring a VMT analysis for CEQA clearance. SBCTA's tool compares the appropriate baseline year (without project) measure of VMT in the project's TAZ to the County of San Bernardino VMT threshold, and as long as the project is consistent with the existing land uses or the zoning of the future land uses within that TAZ, SBCTA's travel demand forecasts are considered valid to represent the project in low-VMT generating TAZs.

The SBCTA screening tool for the project parcel used the following parameters:

- VMT Metric: OD VMT Per Service Population
- Baseline Year: 2021 and 2040
- Threshold: Below County Baseline (0%)

Based on the parameters described above the project is not located in low-VMT generating TAZ and is therefore it is not exempted from a VMT analysis based on this criterion.

Project Type Screening

The second screening criteria is related to the type and size of the land use comprising the project.

According to the city's guidelines local serving retail projects less than 50,000 square feet may be presumed to have a less than significant impact on VMT absent substantial evidence to the contrary. The project is comprised of multiple buildings each comprising a local serving retail use with no single building exceeding 50,000 square feet.

The smaller building of approximately 28,000 square feet or the 32,000 square foot major tenant in the 47,000 square building are sized for mid-size locally serving supermarkets or drug stores.

The project is intended to be a neighborhood shopping center. The trip generation rate for Shopping Plaza w/Supermarket was selected for this reason. The project's location is not conducive for regional commercial being so distant from the I-15 freeway, and the existence of a significant amount of vacant land zoned for regional commercial south of the intersection of Ranchero Road and Mariposa Road supports the project site as better suited for neighborhood commercial uses. Therefore, an evaluation of the individual buildings on the project site indicates each building is a locally serving retail or restaurant use under 50,000 square feet and is within the threshold of the project type screening criterion and does not require a VMT analysis.

DAVID EVANS AND ASSOCIATES INC.

APPENDICES

Appendix A1: Most Recently Submitted Scope Agreement
Appendix A2: Distribution and Assignment of Project Trips for Each Access Alternative
Appendix B: Turn Movement Count Volumes
Appendix C: San Bernardino Transportation Analysis Model (SBTAM) Plots
Appendix D: Intersection Capacity Analysis Calculations
Appendix E: Traffic Signal Warrant Analysis Worksheets
Appendix F: Queuing Analysis

Appendix A1:
Approved Scope Agreement (August 7, 2023)

DAVID EVANS
AND ASSOCIATES INC.

August 7, 2023 Job No. PMCO0000-0001

Mr. Justin Schlaefli
TKE Engineering, Inc.
2305 Chicago Avenue
Riverside, CA 92507

RE: REVISED TRAFFIC IMPACT ANALYSIS SCOPE AGREEMENT – RANCHERO ROAD COMMERCIAL DEVELOPMENT – HESPERIA, CALIFORNIA

David Evans and Associates, Inc. (DEA) is pleased to submit this Revised Traffic Impact Analysis Scope Agreement for the proposed Ranchero Road Commercial Development (the Project) in the City of Hesperia. Our previous scope agreement, dated July 28, 2023, responded to the city's January 16, 2023, comments on our September 8, 2022, traffic impact analysis and included responses to previous city comments on the original scope agreement. This scope agreement responds to the city's comments on our July 28, 2023, scope agreement. **Attachment 1** describes our responses to the city's comments.

A. PROJECT DESCRIPTION

The proposed project is located at the northeast corner of Ranchero Road and Tamarisk Avenue in the City of Hesperia, California. The proposed project is a neighborhood-serving shopping center anchored by a supermarket in one of two retail buildings, a fast-food restaurant with drive-through window, and convenience market/gas station with 16 vehicle fueling positions. The project vicinity map is illustrated in **Exhibit A**.

Vacant and undeveloped land surrounds the project site to the north and east. Further, the proposed project is bounded on the south by Ranchero Road and residential development, to the west by residential development. To the east the project is bounded by county service facilities/property, a Southern California Edison high tension line easement, undeveloped private property, and Maple Avenue. **Exhibit B** illustrates the proposed site plan. As illustrated, access to the site is proposed from two right turn in / right turn out driveways along Ranchero Road, two driveways along Tamarisk Avenue, and two driveways along Wells Fargo Street.

Site Access
The previous draft traffic impact analysis analyzed the following two access alternatives:

1. **Alternative 1 – Traffic Signal at Tamarisk Avenue.** This access scheme provides a traffic signal at Tamarisk Avenue and two right in / right out driveways on Ranchero Road, two full access driveways on Tamarisk Avenue, and a full access driveway and a service driveway on Wells Fargo Street. The project proposes to extend Wells Fargo Street from Tamarisk Avenue to the east end project site and extend Tamarisk Avenue from Wells Fargo Street to Ranchero Road. The signal will control pedestrian movements crossing Tamarisk Avenue. A raised median on Ranchero Road from west of Tamarisk Avenue to Maple Avenue enforces right in / right out restrictions.
2. **Alternative 2 – Restricted Access at Tamarisk Avenue with Traffic Signal at Topaz Avenue**. This access scheme responds to city comment #6 in Attachment 1 to restrict access at Tamarisk Avenue to left in and right in / right out only. This alternative provides for signalized U-turns westbound to eastbound for traffic leaving the project site by proposing a traffic signal at Topaz Avenue. Secondary access to the site is via local streets—Topaz Avenue to Wells Fargo Street (which will be improved and extend from Topaz Avenue to east end of site). A raised median enforces the right in /right out restrictions at the Ranchero Road project driveways. The site driveways on Tamarisk Avenue and Wells Fargo Street are the same as in Alternative 1.

The following alternative will be analyzed in the Revised Traffic Impact Analysis report:

3. **Alternative 3 – Wells Fargo Street extension to Maple Avenue and Restricted Access at Tamarisk Avenue**. This alternative access scheme responds to city comment #6 and comment #9 in Attachment 1 to restrict access at Tamarisk Avenue to right in / right out only. This alternative provides primary access from Wells Fargo Street via Maple Avenue by extending Wells Fargo Street eastward to create a new full access intersection with Maple Avenue. This scheme provides right in / right out access at Tamarisk Avenue. A raised median enforces the right in /right out restrictions at the Ranchero Road project driveways.

Access routes to and from the project site for Alternative 3 are shown in **Exhibit D-1**.

B. PROJECT TRIP GENERATION

Based on the current General Plan land use map (dated July 5, 2019) the project site's zoning designation is General Commercial (C2). The trip generation estimates represent the peak hours of the adjacent street traffic (which occurs between 7-9 AM and 4-6 PM). A substantial proportion of the trips generated by the site will be pass-by trips—trips attracted to the site while passing by on an adjacent street as an interim stop between the trip's origin and destination. Trips where the intended destination is the project are primary trips. Pass-by factors are from the Institute of Transportation Engineers (ITE) Trip Generation manual, 11th Edition by land use and subcategory.

The proposed project land uses include Shopping Plaza (ITE Land Use 821) subcategory (40-150k) with Supermarket, Fast-Food Restaurant with Drive-Through Window (ITE Land Use 934), and Convenience Market/Gas Station (ITE Land Use 945) subcategory 16-24 vehicle fueling positions.

Table A shown on the next page, summarizes the estimated trip generation for the project site on a typical weekday, AM peak hour, and PM peak hour. The proposed project is estimated to generate 8,184 primary daily trips, 463 AM primary peak hour trips, and 568 PM primary peak hour trips during the adjacent street peak hours.

C. PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of primary project trips to the surrounding street network is based on assumed origins of the project's employees and customers. The directional distribution of the project's traffic (e.g., east, west, north, and south) is consistent with concentrations of housing and commercial uses in Hesperia. Once the directional distribution is established, the project's trips are assigned to the street system based on the most direct route on major streets. Defined by AM/PM peak trips and the City of Hesperia approved TIA guidelines, the study area is defined. The proposed study intersections for analysis are identified on **Exhibit C.** In response to city comment #2 and comment #8 the **Exhibit C** also provides the project trip distribution cut off, identifying where the project trips contribute less than 50 A.M. or P.M. peak hour bi-directional trips.

The Alternative 3 (Wells Fargo Extension to Maple Avenue) site access, trip assignment, and trip distribution are provided in **Exhibits D-1** to **D-5**.

- **Exhibit D-1** shows the routes that Alternative 3 trips would use the ingress and egress the site.
- **Exhibit D-2** shows the Alternative 3 project trip distribution.
- **Exhibit D-3** shows the Alternative 3 primary project trips.
- **Exhibit D-4** shows the Alternative 3 pass-by project trips.
- **Exhibit D-5** shows the Alternative 3 total project trips.

Table A: Project Trip Generation

	Use	Size/ Quantity	Daily	AM			PM		
				In	Out	Total	In	Out	Total
1	**Shopping Plaza w/Supermarket- Land Use Category (ITE 821) - 2 Buildings**								
	Per 1,000 Sq. Ft. GLA	75,000	94.49	2.19	1.34	3.53	4.33	4.70	9.03
	Trips		7,087	164	101	265	325	353	678
	Pass-By Trips (0%, 40%)		1,418	0	0	0	130	141	271
	Primary Trips (100%, 60%)		5,669	164	101	265	195	212	407
2	**Fast-Food Restaurant with Drive-Through Window - Land Use Category (ITE 934)**								
	Per 1,000 Sq. Ft. GLA	3,400	467.48	22.75	21.86	44.61	17.18	15.85	33.03
	Trips		1,590	77	75	152	58	54	112
	Pass-By Trips (50%, 55%)		835	39	38	77	32	30	62
	Primary Trips (65%, 65%)		755	38	37	75	26	24	50
3	**Convenience Market/Gas Station - VFP (16-24) Land Use Category (ITE 945)**								
	Per 1,000 Sq. Ft. GLA	5,600	1283.38	46.59	44.76	91.35	41.05	37.90	78.95
	Trips		7,187	261	251	512	230	212	442
	Pass-By Trips (76%, 75%)		5,427	198	191	389	172	159	331
	Primary Trips (24%, 25%)		1,760	63	60	123	58	53	111
	Total Project Trips		15,864	502	427	929	613	619	1,232
	Total Pass-By Trips		7,680	237	229	466	334	330	664
	Total Primary Trips		**8,184**	265	198	**463**	279	289	**568**

Source: "Trip Generation Manual, Institute of Transportation Engineers", 11th Edition

D. STUDY INTERSECTIONS

The proposed study intersections were identified using the city's 50 peak hour trip criterion (see **Exhibit C** for the distribution percentages at each study intersection). West of Escondido Avenue, East of Cottonwood Avenue, and north of the Wells Fargo Street extension, project trips drop below 50 in both directions as the trips turn onto connecting local streets within a one-mile radius from the site. As a result, less than 50 peak hour trips use the next collector or higher class of street intersecting Ranchero Road west or east of the proposed study area. This distribution also demonstrates that less than 100 two-way peak hour trips use Interstate 15, which is not required to be included in the study. The proposed study intersections include:

1. Ranchero Road at Escondido Avenue
2. Ranchero Road at Fuente Avenue
3. Ranchero Road at Topaz Avenue
4. Ranchero Road at Tropican Rose Avenue
5. Ranchero Road at Primrose Avenue
6. Ranchero Road at Maple Avenue
7. Ranchero Road at Cottonwood Avenue
8. Ranchero Road at Tamarisk Avenue (future Intersection)
9. Ranchero Road at Project Driveway "A" (future driveway)
10. Ranchero Road at Project Driveway "B" (future driveway)
11. Maple Avenue at Wells Fargo Street

The intersection of Ranchero Road at Escondido Avenue is currently signal controlled. The intersections of Ranchero Road at Fuente Avenue, Topaz Avenue, Tropican Rose Avenue, and Primrose Avenue are side-street stop controlled. The intersections of Ranchero Road at Maple Avenue and Ranchero Road at Cottonwood Avenue are currently all way stop controlled but will be signal controlled with completion of the Ranchero Road widening project.

Traffic counts were conducted on Tuesday, August 16, 2022, just as Phase 3 of the Ranchero Road Widening project was preparing to start construction in the study area. Once construction began within the study area, traffic counts on Ranchero Road would be unreliable. As of July 2023, construction on Ranchero Road is ongoing and any updated traffic counts would have to be delayed until the widening project was nearly completed.

E. METHODOLOGY

Study intersections will be analyzed to identify impacts to capacity and level of service (LOS). The LOS calculations will utilize the Highway Capacity Manual (HCM6) methodology for signalized and non-signalized intersections. The project's potential impacts will be based on the criteria published in the City of Hesperia *Traffic Impact Analysis Report Guidelines for Vehicle Miles Traveled (VMT) and Level of Service (LOS) Assessment*. The capacity analysis calculations will estimate truck traffic as a percentage of total traffic as opposed to using empirical truck volume data based on counts.

F. TRAFFIC STUDY SCENARIOS

The following is an outline of the traffic study analysis scenarios for the proposed project to be completed as a single phase:

1. Existing Conditions AM (7-9 AM) and PM (4-6 PM)
2. Opening Day Conditions (year 2025 without and with project)
    a. Growth (assume growth rate of 2% per year)
    b. With mitigation if necessary
3. Future Year 2040 Conditions (without and with Project)
    a. Growth (to be derived from the SBTAM travel demand forecasting model)
    b. With mitigation if necessary

Planned Improvements to Ranchero Road

Currently, within the study area between Maple Avenue and Topaz Avenue, Ranchero Road is primarily four lanes with median turn pockets at major intersections (e.g., Maple Avenue). The exception is westbound Ranchero Road which transitions to a single lane starting at Tropican Rose Avenue.

The City of Hesperia is currently in the last phase of the three phase Ranchero Road Widening Project which extends 5-miles from the I-15 interchange eastward to the BNSF railroad undercrossing. The project includes widening Ranchero Road from 63' to 92' curb-to-curb and constructing two travel lanes in each direction, installing traffic signals at three intersections (7th, Cottonwood, and Maple), constructing a striped median on some segments including from the segment between Escondido to Cottonwood, and other related multimodal and infrastructure improvements throughout the corridor. Construction of these improvements will occur over the next few years. Therefore, this configuration is assumed in opening day (2025) and future (2040) scenarios described above.

G. VEHICLE MILES TRAVELED (VMT) SCREENING

The City of Hesperia has developed guidelines for analyzing a development project's VMT in conformance with SB 743. According to the guidelines a VMT analysis would apply to projects that have the potential to increase the average VMT per service population (e.g., population plus employment) compared to the County of San Bernardino VMT average of 32.7%.

The city's guidelines include several screening criteria of which only two are relevant for this project: "Low VMT Area" screening and, "Project Type" screening. A screening assessment of these two criteria are provided below.

Low VMT Area Screening

To identify if the project may be screened from the need to conduct a project-level assessment under the low VMT area criteria, the SBCTA screening tool is used to identify if a proposed development is in a "low-VMT generating Traffic Analysis Zone (TAZ)" that would exempt the project from requiring a VMT analysis for CEQA clearance. SBCTA's tool compares the appropriate baseline year (without project) measure of VMT in the project's TAZ to the County of San Bernardino VMT threshold, and as long as the project is consistent with the existing land uses or the zoning of the future land uses within that TAZ, SBCTA's travel demand forecasts are considered valid to represent the project in low-VMT generating TAZs.

The SBCTA screening tool for the project parcel used the following parameters:

- VMT Metric: OD VMT Per Service Population
- Baseline Year: 2021 and 2040
- Threshold: Below County Baseline (0%)

Based on the parameters described above the project is not located in low-VMT generating TAZ and is therefore it is not exempted from a VMT analysis based on this level of screening. **Figure 1** shows the SBCTA screening tool output for the baseline year (2021) identifying the project parcels in blue.

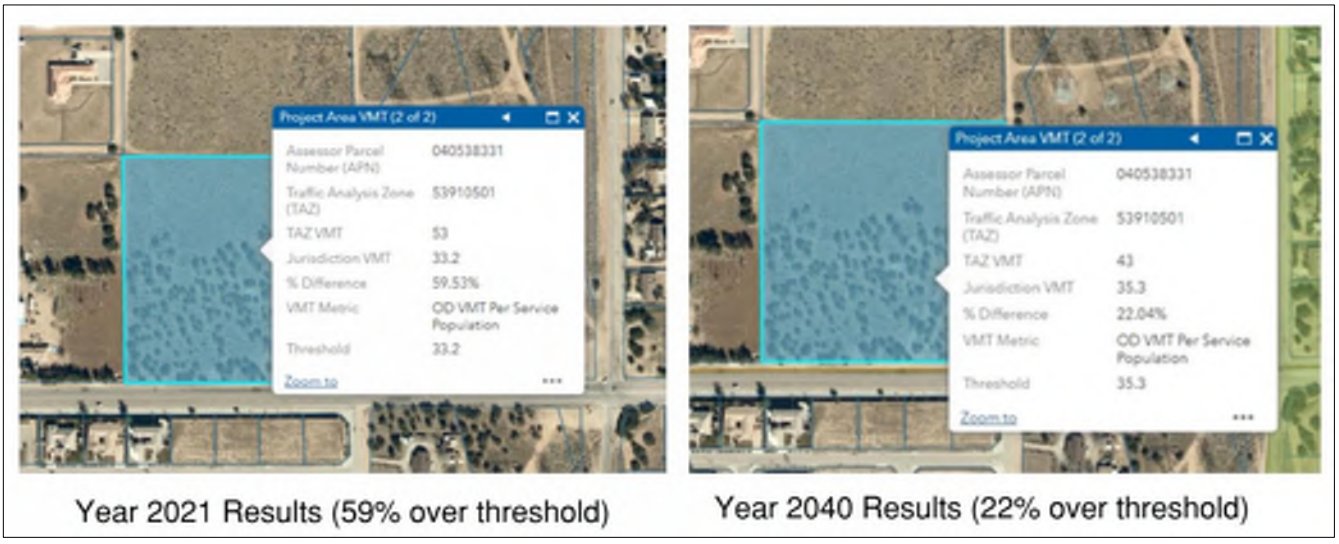


Figure 1: SBCTA Low VMT Generating TAZ Screening Tool Output

Project Type Screening

The second screening criteria is related to the type and size of the land use comprising the project. According to the city's guidelines Local serving retail projects less than 50,000 square feet may be presumed to have a less than significant impact on VMT absent substantial evidence to the contrary. The project is comprised of multiple buildings comprised of local serving retail with no single building exceeding 50,000 square feet.

The smaller building of approximately 28,000 square feet or the 32,000 square foot major tenant in the 47,000 square building are sized for mid-size locally serving supermarkets or drug stores.

The project is intended to be a neighborhood shopping center. The trip generation rate for Shopping Plaza w/Supermarket was selected for this reason. The project's location is not conducive for regional commercial being so distant from the I-15 freeway, and the existence of a significant amount of vacant land zoned for regional commercial south of the intersection of Ranchero Road and Mariposa Road supports the project site as better suited for neighborhood commercial uses. Therefore, an evaluation of the individual buildings on the project site indicates each building is a locally serving retail or restaurant use under 50,000 square feet and is within the threshold of the project type screening criterion and will not require a VMT analysis.

H. HESPERIA PROJECT SCOPING FORM

In addition to this agreement, **Exhibit E** presents the City of Hesperia's project standard scoping form, a

required document that summarizes key information about the proposed traffic and VMT analysis. This scoping agreement letter supports the information required in the scoping form.

If you have any questions or comments, please feel free to contact me at 909-912-7304.

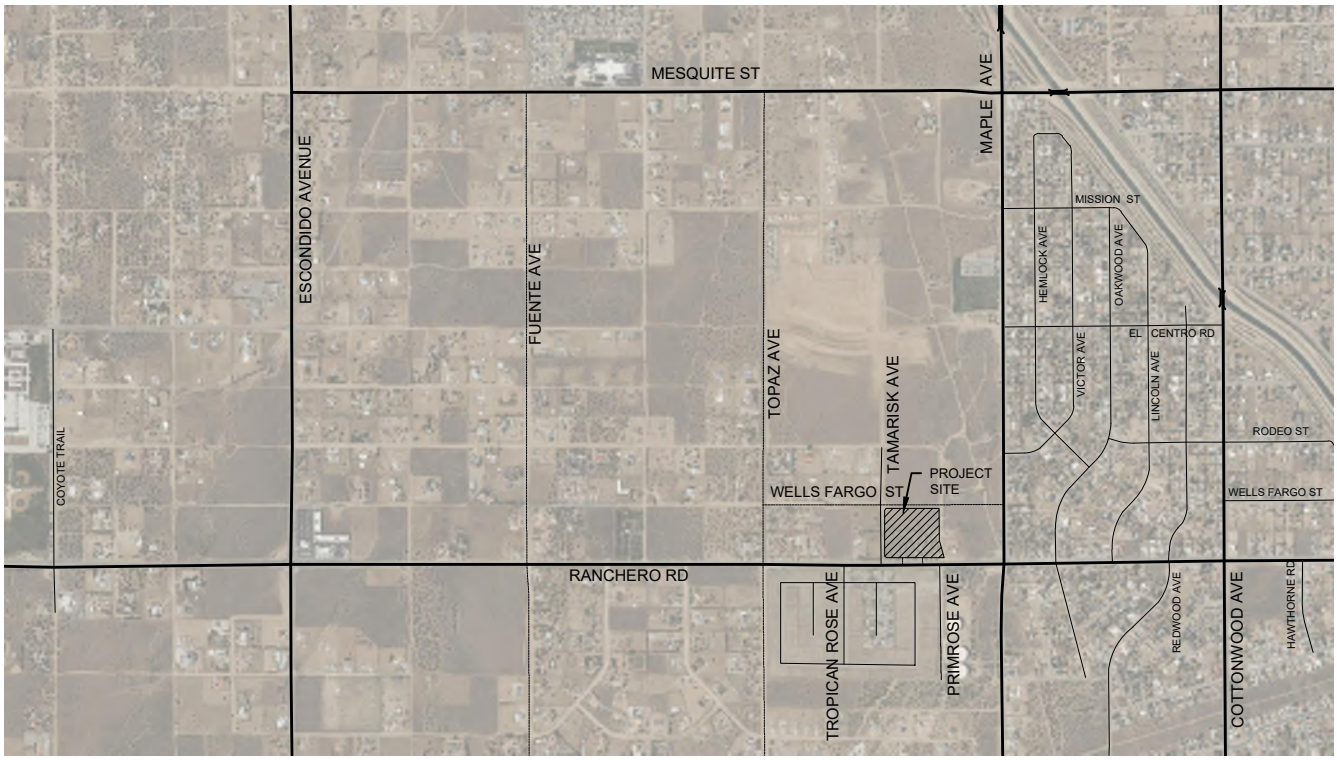
Sincerely,

DAVID EVANS AND ASSOCIATES, INC.

James M. Daisa, PE
Senior Project Manager

Attachments:

EXHIBIT A: VICINITY MAP
EXHIBIT B: SITE PLAN
EXHIBIT C: STUDY INTERSECTION LOCATIONS AND PROJECT DISTRIBUTION
EXHIBIT D-1: ALTERNATIVE 3 PASS-BY AND PRIMARY TRIP ROUTES
EXHIBIT D-2: ALTERNATIVE 3 PROJECT TRIP DISTRIBUTION
EXHIBIT D-3: ALTERNATIVE 3 PRIMARY PROJECT TRIPS
EXHIBIT D-4: ALTERNATIVE 3 PASS-BY PROJECT TRIPS
EXHIBIT D-5: ALTERNATIVE 3 TOTAL PROJECT TRIPS
EXHIBIT E: HESPERIA PROJECT SCOPING FORM
ATTACHMENT 1: RESPONSE MATRIX TO CITY COMMENTS ON JULY 28TH, 2023 SCOPE AGREEMENT



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NOT TO SCALE

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT A: VICINITY MAP
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

Drawing Name: D:\temp\AcPublish_14636\E.xhibit A.dwg
Last Opened: Aug 03, 2023 - 4:36pm by: heay

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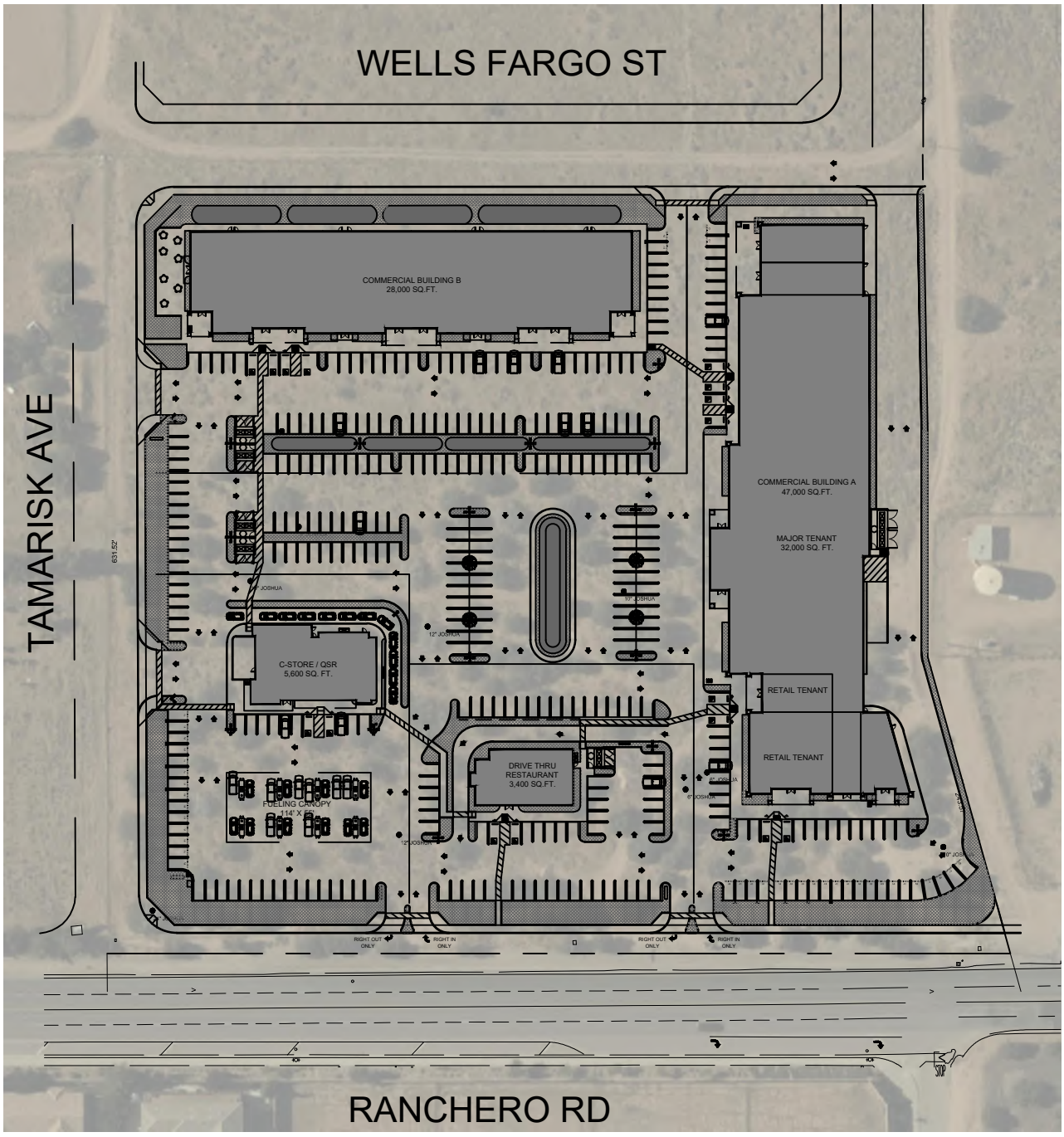

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT B: SITE PLAN
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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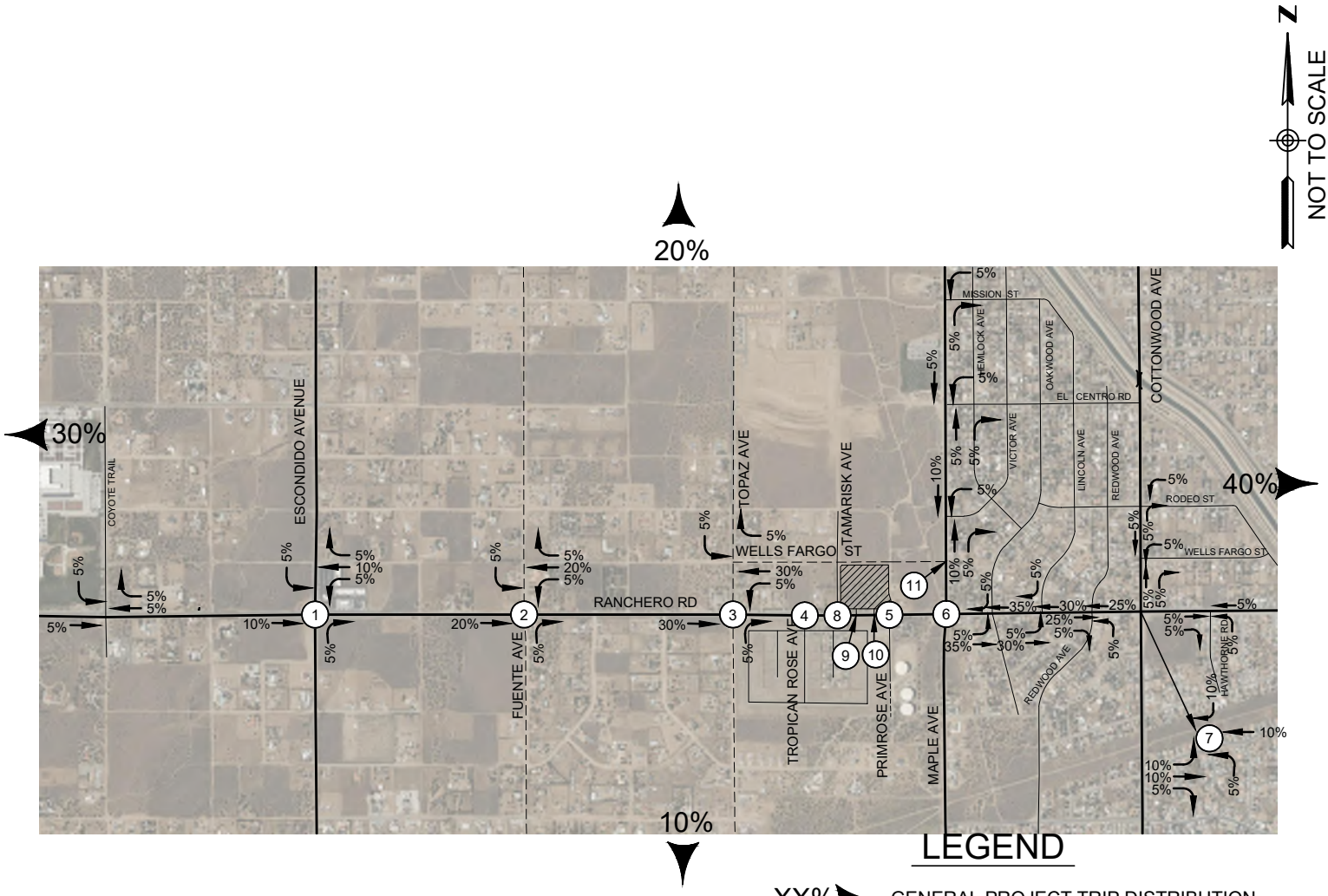

LEGEND

XX% - GENERAL PROJECT TRIP DISTRIBUTION

XX% - SPECIFIC PROJECT TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT C: STUDY INTERSECTIONS LOCATIONS AND PROJECT DISTRIBUTION
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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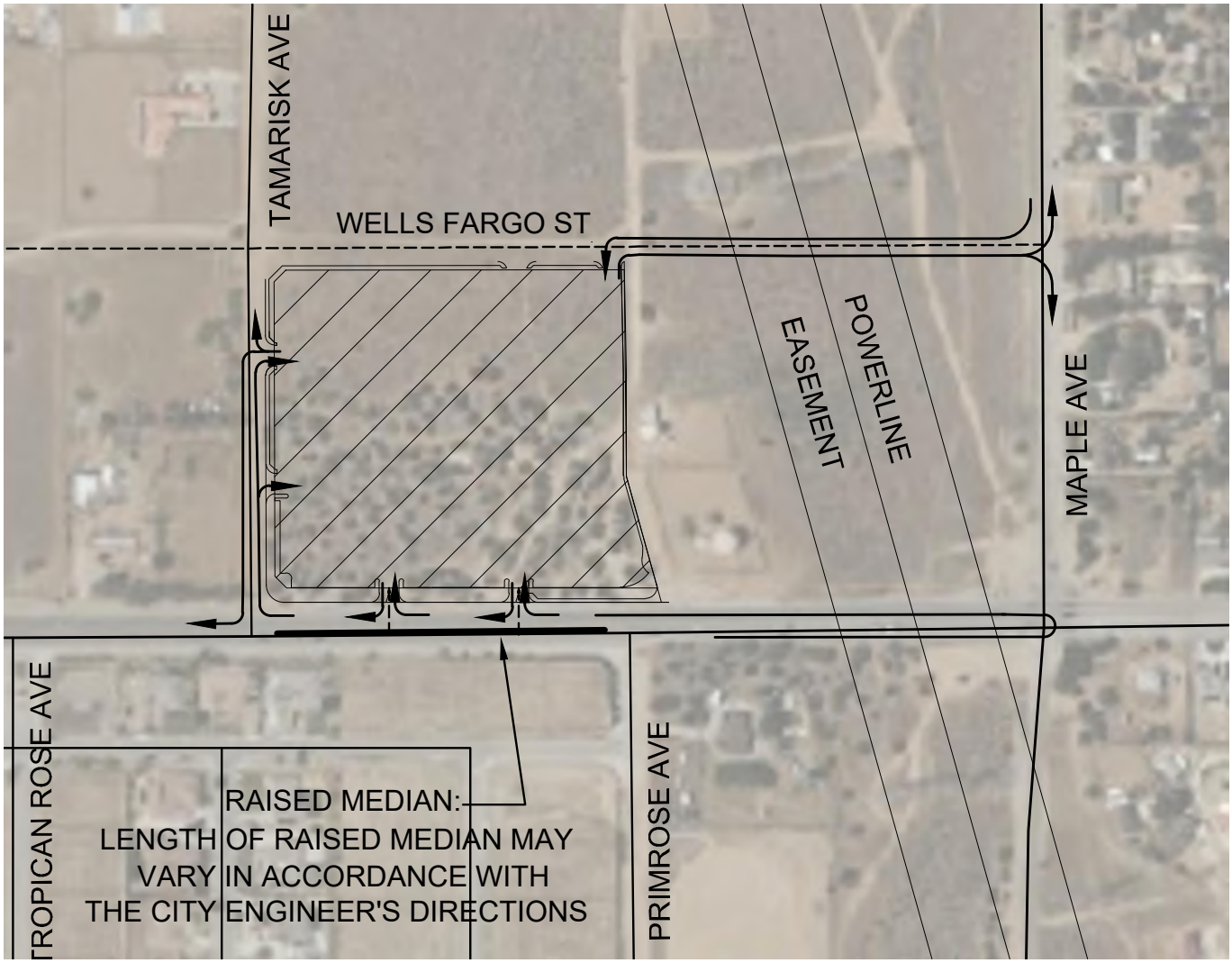

LEGEND

- PASS-BY AND PRIMARY ROUTES

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT D-1: ALTERNATIVE 3
PASS-BY AND PRIMARY ROUTES
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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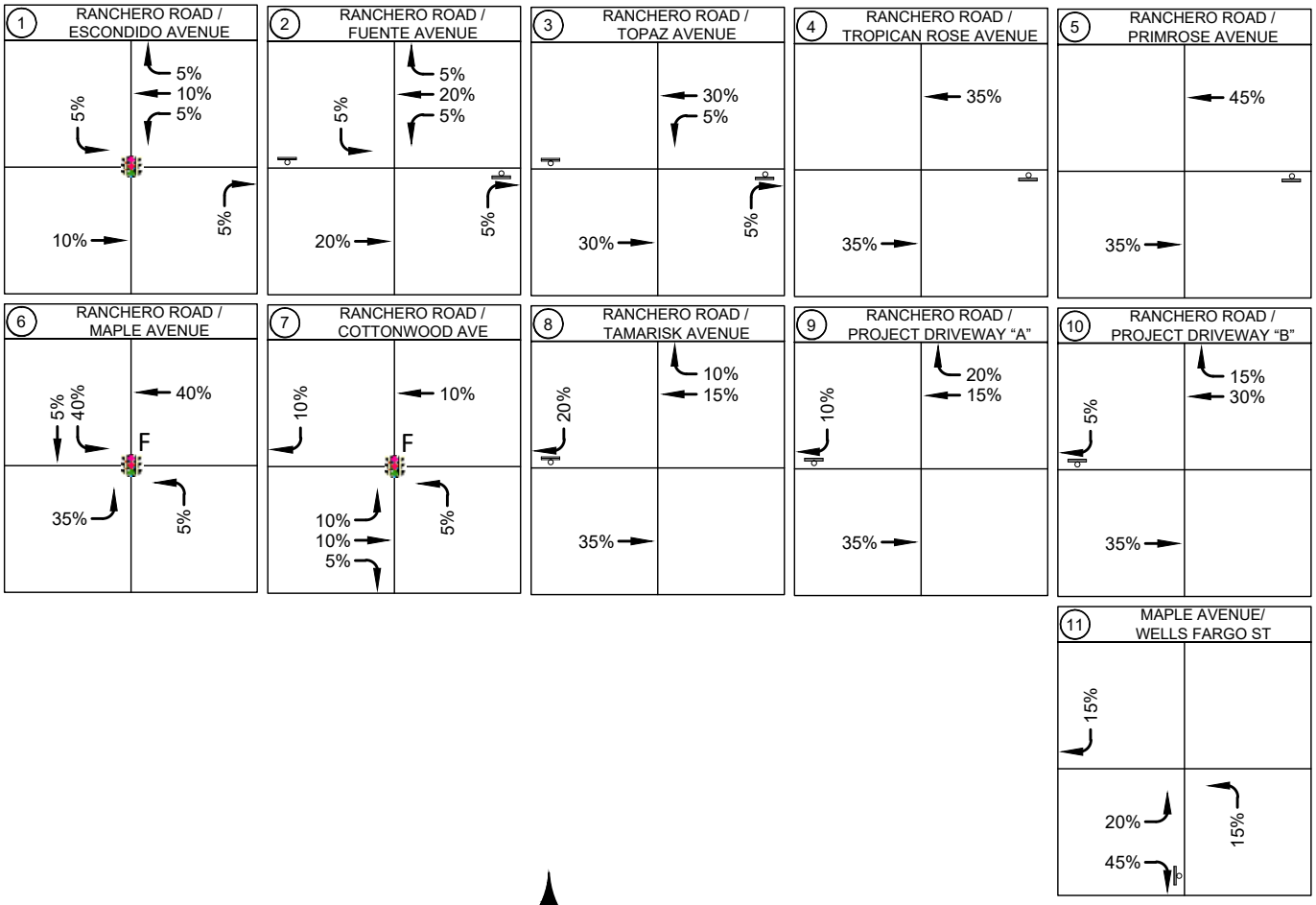
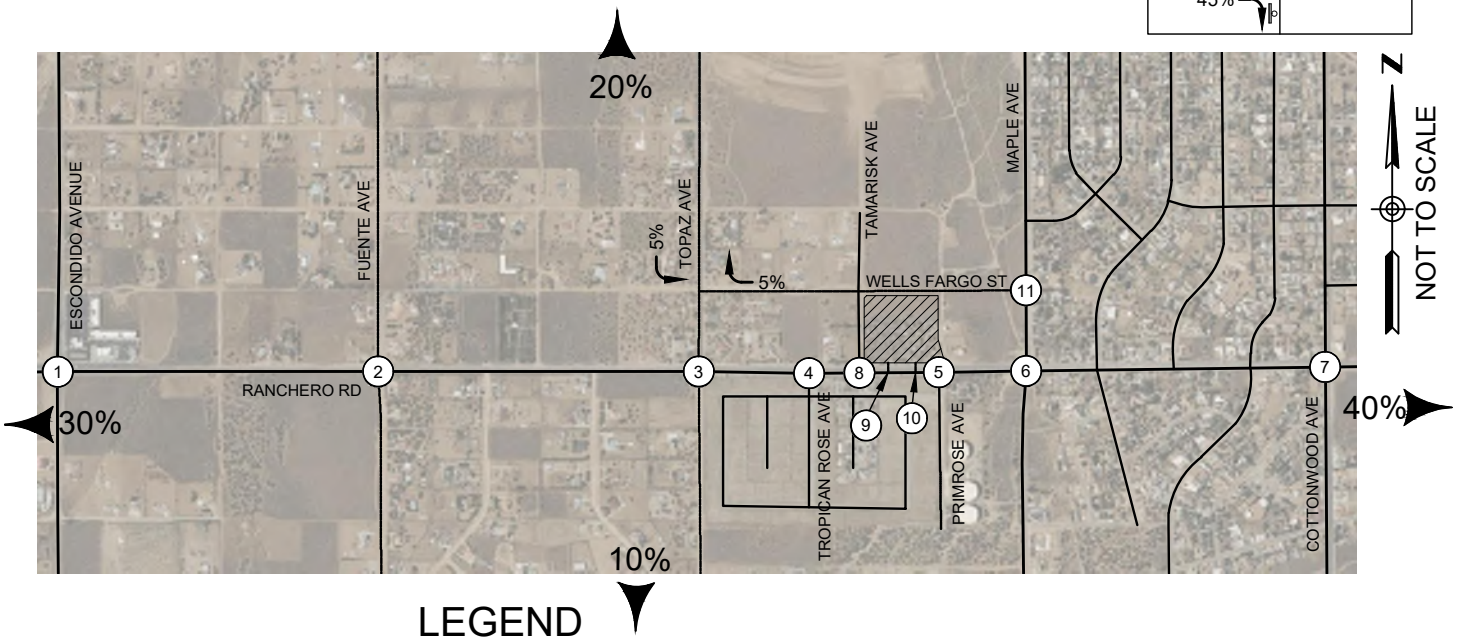




LEGEND

XX% - GENERAL PROJECT TRIP DISTRIBUTION

XX% - SPECIFIC PROJECT TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

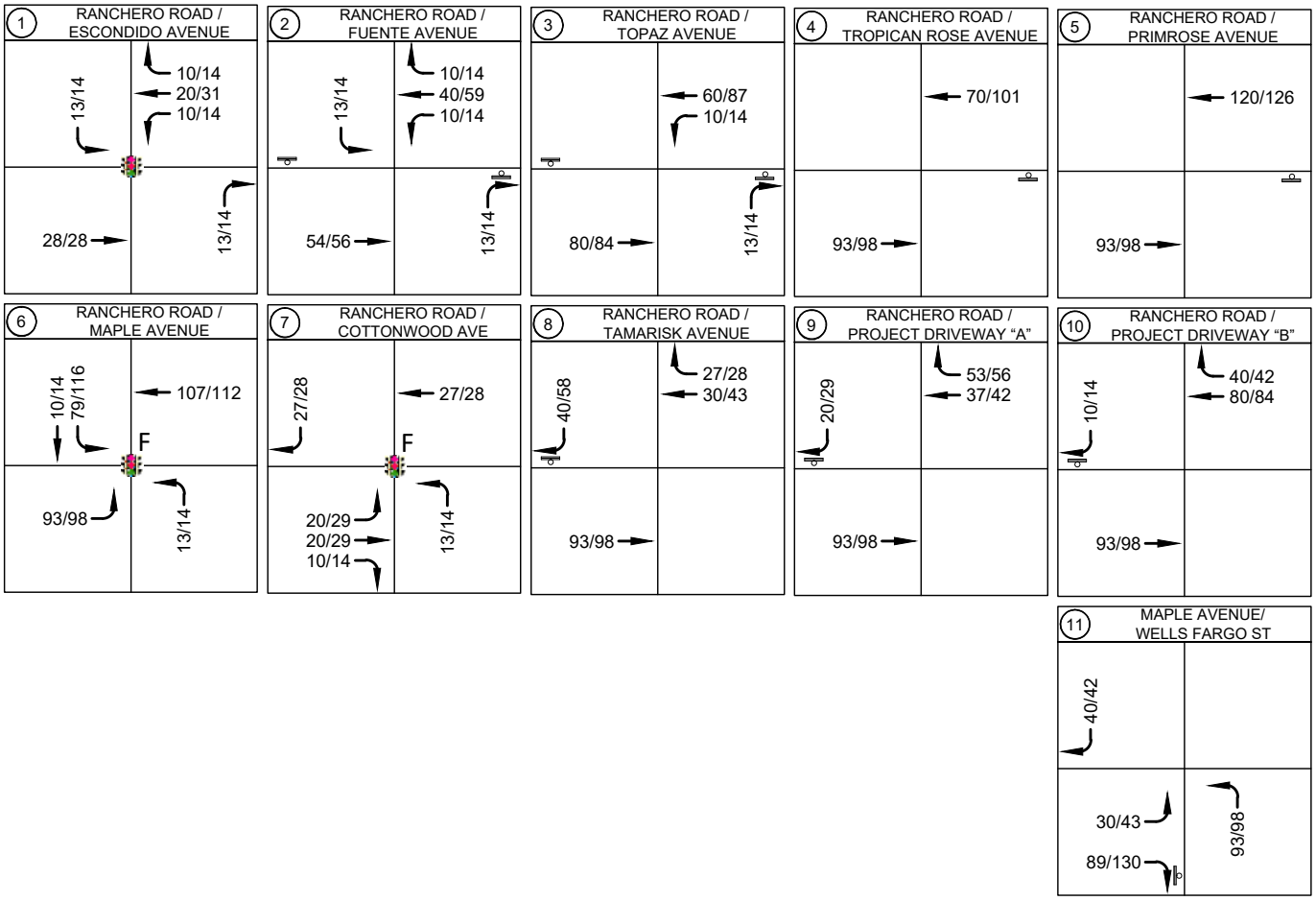
- SIGNALIZED INTERSECTION

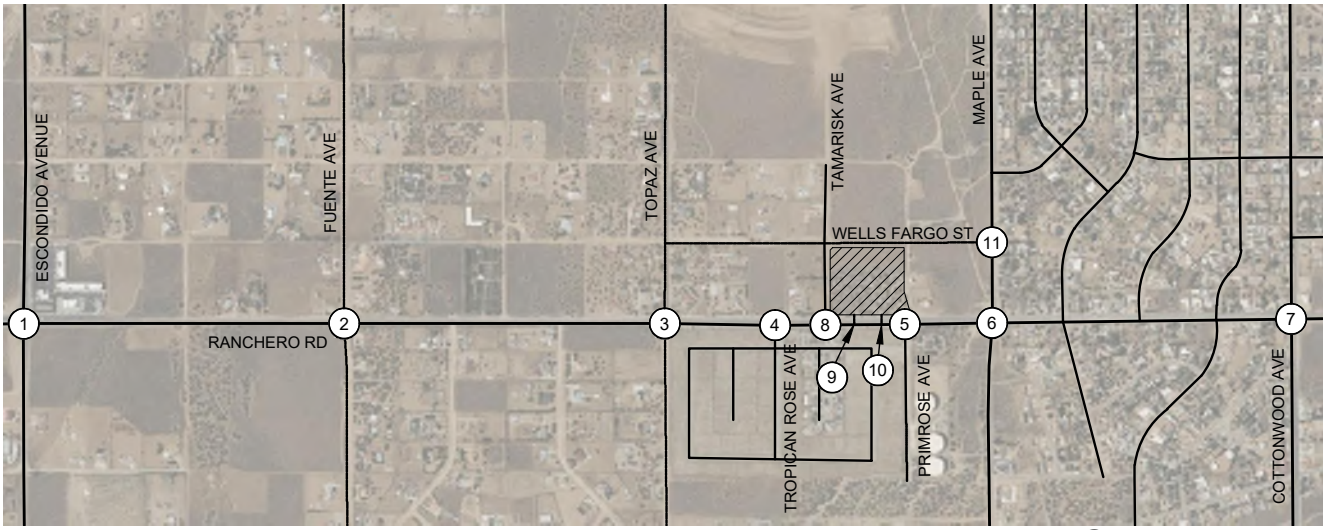
F - FUTURE SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT D-2: ALTERNATIVE 3
PROJECT TRIP DISTRIBUTION
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA





N

NOT TO SCALE

PRIMARY TRIPS

AM PEAK HOUR - 265 IN / 198 OUT

PM PEAK HOUR - 279 IN / 289 OUT

LEGEND

XX/XX - AM/PM PROJECT TRIP

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

F - FUTURE SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT D-3: ALTERNATIVE 3
PRIMARY PROJECT TRIPS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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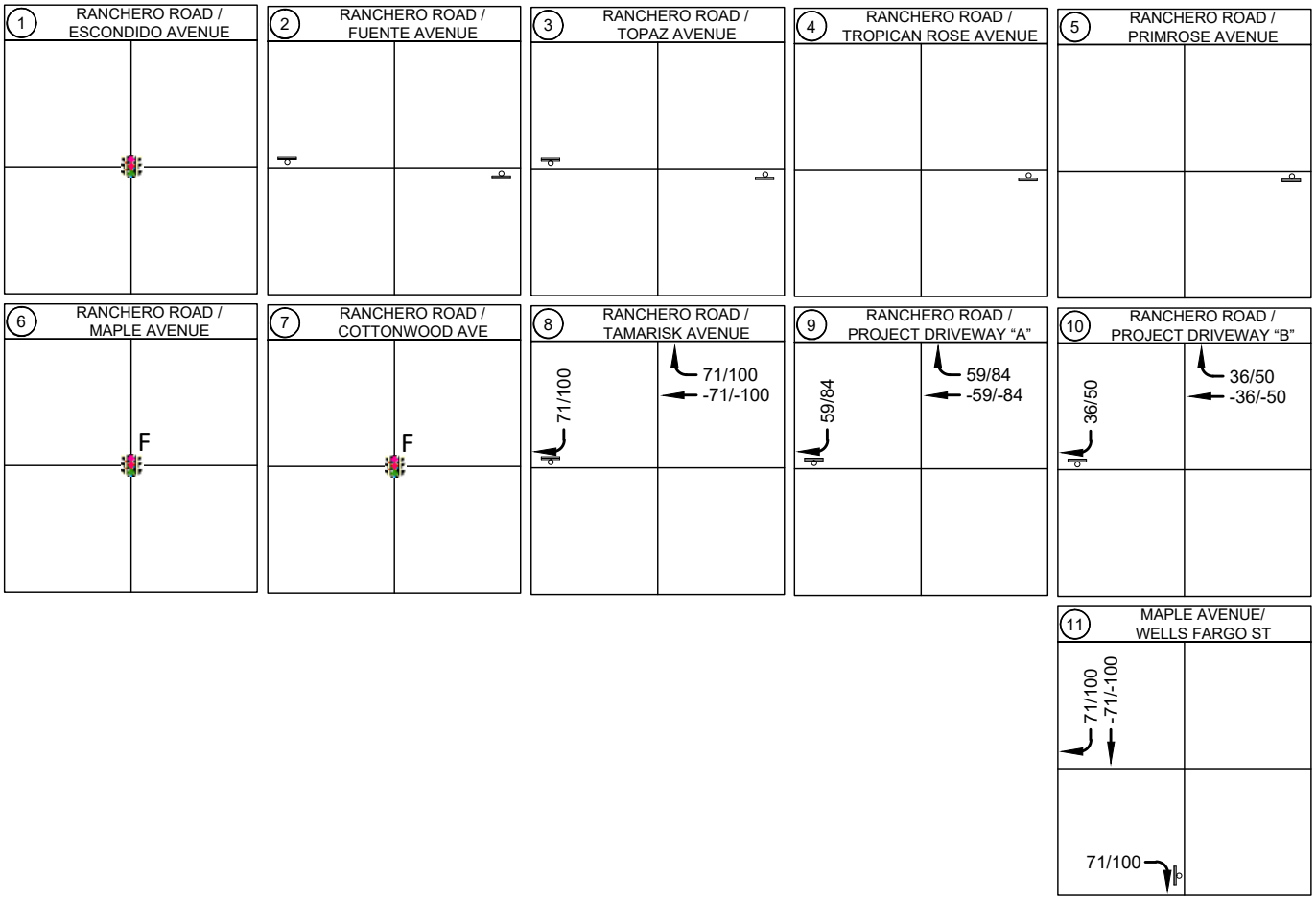

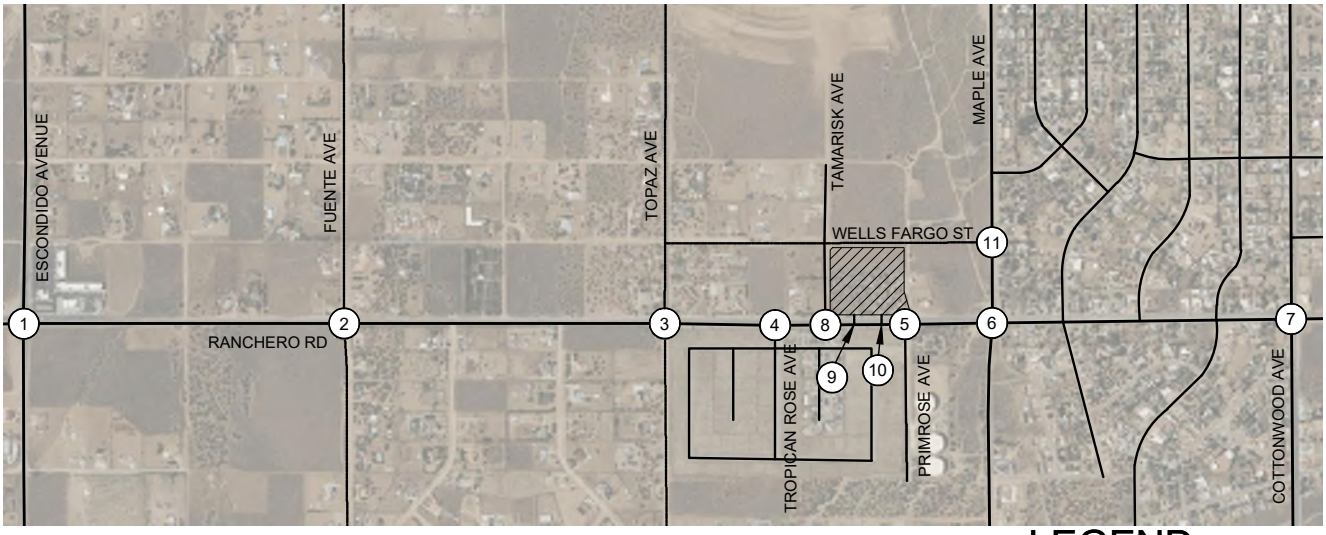

PASS-BY TRIPS

AM PEAK HOUR - 237 IN / 229 OUT

PM PEAK HOUR - 334 IN / 330 OUT

LEGEND

XX/XX - AM/PM PROJECT TRIP

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

F - FUTURE SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT D-4: ALTERNATIVE 3
PASS-BY PROJECT TRIPS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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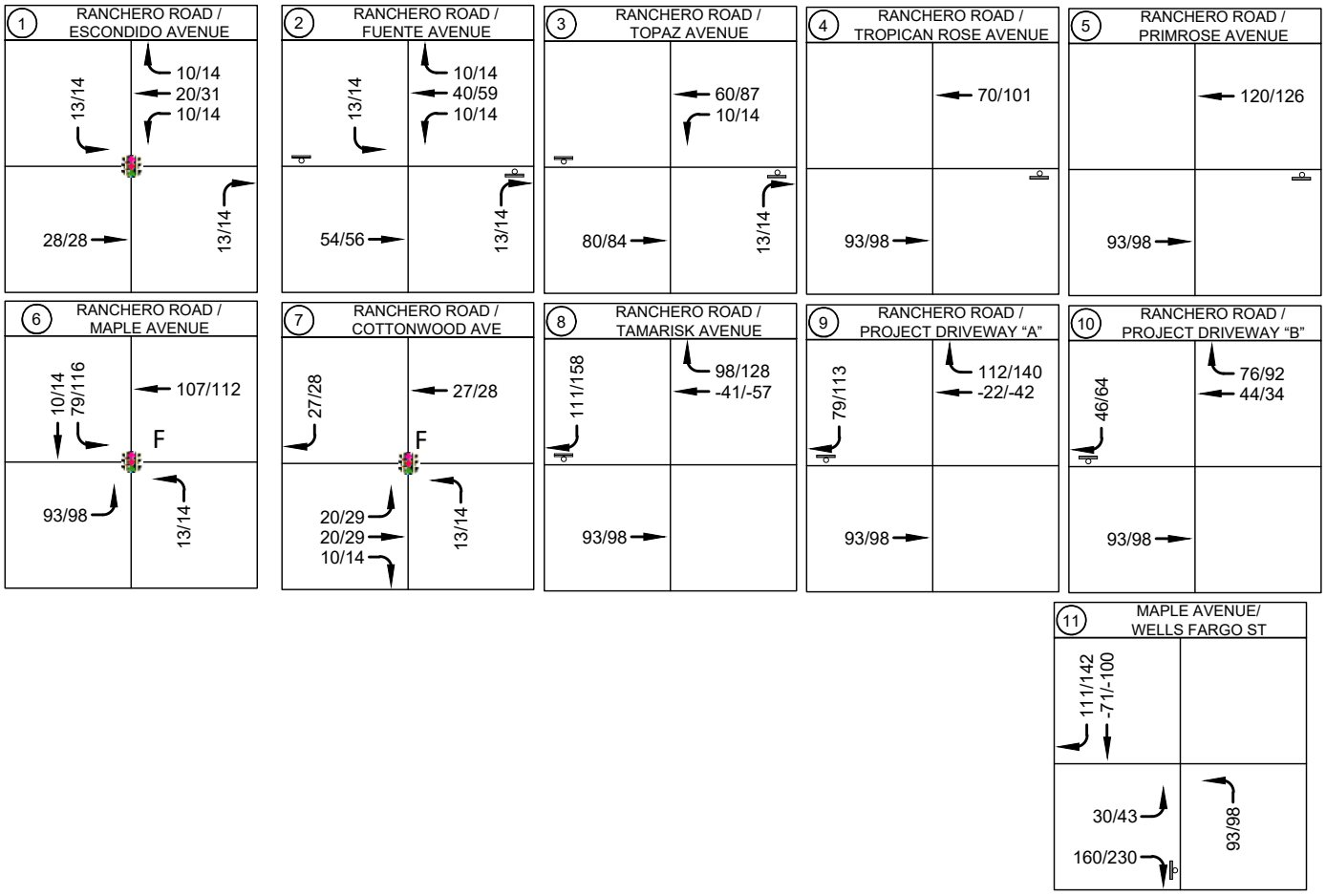
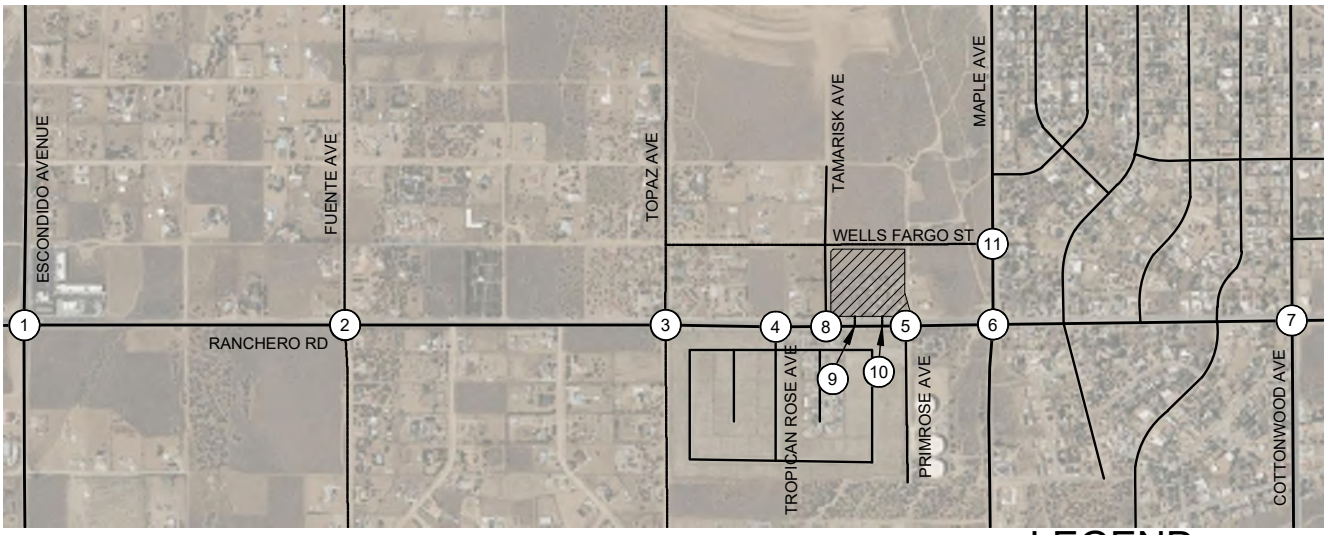




TOTAL TRIPS

AM PEAK HOUR - 502 IN / 427 OUT

PM PEAK HOUR - 613 IN / 619 OUT

LEGEND

XX/XX - AM/PM PROJECT TRIP

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

F - FUTURE SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

EXHIBIT D-5: ALTERNATIVE 3
TOTAL PROJECT TRIPS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

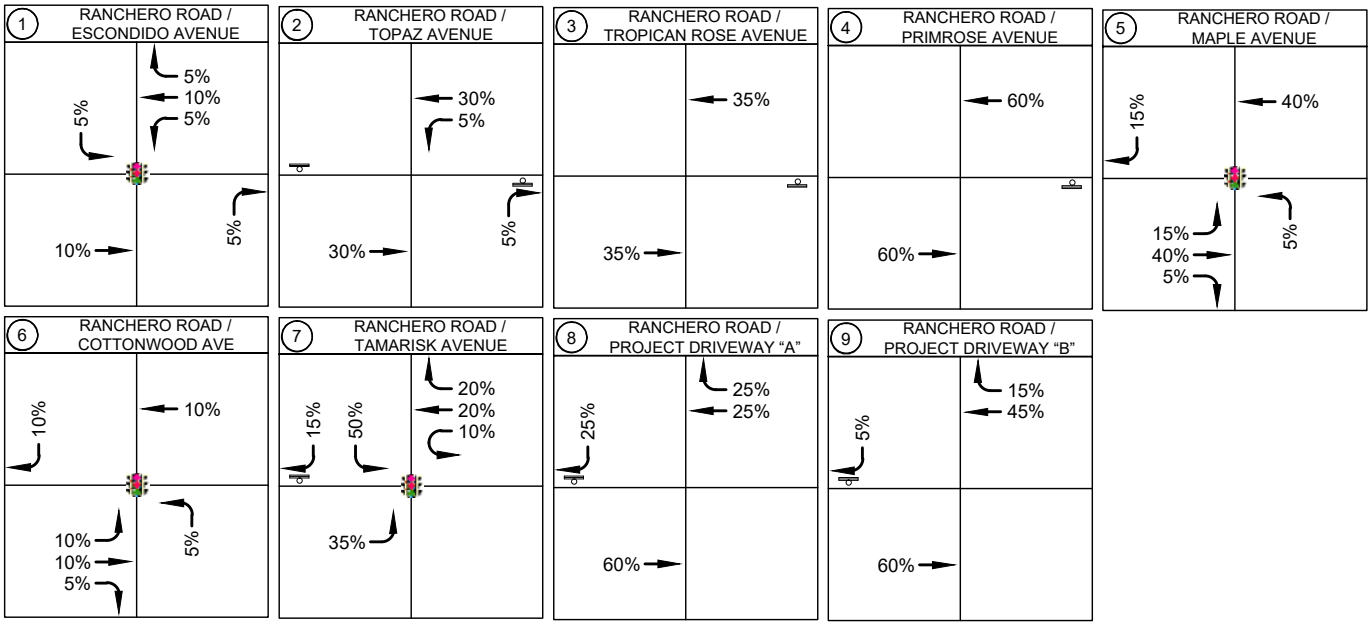
Drawing Name: D:\temp\AcPublish_21672\Exhibit F.dwg
Last Opened: Aug 03, 2023 - 5:08pm by: heay

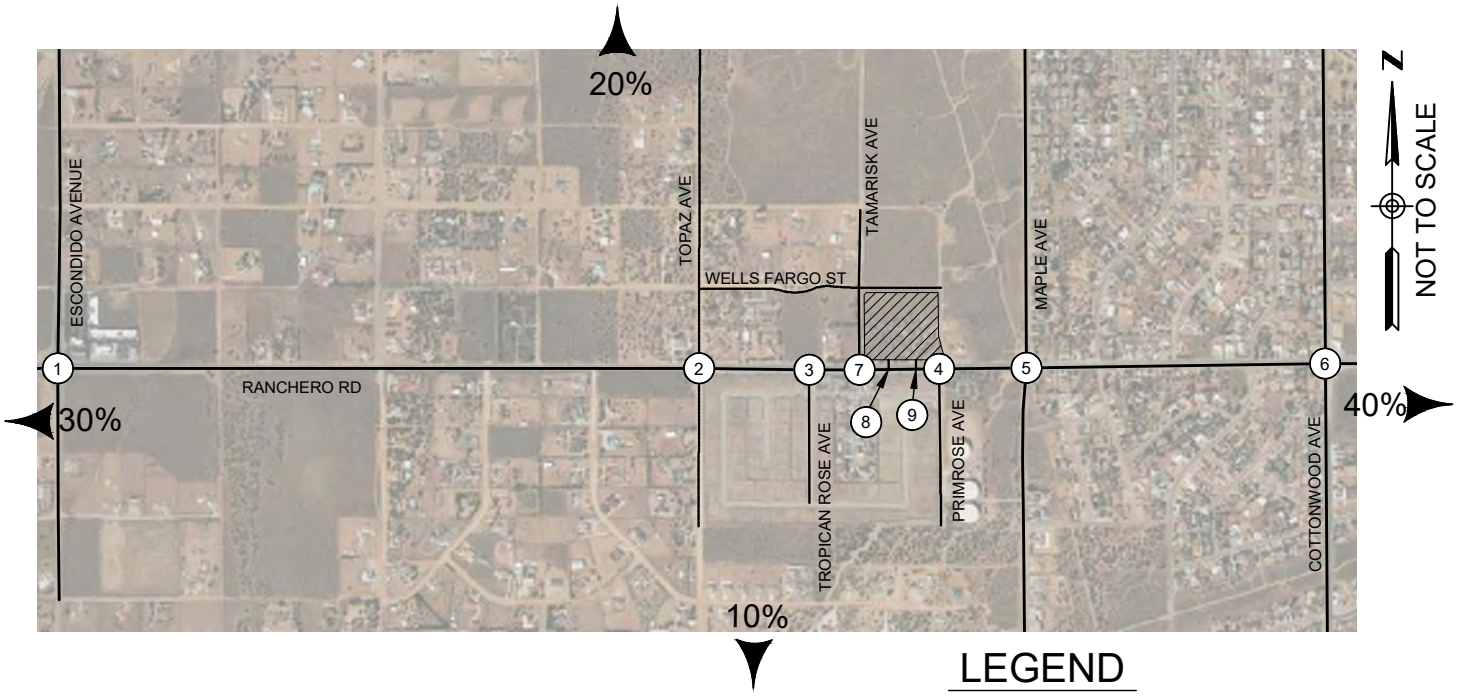
DAVID EVANS AND ASSOCIATES INC.

Appendix A2:

Traffic Volume Figures for Alternatives 1, 2, and 3

- Trip Distribution
- Primary Trips
- Pass-By Trips
- Total Project Trips
- Opening Day + Project Trips
- Future 2040 + Project Trips





LEGEND

XX% - GENERAL PROJECT TRIP DISTRIBUTION

XX% - SPECIFIC PROJECT TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2 - ALTERNATIVE 1

DISTRIBUTION RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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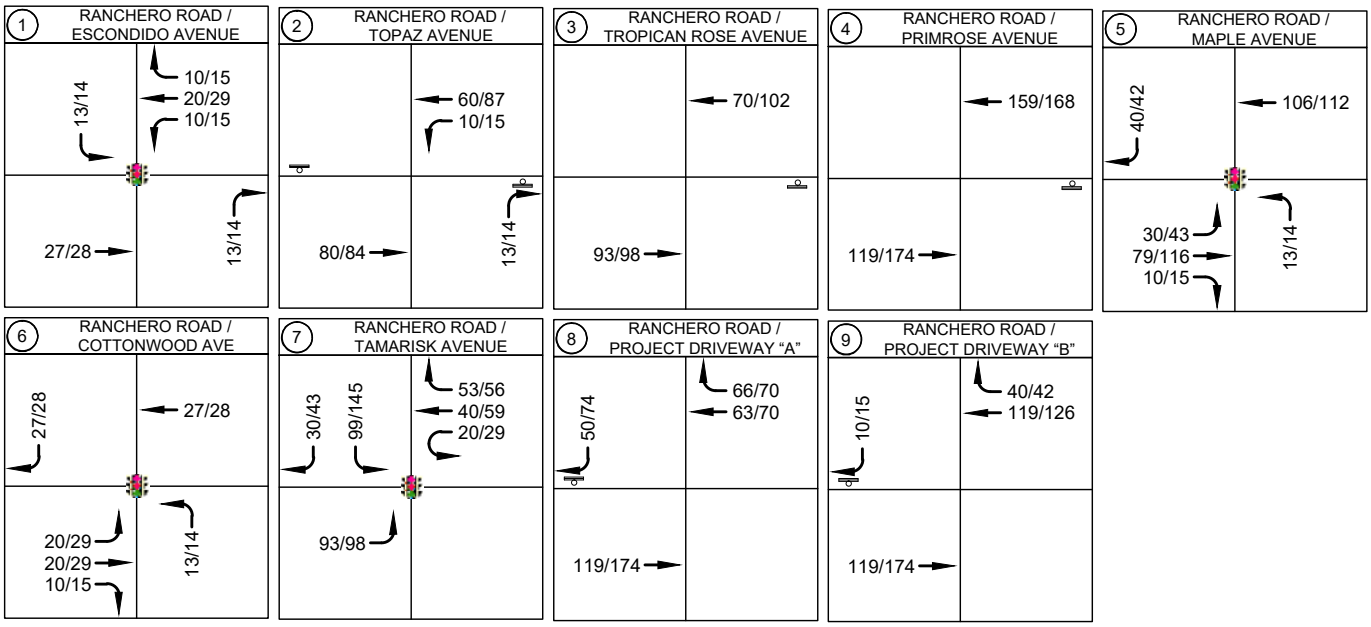
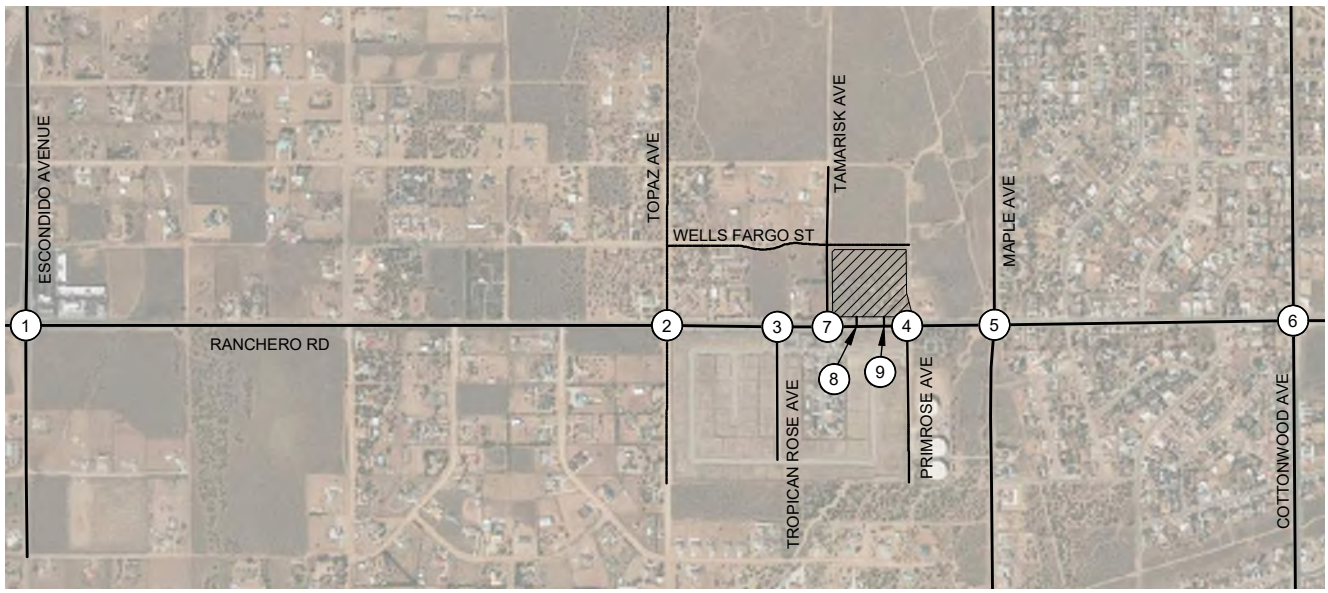




N

NOT TO SCALE

PRIMARY TRIPS

AM PEAK HOUR - 256 IN / 198 OUT

PM PEAK HOUR - 279 IN / 289 OUT

LEGEND

XX/XX - AM/PM PROJECT TRIP

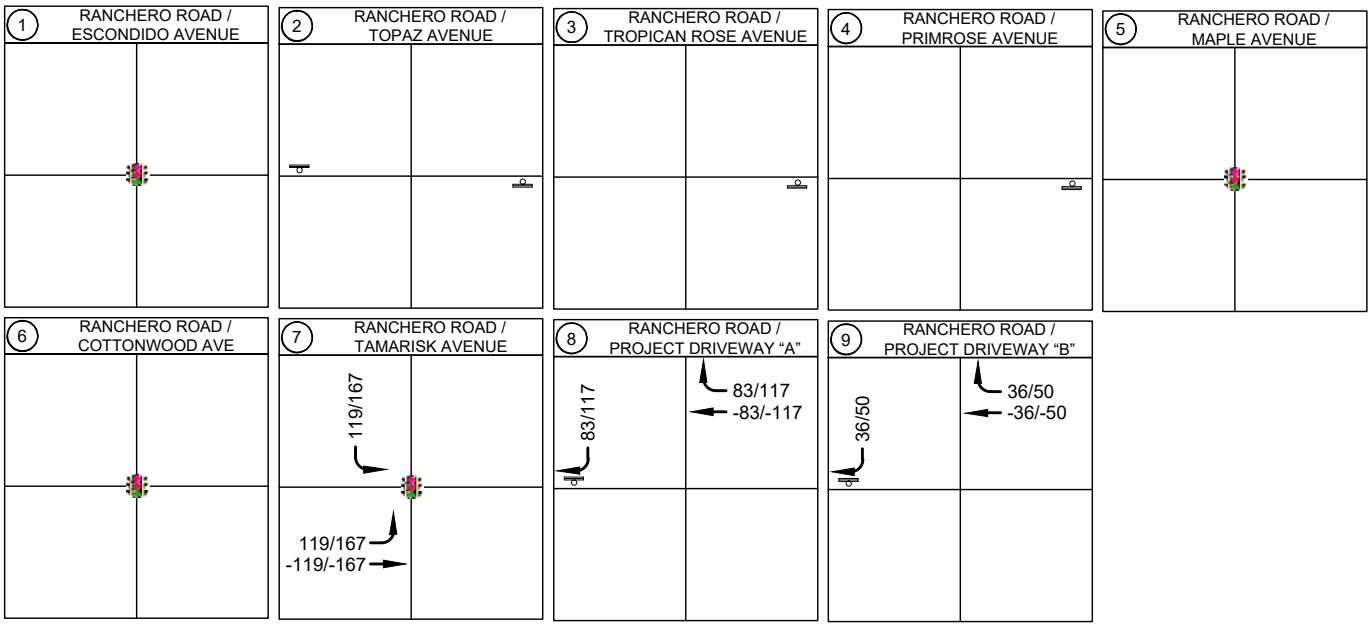
(#) - STUDY INTERSECTIONS

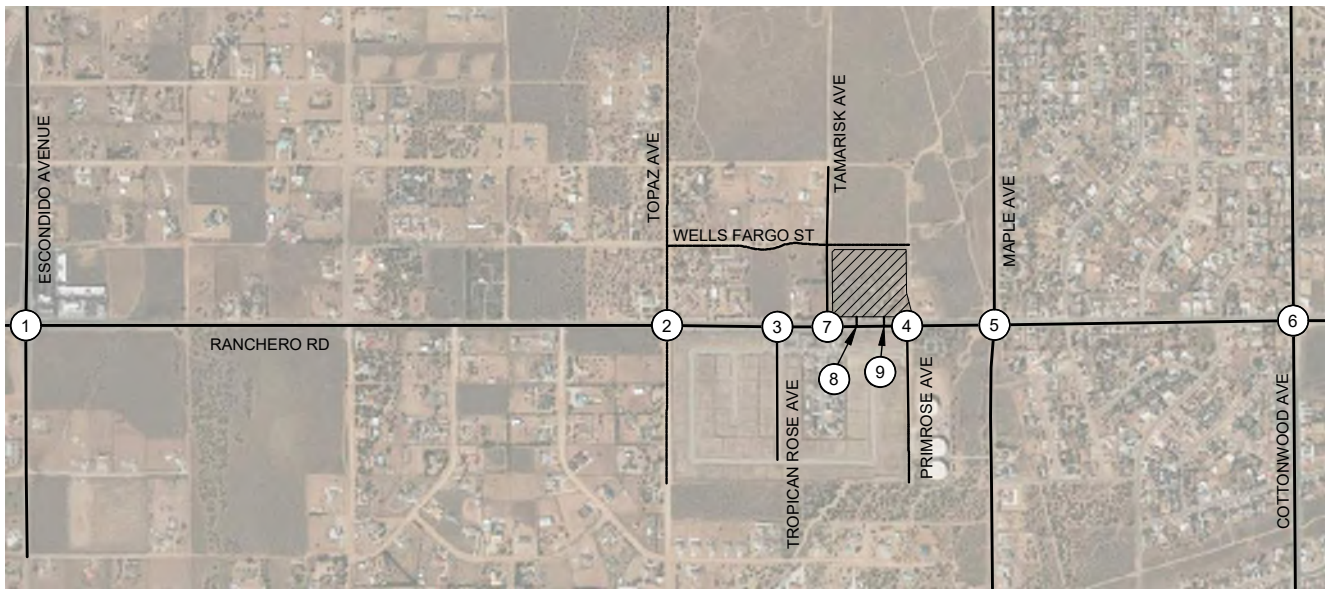
- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: ALTERNATIVE 1 PRIMARY PROJECT TRIPS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA





N

NOT TO SCALE

PASS-BY TRIPS

AM PEAK HOUR - 237IN / 229 OUT

PM PEAK HOUR - 334 IN / 330 OUT

LEGEND

XX/XX - AM/PM PROJECT TRIP

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: ALTERNATIVE 1 PASS-BY
PROJECT TRIPS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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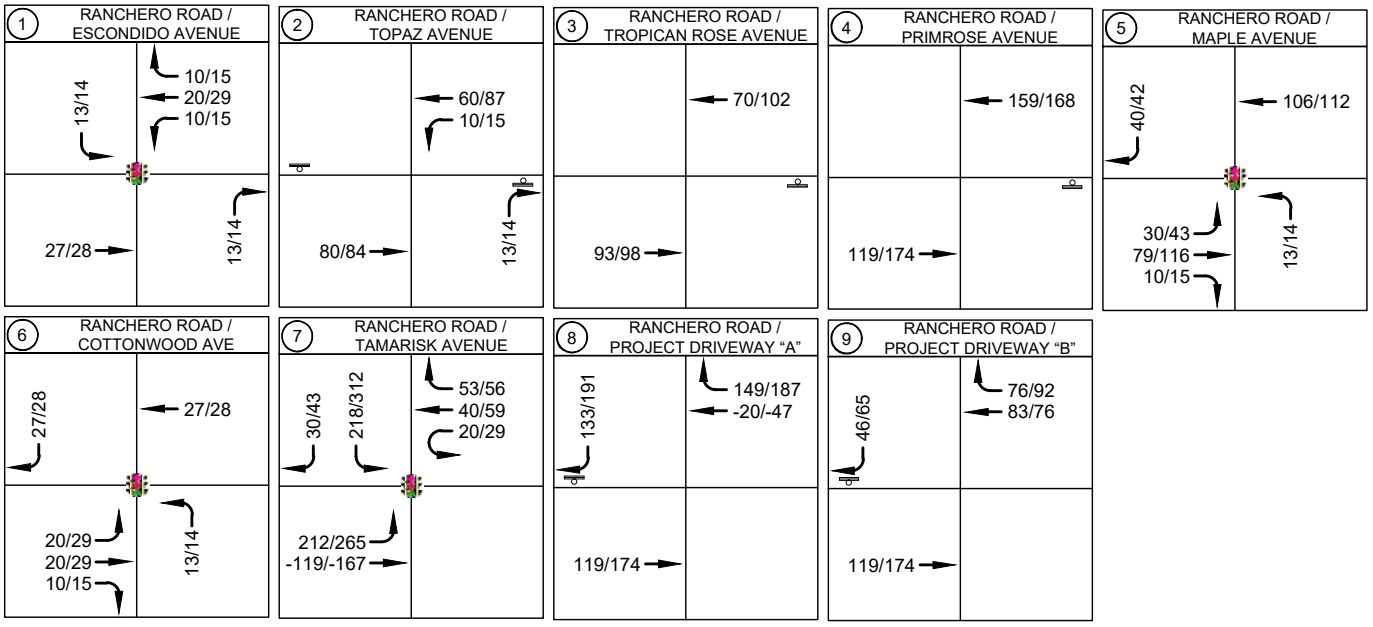

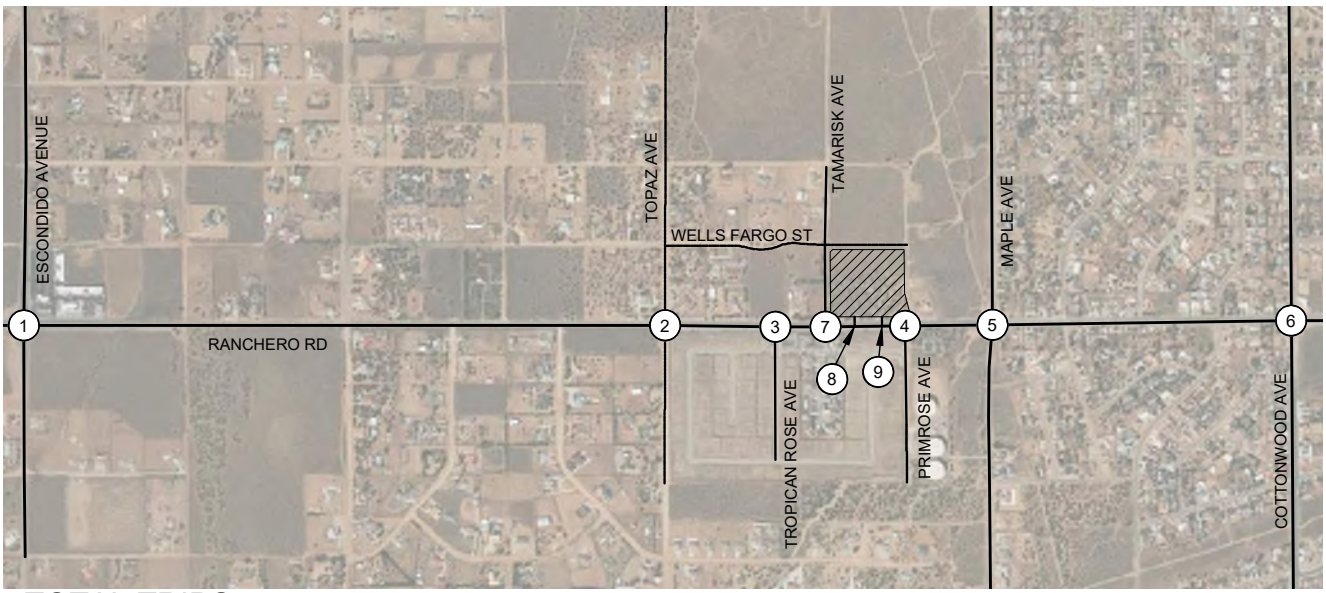

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NOT TO SCALE

TOTAL TRIPS

AM PEAK HOUR - 502 IN / 427 OUT

PM PEAK HOUR - 613 IN / 619 OUT

LEGEND

XX/XX - AM/PM PROJECT TRIP

(#) - STUDY INTERSECTIONS

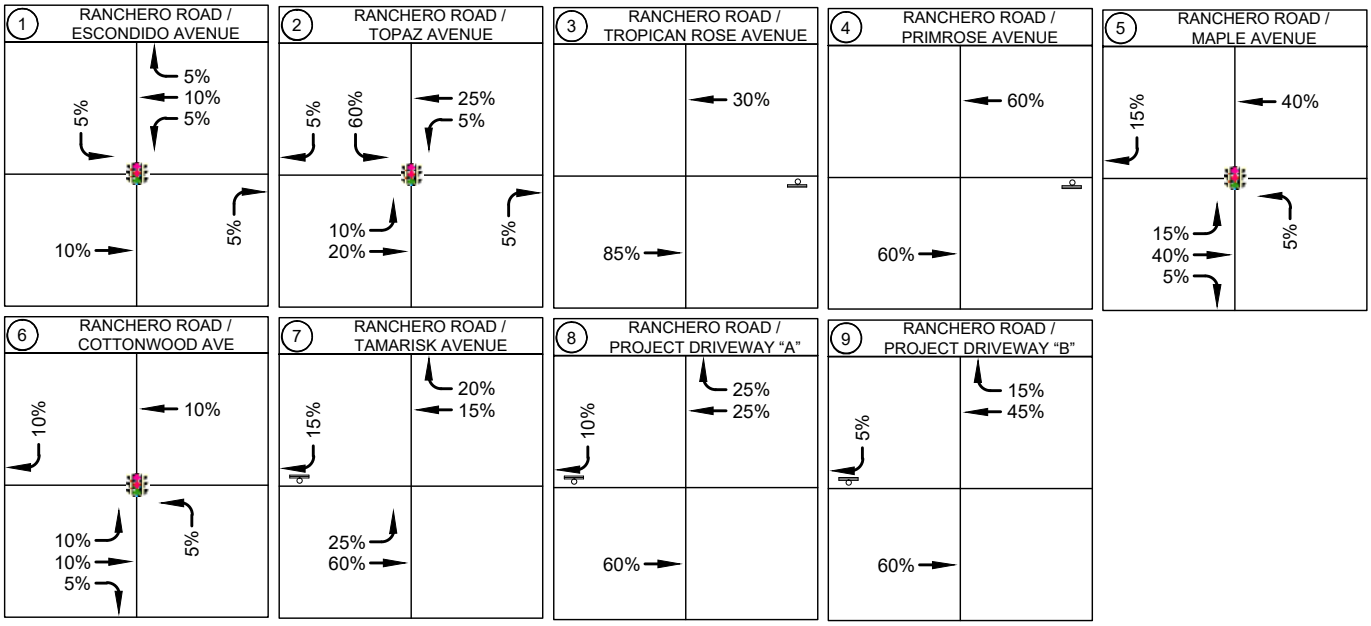
- SIGNALIZED INTERSECTION

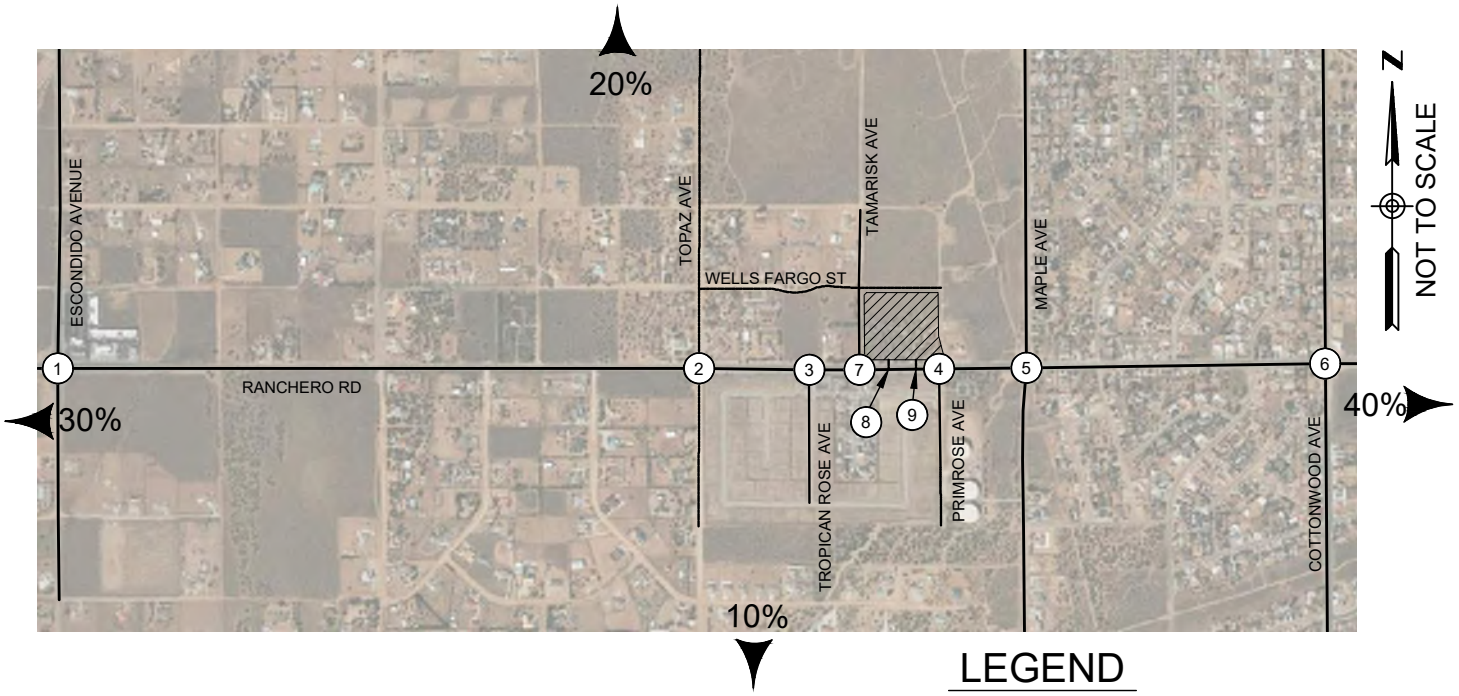
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2 - ALTERNATIVE 1

TOTAL PROJECT TRIPS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA





LEGEND

XX% - GENERAL PROJECT TRIP DISTRIBUTION

XX% - SPECIFIC PROJECT TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2 - ALTERNATIVE 2
PROJECT TRIP DISTRIBUTION
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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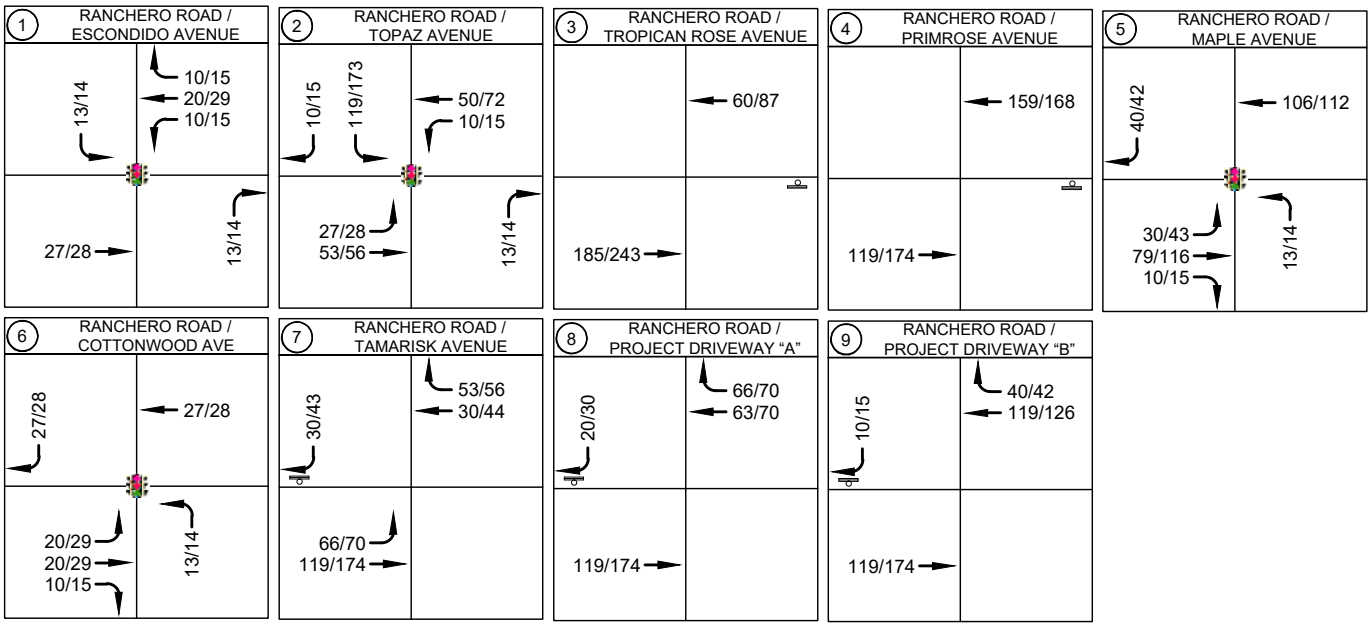

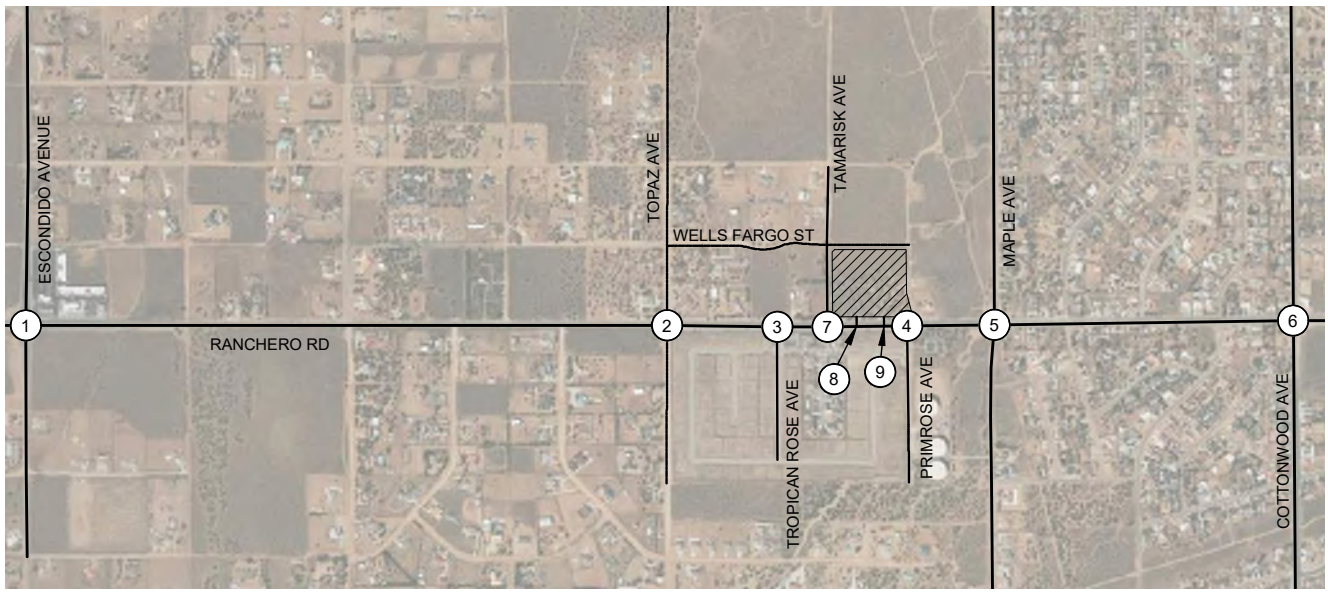

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NOT TO SCALE

PRIMARY TRIPS

AM PEAK HOUR - 256 IN / 198 OUT

PM PEAK HOUR - 279 IN / 289 OUT

LEGEND

XX/XX - AM/PM PROJECT TRIP

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: ALTERNATIVE 2 PRIMARY PROJECT TRIPS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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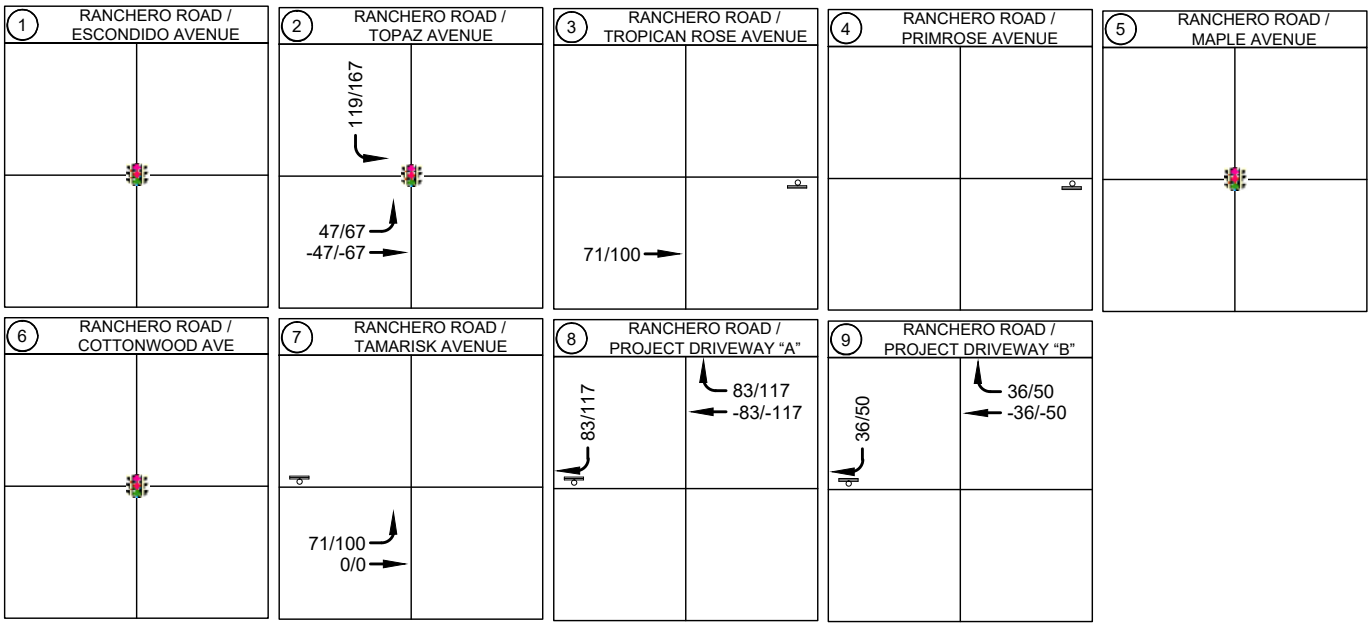

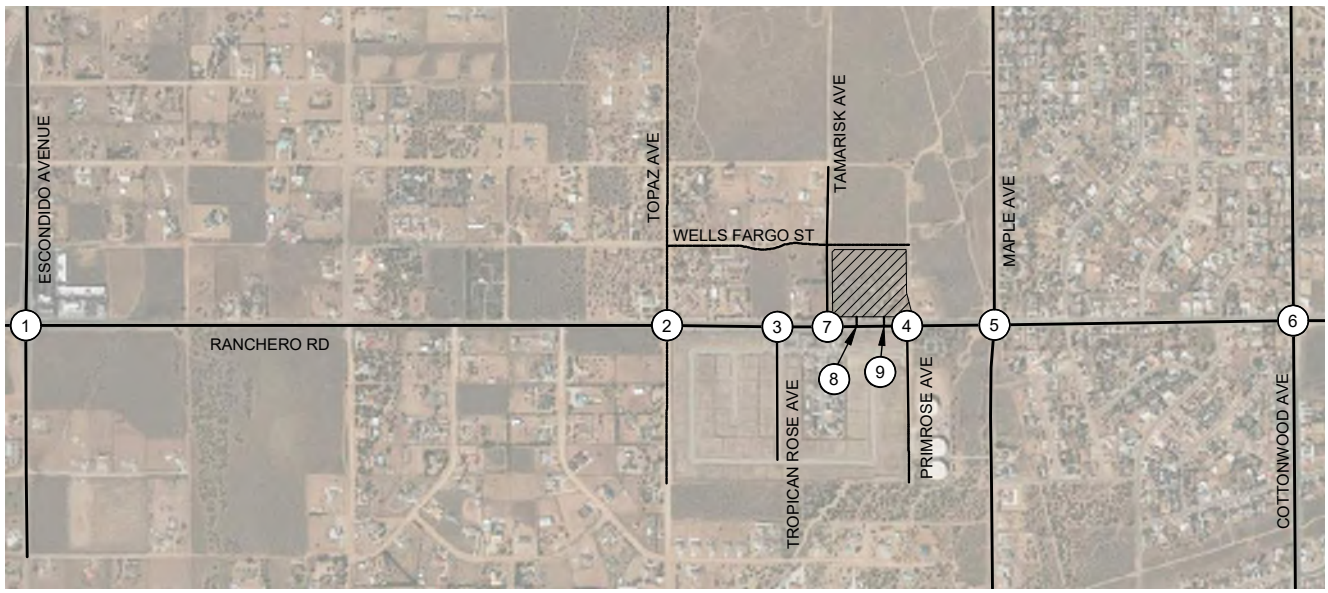

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NOT TO SCALE

PASS-BY TRIPS

AM PEAK HOUR - 237IN / 229 OUT

PM PEAK HOUR - 334 IN / 330 OUT

LEGEND

XX/XX - AM/PM PROJECT TRIP

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: ALTERNATIVE 2 PASS-BY
PROJECT TRIPS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

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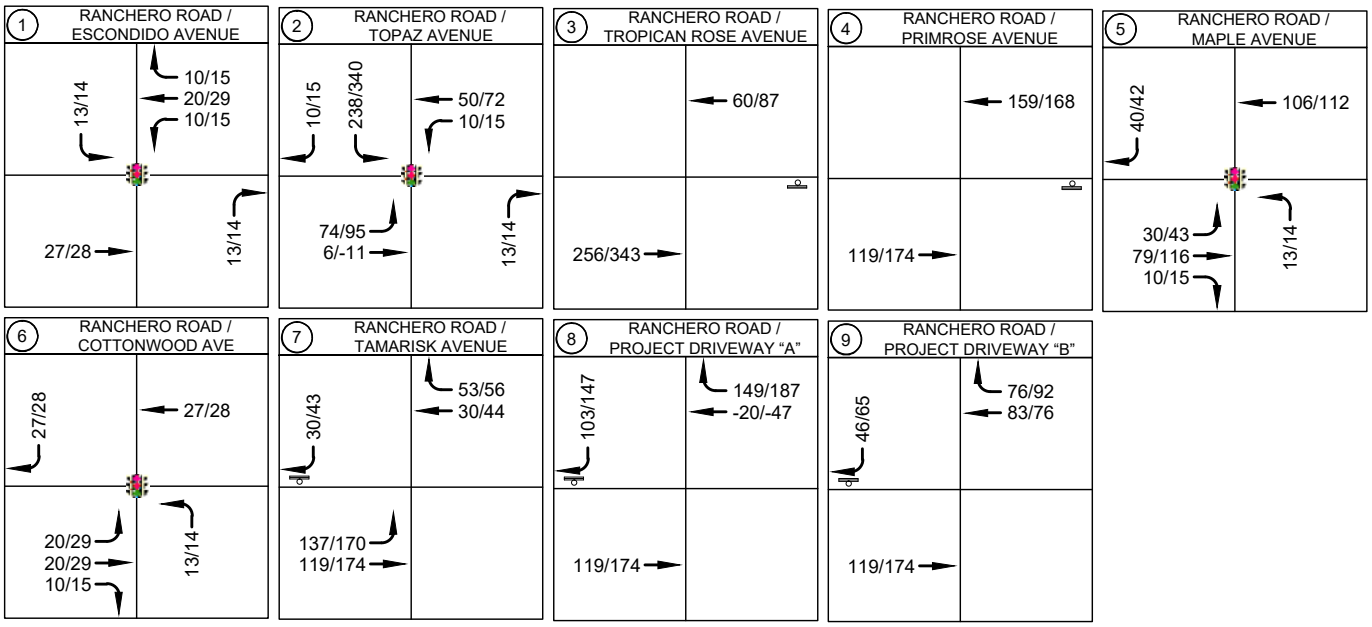

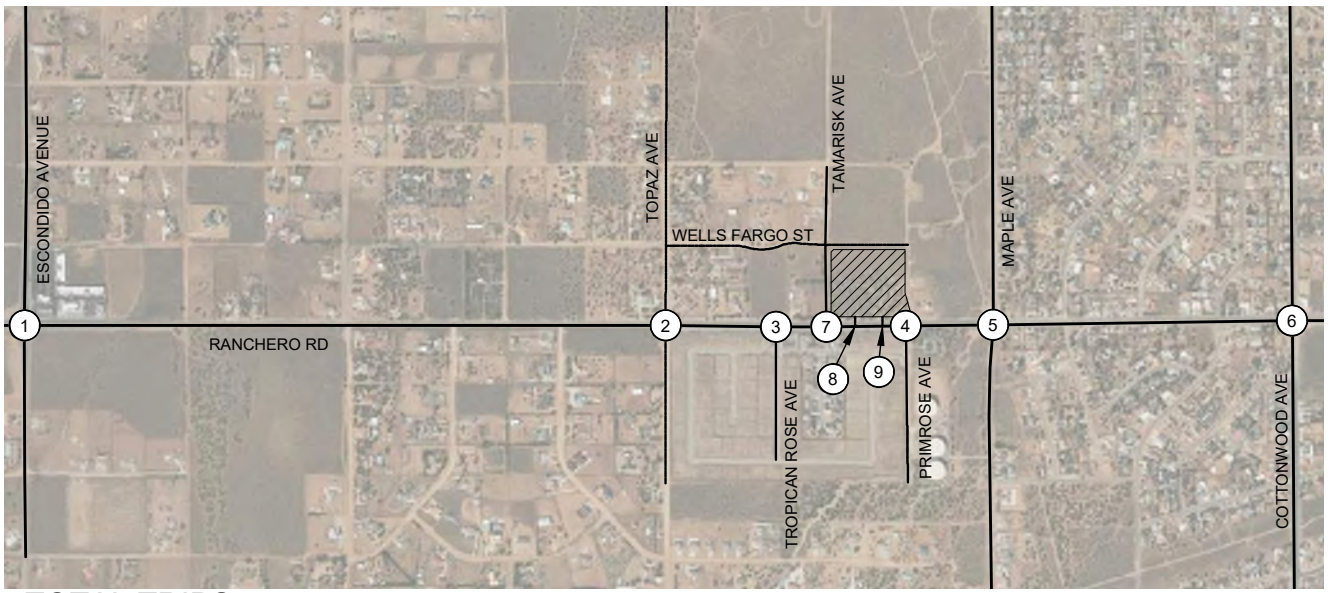

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NOT TO SCALE

TOTAL TRIPS

AM PEAK HOUR - 502 IN / 427 OUT

PM PEAK HOUR - 613 IN / 619 OUT

LEGEND

XX/XX - AM/PM PROJECT TRIP

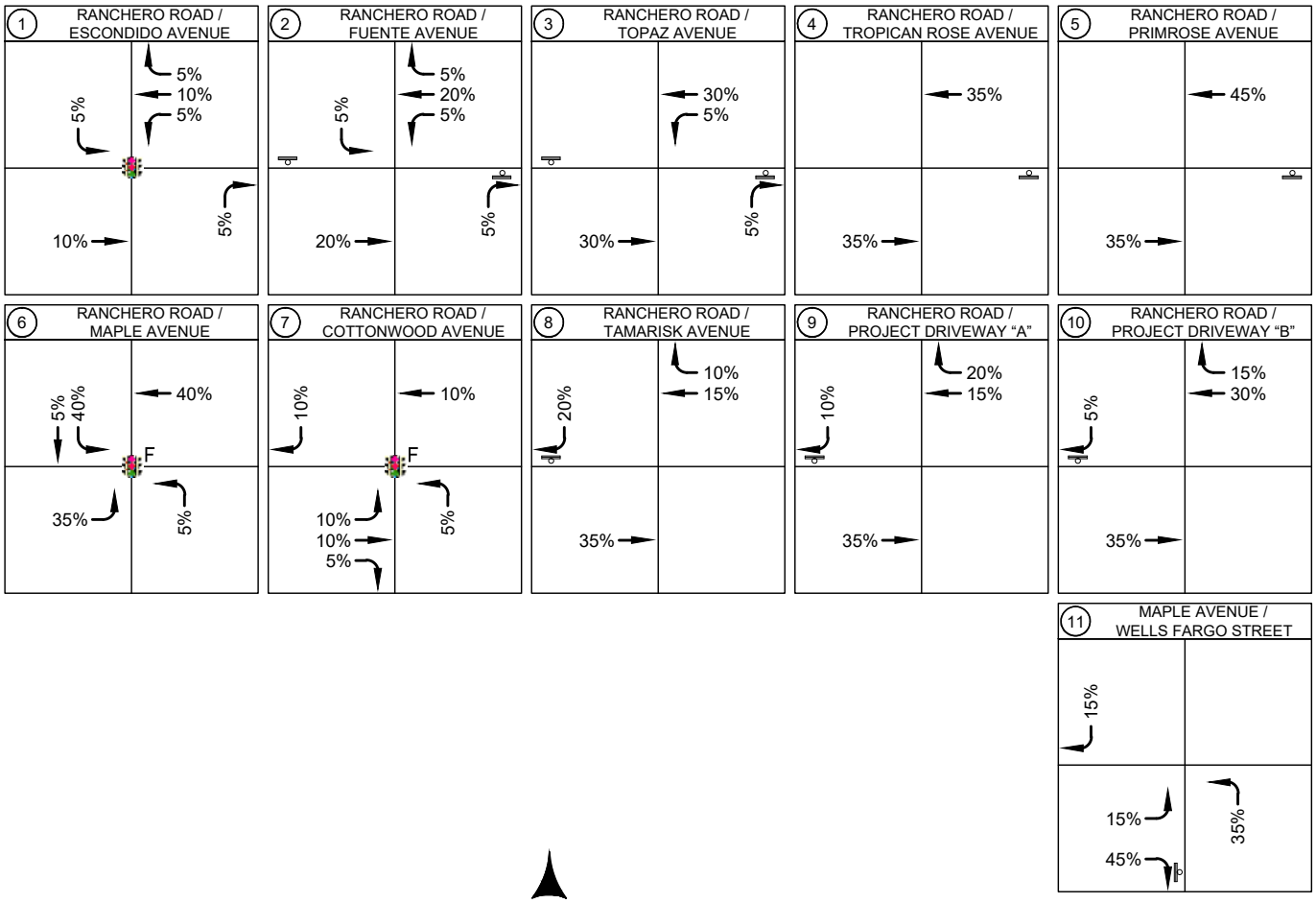
(#) - STUDY INTERSECTIONS

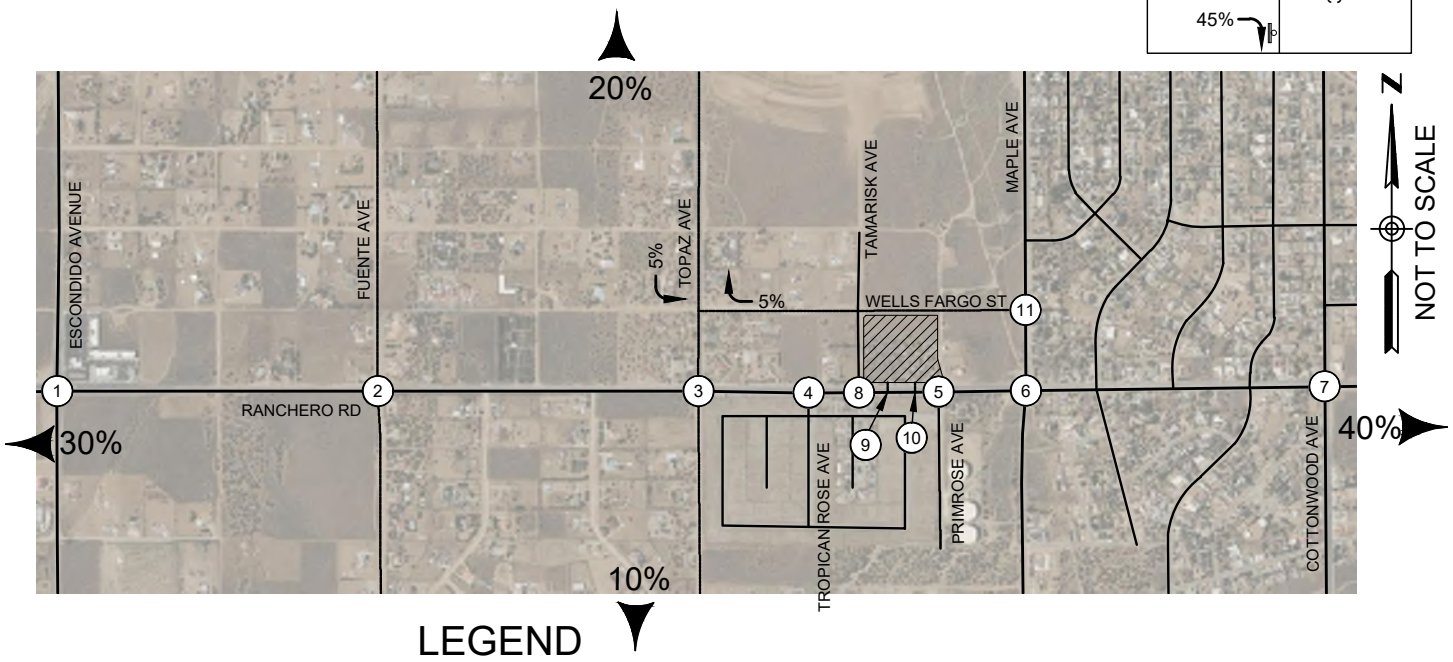
- SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: ALTERNATIVE 2 TOTAL PROJECT TRIPS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA





LEGEND

XX% - GENERAL PROJECT TRIP DISTRIBUTION

XX% - SPECIFIC PROJECT TRIP PERCENTAGE

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

F - FUTURE SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

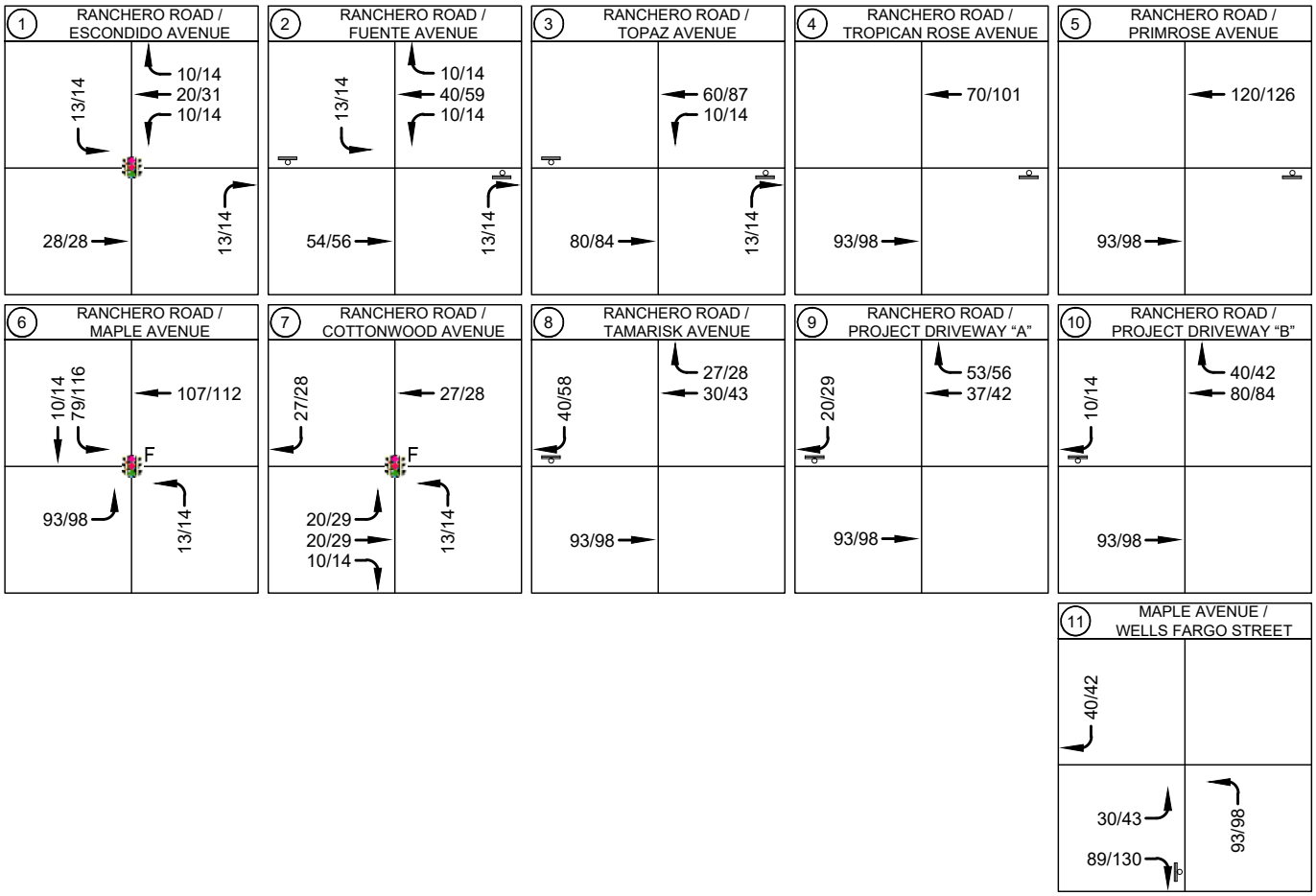
APPENDIX A2 - ALTERNATIVE 3

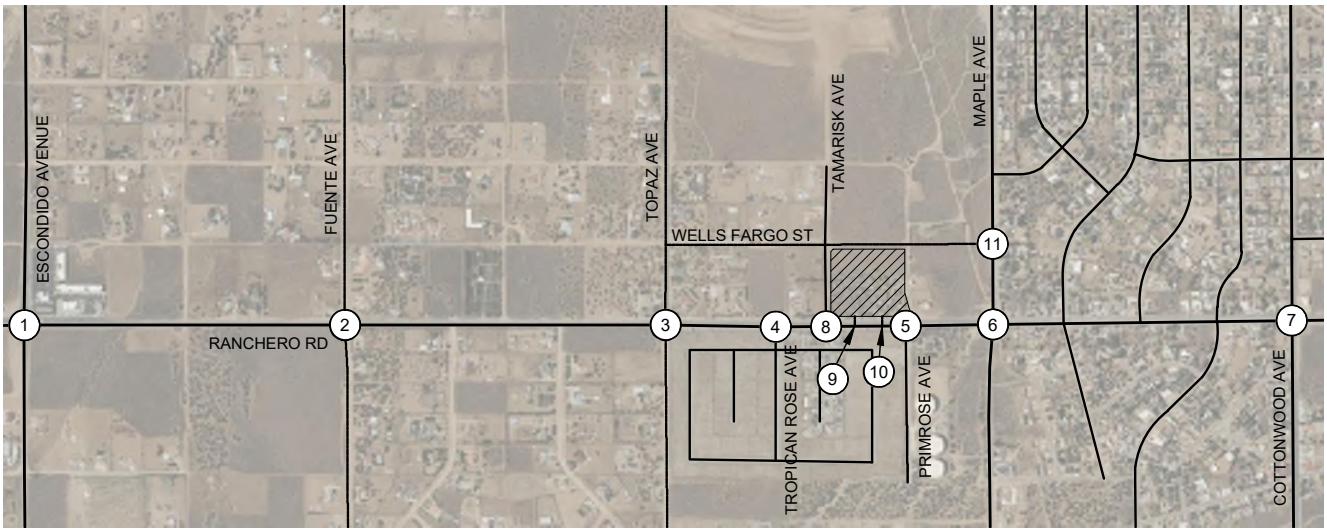
PROJECT TRIP DISTRIBUTION

RANCHERO ROAD

COMMERCIAL DEVELOPMENT

HESPERIA, CALIFORNIA





PRIMARY TRIPS

AM PEAK HOUR - 265 IN / 198 OUT

PM PEAK HOUR - 279 IN / 289 OUT

LEGEND

XX/XX - AM/PM PROJECT TRIP

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

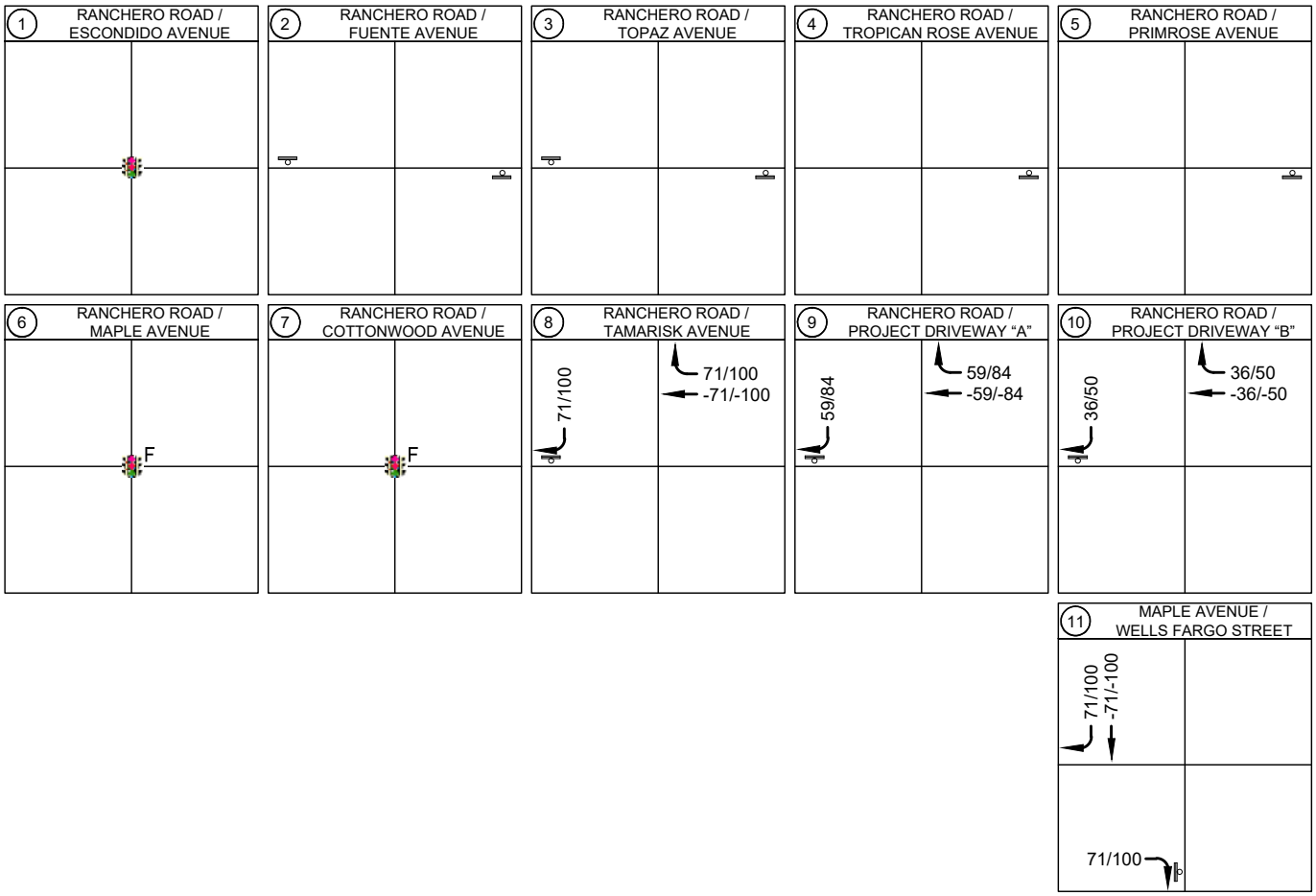
F - FUTURE SIGNALIZED INTERSECTION

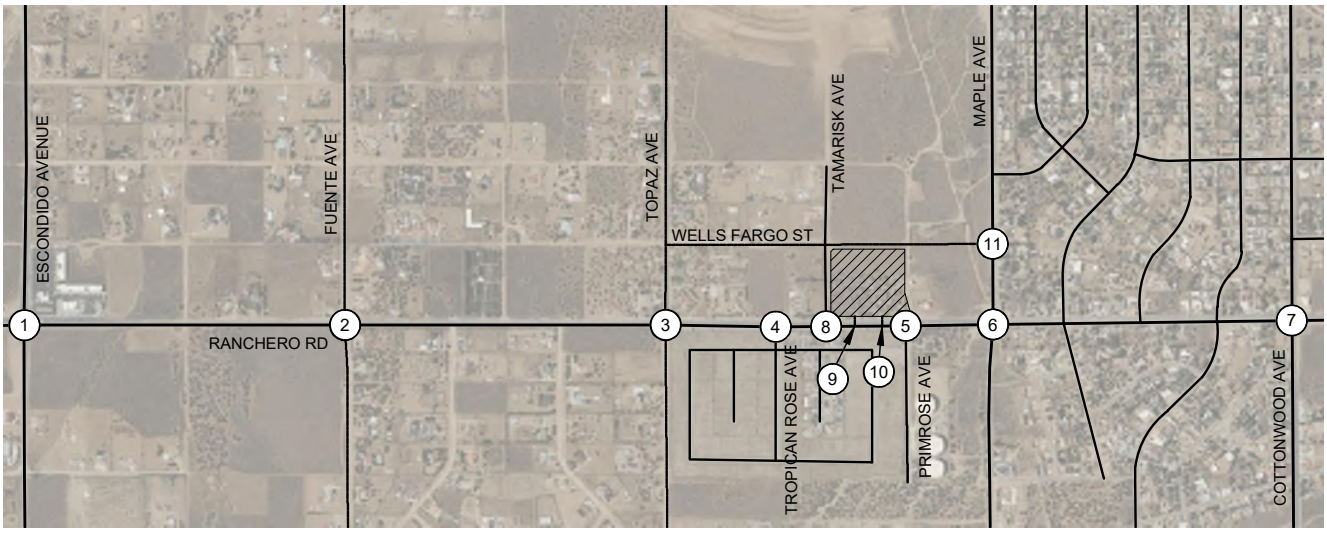
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2 - ALTERNATIVE 3

PRIMARY PROJECT TRIPS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA





PASS-BY TRIPS

AM PEAK HOUR - 237 IN / 229 OUT

PM PEAK HOUR - 334 IN / 330 OUT

LEGEND

XX/XX - AM/PM PROJECT TRIP

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

F - FUTURE SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

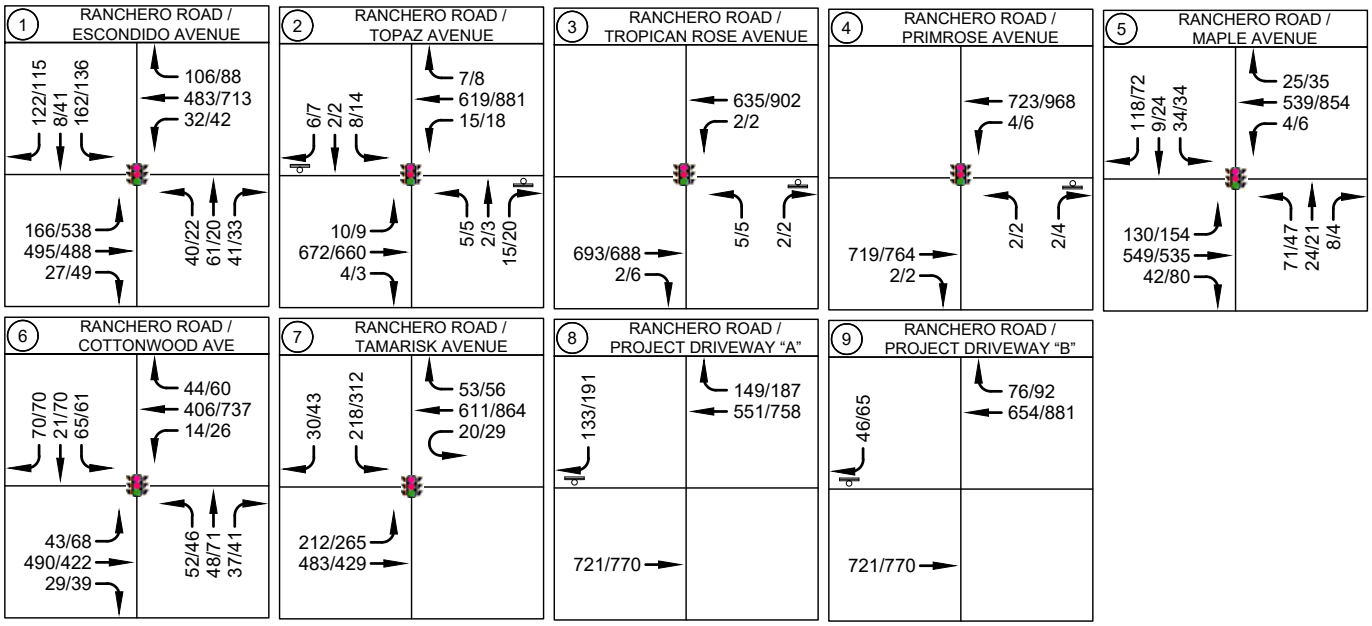
APPENDIX A2 - ALTERNATIVE 3

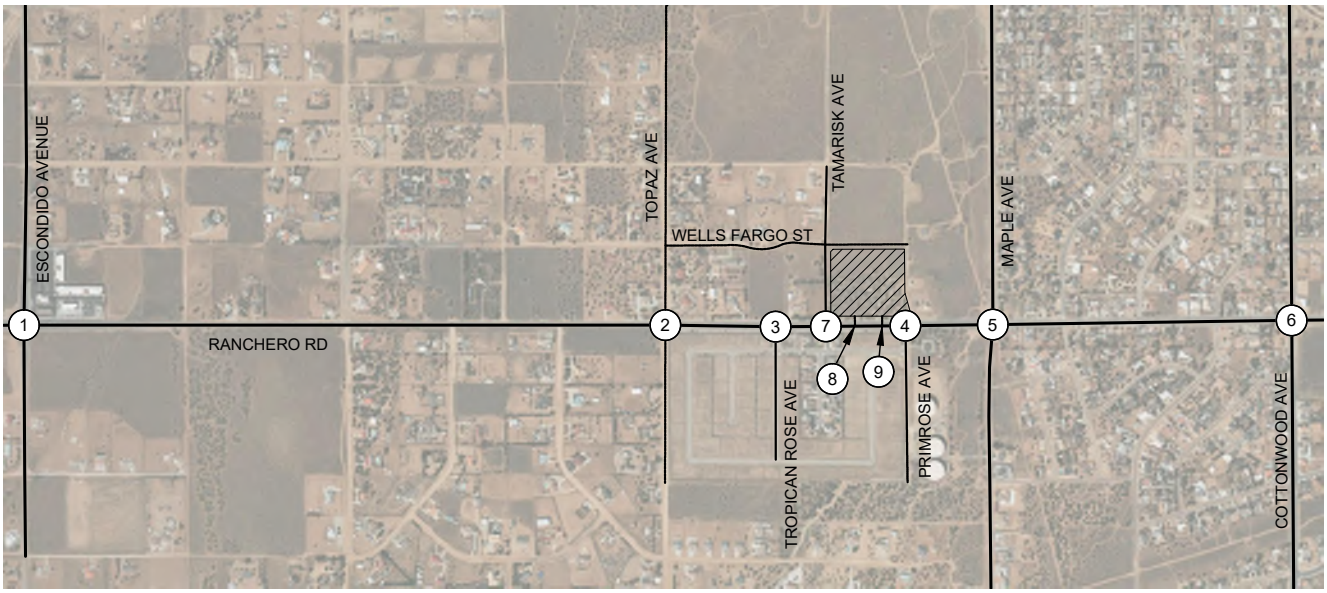
PASS-BY PROJECT TRIPS

RANCHERO ROAD

COMMERCIAL DEVELOPMENT

HESPERIA, CALIFORNIA





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

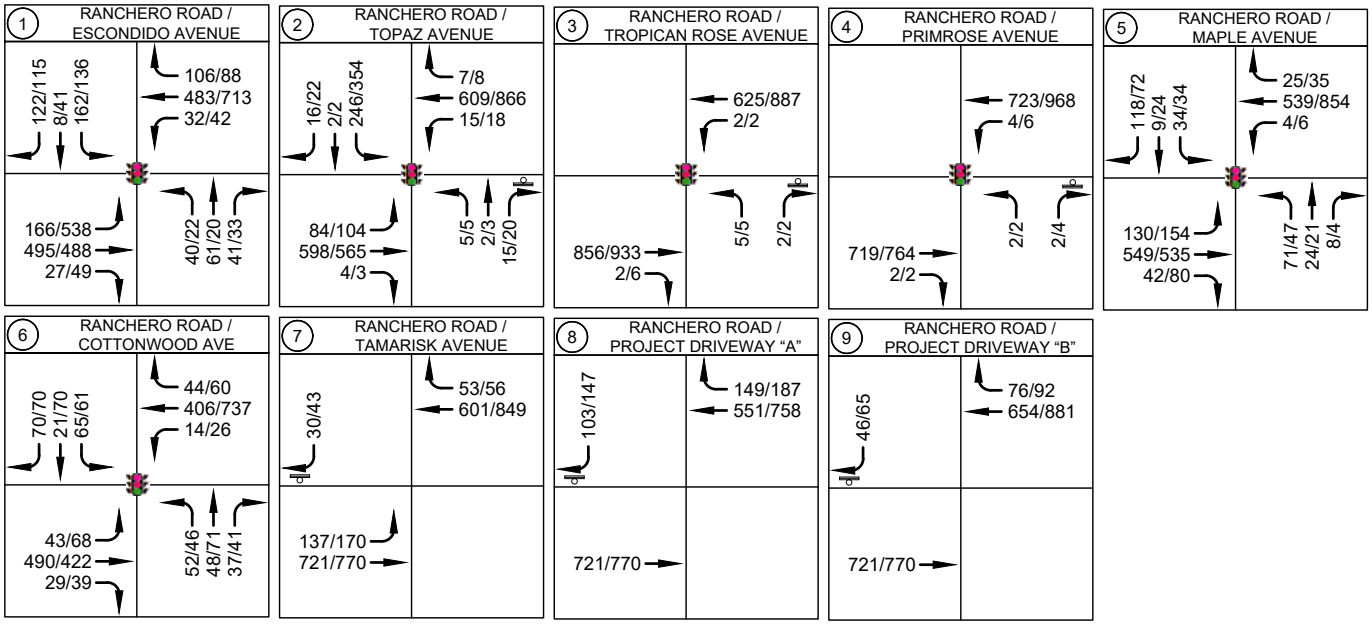
- SIGNALIZED INTERSECTION

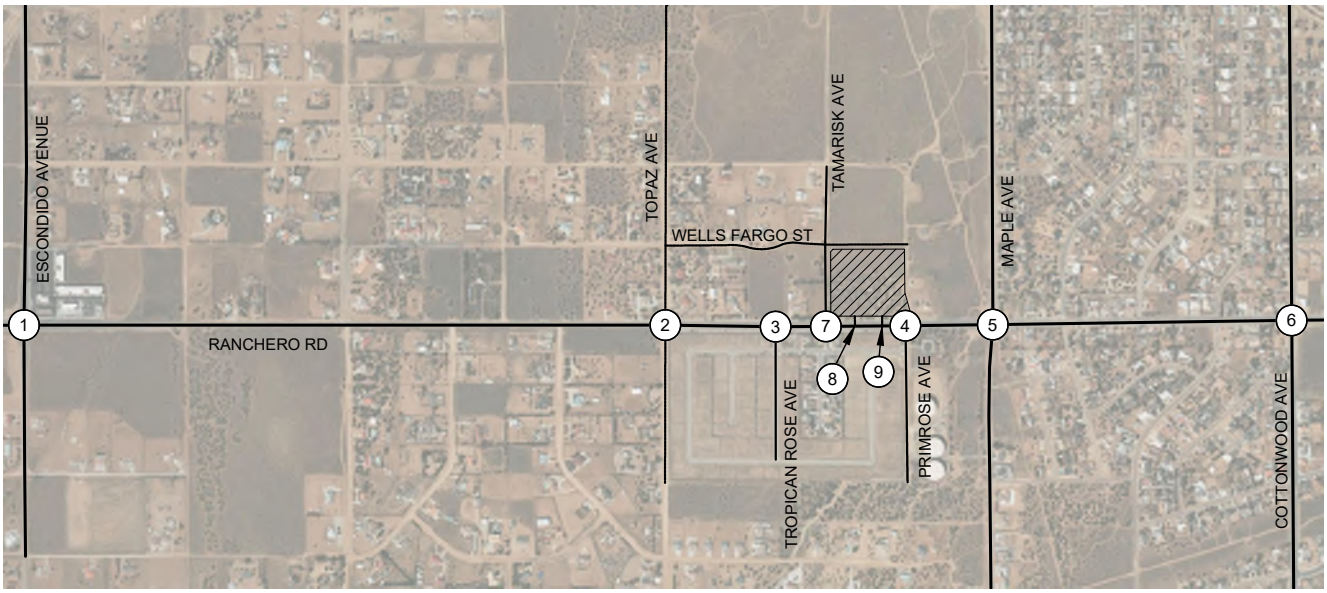
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: OPENING DAY WITH ALTERNATIVE 1
PROJECT TRAFFIC VOLUMES
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

Drawing Name: D:\temp\Acc Publish_20528\Figure 16.dwg
Last Opened: Sep 28, 2022 - 5:27pm by: agwa





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

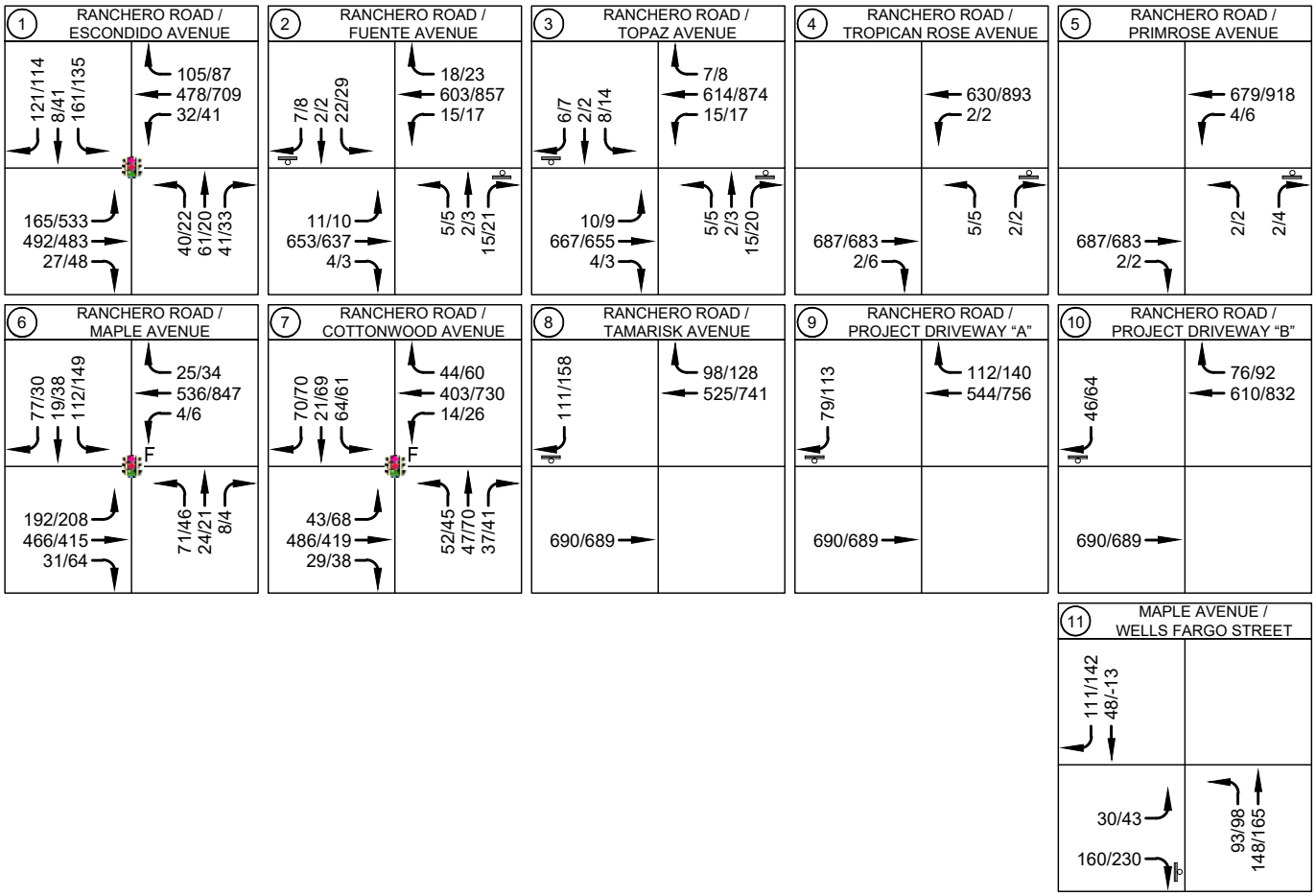
- SIGNALIZED INTERSECTION

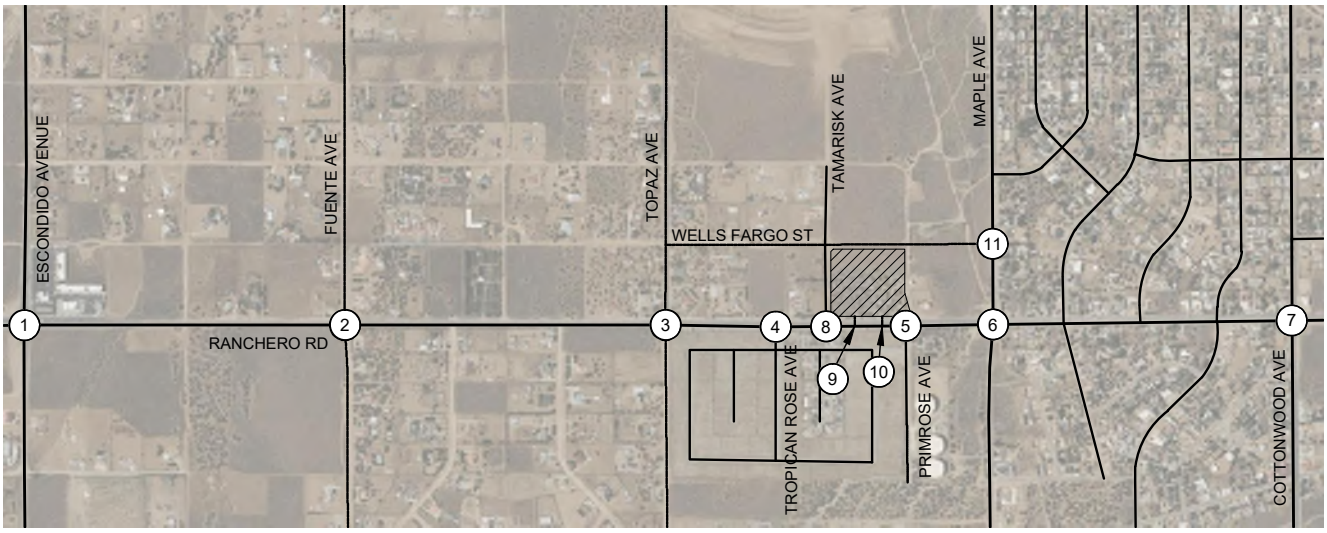
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: OPENING DAY WITH ALTERNATIVE 2
PROJECT TRAFFIC VOLUMES
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

Drawing Name: D:\temp\Ac-Publish_20528\Figure 17.dwg
Last Opened: Sep 28, 2022 - 9:56pm by: agwa





LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

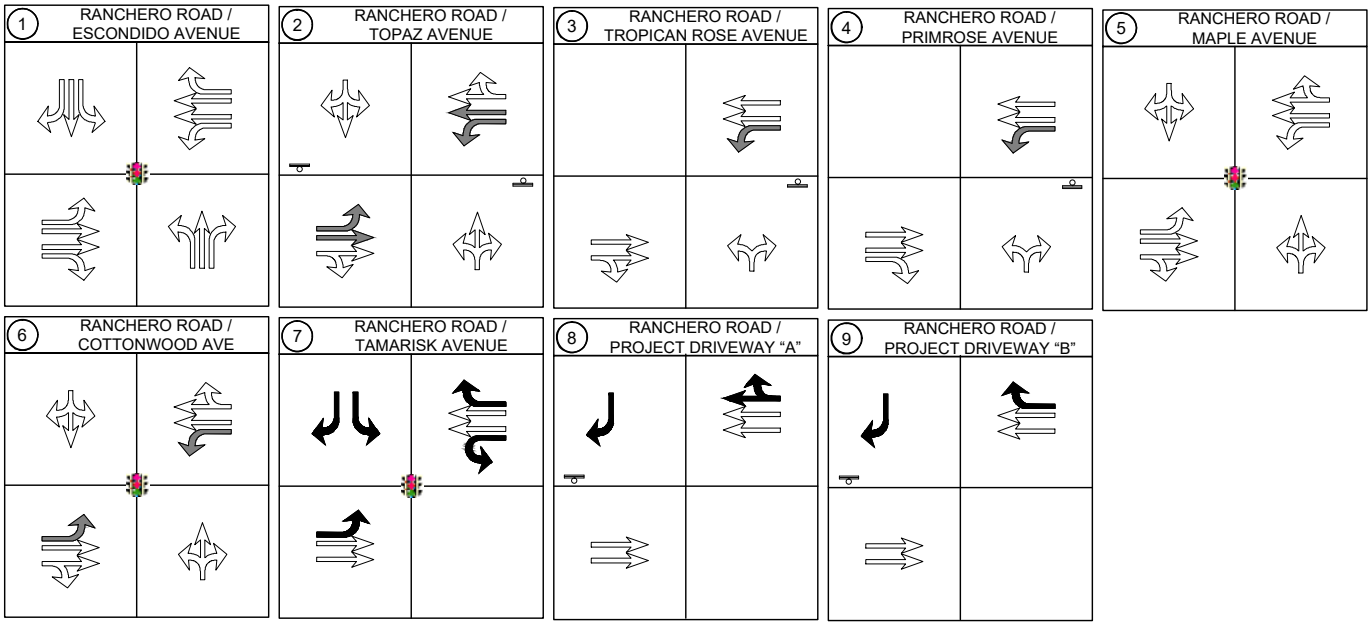
- SIGNALIZED INTERSECTION

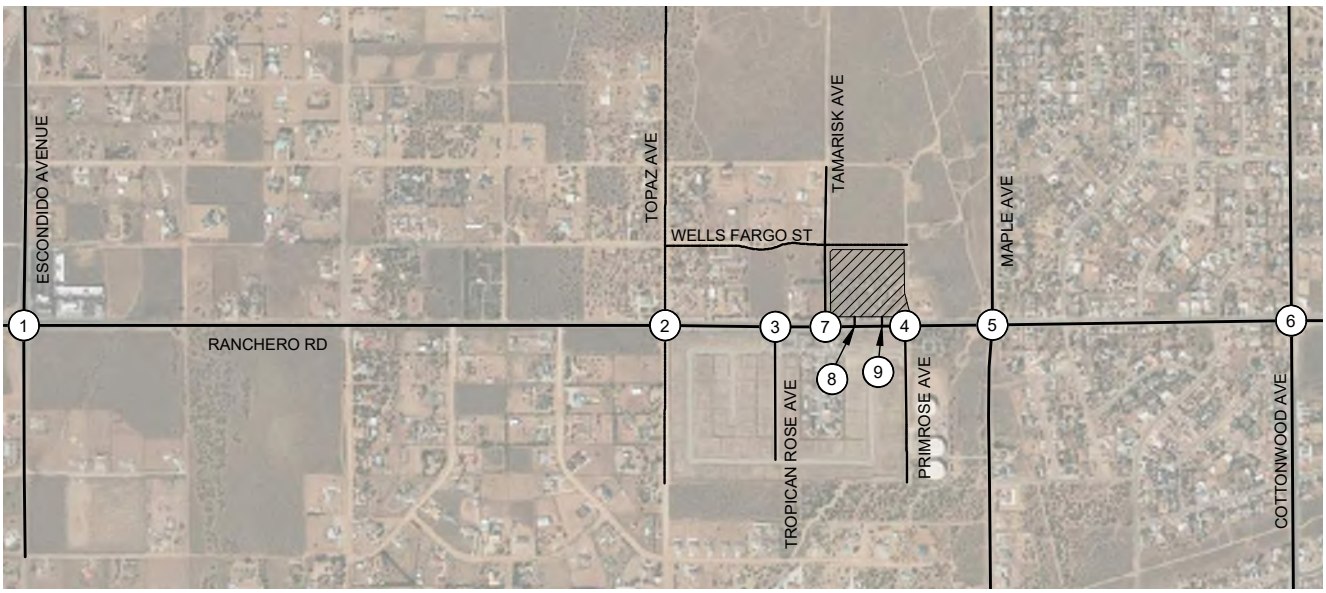
F - FUTURE SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: OPENING DAY WITH ALTERNATIVE 3 PROJECT TRAFFIC VOLUMES
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA





N

NOT TO SCALE

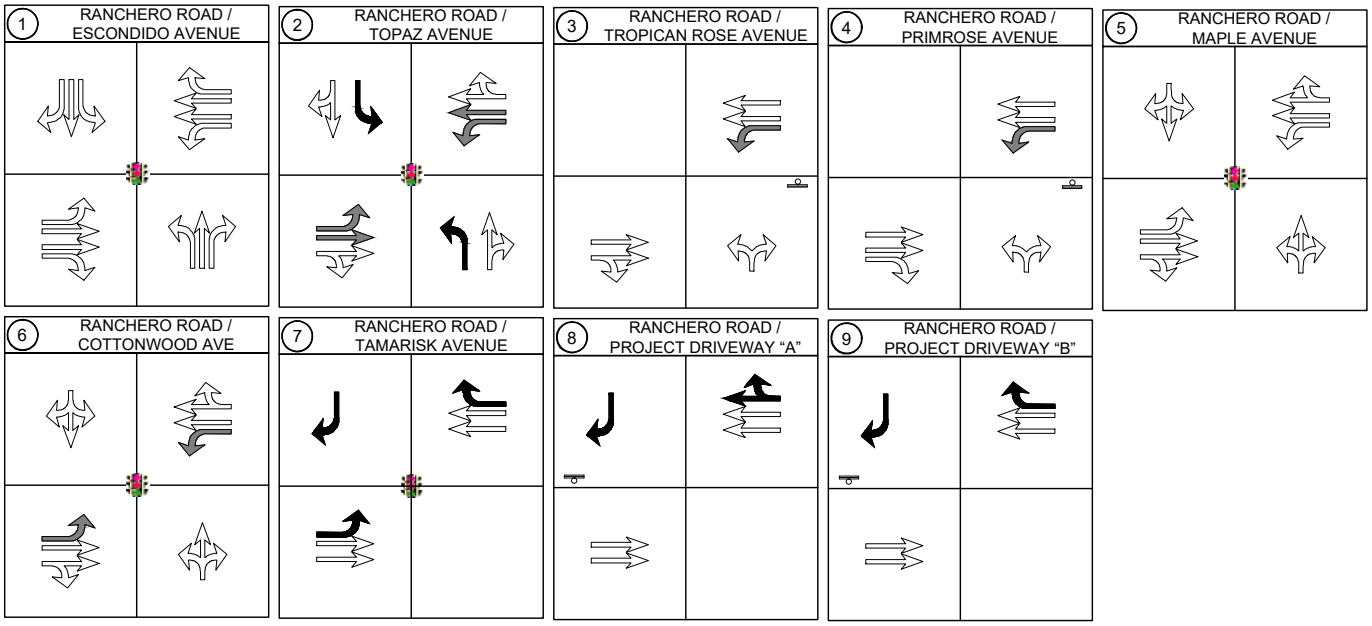
LEGEND

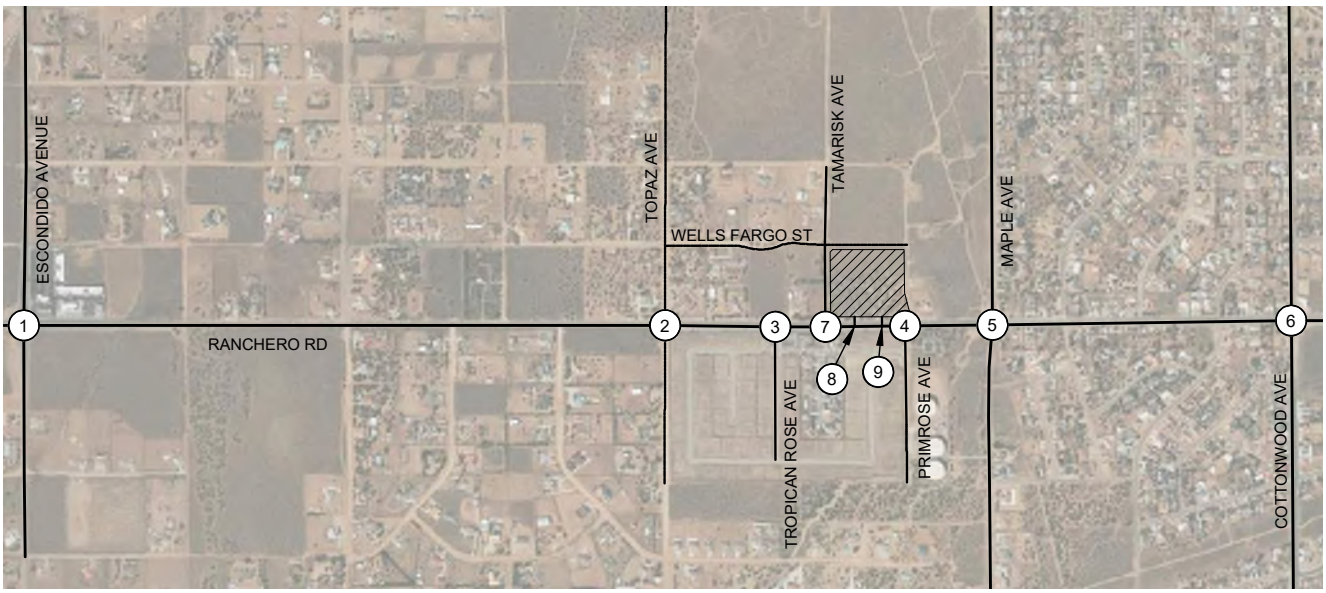
- EXISTING GEOMETRICS
- RANCHERO ROAD WIDENING PROJECT GEOMETRICS
- PROPOSED ALTERNATIVE 1 PROJECT GEOMETRICS
- # - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: OPENING DAY WITH ALTERNATIVE 1
INTERSECTION GEOMETRICS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

Drawing Name: P:\PM\CO00000001\0400CAD\TTEXHIBITS\Study\Figure 18.dwg
Last Opened: Sep 26, 2022 - 11:28am by: Tim





N

NOT TO SCALE

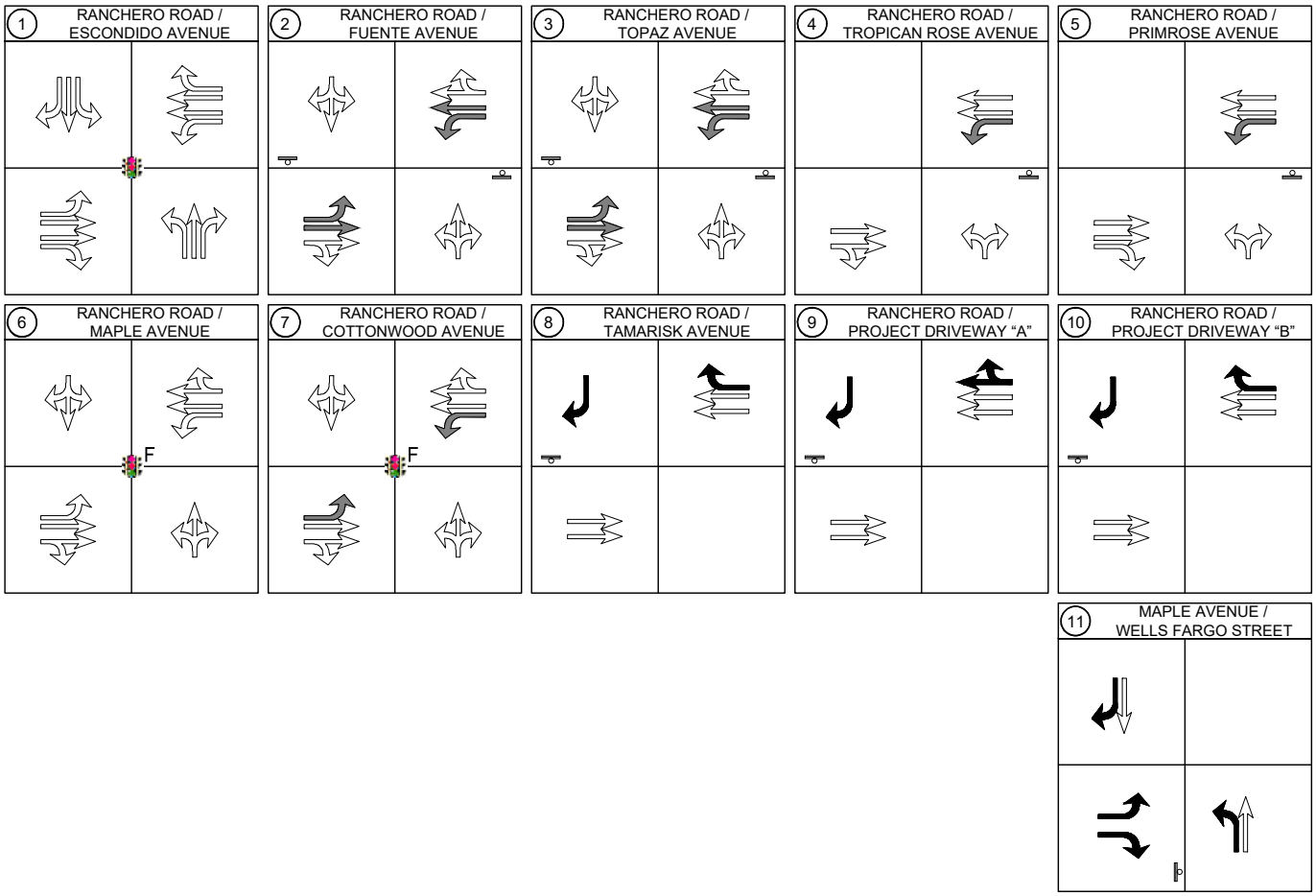
LEGEND

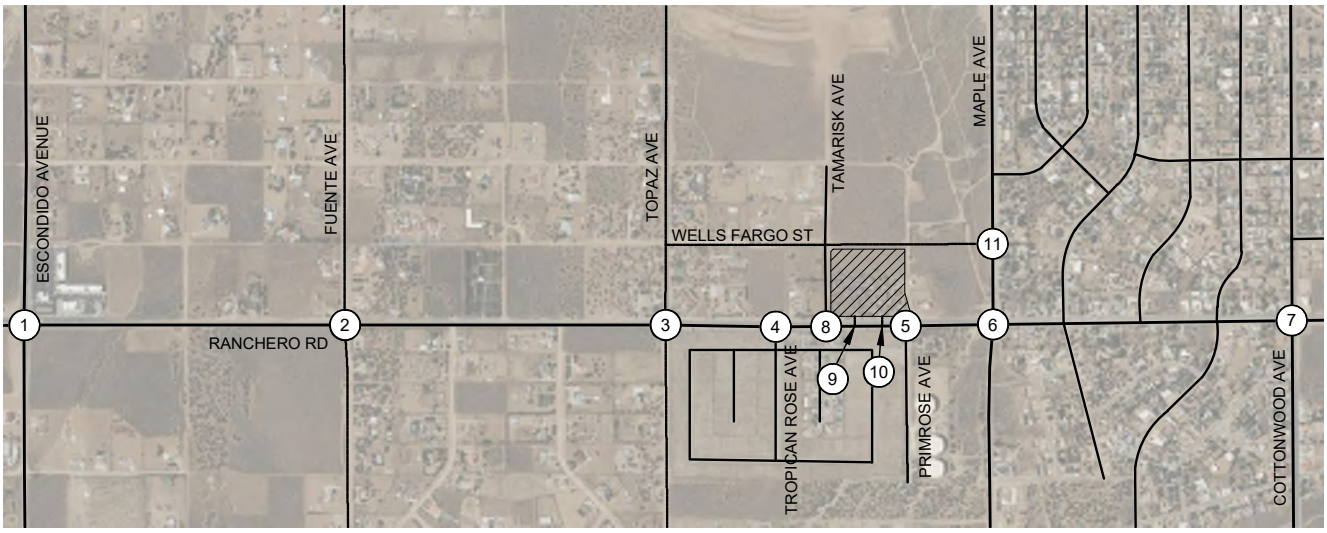
- EXISTING GEOMETRICS
- RANCHERO ROAD WIDENING PROJECT GEOMETRICS
- PROPOSED ALTERNATIVE 2 PROJECT GEOMETRICS
- (#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: OPENING DAY WITH ALTERNATIVE 2
INTERSECTION GEOMETRICS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

Drawing Name: P:\PPMC00000001\0400CAD\TTEXHIBITS\Study\Figure 19.dwg
Last Opened: Sep 26, 2022 - 11:28am by: Tim





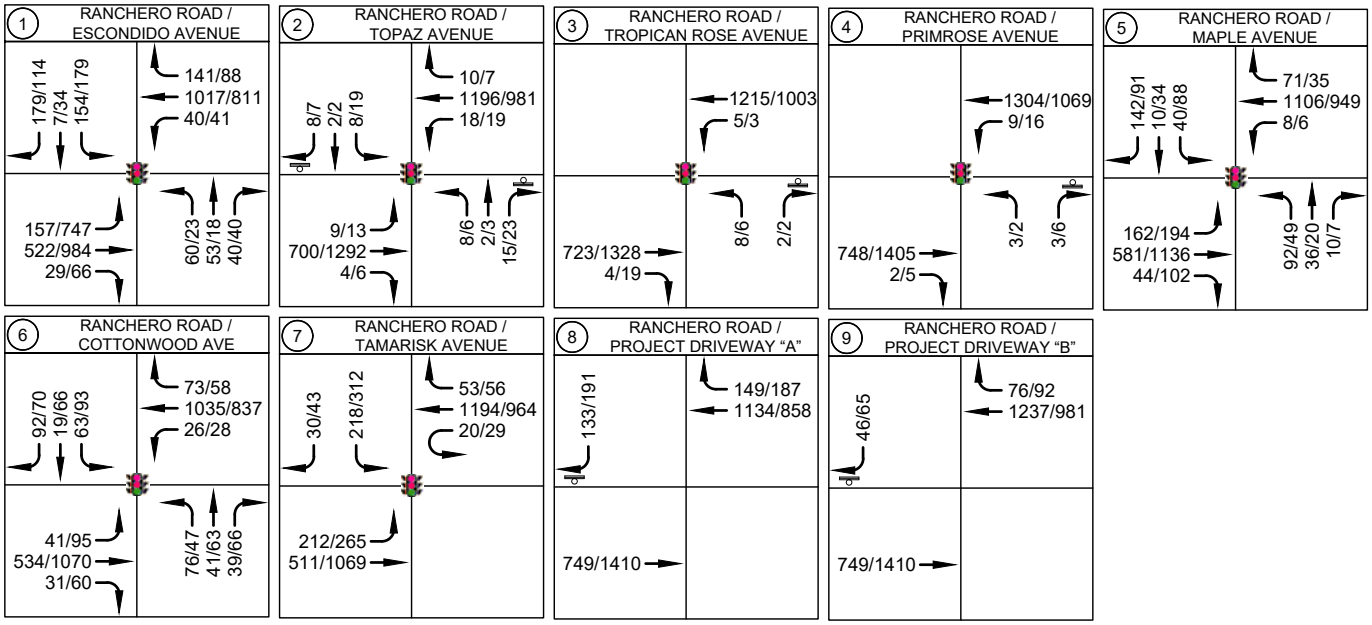
LEGEND

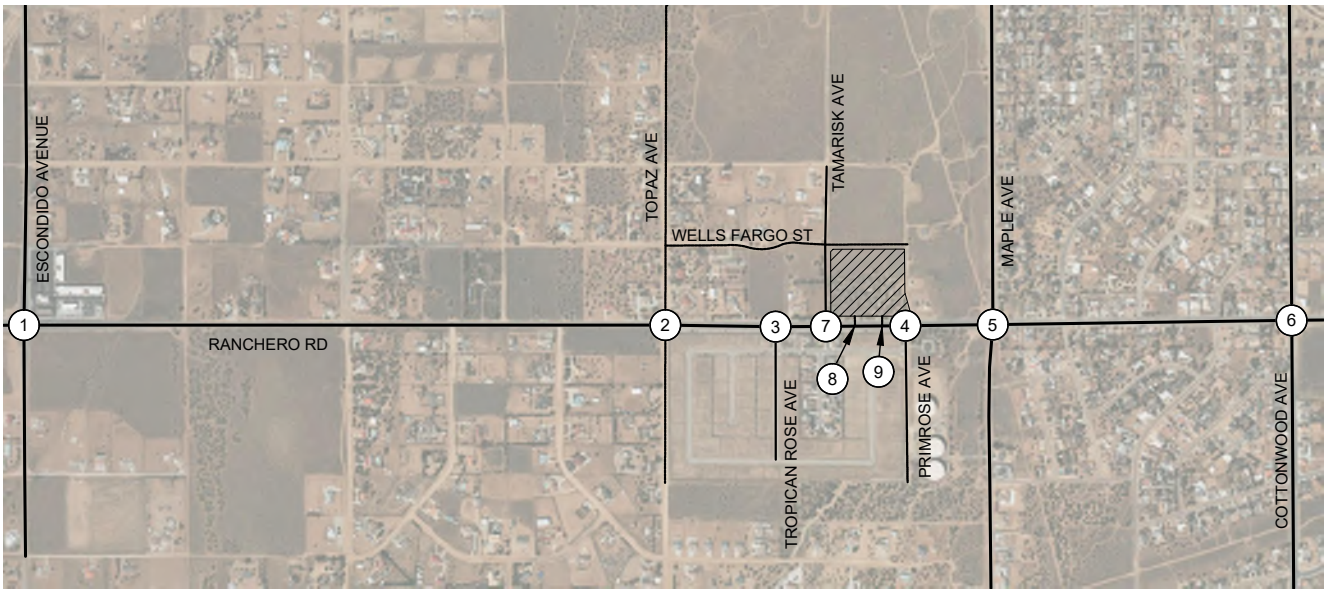
- (#) - STUDY INTERSECTIONS
- - SIGNALIZED INTERSECTION
- F - FUTURE SIGNALIZED INTERSECTION
- - STOP CONTROLLED APPROACH
- - EXISTING GEOMETRICS
- - RANCHERO ROAD WIDENING PROJECT GEOMETRICS
- - PROPOSED ALTERNATIVE 3 PROJECT GEOMETRICS

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: OPENING DAY WITH ALTERNATIVE 3 INTERSECTION GEOMETRICS
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

Drawing Name: P:\PPMC00000001\0400CAD\TTEXHIBITS\Study\Figure 13.dwg
Last Opened: Oct 31, 2023 - 5:09pm by: Heay





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

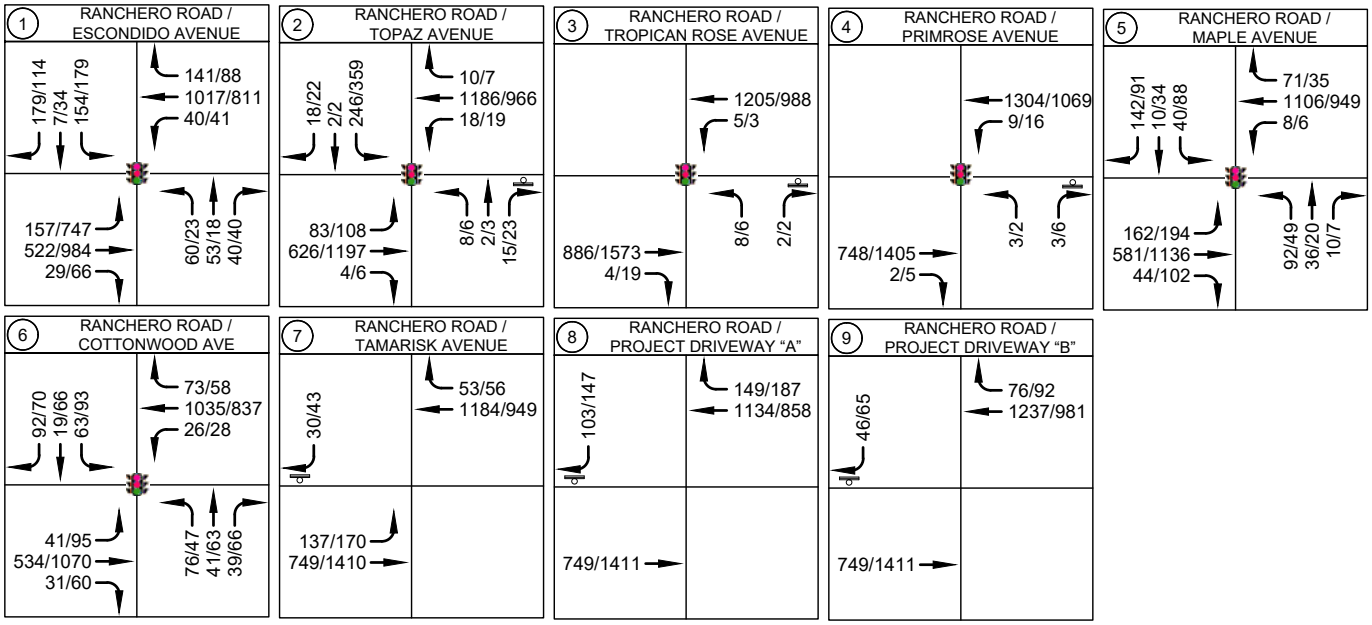
- SIGNALIZED INTERSECTION

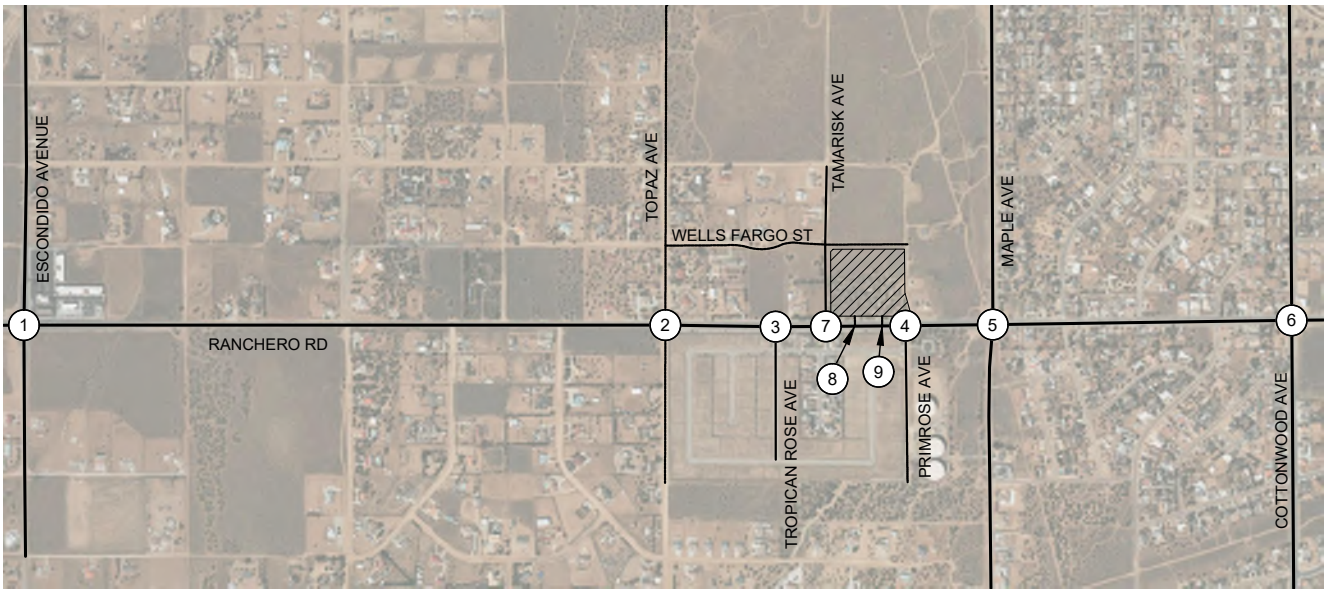
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: FUTURE WITH ALTERNATIVE 1
PROJECT TRAFFIC VOLUMES
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

Drawing Name: D:\temp\Acc-Publish_20526\Figure 21.dwg
Last Opened: Sep 28, 2022 - 9:38pm by: agwa





N

NOT TO SCALE

LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

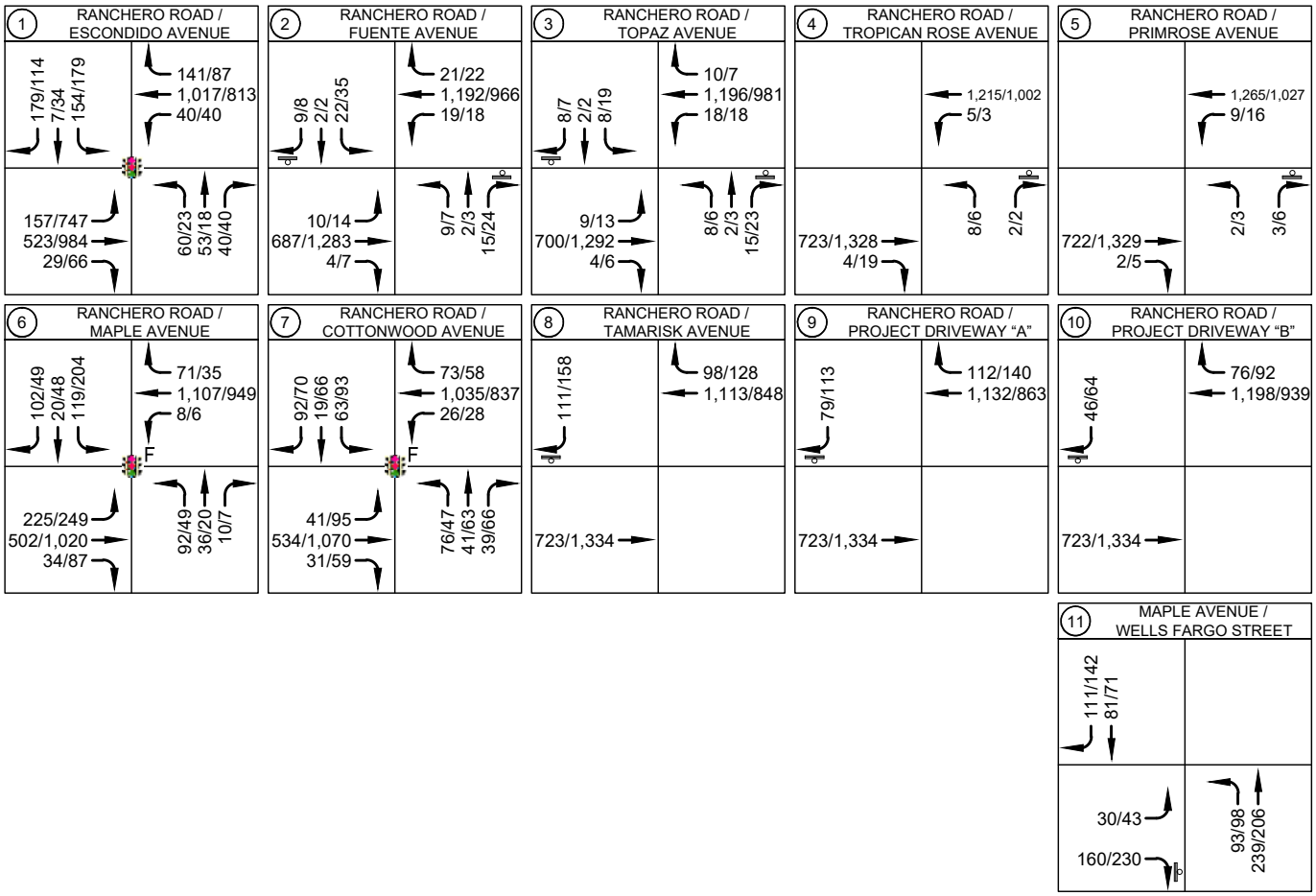
- SIGNALIZED INTERSECTION

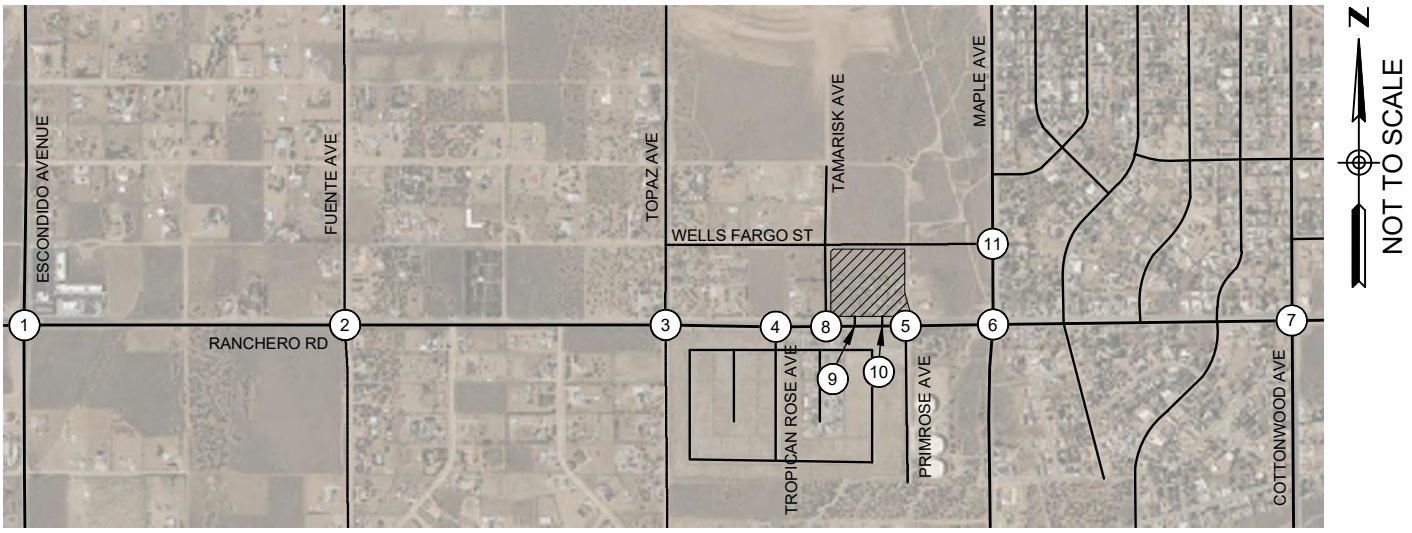
- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: FUTURE WITH ALTERNATIVE 2
PROJECT TRAFFIC VOLUMES
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

Drawing Name: D:\temp\Ac-Publish_20528\Figure 22.dwg
Last Opened: Sep 28, 2022 - 9:39pm by: agwa





LEGEND

XX/XX - AM/PM PEAK HOUR VOLUMES

(#) - STUDY INTERSECTIONS

- SIGNALIZED INTERSECTION

F - FUTURE SIGNALIZED INTERSECTION

- STOP CONTROLLED APPROACH

DAVID EVANS AND ASSOCIATES INC.

APPENDIX A2: FUTURE WITH ALTERNATIVE 3 PROJECT TRAFFIC VOLUMES
RANCHERO ROAD
COMMERCIAL DEVELOPMENT
HESPERIA, CALIFORNIA

Drawing Name: P:\PPMC\00000001\0400CAD\TTEXHIBITS\Study\Figure 15.dwg
Last Opened: Oct 31, 2023 - 5:09pm by: Heay

DAVID EVANS AND ASSOCIATES INC.

Appendix B: Turn Movement Count Volumes

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: ESCONDIDO
EAST-WEST STREET: RANCHERO
JURISDICTION: HESPERIA

DATE: 08-16-22

PEAK HOUR: 08:00AM

NORTH LEG

TOTAL: 260

Rt	Thru	Lt	
114	7	139	Total
29	7	22	1st
35	0	55	2nd
25	0	34	3rd
25	0	28	4th

EAST LEG TOTAL: 541

	1st	2nd	3rd	4th	Total
Rt	28	27	21	13	89
Thru	80	103	150	99	432
Lt	5	4	1	10	20

WEST LEG TOTAL: 617

Total	1st	2nd	3rd	4th	
155	30	16	57	52	Lt
437	124	130	96	87	Thru
25	4	9	5	7	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.72
SOUTH LEG = 0.49
EAST LEG = 0.79
WEST LEG = 0.98

ALL LEGS = 0.87

SOUTH LEG

TOTAL: 120

	Lt	Thru	Rt
1st	24	10	3
2nd	9	33	19
3rd	2	12	2
4th	2	2	2
Total	37	57	26

HOUR TOTAL: 1,538

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : ESCONDIDO HESPERIA

EAST-WEST STREET : RANCHERO 08-16-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
51	14	23	0	0	0	0	0	0	0	0	0	88
38	8	24	0	0	0	0	0	0	0	0	0	70
41	13	21	1	0	0	0	0	0	1	0	0	77
26	12	17	0	0	1	0	0	0	0	0	0	56
28	7	22	1	0	0	0	0	0	0	0	0	58
34	0	55	1	0	0	0	0	0	0	0	0	90
25	0	30	0	0	3	0	0	0	0	0	1	59
24	0	22	1	0	5	0	0	1	0	0	0	53
267	54	214	4	0	9	0	0	1	1	0	1	551
					SOUTH LEG							
9	54	14	1	0	0	0	0	0	0	0	0	78
10	72	5	0	1	0	0	0	0	0	0	0	88
10	19	4	0	0	0	0	0	0	0	0	0	33
11	14	9	0	0	1	1	0	0	0	0	0	36
2	10	23	0	0	1	1	0	0	0	0	0	37
19	33	9	0	0	0	0	0	0	0	0	0	61
2	11	1	0	1	0	0	0	1	0	0	0	16
2	2	2	0	0	0	0	0	0	0	0	0	6
65	215	67	1	2	2	2	0	1	0	0	0	355
					EAST LEG							
1	69	1	1	1	0	0	2	0	0	1	0	76
6	97	0	0	0	0	0	0	0	0	2	0	105
13	81	0	0	3	0	0	2	1	0	6	0	106
20	64	4	0	3	0	0	1	0	0	5	0	97
28	70	3	0	3	2	0	4	0	0	3	0	113
26	93	4	0	4	0	0	2	0	1	4	0	134
21	143	1	0	3	0	0	2	0	0	2	0	172
13	90	9	0	2	0	0	2	1	0	5	0	122
128	707	22	1	19	2	0	15	2	1	28	0	925
					WEST LEG							
16	39	44	0	0	2	0	2	0	0	1	0	104
19	39	53	1	6	1	1	2	0	0	2	0	124
17	58	46	1	3	1	0	1	0	1	5	0	133
4	80	16	0	1	0	0	2	0	0	5	0	108
2	118	30	1	2	0	1	1	0	0	3	0	158
7	124	16	1	3	0	1	2	0	0	1	0	155
4	86	55	0	7	0	0	1	0	1	2	2	158
7	70	48	0	11	3	0	2	1	0	4	0	146
76	614	308	4	33	7	3	13	1	2	23	2	1086

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: ESCONDIDO

EAST-WEST STREET: RANCHERO

TIME: 07:00AM-08:00AM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
158	47	86	Total
51	14	23	1st
38	8	24	2nd
43	13	21	3rd
26	12	18	4th

	1st	2nd	3rd	4th	Total
Rt	2	6	13	20	41
Thru	73	99	92	73	337
Lt	1	0	1	4	6

Total	1st	2nd	3rd	4th	
163	46	54	47	16	Lt
246	42	49	67	88	Thru
60	16	21	19	4	Rt

	Lt	Thru	Rt
1st	14	54	10
2nd	5	73	10
3rd	4	19	10
4th	10	14	12
Total	33	160	42

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: ESCONDIDO

EAST-WEST STREET: RANCHERO

TIME: 08:00AM-09:00AM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
114	7	139	Total
29	7	22	1st
35	0	55	2nd
25	0	34	3rd
25	0	28	4th

	1st	2nd	3rd	4th	Total
Rt	28	27	21	13	89
Thru	80	103	150	99	432
Lt	5	4	1	10	20

Total	1st	2nd	3rd	4th	
155	30	16	57	52	Lt
437	124	130	96	87	Thru
25	4	9	5	7	Rt

	Lt	Thru	Rt
1st	24	10	3
2nd	9	33	19
3rd	2	12	2
4th	2	2	2
Total	37	57	26

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: ESCONDIDO
EAST-WEST STREET: RANCHERO
JURISDICTION: HESPERIA

DATE: 08-16-22

PEAK HOUR: 05:00PM

NORTH LEG

TOTAL: 259

Rt	Thru	Lt	
107	38	114	Total
18	17	24	1st
45	10	35	2nd
21	3	17	3rd
23	8	38	4th

EAST LEG TOTAL: 732

	1st	2nd	3rd	4th	Total
Rt	15	19	17	17	68
Thru	163	119	164	193	639
Lt	5	7	5	8	25

WEST LEG TOTAL: 976

Total	1st	2nd	3rd	4th	
502	121	110	91	180	Lt
429	106	107	107	109	Thru
45	17	5	11	12	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.72
SOUTH LEG = 0.76
EAST LEG = 0.84
WEST LEG = 0.81

ALL LEGS = 0.83

SOUTH LEG

TOTAL: 55

	Lt	Thru	Rt
1st	6	5	3
2nd	5	5	4
3rd	5	1	3
4th	4	7	7
Total	20	18	17

HOUR TOTAL: 2,022

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : ESCONDIDO
EAST-WEST STREET : RANCHERO

HESPERIA
08-16-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
48	0	21	0	0	1	0	0	0	1	0	1	72
41	2	39	0	0	0	0	0	0	1	0	0	83
36	16	35	0	0	0	0	0	0	0	0	0	87
58	7	23	0	0	0	0	0	0	0	0	1	89
17	17	24	0	0	0	0	0	0	1	0	0	59
45	10	35	0	0	0	0	0	0	0	0	0	90
21	3	17	0	0	0	0	0	0	0	0	0	41
23	8	37	0	0	1	0	0	0	0	0	0	69
289	63	231	0	0	2	0	0	0	3	0	2	590
					SOUTH LEG							
2	11	1	0	0	0	0	0	0	0	0	0	14
5	12	2	0	0	0	0	0	0	0	0	0	19
3	6	5	0	0	0	0	0	0	0	1	0	15
2	4	2	0	0	0	0	0	0	0	0	0	8
3	5	6	0	0	0	0	0	0	0	0	0	14
4	5	5	0	0	0	0	0	0	0	0	0	14
3	1	5	0	0	0	0	0	0	0	0	0	9
7	7	4	0	0	0	0	0	0	0	0	0	18
29	51	30	0	0	0	0	0	0	0	1	0	111
					EAST LEG							
26	117	8	0	0	0	0	0	0	0	0	0	151
15	149	15	0	3	0	0	1	0	0	2	0	185
11	123	6	0	6	0	0	2	0	0	2	0	150
10	148	2	0	2	0	0	2	0	0	3	0	167
15	158	5	0	2	0	0	1	0	0	2	0	183
19	115	7	0	2	0	0	1	0	0	1	0	145
17	159	5	0	2	0	0	1	0	0	2	0	186
17	185	8	0	5	0	0	0	0	0	3	0	218
130	1154	56	0	22	0	0	8	0	0	15	0	1385
					WEST LEG							
17	95	131	0	4	2	0	1	0	0	3	1	254
18	99	115	0	3	0	0	1	0	0	1	0	237
8	71	120	0	3	2	0	1	0	0	4	0	209
4	81	127	0	2	0	0	1	0	0	2	3	220
17	97	121	0	2	0	0	2	0	0	5	0	244
5	103	110	0	1	0	0	1	0	0	2	0	222
11	101	91	0	2	0	0	2	0	0	2	0	209
12	104	180	0	3	0	0	1	0	0	1	0	301
92	751	995	0	20	4	0	10	0	0	20	4	1896

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: ESCONDIDO

EAST-WEST STREET: RANCHERO

TIME: 04:00PM-05:00PM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
185	25	121	Total
49	0	23	1st
42	2	39	2nd
36	16	35	3rd
58	7	24	4th

	1st	2nd	3rd	4th	Total
Rt	26	15	11	10	62
Thru	117	155	133	155	560
Lt	8	15	6	2	31

Total	1st	2nd	3rd	4th	
501	134	115	122	130	Lt
372	103	104	79	86	Thru
47	17	18	8	4	Rt

	Lt	Thru	Rt
1st	1	11	2
2nd	2	12	5
3rd	5	7	3
4th	2	4	2
Total	10	34	12

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: ESCONDIDO

EAST-WEST STREET: RANCHERO

TIME: 05:00PM-06:00PM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
107	38	114	Total
18	17	24	1st
45	10	35	2nd
21	3	17	3rd
23	8	38	4th

	1st	2nd	3rd	4th	Total
Rt	15	19	17	17	68
Thru	163	119	164	193	639
Lt	5	7	5	8	25

Total	1st	2nd	3rd	4th	
502	121	110	91	180	Lt
429	106	107	107	109	Thru
45	17	5	11	12	Rt

	Lt	Thru	Rt
1st	6	5	3
2nd	5	5	4
3rd	5	1	3
4th	4	7	7
Total	20	18	17

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: TOPAZ
EAST-WEST STREET: RANCHERO
JURISDICTION: HESPERIA

DATE: 08-16-22

PEAK HOUR: 08:00AM

NORTH LEG

TOTAL: 12

5		7	Total
1	0	0	1st
0	0	0	2nd
3	0	4	3rd
1	0	3	4th
Rt	Thru	Lt	

EAST LEG TOTAL: 529

Rt	1	1	0	4	6
Thru	109	131	165	114	519
Lt	2	0	2	0	4
	1st	2nd	3rd	4th	Total

WEST LEG TOTAL: 553

Total	1st	2nd	3rd	4th	
9	2	4	0	3	Lt
541	146	175	119	101	Thru
3	2	0	1	0	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.43
SOUTH LEG = 0.42
EAST LEG = 0.79
WEST LEG = 0.77

ALL LEGS = 0.88

SOUTH LEG

TOTAL: 5

	Lt	Thru	Rt
1st	3	0	0
2nd	0	0	0
3rd	0	0	0
4th	1	0	1
Total	4		1

HOUR TOTAL: 1,099

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : TOPAZ
EAST-WEST STREET : RANCHERO

HESPERIA
08-16-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0	0	0	0	2
1	0	0	1	0	0	0	0	1	0	0	0	3
1	2	2	0	0	0	0	0	0	0	0	0	5
1	0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	4	0	0	0	0	0	0	0	0	0	7
1	0	3	0	0	0	0	0	0	0	0	0	4
8	2	10	1	0	0	0	0	1	0	0	0	22
SOUTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	0	0	0	0	1
1	1	0	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	1	0	0	2	0	0	0	3
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0	0	0	0	2
4	1	1	0	0	1	0	0	2	0	0	0	9
EAST LEG												
0	72	0	0	1	0	0	2	0	0	1	0	76
1	101	1	0	0	0	0	0	0	0	2	0	105
1	93	1	0	2	0	0	3	0	0	6	0	106
0	75	1	1	3	0	0	1	0	0	5	0	86
1	101	2	0	3	0	0	2	0	0	3	0	112
1	120	0	0	4	0	0	2	0	0	5	0	132
0	159	2	0	2	0	0	2	0	0	2	0	167
4	97	0	0	10	0	0	2	0	0	5	0	118
8	818	7	1	25	0	0	14	0	0	29	0	902
WEST LEG												
0	71	0	0	1	0	0	2	0	0	1	0	75
0	70	2	0	6	0	0	2	0	0	2	0	82
0	83	5	0	3	0	0	1	0	0	5	0	97
1	106	2	0	2	0	0	2	0	0	5	0	118
2	139	2	0	2	0	0	2	0	0	3	0	150
0	167	4	0	3	0	0	4	0	0	1	0	179
1	108	0	0	7	0	0	1	0	0	3	0	120
0	85	3	0	10	0	0	2	0	0	4	0	104
4	829	18	0	34	0	0	16	0	0	24	0	925

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: TOPAZ

EAST-WEST STREET: RANCHERO

TIME: 07:00AM-08:00AM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
4	2	4	Total
0	0	0	1st
1	0	1	2nd
2	0	1	3rd
1	2	2	4th

	1st	2nd	3rd	4th	Total
Rt	0	1	1	1	3
Thru	76	103	104	84	367
Lt	0	1	1	1	3

Total	1st	2nd	3rd	4th	
9	0	2	5	2	Lt
362	75	80	92	115	Thru
1	0	0	0	1	Rt

	Lt	Thru	Rt
1st	0	0	0
2nd	0	0	1
3rd	0	0	1
4th	0	1	1
Total	0	1	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: TOPAZ

EAST-WEST STREET: RANCHERO

TIME: 08:00AM-09:00AM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
5	0	7	Total
1	0	0	1st
0	0	0	2nd
3	0	4	3rd
1	0	3	4th

	1st	2nd	3rd	4th	Total
Rt	1	1	0	4	6
Thru	109	131	165	114	519
Lt	2	0	2	0	4

Total	1st	2nd	3rd	4th	
9	2	4	0	3	Lt
541	146	175	119	101	Thru
3	2	0	1	0	Rt

	Lt	Thru	Rt
1st	3	0	0
2nd	0	0	0
3rd	0	0	0
4th	1	0	1
Total	4	0	1

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: TOPAZ
EAST-WEST STREET: RANCHERO
JURISDICTION: HESPERIA

DATE: 08-16-22

PEAK HOUR: 05:00PM

NORTH LEG

TOTAL: 18

Rt	Thru	Lt	
6		12	Total
3	0	3	1st
1	0	5	2nd
2	0	3	3rd
0	0	1	4th

EAST LEG TOTAL: 739

	1st	2nd	3rd	4th	Total
Rt	2	3	0	2	7
Thru	174	137	193	226	730
Lt	0	1	1	0	2

WEST LEG TOTAL: 520

Total	1st	2nd	3rd	4th	
8	0	3	4	1	Lt
510	106	140	118	146	Thru
2	0	1	1	0	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.75
SOUTH LEG = 0.55
EAST LEG = 0.81
WEST LEG = 0.88

ALL LEGS = 0.85

SOUTH LEG

TOTAL: 11

	Lt	Thru	Rt
1st	1	0	0
2nd	1	0	4
3rd	0	1	1
4th	2	1	0
Total	4	2	5

HOUR TOTAL: 1,288

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : TOPAZ
EAST-WEST STREET : RANCHERO

HESPERIA
08-16-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
2	0	2	0	0	0	0	0	0	0	0	0	4
1	0	2	0	0	0	0	0	0	0	0	0	3
1	0	0	1	0	0	0	0	0	0	0	0	2
2	1	1	0	0	0	0	0	0	0	0	0	4
3	0	3	0	0	0	0	0	0	0	0	0	6
1	0	5	0	0	0	0	0	0	0	0	0	6
2	0	3	0	0	0	0	0	0	0	0	0	5
0	0	1	0	0	0	0	0	0	0	0	0	1
12	1	17	1	0	0	0	0	0	0	0	0	31
SOUTH LEG												
2	0	2	0	0	0	0	0	0	0	0	0	4
0	0	2	0	0	0	0	0	0	0	0	0	2
2	0	1	0	0	0	0	0	0	0	0	0	3
1	0	3	0	0	0	0	0	0	0	0	0	4
0	0	1	0	0	0	0	0	0	0	0	0	1
4	0	1	0	0	0	0	0	0	0	0	0	5
1	1	0	0	0	0	0	0	0	0	0	0	2
0	1	0	0	0	0	0	0	0	0	0	2	3
10	2	10	0	0	0	0	0	0	0	0	2	24
EAST LEG												
2	144	3	0	0	0	0	0	0	0	0	0	149
3	180	2	0	3	0	0	1	0	0	2	0	191
0	136	0	0	5	0	0	2	0	1	2	0	146
1	146	3	0	2	0	0	2	0	0	3	1	158
2	171	0	0	0	0	0	1	0	0	2	0	176
3	135	1	0	0	0	0	1	0	0	1	0	141
0	190	1	0	0	0	0	1	0	0	2	0	194
2	222	0	0	3	0	0	0	0	0	1	0	228
13	1324	10	0	13	0	0	8	0	1	13	1	1383
WEST LEG												
0	103	4	0	5	0	0	1	0	0	4	0	117
1	128	6	0	3	0	0	1	0	0	1	0	140
0	107	1	0	3	0	0	1	0	0	4	0	116
0	100	1	0	2	0	0	1	0	0	3	0	107
0	97	0	0	2	0	0	2	0	0	5	0	106
1	135	3	0	2	0	0	1	0	0	2	0	144
1	112	4	0	2	0	0	2	0	0	2	0	123
0	140	1	0	4	0	0	1	0	0	1	0	147
3	922	20	0	23	0	0	10	0	0	22	0	1000

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: TOPAZ

EAST-WEST STREET: RANCHERO

TIME: 04:00PM-05:00PM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
7	1	5	Total
2	0	2	1st
1	0	2	2nd
2	0	0	3rd
2	1	1	4th

	1st	2nd	3rd	4th	Total
Rt	2	3	1	1	7
Thru	144	186	145	153	628
Lt	3	2	0	4	9

Total	1st	2nd	3rd	4th	
12	4	6	1	1	Lt
467	113	133	115	106	Thru
1	0	1	0	0	Rt

	Lt	Thru	Rt
1st	2	0	2
2nd	2	0	0
3rd	1	0	2
4th	3	0	1
Total	8	0	5

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: TOPAZ

EAST-WEST STREET: RANCHERO

TIME: 05:00PM-06:00PM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
6	0	12	Total
3	0	3	1st
1	0	5	2nd
2	0	3	3rd
0	0	1	4th

	1st	2nd	3rd	4th	Total
Rt	2	3	0	2	7
Thru	174	137	193	226	730
Lt	0	1	1	0	2

Total	1st	2nd	3rd	4th	
8	0	3	4	1	Lt
510	106	140	118	146	Thru
2	0	1	1	0	Rt

	Lt	Thru	Rt
1st	1	0	0
2nd	1	0	4
3rd	0	1	1
4th	2	1	0
Total	4	2	5

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: TROPICAN ROSE
EAST-WEST STREET: RANCHERO
JURISDICTION: HESPERIA

DATE: 08-16-22

PEAK HOUR: 08:00AM

NORTH LEG

TOTAL: 0

	Rt	Thru	Lt	
Total				
1st				
2nd				
3rd				
4th				

EAST LEG TOTAL: 528

	1st	2nd	3rd	4th	Total
Rt					
Thru	110	129	169	120	528
Lt	0	0	0	0	

WEST LEG TOTAL: 545

	Total	1st	2nd	3rd	4th
Lt					
Thru	544	144	174	122	104
Rt	1	0	0	0	1

SOUTH LEG

	Lt	Thru	Rt
1st	2		0
2nd	2		0
3rd	0		1
4th	0		0
Total	4		1

TOTAL: 5

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.63
EAST LEG = 0.78
WEST LEG = 0.78

ALL LEGS = 0.88

HOUR TOTAL: 1,078

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : TROPICAN ROSE
EAST-WEST STREET : RANCHERO

HESPERIA
08-16-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0	0	0	0	2
0	0	2	0	0	0	0	0	0	0	0	0	2
1	0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	5	0	0	0	0	0	0	0	0	0	6
EAST LEG												
0	73	0	0	1	0	0	2	0	0	1	0	77
0	102	0	0	0	0	0	0	0	0	2	0	104
0	96	0	0	2	0	0	3	0	0	6	0	107
0	76	0	0	4	0	0	1	0	0	5	0	86
0	102	0	0	3	0	0	2	0	0	3	0	110
0	118	0	0	4	0	0	2	0	0	5	0	129
0	163	0	0	2	0	0	2	0	0	2	0	169
0	102	0	0	10	0	0	3	0	0	5	0	120
0	832	0	0	26	0	0	15	0	0	29	0	902
WEST LEG												
0	69	0	0	1	0	0	2	0	0	1	0	73
0	70	0	0	6	0	0	2	0	0	2	0	80
0	80	0	0	4	0	0	2	0	0	5	0	91
0	110	0	0	2	0	0	2	0	0	5	0	119
0	137	0	0	2	0	0	2	0	0	3	0	144
0	166	0	0	3	0	0	4	0	0	1	0	174
0	111	0	0	7	0	0	1	0	0	3	0	122
1	86	0	0	10	0	0	4	0	0	4	0	105
1	829	0	0	35	0	0	19	0	0	24	0	908

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: TROPICAN ROSE

EAST-WEST STREET: RANCHERO

TIME: 07:00AM-08:00AM DATE: 08-16-22

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt					
Thru	77	104	107	86	374
Lt	0	0	0	0	0

Total	1st	2nd	3rd	4th	
					Lt
363	73	80	91	119	Thru
0	0	0	0	0	Rt

	Lt	Thru	Rt
1st	0		0
2nd	1		0
3rd	0		0
4th	0		0
Total	1		0

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: TROPICAN ROSE

EAST-WEST STREET: RANCHERO

TIME: 08:00AM-09:00AM DATE: 08-16-22

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt					
Thru	110	129	169	120	528
Lt	0	0	0	0	0

Total	1st	2nd	3rd	4th	
					Lt
544	144	174	122	104	Thru
1	0	0	0	1	Rt

	Lt	Thru	Rt
1st	2		0
2nd	2		0
3rd	0		1
4th	0		0
Total	4		1

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: TROPICAN ROSE
EAST-WEST STREET: RANCHERO
JURISDICTION: HESPERIA

DATE: 08-16-22

PEAK HOUR: 05:00PM

NORTH LEG

TOTAL: 0

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

EAST LEG TOTAL: 748

	1st	2nd	3rd	4th	Total
Rt					
Thru	177	150	190	230	747
Lt	0	1	0	0	1

WEST LEG TOTAL: 532

Total	1st	2nd	3rd	4th	
					Lt
527	110	150	122	145	Thru
5	0	0	4	1	Rt

SOUTH LEG

	Lt	Thru	Rt
1st	0		0
2nd	0		0
3rd	2		0
4th	2		0
Total	4		

TOTAL: 4

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.50
EAST LEG = 0.81
WEST LEG = 0.89

ALL LEGS = 0.85

HOUR TOTAL: 1,284

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : TROPICAN ROSE
EAST-WEST STREET : RANCHERO

HESPERIA
08-16-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0	0	0	0	2
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0	0	0	0	2
0	0	2	0	0	0	0	0	0	0	0	0	2
1	0	7	0	0	0	0	0	0	0	0	0	8
EAST LEG												
0	150	0	0	0	0	0	0	0	0	0	0	150
0	184	0	0	3	0	0	1	0	0	2	0	190
0	134	0	0	5	0	0	2	0	0	3	0	144
0	147	2	0	2	0	0	2	0	0	4	0	157
0	174	0	0	0	0	0	1	0	0	2	0	177
0	148	1	0	0	0	0	1	0	0	1	0	151
0	187	0	0	0	0	0	1	0	0	2	0	190
0	226	0	0	3	0	0	0	0	0	1	0	230
0	1350	3	0	13	0	0	8	0	0	15	0	1389
WEST LEG												
0	105	0	0	5	0	0	1	0	0	4	0	115
2	127	0	0	3	0	0	1	0	0	1	0	134
0	108	0	0	2	0	0	1	0	0	4	0	115
3	102	0	0	3	0	0	1	0	0	3	0	112
0	101	0	0	2	0	0	2	0	0	5	0	110
0	145	0	0	2	0	0	1	0	0	2	0	150
4	115	0	0	3	0	0	2	0	0	2	0	126
1	140	0	0	3	0	0	1	0	0	1	0	146
10	943	0	0	23	0	0	10	0	0	22	0	1008

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: TROPICAN ROSE

EAST-WEST STREET: RANCHERO

TIME: 04:00PM-05:00PM DATE: 08-16-22

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt					
Thru	150	190	144	155	639
Lt	0	0	0	2	2

Total	1st	2nd	3rd	4th	
					Lt
471	115	132	115	109	Thru
5	0	2	0	3	Rt

	Lt	Thru	Rt
1st	0		0
2nd	1		1
3rd	1		0
4th	1		0
Total	3		1

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: TROPICAN ROSE

EAST-WEST STREET: RANCHERO

TIME: 05:00PM-06:00PM DATE: 08-16-22

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt					
Thru	177	150	190	230	747
Lt	0	1	0	0	1

Total	1st	2nd	3rd	4th	
					Lt
527	110	150	122	145	Thru
5	0	0	4	1	Rt

	Lt	Thru	Rt
1st	0		0
2nd	0		0
3rd	2		0
4th	2		0
Total	4		0

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: PRIMROSE
EAST-WEST STREET: RANCHERO
JURISDICTION: HESPERIA

DATE: 08-16-22

PEAK HOUR: 08:00AM

NORTH LEG

TOTAL: 0

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

EAST LEG TOTAL: 530

	1st	2nd	3rd	4th	Total
Rt					
Thru	110	128	169	120	527
Lt	1	2	0	0	3

WEST LEG TOTAL: 544

Total	1st	2nd	3rd	4th	
					Lt
543	144	173	122	104	Thru
1	0	1	0	0	Rt

SOUTH LEG

TOTAL: 2

	Lt	Thru	Rt
1st	0		0
2nd	1		1
3rd	0		0
4th	0		0
Total	1		1

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.25
EAST LEG = 0.78
WEST LEG = 0.78

ALL LEGS = 0.88

HOUR TOTAL: 1,076

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : PRIMROSE
EAST-WEST STREET : RANCHERO

HESPERIA
08-16-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	1
1	0	2	0	0	0	0	0	0	0	0	0	3
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	3	0	0	0	0	0	0	0	0	0	6
EAST LEG												
0	73	0	0	1	0	0	2	0	0	1	0	77
0	102	1	0	0	0	0	0	0	0	2	0	105
0	93	0	0	3	0	0	3	0	0	6	0	105
0	76	0	0	4	0	0	1	0	0	5	0	86
0	102	1	0	3	0	0	2	0	0	3	0	111
0	117	2	0	4	0	0	2	0	0	5	0	130
0	163	0	0	2	0	0	2	0	0	2	0	169
0	102	0	0	10	0	0	3	0	0	5	0	120
0	828	4	0	27	0	0	15	0	0	29	0	903
WEST LEG												
0	69	0	0	1	0	0	2	0	0	1	0	73
0	71	0	0	5	0	0	2	0	0	2	0	80
0	80	0	0	4	0	0	2	0	0	5	0	91
1	109	0	0	2	0	0	2	0	0	5	0	119
0	137	0	0	2	0	0	2	0	0	3	0	144
1	166	0	0	3	0	0	3	0	0	1	0	174
0	110	0	0	7	0	0	2	0	0	3	0	122
0	85	0	0	11	0	0	4	0	0	4	0	104
2	827	0	0	35	0	0	19	0	0	24	0	907

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: PRIMROSE

EAST-WEST STREET: RANCHERO

TIME: 07:00AM-08:00AM DATE: 08-16-22

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt					
Thru	77	104	105	86	372
Lt	0	1	0	0	1

Total	1st	2nd	3rd	4th	
					Lt
362	73	80	91	118	Thru
1	0	0	0	1	Rt

	Lt	Thru	Rt
1st	0		0
2nd	0		1
3rd	2		1
4th	0		0
Total	2		2

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: PRIMROSE

EAST-WEST STREET: RANCHERO

TIME: 08:00AM-09:00AM DATE: 08-16-22

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt					
Thru	110	128	169	120	527
Lt	1	2	0	0	3

Total	1st	2nd	3rd	4th	
					Lt
543	144	173	122	104	Thru
1	0	1	0	0	Rt

	Lt	Thru	Rt
1st	0		0
2nd	1		1
3rd	0		0
4th	0		0
Total	1		1

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: PRIMROSE
EAST-WEST STREET: RANCHERO
JURISDICTION: HESPERIA

DATE: 08-16-22

PEAK HOUR: 05:00PM

NORTH LEG

TOTAL: 0

	Rt	Thru	Lt
Total			
1st			
2nd			
3rd			
4th			

EAST LEG TOTAL: 752

	1st	2nd	3rd	4th	Total
Rt					
Thru	177	150	190	230	747
Lt	2	1	1	1	5

WEST LEG TOTAL: 527

	Total	1st	2nd	3rd	4th
Lt					
Thru	526	110	149	122	145
Rt	1	0	1	0	0

PEAK HOUR FACTORS

NORTH LEG =
SOUTH LEG = 0.38
EAST LEG = 0.81
WEST LEG = 0.88

ALL LEGS = 0.85

SOUTH LEG

TOTAL: 3

	Lt	Thru	Rt
1st	0		0
2nd	0		1
3rd	0		2
4th	0		0
Total			3

HOUR TOTAL: 1,282

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : PRIMROSE — HESPERIA

EAST-WEST STREET : RANCHERO — 08-16-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH LEG												
2	0	0	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	1	0	0	0	0	0	0	0	0	0	6
EAST LEG												
0	150	0	0	0	0	0	0	0	0	0	0	150
0	184	1	0	3	0	0	1	0	0	2	0	191
0	134	0	0	5	0	0	2	0	0	3	0	144
0	146	0	0	2	0	0	2	0	0	4	0	154
0	174	2	0	0	0	0	1	0	0	2	0	179
0	148	1	0	0	0	0	1	0	0	1	0	151
0	187	1	0	0	0	0	1	0	0	2	0	191
0	226	1	0	3	0	0	0	0	0	1	0	231
0	1349	6	0	13	0	0	8	0	0	15	0	1391
WEST LEG												
0	105	0	0	5	0	0	1	0	0	4	0	115
0	128	0	0	3	0	0	1	0	0	1	0	133
0	102	0	0	2	0	0	1	0	0	4	0	109
0	140	0	0	3	0	0	1	0	0	3	0	147
0	101	0	0	2	0	0	2	0	0	5	0	110
1	144	0	0	2	0	0	1	0	0	2	0	150
0	115	0	0	3	0	0	2	0	0	2	0	122
0	140	0	0	3	0	0	1	0	0	1	0	145
1	975	0	0	23	0	0	10	0	0	22	0	1031

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: PRIMROSE

EAST-WEST STREET: RANCHERO

TIME: 04:00PM-05:00PM DATE: 08-16-22

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt					
Thru	150	190	144	154	638
Lt	0	1	0	0	1

Total	1st	2nd	3rd	4th	
					Lt
504	115	133	109	147	Thru
0	0	0	0	0	Rt

	Lt	Thru	Rt
1st	0		2
2nd	0		0
3rd	0		0
4th	1		0
Total	1		2

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: PRIMROSE

EAST-WEST STREET: RANCHERO

TIME: 05:00PM-06:00PM DATE: 08-16-22

NORTH LEG

			Total
			1st
			2nd
			3rd
			4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt					
Thru	177	150	190	230	747
Lt	2	1	1	1	5

Total	1st	2nd	3rd	4th	
					Lt
526	110	149	122	145	Thru
1	0	1	0	0	Rt

	Lt	Thru	Rt
1st	0		0
2nd	0		1
3rd	0		2
4th	0		0
Total	0		3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: MAPLE
EAST-WEST STREET: RANCHERO
JURISDICTION: HESPERIA

DATE: 08-16-22

PEAK HOUR: 08:00AM

NORTH LEG

TOTAL: 108

Rt	Thru	Lt	
71	8	29	Total
22	2	3	1st
27	2	8	2nd
14	4	8	3rd
8	0	10	4th

EAST LEG TOTAL: 427

	1st	2nd	3rd	4th	Total
Rt	6	4	7	6	23
Thru	79	95	120	107	401
Lt	1	0	0	2	3

WEST LEG TOTAL: 536

Total	1st	2nd	3rd	4th	
93	9	27	33	24	Lt
414	125	139	76	74	Thru
29	2	6	14	7	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.73
SOUTH LEG = 0.61
EAST LEG = 0.84
WEST LEG = 0.78

ALL LEGS = 0.84

SOUTH LEG

TOTAL: 83

	Lt	Thru	Rt
1st	13	6	0
2nd	26	6	2
3rd	10	6	3
4th	5	4	2
Total	54	22	7

HOUR TOTAL: 1,154

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : MAPLE
EAST-WEST STREET : RANCHERO

HESPERIA
08-16-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
11	4	10	0	3	0	0	0	0	0	0	0	28
17	15	14	1	0	0	0	0	0	0	0	0	47
20	11	9	0	0	0	0	0	0	0	0	0	40
13	8	6	0	0	0	0	0	0	0	0	0	27
22	2	3	0	0	0	0	0	0	0	0	0	27
27	2	8	0	0	0	0	0	0	0	0	0	37
14	4	8	0	0	0	0	0	0	0	0	0	26
8	0	10	0	0	0	0	0	0	0	0	0	18
132	46	68	1	3	0	0	0	0	0	0	0	250
SOUTH LEG												
0	9	5	0	0	0	1	0	0	0	0	0	15
2	15	14	0	0	0	0	0	0	0	0	0	31
4	7	11	0	0	0	0	0	0	0	0	0	22
0	9	9	0	0	0	0	0	0	0	0	0	18
0	6	13	0	0	0	0	0	0	0	0	0	19
2	6	26	0	0	0	0	0	0	0	0	0	34
3	6	10	0	0	0	0	0	0	0	0	0	19
2	4	5	0	0	0	0	0	0	0	0	0	11
13	62	93	0	0	0	1	0	0	0	0	0	169
EAST LEG												
7	56	0	1	0	0	0	2	0	0	1	0	67
11	70	0	0	0	0	0	0	0	0	2	0	83
11	66	0	0	2	0	0	3	0	0	5	0	87
9	53	0	0	4	0	0	1	0	0	6	0	73
6	71	1	0	3	0	0	2	0	0	3	0	86
4	84	0	0	4	0	0	2	0	0	5	0	99
7	114	0	0	2	0	0	2	0	0	2	0	127
6	89	2	0	10	0	0	3	0	0	5	0	115
61	603	3	1	25	0	0	15	0	0	29	0	737
WEST LEG												
3	57	8	1	0	0	0	2	0	1	1	0	73
6	57	9	0	5	0	0	2	0	0	2	0	81
4	66	9	0	4	0	0	2	0	0	5	0	90
2	2	4	0	2	0	0	2	0	0	5	0	17
2	118	9	0	2	0	0	2	0	0	3	0	136
6	132	27	0	3	0	0	3	0	0	1	0	172
14	64	33	0	7	0	0	2	0	0	3	0	123
7	56	24	0	10	0	0	4	0	0	4	0	105
44	552	123	1	33	0	0	19	0	1	24	0	797

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: MAPLE

EAST-WEST STREET: RANCHERO

TIME: 07:00AM-08:00AM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
62	41	39	Total
11	7	10	1st
18	15	14	2nd
20	11	9	3rd
13	8	6	4th

	1st	2nd	3rd	4th	Total
Rt	8	11	11	9	39
Thru	59	72	76	64	271
Lt	0	0	0	0	0

Total	1st	2nd	3rd	4th	
30	8	9	9	4	Lt
214	60	66	77	11	Thru
17	5	6	4	2	Rt

	Lt	Thru	Rt
1st	5	9	1
2nd	14	15	2
3rd	11	7	4
4th	9	9	0
Total	39	40	7

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: MAPLE

EAST-WEST STREET: RANCHERO

TIME: 08:00AM-09:00AM DATE: 08-16-22

NORTH LEG

71	8	29	Total
22	2	3	1st
27	2	8	2nd
14	4	8	3rd
8	0	10	4th
Rt	Thru	Lt	

	1st	2nd	3rd	4th	Total
Rt	6	4	7	6	23
Thru	79	95	120	107	401
Lt	1	0	0	2	3

Total	1st	2nd	3rd	4th	
93	9	27	33	24	Lt
414	125	139	76	74	Thru
29	2	6	14	7	Rt

	Lt	Thru	Rt
1st	13	6	0
2nd	26	6	2
3rd	10	6	3
4th	5	4	2
Total	54	22	7

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: MAPLE
EAST-WEST STREET: RANCHERO
JURISDICTION: HESPERIA

DATE: 08-16-22

PEAK HOUR: 05:00PM

NORTH LEG

TOTAL: 78

Rt	Thru	Lt	
28	22	28	Total
5	8	9	1st
7	7	7	2nd
9	4	6	3rd
7	3	6	4th

EAST LEG TOTAL: 720

	1st	2nd	3rd	4th	Total
Rt	7	10	6	9	32
Thru	166	139	168	210	683
Lt	2	1	1	1	5

WEST LEG TOTAL: 520

Total	1st	2nd	3rd	4th	
103	27	21	33	22	Lt
357	73	114	76	94	Thru
60	13	14	18	15	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.89
SOUTH LEG = 0.68
EAST LEG = 0.82
WEST LEG = 0.87

ALL LEGS = 0.89

SOUTH LEG

TOTAL: 52

	Lt	Thru	Rt
1st	4	4	0
2nd	6	3	1
3rd	10	4	1
4th	10	8	1
Total	30	19	3

HOUR TOTAL: 1,370

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : MAPLE
EAST-WEST STREET : RANCHERO

HESPERIA
08-16-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
8	6	9	0	0	0	0	0	0	0	0	1	24
12	7	11	1	0	0	0	0	0	0	0	0	31
6	9	8	0	0	0	0	0	0	0	0	0	23
4	11	2	0	0	0	0	0	0	0	0	0	17
5	8	9	0	0	0	0	0	0	0	0	0	22
7	7	7	0	0	0	0	0	0	0	0	0	21
9	4	6	0	0	0	0	0	0	0	0	0	19
7	3	6	0	0	0	0	0	0	0	0	0	16
58	55	58	1	0	0	0	0	0	0	0	1	173
SOUTH LEG												
1	5	4	0	0	0	1	0	0	0	0	0	11
1	5	5	0	0	0	0	0	0	0	0	0	11
2	5	8	0	0	0	0	0	0	0	0	0	15
0	7	7	0	0	0	0	0	0	0	0	0	14
0	4	4	0	0	0	0	0	0	0	0	0	8
1	3	6	0	0	0	0	0	0	0	0	0	10
1	4	10	0	0	0	0	0	0	0	0	0	15
1	8	10	0	0	0	0	0	0	0	0	0	19
7	41	54	0	0	0	1	0	0	0	0	0	103
EAST LEG												
5	132	2	0	0	0	0	0	0	0	0	0	139
6	166	1	0	2	0	0	1	0	0	2	0	178
13	116	0	0	5	0	0	2	0	0	3	0	139
10	130	1	0	2	0	0	2	0	0	4	0	149
7	163	2	0	0	0	0	1	0	0	2	0	175
10	137	1	0	0	0	0	1	0	0	1	0	150
6	165	1	0	0	0	0	1	0	0	2	0	175
9	206	1	0	3	0	0	0	0	0	1	0	220
66	1215	9	0	12	0	0	8	0	0	15	0	1325
WEST LEG												
11	86	13	0	5	0	0	1	0	1	4	0	121
26	85	24	0	3	0	1	0	0	0	0	0	139
15	82	11	0	1	0	0	1	0	0	4	0	114
14	110	19	0	3	0	0	1	0	0	3	0	150
13	64	27	0	2	0	0	2	0	0	5	0	113
14	109	21	0	2	0	0	1	0	0	2	0	149
18	69	33	0	3	0	0	2	0	0	2	0	127
15	89	22	0	3	0	0	1	0	0	1	0	131
126	694	170	0	22	0	1	9	0	1	21	0	1044

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: MAPLE

EAST-WEST STREET: RANCHERO

TIME: 04:00PM-05:00PM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
31	33	31	Total
8	6	10	1st
13	7	11	2nd
6	9	8	3rd
4	11	2	4th

	1st	2nd	3rd	4th	Total
Rt	5	6	13	10	34
Thru	132	171	126	138	567
Lt	2	1	0	1	4

Total	1st	2nd	3rd	4th	
67	13	24	11	19	Lt
389	96	88	88	117	Thru
68	12	27	15	14	Rt

	Lt	Thru	Rt
1st	4	5	2
2nd	5	5	1
3rd	8	5	2
4th	7	7	0
Total	24	22	5

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: MAPLE

EAST-WEST STREET: RANCHERO

TIME: 05:00PM-06:00PM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
28	22	28	Total
5	8	9	1st
7	7	7	2nd
9	4	6	3rd
7	3	6	4th

	1st	2nd	3rd	4th	Total
Rt	7	10	6	9	32
Thru	166	139	168	210	683
Lt	2	1	1	1	5

Total	1st	2nd	3rd	4th	
103	27	21	33	22	Lt
357	73	114	76	94	Thru
60	13	14	18	15	Rt

	Lt	Thru	Rt
1st	4	4	0
2nd	6	3	1
3rd	10	4	1
4th	10	8	1
Total	30	19	3

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: COTTONWOOD
EAST-WEST STREET: RANCHERO
JURISDICTION: HESPERIA

DATE: 08-16-22

PEAK HOUR: 07:45AM

NORTH LEG

TOTAL: 115

Rt	Thru	Lt	
36	19	60	Total
14	5	9	1st
11	4	18	2nd
7	5	22	3rd
4	5	11	4th

EAST LEG TOTAL: 376

	1st	2nd	3rd	4th	Total
Rt	5	13	12	11	41
Thru	55	67	86	114	322
Lt	3	5	3	2	13

WEST LEG TOTAL: 477

Total	1st	2nd	3rd	4th	
21	2	4	8	7	Lt
439	110	118	133	78	Thru
17	5	3	5	4	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.85
SOUTH LEG = 0.84
EAST LEG = 0.74
WEST LEG = 0.82

ALL LEGS = 0.88

SOUTH LEG

TOTAL: 111

	Lt	Thru	Rt
1st	7	11	11
2nd	9	12	4
3rd	10	7	7
4th	7	14	12
Total	33	44	34

HOUR TOTAL: 1,079

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : COTTONWOOD
EAST-WEST STREET : RANCHERO

HESPERIA
08-16-22

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
					NORTH LEG							
13	13	18	0	3	0	0	0	0	0	0	0	47
2	7	9	0	0	1	0	0	1	0	1	0	21
8	8	19	0	0	0	0	0	0	0	0	0	35
14	5	9	0	0	0	0	0	0	0	0	0	28
11	4	18	0	0	0	0	0	0	0	0	0	33
6	3	20	0	1	1	1	1	0	0	0	1	34
4	4	11	0	1	0	0	0	0	0	0	0	20
0	4	4	0	0	2	0	0	0	0	0	1	11
58	48	108	0	5	4	1	1	1	0	1	2	229
					SOUTH LEG							
8	23	12	0	1	0	0	2	0	0	0	0	46
4	12	9	0	0	0	2	0	0	0	0	0	27
3	9	7	0	1	0	1	0	0	0	0	1	22
11	10	7	0	1	0	0	0	0	0	0	0	29
4	11	9	0	1	0	0	0	0	0	0	0	25
7	5	9	0	2	1	0	0	0	0	0	0	24
11	14	5	1	0	1	0	0	1	0	0	0	33
1	4	0	0	1	0	0	0	0	0	0	0	6
49	88	58	1	7	2	3	2	1	0	0	1	212
					EAST LEG							
8	34	4	0	1	0	0	2	0	0	1	0	50
11	71	2	0	0	0	1	0	0	0	2	0	87
9	64	1	0	2	0	0	3	1	0	4	0	84
4	44	3	1	4	0	0	1	0	0	6	0	63
12	59	5	1	3	0	0	2	0	0	3	0	85
11	77	1	1	3	1	0	1	1	0	5	0	101
10	110	2	0	1	0	0	1	0	1	2	0	127
2	98	1	1	8	0	1	2	0	0	5	0	118
67	557	19	4	22	1	2	12	2	1	28	0	715
					WEST LEG							
4	56	7	0	2	0	1	2	0	0	0	0	72
3	66	3	0	5	0	0	2	0	0	2	0	81
3	68	1	0	4	0	0	2	0	0	5	0	83
5	101	2	0	2	0	0	2	0	0	5	0	117
3	111	4	0	2	0	0	2	0	0	3	0	125
5	126	8	0	3	0	0	3	0	0	1	0	146
4	66	7	0	7	0	0	2	0	0	3	0	89
1	59	6	0	10	0	0	4	0	0	4	0	84
28	653	38	0	35	0	1	19	0	0	23	0	797

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: COTTONWOOD

EAST-WEST STREET: RANCHERO

TIME: 07:00AM-08:00AM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
37	37	57	Total
13	16	18	1st
2	8	11	2nd
8	8	19	3rd
14	5	9	4th

	1st	2nd	3rd	4th	Total
Rt	8	12	9	5	34
Thru	38	73	73	55	239
Lt	4	2	2	3	11

Total	1st	2nd	3rd	4th	
13	7	3	1	2	Lt
324	60	75	79	110	Thru
16	5	3	3	5	Rt

	Lt	Thru	Rt
1st	12	26	8
2nd	9	12	6
3rd	8	10	4
4th	7	11	11
Total	36	59	29

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: COTTONWOOD

EAST-WEST STREET: RANCHERO

TIME: 08:00AM-09:00AM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
22	18	58	Total
11	4	18	1st
7	5	22	2nd
4	5	11	3rd
0	4	7	4th

	1st	2nd	3rd	4th	Total
Rt	13	12	11	4	40
Thru	67	86	114	113	380
Lt	5	3	2	1	11

Total	1st	2nd	3rd	4th	
25	4	8	7	6	Lt
406	118	133	78	77	Thru
13	3	5	4	1	Rt

	Lt	Thru	Rt
1st	9	12	4
2nd	10	7	7
3rd	7	14	12
4th	0	5	1
Total	26	38	24

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: COTTONWOOD
EAST-WEST STREET: RANCHERO
JURISDICTION: HESPERIA

DATE: 08-16-22

PEAK HOUR: 04:00PM

NORTH LEG

TOTAL: 154

Rt	Thru	Lt	
32	65	57	Total
5	13	13	1st
8	14	16	2nd
12	14	14	3rd
7	24	14	4th

EAST LEG TOTAL: 624

	1st	2nd	3rd	4th	Total
Rt	13	23	13	7	56
Thru	127	164	124	129	544
Lt	6	5	10	3	24

WEST LEG TOTAL: 425

Total	1st	2nd	3rd	4th	
36	8	13	9	6	Lt
367	96	82	80	109	Thru
22	3	4	9	6	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.86
SOUTH LEG = 0.62
EAST LEG = 0.81
WEST LEG = 0.88

ALL LEGS = 0.87

SOUTH LEG

TOTAL: 128

	Lt	Thru	Rt
1st	5	22	13
2nd	6	27	19
3rd	5	9	4
4th	8	8	2
Total	24	66	38

HOUR TOTAL: 1,331

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : COTTONWOOD HESPERIA

EAST-WEST STREET : RANCHERO 08-16-22

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
5	13	13	0	0	0	0	0	0	0	0	0	31
8	14	16	0	0	0	0	0	0	0	0	0	38
12	14	14	0	0	0	0	0	0	0	0	0	40
7	24	14	0	0	0	0	0	0	0	0	0	45
12	7	19	0	0	0	0	0	0	0	0	0	38
5	9	7	0	0	0	0	0	0	0	0	0	21
3	13	5	0	0	0	0	0	0	0	0	0	21
1	8	11	0	0	0	0	0	0	0	0	0	20
53	102	99	0	0	0	0	0	0	0	0	0	254
SOUTH LEG												
13	22	5	0	0	0	0	0	0	0	0	0	40
19	27	6	0	0	0	0	0	0	0	0	0	52
4	9	5	0	0	0	0	0	0	0	0	0	18
2	8	8	0	0	0	0	0	0	0	0	0	18
6	8	7	0	0	0	0	0	0	0	0	0	21
4	9	6	0	0	0	0	0	0	0	0	0	19
2	13	5	0	0	0	0	0	0	0	0	0	20
2	7	9	0	0	0	0	0	0	0	0	0	18
52	103	51	0	0	0	0	0	0	0	0	0	206
EAST LEG												
13	127	6	0	0	0	0	0	0	0	0	0	146
23	160	5	0	2	0	0	0	0	0	2	0	192
13	113	10	0	5	0	0	3	0	0	3	0	147
7	121	3	0	2	0	0	2	0	0	4	0	139
6	153	5	0	0	0	0	1	0	0	2	0	167
7	132	7	0	0	0	0	1	0	0	1	0	148
12	163	6	0	0	0	0	1	0	0	2	0	184
1	202	9	0	3	0	0	0	0	0	1	0	216
82	1171	51	0	12	0	0	8	0	0	15	0	1339
WEST LEG												
3	84	8	0	5	0	0	2	0	0	5	0	107
4	79	13	0	3	0	0	0	0	0	0	0	99
9	75	9	0	3	0	0	1	0	0	1	0	98
6	102	6	0	3	0	0	1	0	0	3	0	121
10	57	11	0	2	0	0	2	0	0	5	0	87
11	98	8	0	2	0	0	1	0	0	2	0	122
10	57	10	0	3	0	0	2	0	0	2	0	84
10	80	10	0	3	0	0	1	0	0	1	0	105
63	632	75	0	24	0	0	10	0	0	19	0	823

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: COTTONWOOD

EAST-WEST STREET: RANCHERO

TIME: 04:00PM-05:00PM DATE: 08-16-22

NORTH LEG

Rt	Thru	Lt	
32	65	57	Total
5	13	13	1st
8	14	16	2nd
12	14	14	3rd
7	24	14	4th

	1st	2nd	3rd	4th	Total
Rt	13	23	13	7	56
Thru	127	164	124	129	544
Lt	6	5	10	3	24

Total	1st	2nd	3rd	4th	
36	8	13	9	6	Lt
367	96	82	80	109	Thru
22	3	4	9	6	Rt

	Lt	Thru	Rt
1st	5	22	13
2nd	6	27	19
3rd	5	9	4
4th	8	8	2
Total	24	66	38

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: COTTONWOOD

EAST-WEST STREET: RANCHERO

TIME: 05:00PM-06:00PM DATE: 08-16-22

NORTH LEG

21	37	42	Total
12	7	19	1st
5	9	7	2nd
3	13	5	3rd
1	8	11	4th
Rt	Thru	Lt	

Rt	6	7	12	1	26
Thru	156	134	166	206	662
Lt	5	7	6	9	27
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
39	11	8	10	10	Lt
318	66	103	64	85	Thru
41	10	11	10	10	Rt

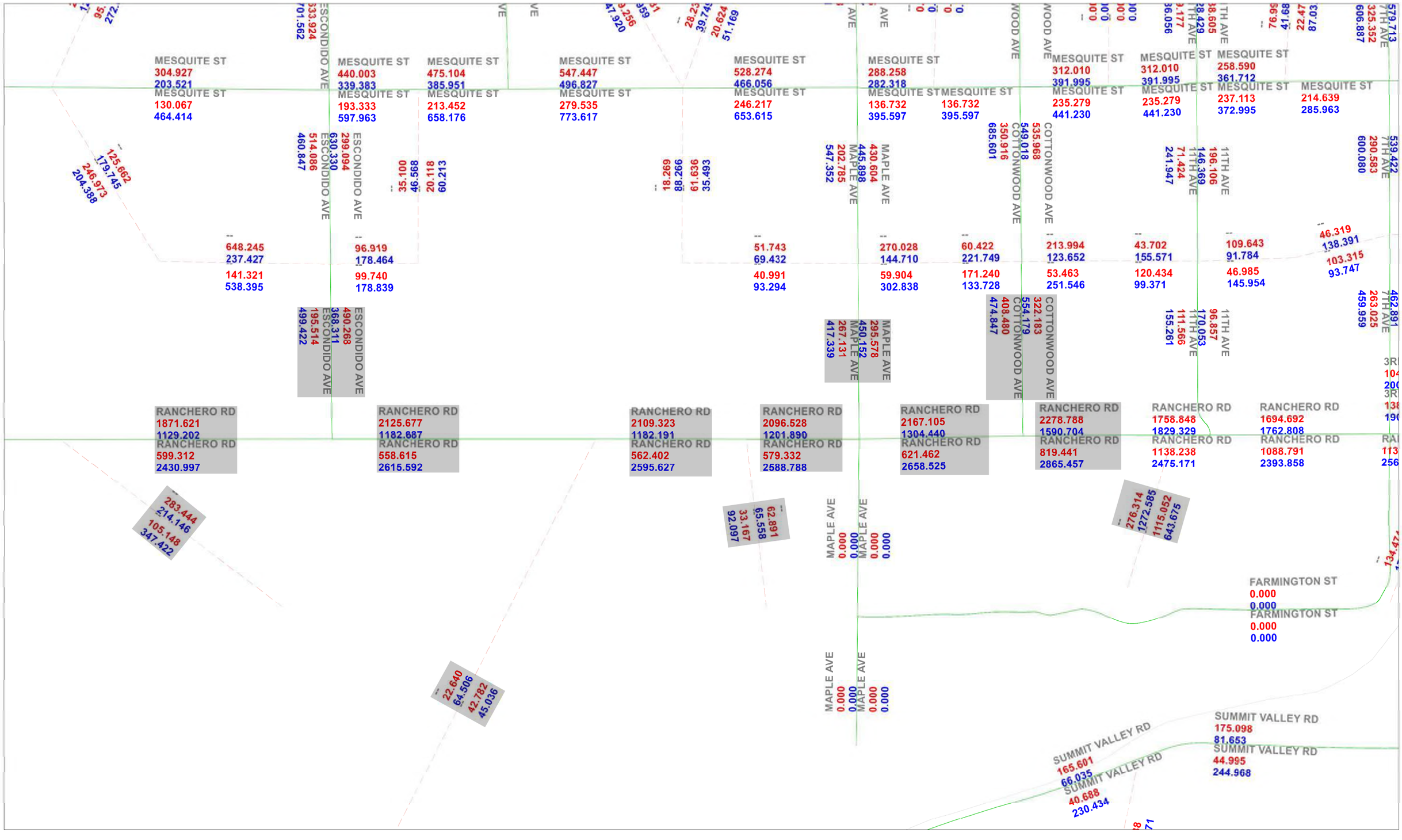
	Lt	Thru	Rt
1st	7	8	6
2nd	6	9	4
3rd	5	13	2
4th	9	7	2
Total	27	37	14

Prepared by NEWPORT TRAFFIC STUDIES

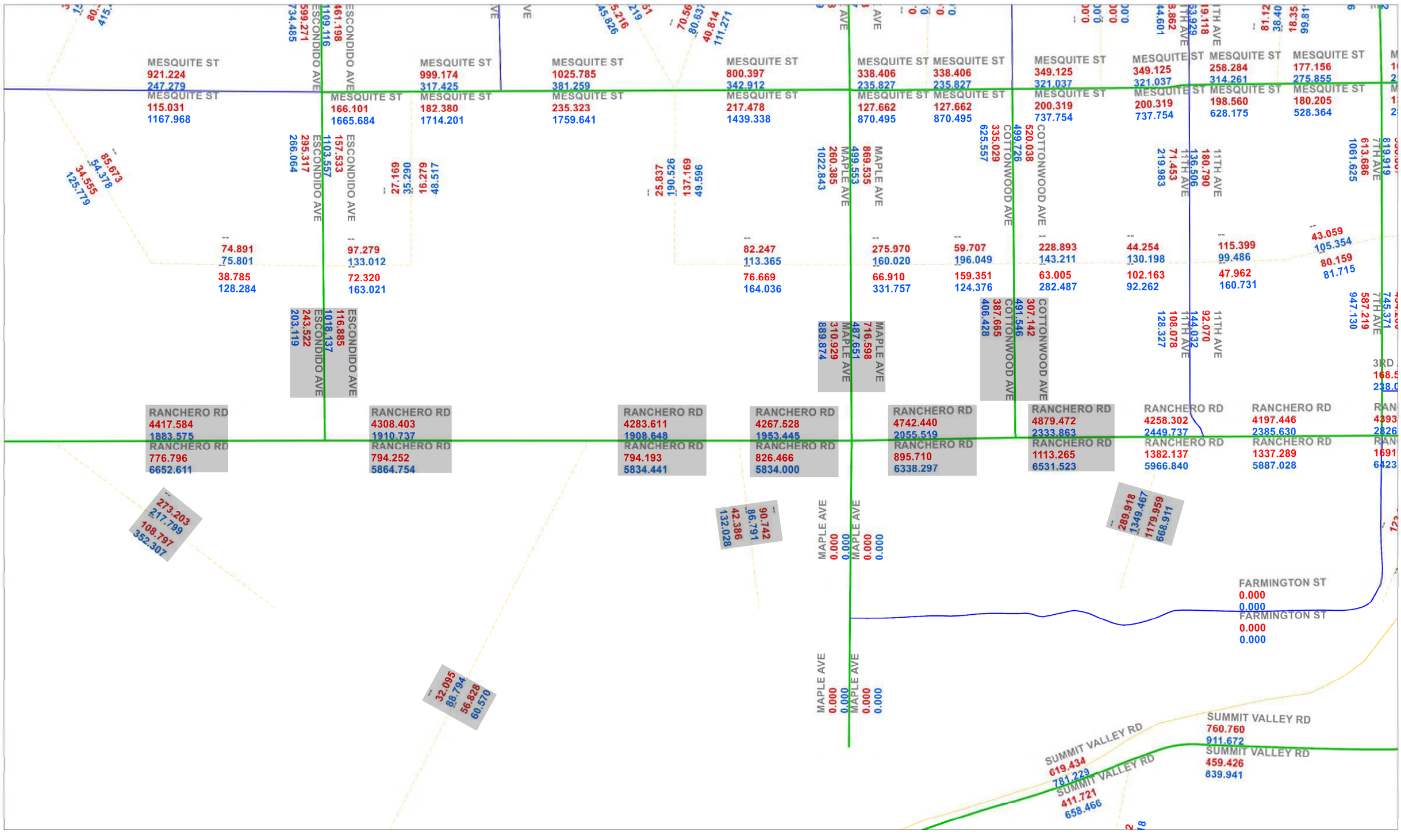
DAVID EVANS AND ASSOCIATES INC.

Appendix C:
San Bernardino Transportation Analysis Model (SBTAM) Plots

Ranchero Rd Volumes - 2016



Ranchero Rd Volumes - 2040



Appendix D:
Intersection Capacity Analysis Calculations
(Alternatives 1, 2, and 3)

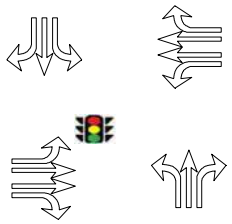
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : ESCONDIDO AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	1		3		5		7	9	11	13
RANCHERO RD										
EB Left	155	11	166	0	166	0	166	157	157	157
EB Thru	437	31	468	27	495	27	495	495	522	522
EB Right	25	2	27	0	27	0	27	29	29	29
WB Left	20	2	22	10	32	10	32	30	40	40
WB Thru	432	31	463	20	483	20	483	997	1,017	1,017
WB Right	89	7	96	10	106	10	106	131	141	141
ESCONDIDO AVE										
NB Left	37	3	40	0	40	0	40	60	60	60
NB Thru	57	4	61	0	61	0	61	53	53	53
NB Right	26	2	28	13	41	13	41	27	40	40
SB Left	139	10	149	13	162	13	162	141	154	154
SB Thru	7	1	8	0	8	0	8	7	7	7
SB Right	114	8	122	0	122	0	122	179	179	179
TOTALS	**1,538**	**112**	**1,650**	**93**	**1,743**	**93**	**1,743**	**2,306**	**2,399**	**2,399**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	AW	8/30/2022	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : AM PEAK HOUR

N/S STREET : ESCONDIDO AVE
PHF : 0.87

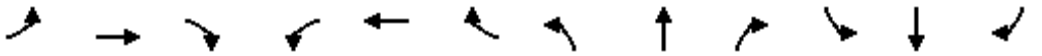
NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
28	7	22	1	0	0	0	0	0	0	0	0
34	0	55	1	0	0	0	0	0	0	0	0
25	0	30	0	0	3	0	0	0	0	0	1
24	0	22	1	0	5	0	0	1	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	10	23	0	0	1	1	0	0	0	0	0
19	33	9	0	0	0	0	0	0	0	0	0
2	11	1	0	1	0	0	0	1	0	0	0
2	2	2	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
28	70	3	0	3	2	0	4	0	0	3	0
26	93	4	0	4	0	0	2	0	1	4	0
21	143	1	0	3	0	0	2	0	0	2	0
13	90	9	0	2	0	0	2	1	0	5	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	118	30	1	2	0	1	1	0	0	3	0
7	124	16	1	3	0	1	2	0	0	1	0
4	86	55	0	7	0	0	1	0	1	2	2
7	70	48	0	11	3	0	2	1	0	4	0

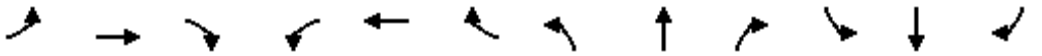
	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	6	149	**155**	**4%**	**155**
EBTH	39	398	**437**	**9%**	**437**
EBR	5	20	**25**	**20%**	**25**
WBL	3	17	**20**	**15%**	**20**
WBTH	36	396	**432**	**9%**	**432**
WBR	1	88	**89**	**2%**	**89**
ESCONDIDO AVE					
NBL	2	35	**37**	**6%**	**37**
NBTH	1	56	**57**	**2%**	**57**
NBR	1	25	**26**	**4%**	**26**
SBL	10	129	**139**	**8%**	**139**
SBTH	0	7	**7**	**1%**	**7**
SBR	3	111	**114**	**3%**	**114**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	437	25	20	432	89	37	57	26	139	7	114
Future Volume (veh/h)	155	437	25	20	432	89	37	57	26	139	7	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1647	1674	1519	1501	1674	1772	1620	1772	1744	1594	1786	1758
Adj Flow Rate, veh/h	178	502	29	23	497	102	43	66	30	160	8	131
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	9	20	15	9	2	6	2	4	8	1	3
Cap, veh/h	300	1432	580	116	1083	511	542	519	432	521	523	436
Arrive On Green	0.19	0.45	0.45	0.08	0.34	0.34	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1569	3180	1287	1430	3180	1502	1143	1772	1478	1169	1786	1490
Grp Volume(v), veh/h	178	502	29	23	497	102	43	66	30	160	8	131
Grp Sat Flow(s),veh/h/ln	1569	1590	1287	1430	1590	1502	1143	1772	1478	1169	1786	1490
Q Serve(g_s), s	3.5	3.5	0.4	0.5	4.2	1.6	0.9	0.9	0.5	4.0	0.1	2.3
Cycle Q Clear(g_c), s	3.5	3.5	0.4	0.5	4.2	1.6	1.1	0.9	0.5	4.9	0.1	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	300	1432	580	116	1083	511	542	519	432	521	523	436
V/C Ratio(X)	0.59	0.35	0.05	0.20	0.46	0.20	0.08	0.13	0.07	0.31	0.02	0.30
Avail Cap(c_a), veh/h	367	4001	1620	335	4001	1890	1813	2489	2076	1821	2509	2093
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	6.1	5.3	14.7	8.8	8.0	9.0	8.9	8.7	10.7	8.6	9.4
Incr Delay (d2), s/veh	1.9	0.1	0.0	0.8	0.3	0.2	0.1	0.1	0.1	0.3	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.4	0.0	0.1	0.8	0.3	0.1	0.2	0.1	0.6	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	6.3	5.3	15.5	9.1	8.2	9.0	9.0	8.8	11.0	8.6	9.8
LnGrp LOS	B	A	A	B	A	A	A	A	A	B	A	A
Approach Vol, veh/h		709			622			139			299	
Approach Delay, s/veh		8.3			9.2			9.0			10.4	
Approach LOS		A			A			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.8	17.4		12.0	8.5	13.6		12.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		46.0	6.0	41.0		46.0				
Max Q Clear Time (g_c+I1), s	2.5	5.5		6.9	5.5	6.2		3.1				
Green Ext Time (p_c), s	0.0	3.3		1.0	0.0	3.5		0.6				

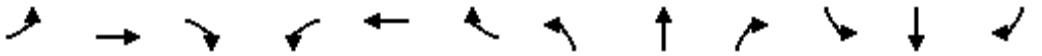
Intersection Summary												
HCM 6th Ctrl Delay			9.0									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	468	27	22	463	96	40	61	28	149	8	122
Future Volume (veh/h)	166	468	27	22	463	96	40	61	28	149	8	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1647	1674	1519	1501	1674	1772	1620	1772	1744	1594	1786	1758
Adj Flow Rate, veh/h	191	538	31	25	532	110	46	70	32	171	9	140
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	9	20	15	9	2	6	2	4	8	1	3
Cap, veh/h	307	1481	600	111	1106	522	524	525	438	503	529	441
Arrive On Green	0.20	0.47	0.47	0.08	0.35	0.35	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1569	3180	1287	1430	3180	1502	1133	1772	1478	1163	1786	1490
Grp Volume(v), veh/h	191	538	31	25	532	110	46	70	32	171	9	140
Grp Sat Flow(s),veh/h/ln	1569	1590	1287	1430	1590	1502	1133	1772	1478	1163	1786	1490
Q Serve(g_s), s	4.2	4.1	0.5	0.6	4.9	1.9	1.1	1.1	0.6	4.7	0.1	2.7
Cycle Q Clear(g_c), s	4.2	4.1	0.5	0.6	4.9	1.9	1.3	1.1	0.6	5.8	0.1	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	307	1481	600	111	1106	522	524	525	438	503	529	441
V/C Ratio(X)	0.62	0.36	0.05	0.22	0.48	0.21	0.09	0.13	0.07	0.34	0.02	0.32
Avail Cap(c_a), veh/h	335	3652	1479	305	3652	1724	1640	2272	1895	1649	2290	1910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	6.4	5.5	16.2	9.6	8.6	9.8	9.7	9.5	11.8	9.3	10.2
Incr Delay (d2), s/veh	3.1	0.1	0.0	1.0	0.3	0.2	0.1	0.1	0.1	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.6	0.1	0.2	1.0	0.4	0.2	0.3	0.1	0.8	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.9	6.6	5.5	17.2	9.9	8.8	9.8	9.8	9.5	12.2	9.3	10.6
LnGrp LOS	B	A	A	B	A	A	A	A	A	B	A	B
Approach Vol, veh/h		760			667			148			320	
Approach Delay, s/veh		9.1			10.0			9.7			11.4	
Approach LOS		A			A			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	19.4		13.1	9.3	15.0		13.1				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		46.0	6.0	41.0		46.0				
Max Q Clear Time (g_c+I1), s	2.6	6.1		7.8	6.2	6.9		3.3				
Green Ext Time (p_c), s	0.0	3.9		1.3	0.0	4.1		0.7				

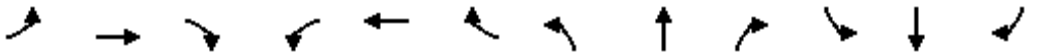
Intersection Summary												
HCM 6th Ctrl Delay			9.9									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	495	27	32	483	106	40	61	41	162	8	122
Future Volume (veh/h)	166	495	27	32	483	106	40	61	41	162	8	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1647	1674	1519	1501	1674	1772	1620	1772	1744	1594	1786	1758
Adj Flow Rate, veh/h	191	569	31	37	555	122	46	70	47	186	9	140
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	9	20	15	9	2	6	2	4	8	1	3
Cap, veh/h	303	1457	590	121	1112	525	524	540	450	500	544	454
Arrive On Green	0.19	0.46	0.46	0.08	0.35	0.35	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1569	3180	1287	1430	3180	1502	1133	1772	1478	1147	1786	1490
Grp Volume(v), veh/h	191	569	31	37	555	122	46	70	47	186	9	140
Grp Sat Flow(s),veh/h/ln	1569	1590	1287	1430	1590	1502	1133	1772	1478	1147	1786	1490
Q Serve(g_s), s	4.4	4.6	0.5	1.0	5.4	2.3	1.2	1.1	0.9	5.5	0.1	2.8
Cycle Q Clear(g_c), s	4.4	4.6	0.5	1.0	5.4	2.3	1.3	1.1	0.9	6.6	0.1	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	303	1457	590	121	1112	525	524	540	450	500	544	454
V/C Ratio(X)	0.63	0.39	0.05	0.31	0.50	0.23	0.09	0.13	0.10	0.37	0.02	0.31
Avail Cap(c_a), veh/h	319	3472	1406	290	3472	1639	1559	2160	1801	1548	2177	1816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	7.0	5.9	16.9	10.1	9.1	10.0	9.9	9.8	12.3	9.6	10.5
Incr Delay (d2), s/veh	3.7	0.2	0.0	1.4	0.3	0.2	0.1	0.1	0.1	0.5	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.8	0.1	0.3	1.2	0.5	0.2	0.3	0.2	1.0	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	7.2	6.0	18.4	10.4	9.3	10.1	10.0	9.9	12.8	9.6	10.9
LnGrp LOS	B	A	A	B	B	A	B	B	A	B	A	B
Approach Vol, veh/h		791			714			163			335	
Approach Delay, s/veh		9.8			10.7			10.0			11.9	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	20.1		14.0	9.6	15.8		14.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		46.0	6.0	41.0		46.0				
Max Q Clear Time (g_c+I1), s	3.0	6.6		8.6	6.4	7.4		3.3				
Green Ext Time (p_c), s	0.0	4.1		1.4	0.0	4.4		0.7				

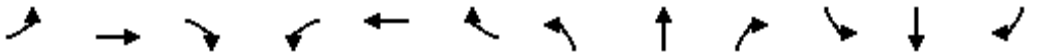
Intersection Summary			
HCM 6th Ctrl Delay		10.5	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	495	27	32	483	106	40	61	41	162	8	122
Future Volume (veh/h)	166	495	27	32	483	106	40	61	41	162	8	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1647	1674	1519	1501	1674	1772	1620	1772	1744	1594	1786	1758
Adj Flow Rate, veh/h	191	569	31	37	555	122	46	70	47	186	9	140
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	9	20	15	9	2	6	2	4	8	1	3
Cap, veh/h	303	1457	590	121	1112	525	524	540	450	500	544	454
Arrive On Green	0.19	0.46	0.46	0.08	0.35	0.35	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1569	3180	1287	1430	3180	1502	1133	1772	1478	1147	1786	1490
Grp Volume(v), veh/h	191	569	31	37	555	122	46	70	47	186	9	140
Grp Sat Flow(s),veh/h/ln	1569	1590	1287	1430	1590	1502	1133	1772	1478	1147	1786	1490
Q Serve(g_s), s	4.4	4.6	0.5	1.0	5.4	2.3	1.2	1.1	0.9	5.5	0.1	2.8
Cycle Q Clear(g_c), s	4.4	4.6	0.5	1.0	5.4	2.3	1.3	1.1	0.9	6.6	0.1	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	303	1457	590	121	1112	525	524	540	450	500	544	454
V/C Ratio(X)	0.63	0.39	0.05	0.31	0.50	0.23	0.09	0.13	0.10	0.37	0.02	0.31
Avail Cap(c_a), veh/h	319	3472	1406	290	3472	1639	1559	2160	1801	1548	2177	1816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.6	7.0	5.9	16.9	10.1	9.1	10.0	9.9	9.8	12.3	9.6	10.5
Incr Delay (d2), s/veh	3.7	0.2	0.0	1.4	0.3	0.2	0.1	0.1	0.1	0.5	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.8	0.1	0.3	1.2	0.5	0.2	0.3	0.2	1.0	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	7.2	6.0	18.4	10.4	9.3	10.1	10.0	9.9	12.8	9.6	10.9
LnGrp LOS	B	A	A	B	B	A	B	B	A	B	A	B
Approach Vol, veh/h		791			714			163			335	
Approach Delay, s/veh		9.8			10.7			10.0			11.9	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	20.1		14.0	9.6	15.8		14.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		46.0	6.0	41.0		46.0				
Max Q Clear Time (g_c+I1), s	3.0	6.6		8.6	6.4	7.4		3.3				
Green Ext Time (p_c), s	0.0	4.1		1.4	0.0	4.4		0.7				

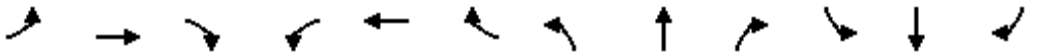
Intersection Summary												
HCM 6th Ctrl Delay			10.5									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	495	29	30	997	131	60	53	27	141	7	179
Future Volume (veh/h)	157	495	29	30	997	131	60	53	27	141	7	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1647	1674	1519	1501	1674	1772	1620	1772	1744	1594	1786	1758
Adj Flow Rate, veh/h	165	521	31	32	1049	138	63	56	28	148	7	188
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	9	20	15	9	2	6	2	4	8	1	3
Cap, veh/h	240	1841	745	95	1566	740	395	424	354	391	428	357
Arrive On Green	0.15	0.58	0.58	0.07	0.49	0.49	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1569	3180	1287	1430	3180	1502	1086	1772	1478	1182	1786	1490
Grp Volume(v), veh/h	165	521	31	32	1049	138	63	56	28	148	7	188
Grp Sat Flow(s),veh/h/ln	1569	1590	1287	1430	1590	1502	1086	1772	1478	1182	1786	1490
Q Serve(g_s), s	5.2	4.3	0.5	1.1	13.0	2.7	2.5	1.3	0.8	5.9	0.2	5.7
Cycle Q Clear(g_c), s	5.2	4.3	0.5	1.1	13.0	2.7	2.6	1.3	0.8	7.2	0.2	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	1841	745	95	1566	740	395	424	354	391	428	357
V/C Ratio(X)	0.69	0.28	0.04	0.34	0.67	0.19	0.16	0.13	0.08	0.38	0.02	0.53
Avail Cap(c_a), veh/h	240	2618	1060	219	2618	1236	1133	1629	1358	1195	1642	1369
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	5.5	4.7	23.3	10.0	7.4	16.2	15.6	15.4	18.4	15.2	17.3
Incr Delay (d2), s/veh	7.9	0.1	0.0	2.0	0.5	0.1	0.2	0.1	0.1	0.6	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.7	0.1	0.4	2.9	0.6	0.5	0.4	0.2	1.4	0.1	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	5.6	4.8	25.3	10.5	7.5	16.3	15.7	15.5	19.0	15.2	18.5
LnGrp LOS	C	A	A	C	B	A	B	B	B	B	B	B
Approach Vol, veh/h		717			1219			147			343	
Approach Delay, s/veh		10.9			10.6			16.0			18.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	32.2		14.5	10.0	27.7		14.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		46.0	6.0	41.0		46.0				
Max Q Clear Time (g_c+I1), s	3.1	6.3		9.2	7.2	15.0		4.6				
Green Ext Time (p_c), s	0.0	3.7		1.3	0.0	8.7		0.7				

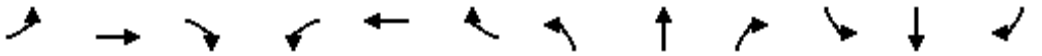
Intersection Summary												
HCM 6th Ctrl Delay			12.2									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	522	29	40	1017	141	60	53	40	154	7	179
Future Volume (veh/h)	157	522	29	40	1017	141	60	53	40	154	7	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1647	1674	1519	1501	1674	1772	1620	1772	1744	1594	1786	1758
Adj Flow Rate, veh/h	165	549	31	42	1071	148	63	56	42	162	7	188
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	9	20	15	9	2	6	2	4	8	1	3
Cap, veh/h	231	1810	733	102	1569	741	400	441	368	394	445	371
Arrive On Green	0.15	0.57	0.57	0.07	0.49	0.49	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1569	3180	1287	1430	3180	1502	1086	1772	1478	1167	1786	1490
Grp Volume(v), veh/h	165	549	31	42	1071	148	63	56	42	162	7	188
Grp Sat Flow(s),veh/h/ln	1569	1590	1287	1430	1590	1502	1086	1772	1478	1167	1786	1490
Q Serve(g_s), s	5.4	4.9	0.6	1.5	14.0	3.0	2.5	1.3	1.2	6.8	0.2	5.9
Cycle Q Clear(g_c), s	5.4	4.9	0.6	1.5	14.0	3.0	2.7	1.3	1.2	8.1	0.2	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	1810	733	102	1569	741	400	441	368	394	445	371
V/C Ratio(X)	0.71	0.30	0.04	0.41	0.68	0.20	0.16	0.13	0.11	0.41	0.02	0.51
Avail Cap(c_a), veh/h	231	2516	1019	210	2516	1188	1089	1565	1305	1135	1578	1316
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	6.1	5.2	24.1	10.5	7.7	16.4	15.8	15.8	19.0	15.4	17.5
Incr Delay (d2), s/veh	10.0	0.1	0.0	2.6	0.5	0.1	0.2	0.1	0.1	0.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.9	0.1	0.5	3.2	0.7	0.5	0.5	0.3	1.6	0.1	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	6.2	5.2	26.8	11.0	7.9	16.6	16.0	15.9	19.7	15.4	18.6
LnGrp LOS	C	A	A	C	B	A	B	B	B	B	B	B
Approach Vol, veh/h		745			1261			161			357	
Approach Delay, s/veh		11.9			11.2			16.2			19.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	32.9		15.5	10.0	28.8		15.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		46.0	6.0	41.0		46.0				
Max Q Clear Time (g_c+I1), s	3.5	6.9		10.1	7.4	16.0		4.7				
Green Ext Time (p_c), s	0.0	3.9		1.4	0.0	8.8		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			12.8									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	522	29	40	1017	141	60	53	40	154	7	179
Future Volume (veh/h)	157	522	29	40	1017	141	60	53	40	154	7	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1647	1674	1519	1501	1674	1772	1620	1772	1744	1594	1786	1758
Adj Flow Rate, veh/h	165	549	31	42	1071	148	63	56	42	162	7	188
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	9	20	15	9	2	6	2	4	8	1	3
Cap, veh/h	231	1810	733	102	1569	741	400	441	368	394	445	371
Arrive On Green	0.15	0.57	0.57	0.07	0.49	0.49	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1569	3180	1287	1430	3180	1502	1086	1772	1478	1167	1786	1490
Grp Volume(v), veh/h	165	549	31	42	1071	148	63	56	42	162	7	188
Grp Sat Flow(s),veh/h/ln	1569	1590	1287	1430	1590	1502	1086	1772	1478	1167	1786	1490
Q Serve(g_s), s	5.4	4.9	0.6	1.5	14.0	3.0	2.5	1.3	1.2	6.8	0.2	5.9
Cycle Q Clear(g_c), s	5.4	4.9	0.6	1.5	14.0	3.0	2.7	1.3	1.2	8.1	0.2	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	1810	733	102	1569	741	400	441	368	394	445	371
V/C Ratio(X)	0.71	0.30	0.04	0.41	0.68	0.20	0.16	0.13	0.11	0.41	0.02	0.51
Avail Cap(c_a), veh/h	231	2516	1019	210	2516	1188	1089	1565	1305	1135	1578	1316
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	6.1	5.2	24.1	10.5	7.7	16.4	15.8	15.8	19.0	15.4	17.5
Incr Delay (d2), s/veh	10.0	0.1	0.0	2.6	0.5	0.1	0.2	0.1	0.1	0.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.9	0.1	0.5	3.2	0.7	0.5	0.5	0.3	1.6	0.1	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	6.2	5.2	26.8	11.0	7.9	16.6	16.0	15.9	19.7	15.4	18.6
LnGrp LOS	C	A	A	C	B	A	B	B	B	B	B	B
Approach Vol, veh/h		745			1261			161			357	
Approach Delay, s/veh		11.9			11.2			16.2			19.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	32.9		15.5	10.0	28.8		15.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		46.0	6.0	41.0		46.0				
Max Q Clear Time (g_c+I1), s	3.5	6.9		10.1	7.4	16.0		4.7				
Green Ext Time (p_c), s	0.0	3.9		1.4	0.0	8.8		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			12.8									
HCM 6th LOS			B									

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : ESCONDIDO AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	2		4		6		8	10	12	14
RANCHERO RD										
EB Left	502	36	538	0	538	0	538	747	747	747
EB Thru	429	31	460	28	488	28	488	956	984	984
EB Right	45	4	49	0	49	0	49	66	66	66
WB Left	25	2	27	15	42	15	42	26	41	41
WB Thru	639	45	684	29	713	29	713	782	811	811
WB Right	68	5	73	15	88	15	88	73	88	88
ESCONDIDO AVE										
NB Left	20	2	22	0	22	0	22	23	23	23
NB Thru	18	2	20	0	20	0	20	18	18	18
NB Right	17	2	19	14	33	14	33	26	40	40
SB Left	114	8	122	14	136	14	136	165	179	179
SB Thru	38	3	41	0	41	0	41	34	34	34
SB Right	107	8	115	0	115	0	115	114	114	114
TOTALS	**2,022**	**148**	**2,170**	**115**	**2,285**	**115**	**2,285**	**3,030**	**3,145**	**3,145**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	AW	30-Aug-22	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : PM PEAK HOUR

N/S STREET : ESCONDIDO AVE
PHF : 0.83

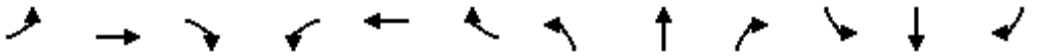
NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
17	17	24	0	0	0	0	0	0	1	0	0
45	10	35	0	0	0	0	0	0	0	0	0
21	3	17	0	0	0	0	0	0	0	0	0
23	8	37	0	0	1	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
3	5	6	0	0	0	0	0	0	0	0	0
4	5	5	0	0	0	0	0	0	0	0	0
3	1	5	0	0	0	0	0	0	0	0	0
7	7	4	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
15	158	5	0	2	0	0	1	0	0	2	0
19	115	7	0	2	0	0	1	0	0	1	0
17	159	5	0	2	0	0	1	0	0	2	0
17	185	8	0	5	0	0	0	0	0	3	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
17	97	121	0	2	0	0	2	0	0	5	0
5	103	110	0	1	0	0	1	0	0	2	0
11	101	91	0	2	0	0	2	0	0	2	0
12	104	180	0	3	0	0	1	0	0	1	0

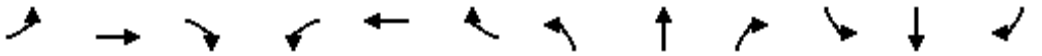
	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	502	**502**	**1%**	**502**
EBTH	24	405	**429**	**6%**	**429**
EBR	0	45	**45**	**1%**	**45**
WBL	0	25	**25**	**1%**	**25**
WBTH	22	617	**639**	**4%**	**639**
WBR	0	68	**68**	**1%**	**68**
ESCONDIDO AVE					
NBL	0	20	**20**	**1%**	**20**
NBTH	0	18	**18**	**1%**	**18**
NBR	0	17	**17**	**1%**	**17**
SBL	1	113	**114**	**1%**	**114**
SBTH	0	38	**38**	**1%**	**38**
SBR	1	106	**107**	**1%**	**107**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	502	429	45	25	639	68	20	18	17	114	38	107
Future Volume (veh/h)	502	429	45	25	639	68	20	18	17	114	38	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1716	1786	1687	1744	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	605	517	54	30	770	82	24	22	20	137	46	129
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	1	6	1	1	4	1	1	1	1	1	1	1
Cap, veh/h	494	1934	898	91	1133	518	84	461	391	338	312	265
Arrive On Green	0.31	0.59	0.59	0.06	0.34	0.34	0.05	0.26	0.26	0.17	0.17	0.17
Sat Flow, veh/h	1606	3260	1514	1606	3313	1514	1606	1786	1514	1299	1786	1514
Grp Volume(v), veh/h	605	517	54	30	770	82	24	22	20	137	46	129
Grp Sat Flow(s),veh/h/ln	1606	1630	1514	1606	1657	1514	1606	1786	1514	1299	1786	1514
Q Serve(g_s), s	20.0	5.0	1.0	1.2	12.9	2.5	0.9	0.6	0.6	6.3	1.4	2.4
Cycle Q Clear(g_c), s	20.0	5.0	1.0	1.2	12.9	2.5	0.9	0.6	0.6	6.3	1.4	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	494	1934	898	91	1133	518	84	461	391	338	312	265
V/C Ratio(X)	1.22	0.27	0.06	0.33	0.68	0.16	0.29	0.05	0.05	0.41	0.15	0.49
Avail Cap(c_a), veh/h	494	2758	1281	198	2192	1001	148	1539	1304	1070	1319	1118
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	6.4	5.6	29.5	18.3	14.9	29.6	18.1	18.1	24.7	22.7	5.5
Incr Delay (d2), s/veh	117.8	0.1	0.0	2.1	0.7	0.1	1.8	0.0	0.1	0.8	0.2	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.4	1.1	0.2	0.5	4.2	0.7	0.4	0.2	0.2	1.8	0.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	140.3	6.5	5.6	31.6	19.1	15.0	31.5	18.2	18.2	25.5	22.9	6.9
LnGrp LOS	F	A	A	C	B	B	C	B	B	C	C	A
Approach Vol, veh/h		1176			882			66			312	
Approach Delay, s/veh		75.3			19.1			23.0			17.4	
Approach LOS		E			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	40.6	5.4	13.4	22.0	24.2		18.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	53.0	4.0	46.0	18.0	41.0		54.0				
Max Q Clear Time (g_c+I1), s	3.2	7.0	2.9	8.3	22.0	14.9		2.6				
Green Ext Time (p_c), s	0.0	3.5	0.0	1.0	0.0	5.3		0.1				

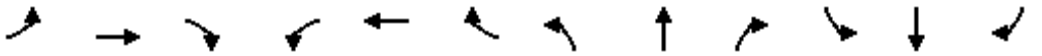
Intersection Summary												
HCM 6th Ctrl Delay			46.1									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	538	460	49	27	684	73	22	20	19	122	41	115
Future Volume (veh/h)	538	460	49	27	684	73	22	20	19	122	41	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1716	1786	1687	1744	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	648	554	59	33	824	88	27	24	23	147	49	139
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	1	6	1	1	4	1	1	1	1	1	1	1
Cap, veh/h	732	2457	1141	65	1121	512	210	286	242	247	286	242
Arrive On Green	0.46	0.75	0.75	0.04	0.34	0.34	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1606	3260	1514	1606	3313	1514	1138	1786	1514	1293	1786	1514
Grp Volume(v), veh/h	648	554	59	33	824	88	27	24	23	147	49	139
Grp Sat Flow(s),veh/h/ln	1606	1630	1514	1606	1657	1514	1138	1786	1514	1293	1786	1514
Q Serve(g_s), s	47.9	6.6	1.3	2.6	28.5	5.3	2.7	1.5	1.7	14.2	3.1	11.0
Cycle Q Clear(g_c), s	47.9	6.6	1.3	2.6	28.5	5.3	5.8	1.5	1.7	15.7	3.1	11.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	732	2457	1141	65	1121	512	210	286	242	247	286	242
V/C Ratio(X)	0.89	0.23	0.05	0.51	0.73	0.17	0.13	0.08	0.10	0.59	0.17	0.57
Avail Cap(c_a), veh/h	732	2457	1141	161	1121	512	466	687	582	538	687	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	4.8	4.1	61.1	37.9	30.2	49.7	46.5	46.6	53.2	47.2	50.5
Incr Delay (d2), s/veh	12.6	0.2	0.1	6.1	4.3	0.7	0.3	0.1	0.2	2.3	0.3	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.8	1.8	0.3	1.2	11.7	2.0	0.8	0.7	0.6	4.6	1.4	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.9	5.0	4.2	67.3	42.2	30.9	49.9	46.6	46.7	55.4	47.4	52.7
LnGrp LOS	D	A	A	E	D	C	D	D	D	E	D	D
Approach Vol, veh/h		1261			945			74			335	
Approach Delay, s/veh		25.4			42.0			47.9			53.1	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	100.0		22.8	61.2	46.0		22.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	11.0	59.0		48.0	28.0	42.0		48.0				
Max Q Clear Time (g_c+I1), s	4.6	8.6		17.7	49.9	30.5		7.8				
Green Ext Time (p_c), s	0.0	3.8		1.1	0.0	4.1		0.3				

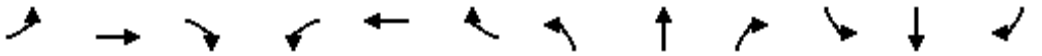
Intersection Summary												
HCM 6th Ctrl Delay			35.6									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	538	488	49	42	713	88	22	20	33	136	41	115
Future Volume (veh/h)	538	488	49	42	713	88	22	20	33	136	41	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1716	1786	1687	1744	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	648	588	59	51	859	106	27	24	40	164	49	139
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	1	6	1	1	4	1	1	1	1	1	1	1
Cap, veh/h	708	2362	1097	88	1121	512	228	312	264	264	312	264
Arrive On Green	0.44	0.72	0.72	0.05	0.34	0.34	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1606	3260	1514	1606	3313	1514	1138	1786	1514	1274	1786	1514
Grp Volume(v), veh/h	648	588	59	51	859	106	27	24	40	164	49	139
Grp Sat Flow(s),veh/h/ln	1606	1630	1514	1606	1657	1514	1138	1786	1514	1274	1786	1514
Q Serve(g_s), s	49.2	7.9	1.5	4.0	30.1	6.5	2.7	1.5	2.9	16.1	3.0	10.8
Cycle Q Clear(g_c), s	49.2	7.9	1.5	4.0	30.1	6.5	5.7	1.5	2.9	17.5	3.0	10.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	708	2362	1097	88	1121	512	228	312	264	264	312	264
V/C Ratio(X)	0.92	0.25	0.05	0.58	0.77	0.21	0.12	0.08	0.15	0.62	0.16	0.53
Avail Cap(c_a), veh/h	708	2362	1097	161	1121	512	467	687	582	531	687	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	6.0	5.1	60.0	38.4	30.6	47.9	44.9	45.5	52.2	45.5	48.8
Incr Delay (d2), s/veh	16.6	0.3	0.1	6.0	5.0	0.9	0.2	0.1	0.3	2.4	0.2	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.1	2.3	0.4	1.7	12.4	2.4	0.8	0.6	1.1	5.2	1.3	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	6.3	5.2	66.0	43.4	31.5	48.2	45.0	45.7	54.6	45.8	50.4
LnGrp LOS	D	A	A	E	D	C	D	D	D	D	D	D
Approach Vol, veh/h		1295			1016			91			352	
Approach Delay, s/veh		28.4			43.3			46.3			51.7	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	96.2		24.7	59.3	46.0		24.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	11.0	59.0		48.0	28.0	42.0		48.0				
Max Q Clear Time (g_c+I1), s	6.0	9.9		19.5	51.2	32.1		7.7				
Green Ext Time (p_c), s	0.0	4.1		1.2	0.0	4.0		0.3				

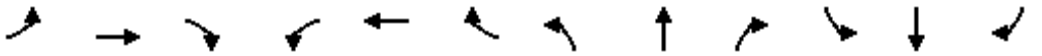
Intersection Summary												
HCM 6th Ctrl Delay			37.5									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	538	488	49	42	713	88	22	20	33	136	41	115
Future Volume (veh/h)	538	488	49	42	713	88	22	20	33	136	41	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1716	1786	1687	1744	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	648	588	59	51	859	106	27	24	40	164	49	139
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	1	6	1	1	4	1	1	1	1	1	1	1
Cap, veh/h	708	2362	1097	88	1121	512	228	312	264	264	312	264
Arrive On Green	0.44	0.72	0.72	0.05	0.34	0.34	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1606	3260	1514	1606	3313	1514	1138	1786	1514	1274	1786	1514
Grp Volume(v), veh/h	648	588	59	51	859	106	27	24	40	164	49	139
Grp Sat Flow(s),veh/h/ln	1606	1630	1514	1606	1657	1514	1138	1786	1514	1274	1786	1514
Q Serve(g_s), s	49.2	7.9	1.5	4.0	30.1	6.5	2.7	1.5	2.9	16.1	3.0	10.8
Cycle Q Clear(g_c), s	49.2	7.9	1.5	4.0	30.1	6.5	5.7	1.5	2.9	17.5	3.0	10.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	708	2362	1097	88	1121	512	228	312	264	264	312	264
V/C Ratio(X)	0.92	0.25	0.05	0.58	0.77	0.21	0.12	0.08	0.15	0.62	0.16	0.53
Avail Cap(c_a), veh/h	708	2362	1097	161	1121	512	467	687	582	531	687	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.1	6.0	5.1	60.0	38.4	30.6	47.9	44.9	45.5	52.2	45.5	48.8
Incr Delay (d2), s/veh	16.6	0.3	0.1	6.0	5.0	0.9	0.2	0.1	0.3	2.4	0.2	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.1	2.3	0.4	1.7	12.4	2.4	0.8	0.6	1.1	5.2	1.3	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	6.3	5.2	66.0	43.4	31.5	48.2	45.0	45.7	54.6	45.8	50.4
LnGrp LOS	D	A	A	E	D	C	D	D	D	D	D	D
Approach Vol, veh/h		1295			1016			91			352	
Approach Delay, s/veh		28.4			43.3			46.3			51.7	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	96.2		24.7	59.3	46.0		24.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	11.0	59.0		48.0	28.0	42.0		48.0				
Max Q Clear Time (g_c+I1), s	6.0	9.9		19.5	51.2	32.1		7.7				
Green Ext Time (p_c), s	0.0	4.1		1.2	0.0	4.0		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			37.5									
HCM 6th LOS			D									



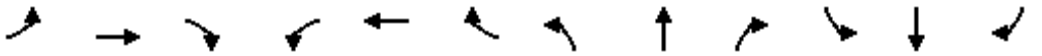
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	747	956	66	26	782	73	23	18	26	165	34	114
Future Volume (vph)	747	956	66	26	782	73	23	18	26	165	34	114
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			150			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	786	1006	69	27	823	77	24	19	27	174	36	120
v/c Ratio	2.21	0.44	0.06	0.23	0.47	0.09	0.10	0.05	0.07	0.70	0.10	0.30
Control Delay	577.8	10.5	3.7	60.3	21.2	4.3	40.0	38.8	0.4	62.7	40.0	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	577.8	10.5	3.7	60.3	21.2	4.3	40.0	38.8	0.4	62.7	40.0	8.4
Queue Length 50th (ft)	~1064	188	4	22	220	0	17	13	0	138	25	0
Queue Length 95th (ft)	#1309	313	25	53	321	28	38	32	0	201	51	48
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	356	2295	1093	159	1751	842	482	699	640	491	699	667
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.21	0.44	0.06	0.17	0.47	0.09	0.05	0.03	0.04	0.35	0.05	0.18

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	747	984	66	41	811	88	23	18	40	179	34	114
Future Volume (veh/h)	747	984	66	41	811	88	23	18	40	179	34	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1716	1786	1687	1744	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	786	1036	69	43	854	93	24	19	42	188	36	120
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	6	1	1	4	1	1	1	1	1	1	1
Cap, veh/h	684	2334	1084	78	1121	512	258	338	287	286	338	287
Arrive On Green	0.43	0.72	0.72	0.05	0.34	0.34	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1606	3260	1514	1606	3313	1514	1172	1786	1514	1277	1786	1514
Grp Volume(v), veh/h	786	1036	69	43	854	93	24	19	42	188	36	120
Grp Sat Flow(s),veh/h/ln	1606	1630	1514	1606	1657	1514	1172	1786	1514	1277	1786	1514
Q Serve(g_s), s	55.4	17.2	1.8	3.4	29.9	5.6	2.2	1.1	3.0	18.4	2.2	9.1
Cycle Q Clear(g_c), s	55.4	17.2	1.8	3.4	29.9	5.6	4.4	1.1	3.0	19.5	2.2	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	684	2334	1084	78	1121	512	258	338	287	286	338	287
V/C Ratio(X)	1.15	0.44	0.06	0.55	0.76	0.18	0.09	0.06	0.15	0.66	0.11	0.42
Avail Cap(c_a), veh/h	684	2334	1084	173	1121	512	495	701	594	545	701	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.3	7.7	5.5	60.5	38.3	30.3	45.4	43.2	43.9	51.2	43.6	46.4
Incr Delay (d2), s/veh	83.3	0.6	0.1	6.0	4.9	0.8	0.2	0.1	0.2	2.6	0.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	36.0	5.1	0.5	1.5	12.3	2.1	0.7	0.5	1.1	5.9	0.9	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	120.7	8.3	5.6	66.5	43.2	31.1	45.6	43.2	44.1	53.7	43.7	47.3
LnGrp LOS	F	A	A	E	D	C	D	D	D	D	D	D
Approach Vol, veh/h		1891			990			85			344	
Approach Delay, s/veh		54.9			43.1			44.3			50.4	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.3	95.1		26.6	57.4	46.0		26.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	12.0	57.0		49.0	27.0	42.0		49.0				
Max Q Clear Time (g_c+I1), s	5.4	19.2		21.5	57.4	31.9		6.4				
Green Ext Time (p_c), s	0.0	8.2		1.1	0.0	4.0		0.3				

Intersection Summary			
HCM 6th Ctrl Delay		50.6	
HCM 6th LOS		D	

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 1
North/South Street: ESCONDIDO AVE
East/West Street: RANCHERO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	37	Approach	120	Left	57	60
NB	Through	57	Departure	54	Through	43	53
	Right	26			Right	25	27
	Left	139	Approach	274	Left	121	141
SB	Through	7	Departure	301	Through	5	7
	Right	114			Right	161	179
	Left	155	Approach	668	Left	147	157
EB	Through	437	Departure	1,309	Through	524	495
	Right	25			Right	24	29
	Left	20	Approach	1,164	Left	25	30
WB	Through	432	Departure	670	Through	1,091	997
	Right	89			Right	110	131

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	20	Approach	56	Left	22	23
NB	Through	18	Departure	110	Through	12	18
	Right	17			Right	21	26
	Left	114	Approach	259	Left	127	165
SB	Through	38	Departure	725	Through	24	34
	Right	107			Right	103	114
	Left	502	Approach	1,863	Left	662	747
EB	Through	429	Departure	925	Through	1,094	956
	Right	45			Right	65	66
	Left	25	Approach	885	Left	21	26
WB	Through	639	Departure	1,243	Through	800	782
	Right	68			Right	51	73

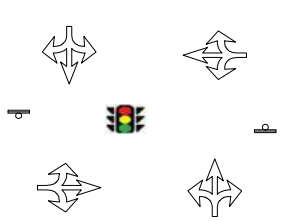
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

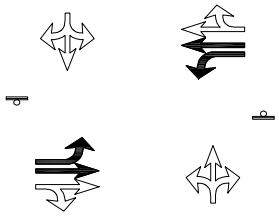
E/W STREET : RANCHERO RD
N/S STREET : TOPAZ AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH PER YEAR : 3.5%

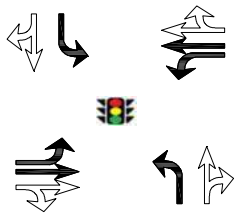
CONDITION DIAGRAMS



EXISTING GEOMETRICS



RANCHERO ROAD WIDENING PROJECT GEOMETRICS



PROPOSED ALTERNATIVE 2 PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	1		3		5		7	9	11	13
RANCHERO RD										
EB Left	9	1	10	0	10	74	84	9	9	83
EB Thru	553	39	592	80	672	6	598	620	700	626
EB Right	3	1	4	0	4	0	4	4	4	4
WB Left	4	1	5	10	15	10	15	8	18	18
WB Thru	522	37	559	60	619	50	609	1,136	1,196	1,186
WB Right	6	1	7	0	7	0	7	10	10	10
TOPAZ AVE										
NB Left	4	1	5	0	5	0	5	8	8	8
NB Thru	1	1	2	0	2	0	2	2	2	2
NB Right	1	1	2	13	15	13	15	2	15	15
SB Left	7	1	8	0	8	238	246	8	8	246
SB Thru	1	1	2	0	2	0	2	2	2	2
SB Right	5	1	6	0	6	10	16	8	8	18
TOTALS	**1,116**	**86**	**1,202**	**163**	**1,365**	**401**	**1,603**	**1,817**	**1,980**	**2,218**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	AW	8/30/2022	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : AM PEAK HOUR

N/S STREET : TOPAZ AVE
PHF : 0.88

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
3	0	4	0	0	0	0	0	0	0	0	0
1	0	3	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	1	0	0	2	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
1	101	2	0	3	0	0	2	0	0	3	0
1	120	0	0	4	0	0	2	0	0	5	0
0	159	2	0	2	0	0	2	0	0	2	0
4	97	0	0	10	0	0	2	0	0	5	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	139	2	0	2	0	0	2	0	0	3	0
0	167	4	0	3	0	0	4	0	0	1	0
1	108	0	0	7	0	0	1	0	0	3	0
0	85	3	0	10	0	0	2	0	0	4	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	9	**9**	**1%**	**9**
EBTH	42	499	**541**	**8%**	**553**
EBR	0	3	**3**	**1%**	**3**
WBL	0	4	**4**	**1%**	**4**
WBTH	42	477	**519**	**9%**	**522**
WBR	0	6	**6**	**1%**	**6**
TOPAZ AVE					
NBL	3	1	**4**	**75%**	**4**
NBTH	0	0	**1**	**1%**	**1**
NBR	0	1	**1**	**1%**	**1**
SBL	0	7	**7**	**1%**	**7**
SBTH	0	0	**1**	**1%**	**1**
SBR	0	5	**5**	**1%**	**5**

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	9	553	3	4	522	6	4	1	1	7	1	5
Future Vol, veh/h	9	553	3	4	522	6	4	1	1	7	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	8	1	1	9	1	75	1	1	1	1	1
Mvmt Flow	10	628	3	5	593	7	5	1	1	8	1	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	600	0	0	631	0	0	1260	1260	630	1258	1258	597
Stage 1	-	-	-	-	-	-	650	650	-	607	607	-
Stage 2	-	-	-	-	-	-	610	610	-	651	651	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.85	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.85	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.85	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	4.175	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	982	-	-	956	-	-	105	171	483	148	172	505
Stage 1	-	-	-	-	-	-	356	467	-	485	488	-
Stage 2	-	-	-	-	-	-	377	486	-	459	466	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	982	-	-	956	-	-	101	167	483	144	168	505
Mov Cap-2 Maneuver	-	-	-	-	-	-	101	167	-	144	168	-
Stage 1	-	-	-	-	-	-	350	460	-	477	484	-
Stage 2	-	-	-	-	-	-	369	482	-	449	459	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	35.2	24.2
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	126	982	-	-	956	-	-	202
HCM Lane V/C Ratio	0.054	0.01	-	-	0.005	-	-	0.073
HCM Control Delay (s)	35.2	8.7	0	-	8.8	0	-	24.2
HCM Lane LOS	E	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	592	4	5	559	7	5	2	2	8	2	6
Future Vol, veh/h	10	592	4	5	559	7	5	2	2	8	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	8	1	1	9	1	75	1	1	1	1	1
Mvmt Flow	11	673	5	6	635	8	6	2	2	9	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	643	0	0	678	0	0	1029	1353	339	1011	1351	322
Stage 1	-	-	-	-	-	-	698	698	-	651	651	-
Stage 2	-	-	-	-	-	-	331	655	-	360	700	-
Critical Hdwy	4.12	-	-	4.12	-	-	9	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4.25	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	945	-	-	917	-	-	112	150	660	195	150	677
Stage 1	-	-	-	-	-	-	264	443	-	426	465	-
Stage 2	-	-	-	-	-	-	490	463	-	634	442	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	945	-	-	917	-	-	108	147	660	189	147	677
Mov Cap-2 Maneuver	-	-	-	-	-	-	108	147	-	189	147	-
Stage 1	-	-	-	-	-	-	261	438	-	421	462	-
Stage 2	-	-	-	-	-	-	480	460	-	621	437	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	32.1	20.7
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	143	945	-	-	917	-	-	247
HCM Lane V/C Ratio	0.072	0.012	-	-	0.006	-	-	0.074
HCM Control Delay (s)	32.1	8.9	-	-	8.9	-	-	20.7
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	672	4	15	619	7	5	2	15	8	2	6
Future Vol, veh/h	10	672	4	15	619	7	5	2	15	8	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	8	1	1	9	1	75	1	1	1	1	1
Mvmt Flow	11	764	5	17	703	8	6	2	17	9	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	711	0	0	769	0	0	1176	1534	385	1146	1532	356
Stage 1	-	-	-	-	-	-	789	789	-	741	741	-
Stage 2	-	-	-	-	-	-	387	745	-	405	791	-
Critical Hdwy	4.12	-	-	4.12	-	-	9	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4.25	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	891	-	-	848	-	-	83	116	616	155	117	643
Stage 1	-	-	-	-	-	-	225	402	-	376	423	-
Stage 2	-	-	-	-	-	-	447	422	-	596	402	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	891	-	-	848	-	-	79	112	616	145	113	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	79	112	-	145	113	-
Stage 1	-	-	-	-	-	-	222	397	-	371	415	-
Stage 2	-	-	-	-	-	-	431	414	-	569	397	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	24.6	25.4
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	209	891	-	-	848	-	-	195
HCM Lane V/C Ratio	0.12	0.013	-	-	0.02	-	-	0.093
HCM Control Delay (s)	24.6	9.1	-	-	9.3	-	-	25.4
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	598	4	15	609	7	5	2	15	246	2	16
Future Volume (veh/h)	84	598	4	15	609	7	5	2	15	246	2	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1688	1786	1786	1674	1786	747	1786	1786	1786	1786	1786
Adj Flow Rate, veh/h	95	680	5	17	692	8	6	2	17	280	2	18
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	1	8	1	1	9	1	75	1	1	1	1	1
Cap, veh/h	183	1234	9	95	1052	12	32	32	269	365	56	504
Arrive On Green	0.11	0.38	0.38	0.06	0.33	0.33	0.05	0.20	0.20	0.21	0.36	0.36
Sat Flow, veh/h	1701	3263	24	1701	3220	37	711	162	1376	1701	154	1383
Grp Volume(v), veh/h	95	334	351	17	342	358	6	0	19	280	0	20
Grp Sat Flow(s),veh/h/ln	1701	1603	1683	1701	1590	1667	711	0	1538	1701	0	1537
Q Serve(g_s), s	2.7	8.4	8.4	0.5	9.4	9.4	0.4	0.0	0.5	7.9	0.0	0.4
Cycle Q Clear(g_c), s	2.7	8.4	8.4	0.5	9.4	9.4	0.4	0.0	0.5	7.9	0.0	0.4
Prop In Lane	1.00		0.01	1.00		0.02	1.00		0.89	1.00		0.90
Lane Grp Cap(c), veh/h	183	607	637	95	519	545	32	0	300	365	0	560
V/C Ratio(X)	0.52	0.55	0.55	0.18	0.66	0.66	0.19	0.00	0.06	0.77	0.00	0.04
Avail Cap(c_a), veh/h	266	813	854	266	807	846	111	0	1261	365	0	1350
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.6	12.5	12.5	23.1	14.8	14.8	23.5	0.0	16.8	18.9	0.0	10.5
Incr Delay (d2), s/veh	2.3	0.8	0.7	0.9	1.4	1.4	2.7	0.0	0.1	9.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.3	2.4	0.2	2.7	2.9	0.1	0.0	0.2	3.6	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	13.3	13.3	24.0	16.2	16.2	26.3	0.0	16.9	28.4	0.0	10.5
LnGrp LOS	C	B	B	C	B	B	C	A	B	C	A	B
Approach Vol, veh/h		780			717			25			300	
Approach Delay, s/veh		14.6			16.4			19.1			27.2	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	21.4	4.3	20.7	7.5	18.7	13.0	12.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	24.0	6.0	43.0	6.0	24.0	9.0	40.0
Max Q Clear Time (g_c+I1), s	2.5	10.4	2.4	2.4	4.7	11.4	9.9	2.5
Green Ext Time (p_c), s	0.0	3.3	0.0	0.1	0.0	3.3	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	17.4
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	620	4	8	1136	10	8	2	2	8	2	8
Future Vol, veh/h	9	620	4	8	1136	10	8	2	2	8	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	8	1	1	9	1	75	1	1	1	1	1
Mvmt Flow	9	653	4	8	1196	11	8	2	2	8	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1207	0	0	657	0	0	1288	1896	329	1564	1893	604
Stage 1	-	-	-	-	-	-	673	673	-	1218	1218	-
Stage 2	-	-	-	-	-	-	615	1223	-	346	675	-
Critical Hdwy	4.12	-	-	4.12	-	-	9	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4.25	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	579	-	-	933	-	-	66	70	670	76	70	444
Stage 1	-	-	-	-	-	-	275	455	-	193	253	-
Stage 2	-	-	-	-	-	-	304	252	-	646	454	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	579	-	-	933	-	-	62	68	670	73	68	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	62	68	-	73	68	-
Stage 1	-	-	-	-	-	-	271	448	-	190	251	-
Stage 2	-	-	-	-	-	-	293	250	-	631	447	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	63.4	42.4
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	74	579	-	-	933	-	-	115
HCM Lane V/C Ratio	0.171	0.016	-	-	0.009	-	-	0.165
HCM Control Delay (s)	63.4	11.3	-	-	8.9	-	-	42.4
HCM Lane LOS	F	B	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	700	4	18	1196	10	8	2	15	8	2	8
Future Vol, veh/h	9	700	4	18	1196	10	8	2	15	8	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	8	1	1	9	1	75	1	1	1	1	1
Mvmt Flow	9	737	4	19	1259	11	8	2	16	8	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1270	0	0	741	0	0	1426	2065	371	1691	2062	635
Stage 1	-	-	-	-	-	-	757	757	-	1303	1303	-
Stage 2	-	-	-	-	-	-	669	1308	-	388	759	-
Critical Hdwy	4.12	-	-	4.12	-	-	9	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4.25	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	548	-	-	868	-	-	50	55	629	61	55	424
Stage 1	-	-	-	-	-	-	238	416	-	171	231	-
Stage 2	-	-	-	-	-	-	277	229	-	610	415	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	548	-	-	868	-	-	46	53	629	56	53	424
Mov Cap-2 Maneuver	-	-	-	-	-	-	46	53	-	56	53	-
Stage 1	-	-	-	-	-	-	234	409	-	168	226	-
Stage 2	-	-	-	-	-	-	263	224	-	582	408	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	49.8	55.4
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	106	548	-	-	868	-	-	90
HCM Lane V/C Ratio	0.248	0.017	-	-	0.022	-	-	0.211
HCM Control Delay (s)	49.8	11.7	-	-	9.2	-	-	55.4
HCM Lane LOS	E	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	626	4	18	1186	10	8	2	15	246	2	18
Future Volume (veh/h)	83	626	4	18	1186	10	8	2	15	246	2	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1688	1786	1786	1674	1786	747	1786	1786	1786	1786	1786
Adj Flow Rate, veh/h	87	659	4	19	1248	11	8	2	16	259	2	19
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	1	9	1	75	1	1	1	1	1
Cap, veh/h	152	1722	10	73	1554	14	24	22	176	338	43	407
Arrive On Green	0.09	0.53	0.53	0.04	0.48	0.48	0.03	0.13	0.13	0.20	0.29	0.29
Sat Flow, veh/h	1701	3268	20	1701	3230	28	711	171	1369	1701	146	1390
Grp Volume(v), veh/h	87	323	340	19	614	645	8	0	18	259	0	21
Grp Sat Flow(s),veh/h/ln	1701	1603	1684	1701	1590	1669	711	0	1540	1701	0	1536
Q Serve(g_s), s	3.8	9.3	9.3	0.8	25.4	25.4	0.9	0.0	0.8	11.2	0.0	0.8
Cycle Q Clear(g_c), s	3.8	9.3	9.3	0.8	25.4	25.4	0.9	0.0	0.8	11.2	0.0	0.8
Prop In Lane	1.00		0.01	1.00		0.02	1.00		0.89	1.00		0.90
Lane Grp Cap(c), veh/h	152	845	888	73	765	803	24	0	198	338	0	450
V/C Ratio(X)	0.57	0.38	0.38	0.26	0.80	0.80	0.33	0.00	0.09	0.77	0.00	0.05
Avail Cap(c_a), veh/h	175	989	1039	175	981	1029	73	0	831	415	0	1046
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.0	10.9	10.9	36.0	17.1	17.1	36.7	0.0	29.9	29.5	0.0	19.7
Incr Delay (d2), s/veh	3.4	0.3	0.3	1.9	3.8	3.6	7.8	0.0	0.2	6.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	2.7	2.8	0.4	8.2	8.6	0.2	0.0	0.3	4.9	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	11.2	11.2	37.9	20.9	20.7	44.6	0.0	30.1	36.2	0.0	19.7
LnGrp LOS	D	B	B	D	C	C	D	A	C	D	A	B
Approach Vol, veh/h		750			1278			26			280	
Approach Delay, s/veh		14.2			21.1			34.5			35.0	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	43.0	4.6	24.8	8.9	39.4	17.5	12.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	46.0	6.0	51.0	6.0	46.0	17.0	40.0
Max Q Clear Time (g_c+I1), s	2.8	11.3	2.9	2.8	5.8	27.4	13.2	2.8
Green Ext Time (p_c), s	0.0	4.2	0.0	0.1	0.0	8.0	0.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : TOPAZ AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	2		4		6		8	10	12	14
RANCHERO RD										
EB Left	8	1	9	0	9	95	104	13	13	108
EB Thru	538	38	576	84	660	-11	565	1,208	1,292	1,197
EB Right	2	1	3	0	3	0	3	6	6	6
WB Left	2	1	3	15	18	15	18	4	19	19
WB Thru	742	52	794	87	881	72	866	894	981	966
WB Right	7	1	8	0	8	0	8	7	7	7
TOPAZ AVE										
NB Left	4	1	5	0	5	0	5	6	6	6
NB Thru	2	1	3	0	3	0	3	3	3	3
NB Right	5	1	6	14	20	14	20	9	23	23
SB Left	13	1	14	0	14	340	354	19	19	359
SB Thru	1	1	2	0	2	0	2	2	2	2
SB Right	6	1	7	0	7	15	22	7	7	22
TOTALS	**1,330**	**100**	**1,430**	**200**	**1,630**	**540**	**1,970**	**2,178**	**2,378**	**2,718**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	AW	30-Aug-22	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : PM PEAK HOUR
N/S STREET : TOPAZ AVE
PHF : 0.85

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
3	0	3	0	0	0	0	0	0	0	0	0
1	0	5	0	0	0	0	0	0	0	0	0
2	0	3	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	1	0	0	0	0	0	0	0	0	0
4	0	1	0	0	0	0	0	0	0	0	0
1	1	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	2

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	171	0	0	0	0	0	1	0	0	2	0
3	135	1	0	0	0	0	1	0	0	1	0
0	190	1	0	0	0	0	1	0	0	2	0
2	222	0	0	3	0	0	0	0	0	1	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	97	0	0	2	0	0	2	0	0	5	0
1	135	3	0	2	0	0	1	0	0	2	0
1	112	4	0	2	0	0	2	0	0	2	0
0	140	1	0	4	0	0	1	0	0	1	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	8	**8**	**1%**	**8**
EBTH	26	484	**510**	**6%**	**538**
EBR	0	2	**2**	**1%**	**2**
WBL	0	2	**2**	**1%**	**2**
WBTH	12	718	**730**	**2%**	**742**
WBR	0	7	**7**	**1%**	**7**
TOPAZ AVE					
NBL	2	2	**4**	**50%**	**4**
NBTH	0	2	**2**	**1%**	**2**
NBR	0	5	**5**	**1%**	**5**
SBL	0	12	**12**	**1%**	**13**
SBTH	0	0	**1**	**1%**	**1**
SBR	0	6	**6**	**1%**	**6**

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	8	538	2	2	742	7	4	2	5	13	1	6
Future Vol, veh/h	8	538	2	2	742	7	4	2	5	13	1	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	6	1	1	2	1	50	1	1	1	1	1
Mvmt Flow	9	633	2	2	873	8	5	2	6	15	1	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	881	0	0	635	0	0	1537	1537	634	1537	1534	877
Stage 1	-	-	-	-	-	-	652	652	-	881	881	-
Stage 2	-	-	-	-	-	-	885	885	-	656	653	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.6	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.6	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.95	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	772	-	-	953	-	-	74	116	481	95	117	349
Stage 1	-	-	-	-	-	-	386	466	-	343	366	-
Stage 2	-	-	-	-	-	-	281	364	-	456	465	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	772	-	-	953	-	-	71	113	481	91	114	349
Mov Cap-2 Maneuver	-	-	-	-	-	-	71	113	-	91	114	-
Stage 1	-	-	-	-	-	-	379	458	-	337	365	-
Stage 2	-	-	-	-	-	-	273	363	-	440	457	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	35.7	43
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	130	772	-	-	953	-	-	118
HCM Lane V/C Ratio	0.1	0.012	-	-	0.002	-	-	0.199
HCM Control Delay (s)	35.7	9.7	0	-	8.8	0	-	43
HCM Lane LOS	E	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	576	3	3	794	8	5	3	6	14	2	7
Future Vol, veh/h	9	576	3	3	794	8	5	3	6	14	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	6	1	1	2	1	50	1	1	1	1	1
Mvmt Flow	11	678	4	4	934	9	6	4	7	16	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	943	0	0	682	0	0	1178	1653	341	1310	1651	472
Stage 1	-	-	-	-	-	-	702	702	-	947	947	-
Stage 2	-	-	-	-	-	-	476	951	-	363	704	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.5	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	729	-	-	913	-	-	100	98	658	118	99	541
Stage 1	-	-	-	-	-	-	300	441	-	283	340	-
Stage 2	-	-	-	-	-	-	430	339	-	631	440	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	729	-	-	913	-	-	95	96	658	112	97	541
Mov Cap-2 Maneuver	-	-	-	-	-	-	95	96	-	112	97	-
Stage 1	-	-	-	-	-	-	296	434	-	279	339	-
Stage 2	-	-	-	-	-	-	419	338	-	610	433	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	31.7	35.4
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	151	729	-	-	913	-	-	145
HCM Lane V/C Ratio	0.109	0.015	-	-	0.004	-	-	0.187
HCM Control Delay (s)	31.7	10	-	-	9	-	-	35.4
HCM Lane LOS	D	B	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	660	3	18	881	8	5	3	20	14	2	7
Future Vol, veh/h	9	660	3	18	881	8	5	3	20	14	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	6	1	1	2	1	50	1	1	1	1	1
Mvmt Flow	11	776	4	21	1036	9	6	4	24	16	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1045	0	0	780	0	0	1361	1887	390	1495	1885	523
Stage 1	-	-	-	-	-	-	800	800	-	1083	1083	-
Stage 2	-	-	-	-	-	-	561	1087	-	412	802	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.5	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	667	-	-	840	-	-	70	70	612	86	71	501
Stage 1	-	-	-	-	-	-	257	398	-	234	294	-
Stage 2	-	-	-	-	-	-	376	292	-	591	397	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	667	-	-	840	-	-	65	67	612	77	68	501
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	67	-	77	68	-
Stage 1	-	-	-	-	-	-	253	392	-	230	287	-
Stage 2	-	-	-	-	-	-	358	285	-	554	391	-

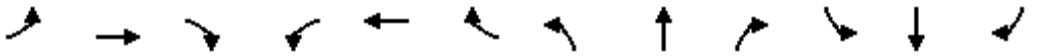
Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	29.3	52.6
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	181	667	-	-	840	-	-	102
HCM Lane V/C Ratio	0.182	0.016	-	-	0.025	-	-	0.265
HCM Control Delay (s)	29.3	10.5	-	-	9.4	-	-	52.6
HCM Lane LOS	D	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	565	3	18	866	8	5	3	20	354	2	22
Future Volume (veh/h)	104	565	3	18	866	8	5	3	20	354	2	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1716	1786	1786	1772	1786	1098	1786	1786	1786	1786	1786
Adj Flow Rate, veh/h	122	665	4	21	1019	9	6	4	24	416	2	26
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	1	6	1	1	2	1	50	1	1	1	1	1
Cap, veh/h	191	1461	9	74	1269	11	33	28	166	494	42	547
Arrive On Green	0.11	0.44	0.44	0.04	0.37	0.37	0.03	0.13	0.13	0.29	0.38	0.38
Sat Flow, veh/h	1701	3322	20	1701	3420	30	1046	221	1326	1701	109	1421
Grp Volume(v), veh/h	122	326	343	21	502	526	6	0	28	416	0	28
Grp Sat Flow(s),veh/h/ln	1701	1630	1712	1701	1683	1766	1046	0	1547	1701	0	1530
Q Serve(g_s), s	5.5	11.2	11.2	1.0	21.3	21.3	0.4	0.0	1.3	18.3	0.0	0.9
Cycle Q Clear(g_c), s	5.5	11.2	11.2	1.0	21.3	21.3	0.4	0.0	1.3	18.3	0.0	0.9
Prop In Lane	1.00		0.01	1.00		0.02	1.00		0.86	1.00		0.93
Lane Grp Cap(c), veh/h	191	717	753	74	625	656	33	0	194	494	0	589
V/C Ratio(X)	0.64	0.46	0.46	0.28	0.80	0.80	0.18	0.00	0.14	0.84	0.00	0.05
Avail Cap(c_a), veh/h	192	756	795	171	760	798	105	0	815	640	0	1228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.8	15.6	15.6	36.9	22.5	22.5	37.6	0.0	31.1	26.6	0.0	15.4
Incr Delay (d2), s/veh	6.8	0.5	0.4	2.0	5.2	4.9	2.6	0.0	0.3	7.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	3.6	3.8	0.4	8.1	8.5	0.1	0.0	0.5	8.1	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	16.1	16.1	38.9	27.6	27.4	40.3	0.0	31.4	34.4	0.0	15.4
LnGrp LOS	D	B	B	D	C	C	D	A	C	C	A	B
Approach Vol, veh/h		791			1049			34			444	
Approach Delay, s/veh		19.9			27.7			33.0			33.2	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	37.1	4.5	32.7	11.0	31.6	25.2	12.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	35.0	6.0	62.0	7.0	34.0	28.0	40.0
Max Q Clear Time (g_c+I1), s	3.3	13.2	2.4	2.9	7.5	23.3	20.3	3.3
Green Ext Time (p_c), s	0.0	3.5	0.0	0.2	0.0	4.3	0.9	0.1

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	747	956	66	26	782	73	23	18	26	165	34	114
Future Volume (veh/h)	747	956	66	26	782	73	23	18	26	165	34	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1716	1786	1687	1744	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	786	1006	69	27	823	77	24	19	27	174	36	120
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	6	1	1	4	1	1	1	1	1	1	1
Cap, veh/h	704	2417	1122	57	1121	512	243	316	268	273	316	268
Arrive On Green	0.44	0.74	0.74	0.04	0.34	0.34	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1606	3260	1514	1606	3313	1514	1172	1786	1514	1294	1786	1514
Grp Volume(v), veh/h	786	1006	69	27	823	77	24	19	27	174	36	120
Grp Sat Flow(s),veh/h/ln	1606	1630	1514	1606	1657	1514	1172	1786	1514	1294	1786	1514
Q Serve(g_s), s	57.0	15.0	1.6	2.1	28.4	4.6	2.3	1.2	1.9	16.8	2.2	9.2
Cycle Q Clear(g_c), s	57.0	15.0	1.6	2.1	28.4	4.6	4.5	1.2	1.9	17.9	2.2	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	704	2417	1122	57	1121	512	243	316	268	273	316	268
V/C Ratio(X)	1.12	0.42	0.06	0.48	0.73	0.15	0.10	0.06	0.10	0.64	0.11	0.45
Avail Cap(c_a), veh/h	704	2417	1122	161	1121	512	495	701	594	552	701	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	6.3	4.5	61.5	37.8	30.0	46.8	44.5	44.8	52.0	44.9	47.8
Incr Delay (d2), s/veh	70.5	0.5	0.1	6.1	4.3	0.6	0.2	0.1	0.2	2.5	0.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	34.5	4.2	0.4	0.9	11.7	1.7	0.7	0.5	0.7	5.5	1.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.0	6.8	4.7	67.6	42.1	30.6	47.0	44.6	45.0	54.4	45.1	49.0
LnGrp LOS	F	A	A	E	D	C	D	D	D	D	D	D
Approach Vol, veh/h		1861			927			70			330	
Approach Delay, s/veh		49.0			41.9			45.6			51.4	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	98.4		25.0	59.0	46.0		25.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	11.0	58.0		49.0	27.0	42.0		49.0				
Max Q Clear Time (g_c+I1), s	4.1	17.0		19.9	59.0	30.4		6.5				
Green Ext Time (p_c), s	0.0	8.0		1.1	0.0	4.1		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		47.1	
HCM 6th LOS		D	

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1292	6	19	981	7	6	3	23	19	2	7
Future Vol, veh/h	13	1292	6	19	981	7	6	3	23	19	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	6	1	1	2	1	50	1	1	1	1	1
Mvmt Flow	14	1360	6	20	1033	7	6	3	24	20	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1040	0	0	1366	0	0	1949	2471	683	1787	2471	520
Stage 1	-	-	-	-	-	-	1391	1391	-	1077	1077	-
Stage 2	-	-	-	-	-	-	558	1080	-	710	1394	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.5	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	670	-	-	504	-	-	22	30	394	52	30	504
Stage 1	-	-	-	-	-	-	97	209	-	236	296	-
Stage 2	-	-	-	-	-	-	378	295	-	393	209	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	670	-	-	504	-	-	20	28	394	43	28	504
Mov Cap-2 Maneuver	-	-	-	-	-	-	20	28	-	43	28	-
Stage 1	-	-	-	-	-	-	95	205	-	231	284	-
Stage 2	-	-	-	-	-	-	355	283	-	356	205	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	99.3	137.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	69	670	-	-	504	-	-	53
HCM Lane V/C Ratio	0.488	0.02	-	-	0.04	-	-	0.556
HCM Control Delay (s)	99.3	10.5	-	-	12.4	-	-	137.3
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	2	0.1	-	-	0.1	-	-	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	108	1197	6	19	966	7	6	3	23	359	2	22
Future Volume (veh/h)	108	1197	6	19	966	7	6	3	23	359	2	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1786	1716	1786	1786	1772	1786	1098	1786	1786	1786	1786	1786
Adj Flow Rate, veh/h	114	1260	6	20	1017	7	6	3	24	378	2	23
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	6	1	1	2	1	50	1	1	1	1	1
Cap, veh/h	183	1530	7	74	1356	9	33	22	175	453	44	511
Arrive On Green	0.11	0.46	0.46	0.04	0.40	0.40	0.03	0.13	0.13	0.27	0.36	0.36
Sat Flow, veh/h	1701	3327	16	1701	3427	24	1046	171	1369	1701	123	1410
Grp Volume(v), veh/h	114	617	649	20	499	525	6	0	27	378	0	25
Grp Sat Flow(s),veh/h/ln	1701	1630	1713	1701	1683	1768	1046	0	1540	1701	0	1532
Q Serve(g_s), s	5.0	25.7	25.8	0.9	19.9	19.9	0.4	0.0	1.2	16.4	0.0	0.8
Cycle Q Clear(g_c), s	5.0	25.7	25.8	0.9	19.9	19.9	0.4	0.0	1.2	16.4	0.0	0.8
Prop In Lane	1.00		0.01	1.00		0.01	1.00		0.89	1.00		0.92
Lane Grp Cap(c), veh/h	183	749	788	74	666	699	33	0	197	453	0	555
V/C Ratio(X)	0.62	0.82	0.82	0.27	0.75	0.75	0.18	0.00	0.14	0.83	0.00	0.05
Avail Cap(c_a), veh/h	196	896	942	174	904	949	107	0	827	522	0	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.4	18.4	18.4	36.2	20.3	20.3	36.9	0.0	30.3	27.1	0.0	16.2
Incr Delay (d2), s/veh	5.4	5.4	5.1	1.9	2.4	2.3	2.6	0.0	0.3	10.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	9.0	9.4	0.4	7.1	7.4	0.1	0.0	0.5	7.6	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	23.7	23.5	38.1	22.7	22.6	39.4	0.0	30.6	37.0	0.0	16.2
LnGrp LOS	D	C	C	D	C	C	D	A	C	D	A	B
Approach Vol, veh/h		1380			1044			33			403	
Approach Delay, s/veh		24.9			22.9			32.2			35.8	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	38.0	4.5	30.3	10.4	32.9	22.8	12.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	41.0	6.0	56.0	7.0	40.0	22.0	40.0
Max Q Clear Time (g_c+I1), s	2.9	27.8	2.4	2.8	7.0	21.9	18.4	3.2
Green Ext Time (p_c), s	0.0	6.2	0.0	0.1	0.0	5.6	0.4	0.1

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 2
North/South Street: TOPAZ AVE
East/West Street: RANCHERO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	4	Approach	11	Left	8	8
NB	Through	1	Departure	11	Through	1	2
	Right	1			Right	2	2
	Left	7	Approach	13	Left	7	8
SB	Through	1	Departure	16	Through	1	2
	Right	5			Right	5	8
	Left	9	Approach	633	Left	7	9
EB	Through	553	Departure	1,154	Through	619	620
	Right	3			Right	3	4
	Left	4	Approach	1,152	Left	7	8
WB	Through	522	Departure	628	Through	1,141	1,136
	Right	6			Right	8	10

P.M. Peak Hour

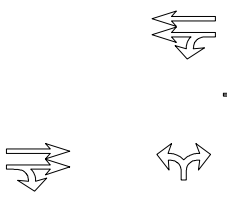
Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	4	Approach	15	Left	6	6
NB	Through	2	Departure	11	Through	2	3
	Right	5			Right	7	9
	Left	13	Approach	20	Left	13	19
SB	Through	1	Departure	17	Through	1	2
	Right	6			Right	6	7
	Left	8	Approach	1,231	Left	10	13
EB	Through	538	Departure	905	Through	1,217	1,208
	Right	2			Right	6	6
	Left	2	Approach	904	Left	3	4
WB	Through	742	Departure	1,237	Through	893	894
	Right	7			Right	5	7

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

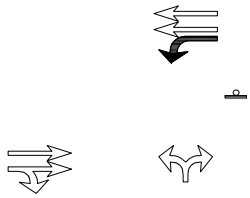
E/W STREET : RANCHERO RD
N/S STREET : TROPICAN ROSE AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



RANCHERO ROAD WIDENING PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	1		3		5		7	9	11	13
RANCHERO RD										
EB Left	0	0	0	0	0	0	0	0	0	0
EB Thru	560	40	600	93	693	256	856	630	723	886
EB Right	1	1	2	0	2	0	2	4	4	4
WB Left	1	1	2	0	2	0	2	5	5	5
WB Thru	528	37	565	70	635	60	625	1,145	1,215	1,205
WB Right	0	0	0	0	0	0	0	0	0	0
TROPICAN ROSE AVE										
NB Left	4	1	5	0	5	0	5	8	8	8
NB Thru	0	0	0	0	0	0	0	0	0	0
NB Right	1	1	2	0	2	0	2	2	2	2
SB Left	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	0	0	0	0	0	0	0
TOTALS	**1,095**	**81**	**1,176**	**163**	**1,339**	**316**	**1,492**	**1,794**	**1,957**	**2,110**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	AW	8/30/2022	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : AM PEAK HOUR

N/S STREET : TROPICAN ROSE AVE
PHF : 0.88

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	2	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	102	0	0	3	0	0	2	0	0	3	0
0	118	0	0	4	0	0	2	0	0	5	0
0	163	0	0	2	0	0	2	0	0	2	0
0	102	0	0	10	0	0	3	0	0	5	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	137	0	0	2	0	0	2	0	0	3	0
0	166	0	0	3	0	0	4	0	0	1	0
0	111	0	0	7	0	0	1	0	0	3	0
1	86	0	0	10	0	0	4	0	0	4	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	0	**0**	**0%**	**0**
EBTH	44	500	**544**	**9%**	**560**
EBR	0	1	**1**	**1%**	**1**
WBL	0	0	**1**	**1%**	**1**
WBTH	43	485	**528**	**9%**	**528**
WBR	0	0	**0**	**0%**	**0**
TROPICAN ROSE AVE					
NBL	0	4	**4**	**1%**	**4**
NBTH	0	0	**0**	**0%**	**0**
NBR	0	1	**1**	**1%**	**1**
SBL	0	0	**0**	**0%**	**0**
SBTH	0	0	**0**	**0%**	**0**
SBR	0	0	**0**	**0%**	**0**

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	560	1	1	528	4	1
Future Vol, veh/h	560	1	1	528	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	636	1	1	600	5	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	637	0	939	319
Stage 1	-	-	-	-	637	-
Stage 2	-	-	-	-	302	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	949	-	264	680
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	727	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	949	-	263	680
Mov Cap-2 Maneuver	-	-	-	-	263	-
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	726	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	300	-	-	949	-
HCM Lane V/C Ratio	0.019	-	-	0.001	-
HCM Control Delay (s)	17.2	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	600	2	2	565	5	2
Future Vol, veh/h	600	2	2	565	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	90	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	682	2	2	642	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	684	0	1008	342
Stage 1	-	-	-	-	683	-
Stage 2	-	-	-	-	325	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	912	-	239	657
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	708	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	912	-	239	657
Mov Cap-2 Maneuver	-	-	-	-	358	-
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	707	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	412	-	-	912	-
HCM Lane V/C Ratio	0.019	-	-	0.002	-
HCM Control Delay (s)	13.9	-	-	9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	693	2	2	635	5	2
Future Vol, veh/h	693	2	2	635	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	788	2	2	722	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	790	0	1154	395
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	365	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	832	-	192	607
Stage 1	-	-	-	-	411	-
Stage 2	-	-	-	-	676	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	832	-	192	607
Mov Cap-2 Maneuver	-	-	-	-	313	-
Stage 1	-	-	-	-	411	-
Stage 2	-	-	-	-	675	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	363	-	-	832	-
HCM Lane V/C Ratio	0.022	-	-	0.003	-
HCM Control Delay (s)	15.1	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	856	2	2	625	5	2
Future Vol, veh/h	856	2	2	625	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	973	2	2	710	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	975	0	1333	488
Stage 1	-	-	-	-	974	-
Stage 2	-	-	-	-	359	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	709	-	147	528
Stage 1	-	-	-	-	329	-
Stage 2	-	-	-	-	680	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	709	-	147	528
Mov Cap-2 Maneuver	-	-	-	-	258	-
Stage 1	-	-	-	-	329	-
Stage 2	-	-	-	-	678	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	302	-	-	709	-
HCM Lane V/C Ratio	0.026	-	-	0.003	-
HCM Control Delay (s)	17.2	-	-	10.1	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	630	4	5	1145	8	2
Future Vol, veh/h	630	4	5	1145	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	90	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	663	4	5	1205	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	667	0	1278	334
Stage 1	-	-	-	-	665	-
Stage 2	-	-	-	-	613	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	925	-	159	665
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	506	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	925	-	158	665
Mov Cap-2 Maneuver	-	-	-	-	295	-
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	503	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	332	-	-	925	-
HCM Lane V/C Ratio	0.032	-	-	0.006	-
HCM Control Delay (s)	16.2	-	-	8.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	723	4	5	1215	8	2
Future Vol, veh/h	723	4	5	1215	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	761	4	5	1279	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	765	0	1413	383
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	650	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	851	-	130	618
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	484	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	851	-	129	618
Mov Cap-2 Maneuver	-	-	-	-	264	-
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	481	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	298	-	-	851	-
HCM Lane V/C Ratio	0.035	-	-	0.006	-
HCM Control Delay (s)	17.5	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	886	4	5	1205	8	2
Future Vol, veh/h	886	4	5	1205	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	933	4	5	1268	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	937	0	1579	469
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	644	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	733	-	101	544
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	488	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	733	-	100	544
Mov Cap-2 Maneuver	-	-	-	-	228	-
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	485	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	258	-	-	733	-
HCM Lane V/C Ratio	0.041	-	-	0.007	-
HCM Control Delay (s)	19.5	-	-	9.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : TROPICAN ROSE AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	2		4		6		8	10	12	14
RANCHERO RD										
EB Left	0	0	0	0	0	0	0	0	0	0
EB Thru	551	39	590	98	688	343	933	1,230	1,328	1,573
EB Right	5	1	6	0	6	0	6	19	19	19
WB Left	1	1	2	0	2	0	2	3	3	3
WB Thru	747	53	800	102	902	87	887	901	1,003	988
WB Right	0	0	0	0	0	0	0	0	0	0
TROPICAN ROSE AVE										
NB Left	4	1	5	0	5	0	5	6	6	6
NB Thru	0	0	0	0	0	0	0	0	0	0
NB Right	1	1	2	0	2	0	2	2	2	2
SB Left	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	0	0	0	0	0	0	0
TOTALS	**1,309**	**96**	**1,405**	**200**	**1,605**	**430**	**1,835**	**2,161**	**2,361**	**2,591**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	AW	30-Aug-22	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : PM PEAK HOUR
N/S STREET : TROPICAN ROSE AVE
PHF : 0.85

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	174	0	0	0	0	0	1	0	0	2	0
0	148	1	0	0	0	0	1	0	0	1	0
0	187	0	0	0	0	0	1	0	0	2	0
0	226	0	0	3	0	0	0	0	0	1	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	101	0	0	2	0	0	2	0	0	5	0
0	145	0	0	2	0	0	1	0	0	2	0
4	115	0	0	3	0	0	2	0	0	2	0
1	140	0	0	3	0	0	1	0	0	1	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	0	**0**	**0%**	**0**
EBTH	26	501	**527**	**5%**	**551**
EBR	0	5	**5**	**1%**	**5**
WBL	0	1	**1**	**1%**	**1**
WBTH	12	735	**747**	**2%**	**747**
WBR	0	0	**0**	**0%**	**0**
TROPICAN ROSE AVE					
NBL	0	4	**4**	**1%**	**4**
NBTH	0	0	**0**	**0%**	**0**
NBR	0	0	**1**	**1%**	**1**
SBL	0	0	**0**	**0%**	**0**
SBTH	0	0	**0**	**0%**	**0**
SBR	0	0	**0**	**0%**	**0**

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	551	5	1	747	4	1
Future Vol, veh/h	551	5	1	747	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	648	6	1	879	5	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	654	0	1093	327
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	442	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	936	-	210	672
Stage 1	-	-	-	-	484	-
Stage 2	-	-	-	-	618	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	936	-	210	672
Mov Cap-2 Maneuver	-	-	-	-	210	-
Stage 1	-	-	-	-	484	-
Stage 2	-	-	-	-	617	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	243	-	-	936	-
HCM Lane V/C Ratio	0.024	-	-	0.001	-
HCM Control Delay (s)	20.2	-	-	8.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	590	6	2	800	5	2
Future Vol, veh/h	590	6	2	800	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	694	7	2	941	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	701	0	1173	351
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	475	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	899	-	187	648
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	595	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	899	-	186	648
Mov Cap-2 Maneuver	-	-	-	-	318	-
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	592	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	372	-	-	899	-
HCM Lane V/C Ratio	0.022	-	-	0.003	-
HCM Control Delay (s)	14.9	-	-	9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	688	6	2	902	5	2
Future Vol, veh/h	688	6	2	902	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	809	7	2	1061	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	816	0	1348	408
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	535	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	814	-	143	595
Stage 1	-	-	-	-	399	-
Stage 2	-	-	-	-	554	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	814	-	143	595
Mov Cap-2 Maneuver	-	-	-	-	274	-
Stage 1	-	-	-	-	399	-
Stage 2	-	-	-	-	553	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	324	-	-	814	-
HCM Lane V/C Ratio	0.025	-	-	0.003	-
HCM Control Delay (s)	16.4	-	-	9.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	933	6	2	887	5	2
Future Vol, veh/h	933	6	2	887	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1098	7	2	1044	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1105	0	1628	553
Stage 1	-	-	-	-	1102	-
Stage 2	-	-	-	-	526	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	633	-	94	479
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	560	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	633	-	94	479
Mov Cap-2 Maneuver	-	-	-	-	208	-
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	558	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	20
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	248	-	-	633	-
HCM Lane V/C Ratio	0.033	-	-	0.004	-
HCM Control Delay (s)	20	-	-	10.7	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1208	6	4	894	7	6	3	9	19	2	7
Future Vol, veh/h	13	1208	6	4	894	7	6	3	9	19	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	6	1	1	2	1	50	1	1	1	1	1
Mvmt Flow	14	1272	6	4	941	7	6	3	9	20	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	948	0	0	1278	0	0	1783	2259	639	1619	2259	474
Stage 1	-	-	-	-	-	-	1303	1303	-	953	953	-
Stage 2	-	-	-	-	-	-	480	956	-	666	1306	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.5	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	726	-	-	544	-	-	31	41	421	69	41	539
Stage 1	-	-	-	-	-	-	113	231	-	280	338	-
Stage 2	-	-	-	-	-	-	427	337	-	417	230	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	726	-	-	544	-	-	29	40	421	62	40	539
Mov Cap-2 Maneuver	-	-	-	-	-	-	29	40	-	62	40	-
Stage 1	-	-	-	-	-	-	111	227	-	275	336	-
Stage 2	-	-	-	-	-	-	415	335	-	394	226	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	92.6	79.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	59	726	-	-	544	-	-	76
HCM Lane V/C Ratio	0.321	0.019	-	-	0.008	-	-	0.388
HCM Control Delay (s)	92.6	10.1	-	-	11.7	-	-	79.7
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0	-	-	1.5

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1328	19	3	1003	6	2
Future Vol, veh/h	1328	19	3	1003	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1398	20	3	1056	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1418	0	1942	709
Stage 1	-	-	-	-	1408	-
Stage 2	-	-	-	-	534	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	481	-	58	379
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	555	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	481	-	58	379
Mov Cap-2 Maneuver	-	-	-	-	150	-
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	552	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	26.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	177	-	-	481	-
HCM Lane V/C Ratio	0.048	-	-	0.007	-
HCM Control Delay (s)	26.4	-	-	12.5	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1573	19	3	988	6	2
Future Vol, veh/h	1573	19	3	988	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1656	20	3	1040	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1676	0	2192	838
Stage 1	-	-	-	-	1666	-
Stage 2	-	-	-	-	526	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	383	-	39	312
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	560	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	383	-	39	312
Mov Cap-2 Maneuver	-	-	-	-	113	-
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	556	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	33.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	134	-	-	383	-
HCM Lane V/C Ratio	0.063	-	-	0.008	-
HCM Control Delay (s)	33.7	-	-	14.5	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 3
North/South Street: TROPICAN ROSE AVE
East/West Street: RANCHERO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	4	Approach	9	Left	7	8
NB	Through	0	Departure	10	Through	0	0
	Right	1			Right	2	2
	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
	Left	0	Approach	628	Left	0	0
EB	Through	560	Departure	1,152	Through	630	630
	Right	1			Right	3	4
	Left	1	Approach	1,148	Left	7	5
WB	Through	528	Departure	632	Through	1,145	1,145
	Right	0			Right	0	0

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	4	Approach	8	Left	6	6
NB	Through	0	Departure	25	Through	0	0
	Right	1			Right	2	2
	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
	Left	0	Approach	1,237	Left	0	0
EB	Through	551	Departure	904	Through	1,232	1,230
	Right	5			Right	22	19
	Left	1	Approach	906	Left	3	3
WB	Through	747	Departure	1,234	Through	898	901
	Right	0			Right	0	0

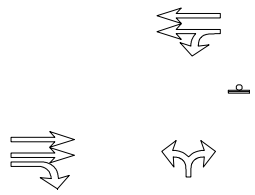
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

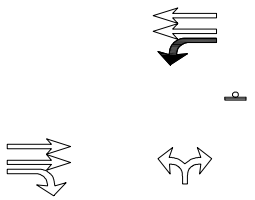
E/W STREET : RANCHERO RD
N/S STREET : PRIMROSE AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



RANCHERO ROAD WIDENING PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	1		3		5		7	9	11	13
RANCHERO RD										
EB Left	0	0	0	0	0	0	0	0	0	0
EB Thru	560	40	600	119	719	119	719	629	748	748
EB Right	1	1	2	0	2	0	2	2	2	2
WB Left	3	1	4	0	4	0	4	9	9	9
WB Thru	527	37	564	159	723	159	723	1,145	1,304	1,304
WB Right	0	0	0	0	0	0	0	0	0	0
PRIMROSE AVE										
NB Left	1	1	2	0	2	0	2	3	3	3
NB Thru	0	0	0	0	0	0	0	0	0	0
NB Right	1	1	2	0	2	0	2	3	3	3
SB Left	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	0	0	0	0	0	0	0
TOTALS	**1,093**	**81**	**1,174**	**278**	**1,452**	**278**	**1,452**	**1,791**	**2,069**	**2,069**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	AW	8/30/2022	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : AM PEAK HOUR

N/S STREET : PRIMROSE AVE
PHF : 0.88

NORTH LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

SOUTH LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

EAST LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	102	1	0	3	0	0	2	0	0	3	0
0	117	2	0	4	0	0	2	0	0	5	0
0	163	0	0	2	0	0	2	0	0	2	0
0	102	0	0	10	0	0	3	0	0	5	0

WEST LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	137	0	0	2	0	0	2	0	0	3	0
1	166	0	0	3	0	0	3	0	0	1	0
0	110	0	0	7	0	0	2	0	0	3	0
0	85	0	0	11	0	0	4	0	0	4	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	0	**0**	**0%**	**0**
EBTH	45	498	**543**	**9%**	**560**
EBR	0	1	**1**	**1%**	**1**
WBL	0	3	**3**	**1%**	**3**
WBTH	43	484	**527**	**9%**	**527**
WBR	0	0	**0**	**0%**	**0**
PRIMROSE AVE					
NBL	0	1	**1**	**1%**	**1**
NBTH	0	0	**0**	**0%**	**0**
NBR	0	1	**1**	**1%**	**1**
SBL	0	0	**0**	**0%**	**0**
SBTH	0	0	**0**	**0%**	**0**
SBR	0	0	**0**	**0%**	**0**

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	560	1	3	527	1	1
Future Vol, veh/h	560	1	3	527	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	636	1	3	599	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	637	0	942	318
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	306	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	949	-	263	681
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	723	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	949	-	262	681
Mov Cap-2 Maneuver	-	-	-	-	262	-
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	719	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	378	-	-	949	-
HCM Lane V/C Ratio	0.006	-	-	0.004	-
HCM Control Delay (s)	14.6	-	-	8.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	600	2	4	564	2	2
Future Vol, veh/h	600	2	4	564	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	682	2	5	641	2	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	684	0	1013	341
Stage 1	-	-	-	-	682	-
Stage 2	-	-	-	-	331	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	912	-	237	658
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	703	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	912	-	236	658
Mov Cap-2 Maneuver	-	-	-	-	356	-
Stage 1	-	-	-	-	466	-
Stage 2	-	-	-	-	699	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	462	-	-	912	-
HCM Lane V/C Ratio	0.01	-	-	0.005	-
HCM Control Delay (s)	12.9	-	-	9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	719	2	4	723	2	2
Future Vol, veh/h	719	2	4	723	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	817	2	5	822	2	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	819	0	1238	409
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	421	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	812	-	169	594
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	633	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	812	-	168	594
Mov Cap-2 Maneuver	-	-	-	-	168	-
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	629	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	19
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	262	-	-	812	-
HCM Lane V/C Ratio	0.017	-	-	0.006	-
HCM Control Delay (s)	19	-	-	9.5	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	719	2	4	723	2	2
Future Vol, veh/h	719	2	4	723	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	817	2	5	822	2	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	819	0	1238	409
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	421	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	812	-	169	594
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	633	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	812	-	168	594
Mov Cap-2 Maneuver	-	-	-	-	168	-
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	629	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	19
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	262	-	-	812	-
HCM Lane V/C Ratio	0.017	-	-	0.006	-
HCM Control Delay (s)	19	-	-	9.5	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	629	2	9	1145	3	3
Future Vol, veh/h	629	2	9	1145	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	662	2	9	1205	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	664	0	1283	331
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	621	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	928	-	158	668
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	501	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	928	-	156	668
Mov Cap-2 Maneuver	-	-	-	-	293	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	407	-	-	928	-
HCM Lane V/C Ratio	0.016	-	-	0.01	-
HCM Control Delay (s)	14	-	-	8.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	748	2	9	1304	3	3
Future Vol, veh/h	748	2	9	1304	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	787	2	9	1373	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	789	0	1492	394
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	705	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	833	-	115	608
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	454	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	833	-	114	608
Mov Cap-2 Maneuver	-	-	-	-	114	-
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	449	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	24.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	192	-	-	833	-
HCM Lane V/C Ratio	0.033	-	-	0.011	-
HCM Control Delay (s)	24.4	-	-	9.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	748	2	9	1304	3	3
Future Vol, veh/h	748	2	9	1304	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	787	2	9	1373	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	789	0	1492	394
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	705	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	833	-	115	608
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	454	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	833	-	114	608
Mov Cap-2 Maneuver	-	-	-	-	114	-
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	449	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	24.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	192	-	-	833	-
HCM Lane V/C Ratio	0.033	-	-	0.011	-
HCM Control Delay (s)	24.4	-	-	9.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : PRIMROSE AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	2		4		6		8	10	12	14
RANCHERO RD										
EB Left	0	0	0	0	0	0	0	0	0	0
EB Thru	551	39	590	174	764	174	764	1,231	1,405	1,405
EB Right	1	1	2	0	2	0	2	5	5	5
WB Left	5	1	6	0	6	0	6	16	16	16
WB Thru	747	53	800	168	968	168	968	901	1,069	1,069
WB Right	0	0	0	0	0	0	0	0	0	0
PRIMROSE AVE										
NB Left	1	1	2	0	2	0	2	2	2	2
NB Thru	0	0	0	0	0	0	0	0	0	0
NB Right	3	1	4	0	4	0	4	6	6	6
SB Left	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	0	0	0	0	0	0	0
TOTALS	**1,308**	**96**	**1,404**	**342**	**1,746**	**342**	**1,746**	**2,161**	**2,503**	**2,503**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	AW	30-Aug-22	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : PM PEAK HOUR
N/S STREET : PRIMROSE AVE
PHF : 0.85

NORTH LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

SOUTH LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

EAST LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	174	2	0	0	0	0	1	0	0	2	0
0	148	1	0	0	0	0	1	0	0	1	0
0	187	1	0	0	0	0	1	0	0	2	0
0	226	1	0	3	0	0	0	0	0	1	0

WEST LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	101	0	0	2	0	0	2	0	0	5	0
1	144	0	0	2	0	0	1	0	0	2	0
0	115	0	0	3	0	0	2	0	0	2	0
0	140	0	0	3	0	0	1	0	0	1	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	0	**0**	**0%**	**0**
EBTH	26	500	**526**	**5%**	**551**
EBR	0	1	**1**	**1%**	**1**
WBL	0	5	**5**	**1%**	**5**
WBTH	12	735	**747**	**2%**	**747**
WBR	0	0	**0**	**0%**	**0**
PRIMROSE AVE					
NBL	0	0	**1**	**1%**	**1**
NBTH	0	0	**0**	**0%**	**0**
NBR	0	3	**3**	**1%**	**3**
SBL	0	0	**0**	**0%**	**0**
SBTH	0	0	**0**	**0%**	**0**
SBR	0	0	**0**	**0%**	**0**

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	551	1	5	747	1	3
Future Vol, veh/h	551	1	5	747	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	648	1	6	879	1	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	649	0	1100	324
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	452	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	940	-	208	675
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	611	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	940	-	206	675
Mov Cap-2 Maneuver	-	-	-	-	206	-
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	604	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	430	-	-	940	-
HCM Lane V/C Ratio	0.011	-	-	0.006	-
HCM Control Delay (s)	13.5	-	-	8.9	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	590	2	6	800	2	4
Future Vol, veh/h	590	2	6	800	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	694	2	7	941	2	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	696	0	1179	347
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	485	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	903	-	185	652
Stage 1	-	-	-	-	460	-
Stage 2	-	-	-	-	588	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	903	-	184	652
Mov Cap-2 Maneuver	-	-	-	-	317	-
Stage 1	-	-	-	-	460	-
Stage 2	-	-	-	-	583	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	482	-	-	903	-
HCM Lane V/C Ratio	0.015	-	-	0.008	-
HCM Control Delay (s)	12.6	-	-	9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	764	2	6	968	2	4
Future Vol, veh/h	764	2	6	968	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	899	2	7	1139	2	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	901	0	1483	450
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	584	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	756	-	117	559
Stage 1	-	-	-	-	360	-
Stage 2	-	-	-	-	523	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	756	-	116	559
Mov Cap-2 Maneuver	-	-	-	-	116	-
Stage 1	-	-	-	-	360	-
Stage 2	-	-	-	-	518	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	20.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	246	-	-	756	-
HCM Lane V/C Ratio	0.029	-	-	0.009	-
HCM Control Delay (s)	20.1	-	-	9.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	764	2	6	968	2	4
Future Vol, veh/h	764	2	6	968	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	899	2	7	1139	2	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	901	0	1483	450
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	584	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	756	-	117	559
Stage 1	-	-	-	-	360	-
Stage 2	-	-	-	-	523	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	756	-	116	559
Mov Cap-2 Maneuver	-	-	-	-	116	-
Stage 1	-	-	-	-	360	-
Stage 2	-	-	-	-	518	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	20.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	246	-	-	756	-
HCM Lane V/C Ratio	0.029	-	-	0.009	-
HCM Control Delay (s)	20.1	-	-	9.8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1230	19	3	901	6	2
Future Vol, veh/h	1230	19	3	901	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1295	20	3	948	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1315	0	1785	658
Stage 1	-	-	-	-	1305	-
Stage 2	-	-	-	-	480	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	527	-	74	409
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	591	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	527	-	73	409
Mov Cap-2 Maneuver	-	-	-	-	171	-
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	584	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	23.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	200	-	-	527	-
HCM Lane V/C Ratio	0.042	-	-	0.006	-
HCM Control Delay (s)	23.8	-	-	11.9	0.1
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1405	5	16	1069	2	6
Future Vol, veh/h	1405	5	16	1069	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1479	5	17	1125	2	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1484	0	2076	740
Stage 1	-	-	-	-	1479	-
Stage 2	-	-	-	-	597	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	454	-	47	362
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	454	-	45	362
Mov Cap-2 Maneuver	-	-	-	-	45	-
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	34.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	131	-	-	454	-
HCM Lane V/C Ratio	0.064	-	-	0.037	-
HCM Control Delay (s)	34.4	-	-	13.2	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1405	5	16	1069	2	6
Future Vol, veh/h	1405	5	16	1069	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1479	5	17	1125	2	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1484	0	2076	740
Stage 1	-	-	-	-	1479	-
Stage 2	-	-	-	-	597	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	454	-	47	362
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	454	-	45	362
Mov Cap-2 Maneuver	-	-	-	-	45	-
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	34.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	131	-	-	454	-
HCM Lane V/C Ratio	0.064	-	-	0.037	-
HCM Control Delay (s)	34.4	-	-	13.2	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 4
North/South Street: PRIMROSE AVE
East/West Street: RANCHERO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	1	Approach	6	Left	3	3
NB	Through	0	Departure	12	Through	0	0
	Right	1			Right	3	3
	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
	Left	0	Approach	628	Left	0	0
EB	Through	560	Departure	1,148	Through	629	629
	Right	1			Right	2	2
	Left	3	Approach	1,149	Left	10	9
WB	Through	527	Departure	632	Through	1,145	1,145
	Right	0			Right	0	0

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	1	Approach	7	Left	2	2
NB	Through	0	Departure	25	Through	0	0
	Right	3			Right	5	6
	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
	Left	0	Approach	1,233	Left	0	0
EB	Through	551	Departure	901	Through	1,231	1,231
	Right	1			Right	7	5
	Left	5	Approach	910	Left	18	16
WB	Through	747	Departure	1,236	Through	899	901
	Right	0			Right	0	0

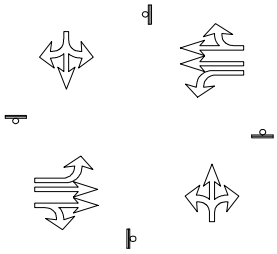
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

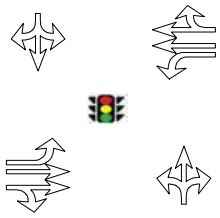
E/W STREET : RANCHERO RD
N/S STREET : MAPLE AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



RANCHERO ROAD WIDENING PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	1		3		5		7	9	11	13
RANCHERO RD										
EB Left	93	7	100	30	130	30	130	132	162	162
EB Thru	439	31	470	79	549	79	549	502	581	581
EB Right	29	3	32	10	42	10	42	34	44	44
WB Left	3	1	4	0	4	0	4	8	8	8
WB Thru	404	29	433	106	539	106	539	1,000	1,106	1,106
WB Right	23	2	25	0	25	0	25	71	71	71
MAPLE AVE										
NB Left	54	4	58	13	71	13	71	79	92	92
NB Thru	22	2	24	0	24	0	24	36	36	36
NB Right	7	1	8	0	8	0	8	10	10	10
SB Left	31	3	34	0	34	0	34	40	40	40
SB Thru	8	1	9	0	9	0	9	10	10	10
SB Right	72	6	78	40	118	40	118	102	142	142
TOTALS	**1,185**	**90**	**1,275**	**278**	**1,553**	**278**	**1,553**	**2,024**	**2,302**	**2,302**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	AW	8/30/2022	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : AM PEAK HOUR

N/S STREET : MAPLE AVE
PHF : 0.84

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
22	2	3	0	0	0	0	0	0	0	0	0
27	2	8	0	0	0	0	0	0	0	0	0
14	4	8	0	0	0	0	0	0	0	0	0
8	0	10	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	6	13	0	0	0	0	0	0	0	0	0
2	6	26	0	0	0	0	0	0	0	0	0
3	6	10	0	0	0	0	0	0	0	0	0
2	4	5	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
6	71	1	0	3	0	0	2	0	0	3	0
4	84	0	0	4	0	0	2	0	0	5	0
7	114	0	0	2	0	0	2	0	0	2	0
6	89	2	0	10	0	0	3	0	0	5	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	118	9	0	2	0	0	2	0	0	3	0
6	132	27	0	3	0	0	3	0	0	1	0
14	64	33	0	7	0	0	2	0	0	3	0
7	56	24	0	10	0	0	4	0	0	4	0

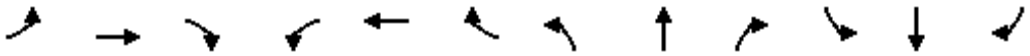
	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	93	**93**	**1%**	**93**
EBTH	44	370	**414**	**11%**	**439**
EBR	0	29	**29**	**1%**	**29**
WBL	0	3	**3**	**1%**	**3**
WBTH	43	358	**401**	**11%**	**404**
WBR	0	23	**23**	**1%**	**23**
MAPLE AVE					
NBL	0	54	**54**	**1%**	**54**
NBTH	0	22	**22**	**1%**	**22**
NBR	0	7	**7**	**1%**	**7**
SBL	0	29	**29**	**1%**	**31**
SBTH	0	8	**8**	**1%**	**8**
SBR	0	71	**71**	**1%**	**72**

Intersection	
Intersection Delay, s/veh	15.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	93	439	29	3	404	23	54	22	7	31	8	72
Future Vol, veh/h	93	439	29	3	404	23	54	22	7	31	8	72
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	1	11	1	1	11	1	1	1	1	1	1	1
Mvmt Flow	111	523	35	4	481	27	64	26	8	37	10	86
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	15.4	15.7	12.8	12.6
HCM LOS	C	C	B	B

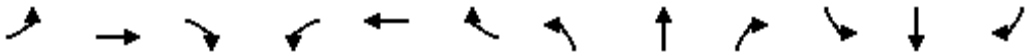
Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	65%	100%	0%	0%	100%	0%	0%	28%
Vol Thru, %	27%	0%	100%	83%	0%	100%	85%	7%
Vol Right, %	8%	0%	0%	17%	0%	0%	15%	65%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	93	293	175	3	269	158	111
LT Vol	54	93	0	0	3	0	0	31
Through Vol	22	0	293	146	0	269	135	8
RT Vol	7	0	0	29	0	0	23	72
Lane Flow Rate	99	111	348	209	4	321	188	132
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.215	0.205	0.612	0.35	0.007	0.58	0.325	0.264
Departure Headway (Hd)	7.844	6.66	6.324	6.034	6.847	6.511	6.234	7.181
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	455	536	568	593	520	551	572	497
Service Time	5.643	4.433	4.097	3.806	4.625	4.289	4.012	4.973
HCM Lane V/C Ratio	0.218	0.207	0.613	0.352	0.008	0.583	0.329	0.266
HCM Control Delay	12.8	11.2	18.7	12.1	9.7	18	12	12.6
HCM Lane LOS	B	B	C	B	A	C	B	B
HCM 95th-tile Q	0.8	0.8	4.1	1.6	0	3.7	1.4	1.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	470	32	4	433	25	58	24	8	34	9	78
Future Volume (veh/h)	100	470	32	4	433	25	58	24	8	34	9	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1646	1786	1687	1646	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	119	560	38	5	515	30	69	29	10	40	11	93
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	1	11	1	1	11	1	1	1	1	1	1	1
Cap, veh/h	240	1315	89	107	1082	63	435	162	42	229	78	302
Arrive On Green	0.15	0.44	0.44	0.07	0.36	0.36	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1606	2971	201	1606	3003	175	829	527	138	287	253	984
Grp Volume(v), veh/h	119	294	304	5	268	277	108	0	0	144	0	0
Grp Sat Flow(s),veh/h/ln	1606	1563	1609	1606	1563	1614	1495	0	0	1524	0	0
Q Serve(g_s), s	2.2	4.2	4.2	0.1	4.3	4.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	4.2	4.2	0.1	4.3	4.3	1.5	0.0	0.0	2.2	0.0	0.0
Prop In Lane	1.00		0.13	1.00		0.11	0.64		0.09	0.28		0.65
Lane Grp Cap(c), veh/h	240	692	712	107	563	582	639	0	0	608	0	0
V/C Ratio(X)	0.50	0.43	0.43	0.05	0.48	0.48	0.17	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	542	1390	1431	394	1246	1287	2035	0	0	2071	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.8	6.2	6.2	14.2	8.1	8.1	8.4	0.0	0.0	8.6	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.4	0.4	0.2	0.6	0.6	0.1	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.9	0.9	0.0	1.0	1.1	0.4	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	6.7	6.6	14.4	8.7	8.7	8.5	0.0	0.0	8.8	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		717			550			108			144	
Approach Delay, s/veh		7.9			8.7			8.5			8.8	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.2	16.4		12.0	6.9	13.8		12.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	9.0	24.0		40.0				
Max Q Clear Time (g_c+I1), s	2.1	6.2		4.2	4.2	6.3		3.5				
Green Ext Time (p_c), s	0.0	4.0		1.0	0.1	3.4		0.7				

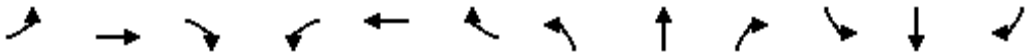
Intersection Summary			
HCM 6th Ctrl Delay		8.3	
HCM 6th LOS		A	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	549	42	4	539	25	71	24	8	34	9	118
Future Volume (veh/h)	130	549	42	4	539	25	71	24	8	34	9	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1646	1786	1687	1646	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	155	654	50	5	642	30	85	29	10	40	11	140
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	1	11	1	1	11	1	1	1	1	1	1	1
Cap, veh/h	276	1471	112	97	1182	55	419	127	33	181	51	306
Arrive On Green	0.17	0.50	0.50	0.06	0.39	0.39	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1606	2944	225	1606	3041	142	917	461	121	222	184	1114
Grp Volume(v), veh/h	155	347	357	5	330	342	124	0	0	191	0	0
Grp Sat Flow(s),veh/h/ln	1606	1563	1605	1606	1563	1620	1499	0	0	1520	0	0
Q Serve(g_s), s	3.2	5.2	5.2	0.1	5.9	6.0	0.0	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	3.2	5.2	5.2	0.1	5.9	6.0	2.0	0.0	0.0	3.7	0.0	0.0
Prop In Lane	1.00		0.14	1.00		0.09	0.69		0.08	0.21		0.73
Lane Grp Cap(c), veh/h	276	781	802	97	607	629	579	0	0	537	0	0
V/C Ratio(X)	0.56	0.44	0.44	0.05	0.54	0.54	0.21	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	486	1246	1279	353	1117	1158	1777	0	0	1853	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.8	5.8	5.9	16.1	8.6	8.6	10.3	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.4	0.4	0.2	0.8	0.7	0.2	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.1	1.1	0.0	1.5	1.6	0.6	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	6.2	6.2	16.3	9.4	9.4	10.5	0.0	0.0	11.3	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		859			677			124			191	
Approach Delay, s/veh		7.9			9.4			10.5			11.3	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.2	20.2		12.0	8.2	16.1		12.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	9.0	24.0		40.0				
Max Q Clear Time (g_c+I1), s	2.1	7.2		5.7	5.2	8.0		4.0				
Green Ext Time (p_c), s	0.0	4.8		1.4	0.1	4.2		0.9				

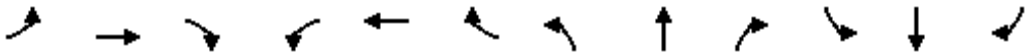
Intersection Summary			
HCM 6th Ctrl Delay		9.0	
HCM 6th LOS		A	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	549	42	4	539	25	71	24	8	34	9	118
Future Volume (veh/h)	130	549	42	4	539	25	71	24	8	34	9	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1646	1786	1687	1646	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	155	654	50	5	642	30	85	29	10	40	11	140
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	1	11	1	1	11	1	1	1	1	1	1	1
Cap, veh/h	277	1439	110	99	1150	54	427	129	34	184	52	313
Arrive On Green	0.17	0.49	0.49	0.06	0.38	0.38	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1606	2944	225	1606	3041	142	914	460	121	221	185	1114
Grp Volume(v), veh/h	155	347	357	5	330	342	124	0	0	191	0	0
Grp Sat Flow(s),veh/h/ln	1606	1563	1605	1606	1563	1620	1495	0	0	1520	0	0
Q Serve(g_s), s	3.1	5.2	5.2	0.1	5.9	5.9	0.0	0.0	0.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	3.1	5.2	5.2	0.1	5.9	5.9	2.0	0.0	0.0	3.6	0.0	0.0
Prop In Lane	1.00		0.14	1.00		0.09	0.69		0.08	0.21		0.73
Lane Grp Cap(c), veh/h	277	764	785	99	591	612	590	0	0	549	0	0
V/C Ratio(X)	0.56	0.45	0.45	0.05	0.56	0.56	0.21	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	496	1273	1307	361	1142	1183	1814	0	0	1894	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.5	6.0	6.0	15.7	8.7	8.7	9.9	0.0	0.0	10.5	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.4	0.4	0.2	0.8	0.8	0.2	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.6	0.7	0.0	1.1	1.2	0.5	0.0	0.0	0.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	6.4	6.4	15.9	9.6	9.5	10.1	0.0	0.0	10.9	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		859			677			124			191	
Approach Delay, s/veh		8.0			9.6			10.1			10.9	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.2	19.4		12.0	8.1	15.5		12.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	9.0	24.0		40.0				
Max Q Clear Time (g_c+I1), s	2.1	7.2		5.6	5.1	7.9		4.0				
Green Ext Time (p_c), s	0.0	4.0		1.2	0.1	3.5		0.7				

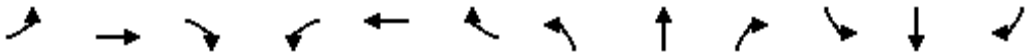
Intersection Summary			
HCM 6th Ctrl Delay		9.0	
HCM 6th LOS		A	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	502	34	8	1000	71	79	36	10	40	10	102
Future Volume (veh/h)	132	502	34	8	1000	71	79	36	10	40	10	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1646	1786	1687	1646	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	139	528	36	8	1053	75	83	38	11	42	11	107
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	11	1	1	11	1	1	1	1	1	1	1
Cap, veh/h	236	1777	121	84	1489	106	312	126	28	164	46	223
Arrive On Green	0.15	0.60	0.60	0.05	0.50	0.50	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1606	2970	202	1606	2960	211	843	575	129	297	209	1021
Grp Volume(v), veh/h	139	277	287	8	556	572	132	0	0	160	0	0
Grp Sat Flow(s),veh/h/ln	1606	1563	1609	1606	1563	1608	1546	0	0	1526	0	0
Q Serve(g_s), s	3.7	4.0	4.0	0.2	12.5	12.6	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	3.7	4.0	4.0	0.2	12.5	12.6	2.9	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.13	1.00		0.13	0.63		0.08	0.26		0.67
Lane Grp Cap(c), veh/h	236	935	963	84	787	809	466	0	0	433	0	0
V/C Ratio(X)	0.59	0.30	0.30	0.10	0.71	0.71	0.28	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	281	991	1020	281	991	1019	1457	0	0	1473	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	4.5	4.5	20.7	8.8	8.8	15.1	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.2	0.2	0.5	1.7	1.7	0.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.8	0.8	0.1	3.3	3.4	1.0	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	4.7	4.7	21.1	10.5	10.4	15.4	0.0	0.0	16.0	0.0	0.0
LnGrp LOS	C	A	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h		703			1136			132			160	
Approach Delay, s/veh		7.8			10.5			15.4			16.0	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.4	29.4		12.0	8.7	25.0		12.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	6.0	27.0		40.0				
Max Q Clear Time (g_c+I1), s	2.2	6.0		6.0	5.7	14.6		4.9				
Green Ext Time (p_c), s	0.0	3.8		1.1	0.0	6.5		0.9				

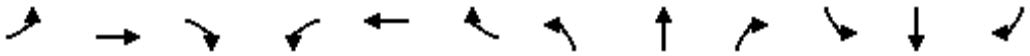
Intersection Summary			
HCM 6th Ctrl Delay		10.3	
HCM 6th LOS		B	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	581	44	8	1106	71	92	36	10	40	10	142
Future Volume (veh/h)	162	581	44	8	1106	71	92	36	10	40	10	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1646	1786	1687	1646	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	171	612	46	8	1164	75	97	38	11	42	11	149
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	11	1	1	11	1	1	1	1	1	1	1
Cap, veh/h	260	1888	142	70	1559	100	282	98	22	127	36	241
Arrive On Green	0.16	0.64	0.64	0.04	0.52	0.52	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1606	2948	221	1606	2982	192	839	467	106	238	170	1148
Grp Volume(v), veh/h	171	324	334	8	610	629	146	0	0	202	0	0
Grp Sat Flow(s),veh/h/ln	1606	1563	1606	1606	1563	1611	1412	0	0	1557	0	0
Q Serve(g_s), s	5.7	5.3	5.3	0.3	17.3	17.3	0.0	0.0	0.0	1.5	0.0	0.0
Cycle Q Clear(g_c), s	5.7	5.3	5.3	0.3	17.3	17.3	4.9	0.0	0.0	6.4	0.0	0.0
Prop In Lane	1.00		0.14	1.00		0.12	0.66		0.08	0.21		0.74
Lane Grp Cap(c), veh/h	260	1002	1029	70	817	842	402	0	0	403	0	0
V/C Ratio(X)	0.66	0.32	0.32	0.11	0.75	0.75	0.36	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	283	1075	1105	227	1020	1051	1126	0	0	1196	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.3	4.6	4.6	26.1	10.6	10.6	19.6	0.0	0.0	20.2	0.0	0.0
Incr Delay (d2), s/veh	4.9	0.2	0.2	0.7	2.3	2.3	0.6	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.2	1.2	0.1	5.2	5.3	1.6	0.0	0.0	2.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	4.8	4.8	26.8	12.9	12.9	20.1	0.0	0.0	21.2	0.0	0.0
LnGrp LOS	C	A	A	C	B	B	C	A	A	C	A	A
Approach Vol, veh/h		829			1247			146			202	
Approach Delay, s/veh		9.4			13.0			20.1			21.2	
Approach LOS		A			B			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	38.3		13.9	11.2	31.6		13.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	37.0		40.0	8.0	35.0		40.0				
Max Q Clear Time (g_c+I1), s	2.3	7.3		8.4	7.7	19.3		6.9				
Green Ext Time (p_c), s	0.0	5.0		1.5	0.0	8.3		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			12.9									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	162	581	44	8	1106	71	92	36	10	40	10	142
Future Volume (veh/h)	162	581	44	8	1106	71	92	36	10	40	10	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1646	1786	1687	1646	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	171	612	46	8	1164	75	97	38	11	42	11	149
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	11	1	1	11	1	1	1	1	1	1	1
Cap, veh/h	262	1873	141	72	1542	99	287	100	23	130	35	240
Arrive On Green	0.16	0.64	0.64	0.05	0.52	0.52	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1606	2948	221	1606	2982	192	847	476	108	239	169	1147
Grp Volume(v), veh/h	171	324	334	8	610	629	146	0	0	202	0	0
Grp Sat Flow(s),veh/h/ln	1606	1563	1606	1606	1563	1611	1430	0	0	1555	0	0
Q Serve(g_s), s	5.4	5.2	5.2	0.3	16.8	16.9	0.0	0.0	0.0	1.6	0.0	0.0
Cycle Q Clear(g_c), s	5.4	5.2	5.2	0.3	16.8	16.9	4.6	0.0	0.0	6.2	0.0	0.0
Prop In Lane	1.00		0.14	1.00		0.12	0.66		0.08	0.21		0.74
Lane Grp Cap(c), veh/h	262	993	1020	72	808	833	410	0	0	406	0	0
V/C Ratio(X)	0.65	0.33	0.33	0.11	0.75	0.76	0.36	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	295	1118	1148	236	1061	1093	1174	0	0	1242	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.4	4.6	4.6	25.0	10.4	10.4	18.8	0.0	0.0	19.5	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.2	0.2	0.7	2.2	2.2	0.5	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.8	0.8	0.1	4.0	4.2	1.4	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.6	4.8	4.8	25.7	12.7	12.6	19.3	0.0	0.0	20.4	0.0	0.0
LnGrp LOS	C	A	A	C	B	B	B	A	A	C	A	A
Approach Vol, veh/h		829			1247			146			202	
Approach Delay, s/veh		9.1			12.7			19.3			20.4	
Approach LOS		A			B			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	36.6		13.4	10.9	30.2		13.4				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	37.0		40.0	8.0	35.0		40.0				
Max Q Clear Time (g_c+I1), s	2.3	7.2		8.2	7.4	18.9		6.6				
Green Ext Time (p_c), s	0.0	4.1		1.2	0.0	7.3		0.9				

Intersection Summary			
HCM 6th Ctrl Delay		12.5	
HCM 6th LOS		B	

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : MAPLE AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	2		4		6		8	10	12	14
RANCHERO RD										
EB Left	103	8	111	43	154	43	154	151	194	194
EB Thru	391	28	419	116	535	116	535	1,020	1,136	1,136
EB Right	60	5	65	15	80	15	80	87	102	102
WB Left	5	1	6	0	6	0	6	6	6	6
WB Thru	693	49	742	112	854	112	854	837	949	949
WB Right	32	3	35	0	35	0	35	35	35	35
MAPLE AVE										
NB Left	30	3	33	14	47	14	47	35	49	49
NB Thru	19	2	21	0	21	0	21	20	20	20
NB Right	3	1	4	0	4	0	4	7	7	7
SB Left	31	3	34	0	34	0	34	88	88	88
SB Thru	22	2	24	0	24	0	24	34	34	34
SB Right	28	2	30	42	72	42	72	49	91	91
TOTALS	**1,417**	**107**	**1,524**	**342**	**1,866**	**342**	**1,866**	**2,369**	**2,711**	**2,711**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	AW	30-Aug-22	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : PM PEAK HOUR
N/S STREET : MAPLE AVE
PHF : 0.89

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
5	8	9	0	0	0	0	0	0	0	0	0
7	7	7	0	0	0	0	0	0	0	0	0
9	4	6	0	0	0	0	0	0	0	0	0
7	3	6	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	4	4	0	0	0	0	0	0	0	0	0
1	3	6	0	0	0	0	0	0	0	0	0
1	4	10	0	0	0	0	0	0	0	0	0
1	8	10	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
7	163	2	0	0	0	0	1	0	0	2	0
10	137	1	0	0	0	0	1	0	0	1	0
6	165	1	0	0	0	0	1	0	0	2	0
9	206	1	0	3	0	0	0	0	0	1	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
13	64	27	0	2	0	0	2	0	0	5	0
14	109	21	0	2	0	0	1	0	0	2	0
18	69	33	0	3	0	0	2	0	0	2	0
15	89	22	0	3	0	0	1	0	0	1	0

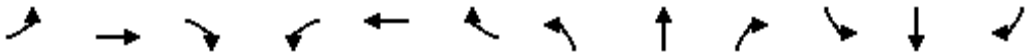
	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	103	**103**	**1%**	**103**
EBTH	26	331	**357**	**8%**	**391**
EBR	0	60	**60**	**1%**	**60**
WBL	0	5	**5**	**1%**	**5**
WBTH	12	671	**683**	**2%**	**693**
WBR	0	32	**32**	**1%**	**32**
MAPLE AVE					
NBL	0	30	**30**	**1%**	**30**
NBTH	0	19	**19**	**1%**	**19**
NBR	0	3	**3**	**1%**	**3**
SBL	0	28	**28**	**1%**	**31**
SBTH	0	22	**22**	**1%**	**22**
SBR	0	28	**28**	**1%**	**28**

Intersection	
Intersection Delay, s/veh	20.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	103	391	60	5	693	32	30	19	3	31	22	28
Future Vol, veh/h	103	391	60	5	693	32	30	19	3	31	22	28
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	1	8	1	1	2	1	1	1	1	1	1	1
Mvmt Flow	116	439	67	6	779	36	34	21	3	35	25	31
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	13.5	27	12.1	12.3
HCM LOS	B	D	B	B

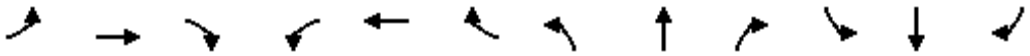
Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	58%	100%	0%	0%	100%	0%	0%	38%
Vol Thru, %	37%	0%	100%	68%	0%	100%	88%	27%
Vol Right, %	6%	0%	0%	32%	0%	0%	12%	35%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	52	103	261	190	5	462	263	81
LT Vol	30	103	0	0	5	0	0	31
Through Vol	19	0	261	130	0	462	231	22
RT Vol	3	0	0	60	0	0	32	28
Lane Flow Rate	58	116	293	214	6	519	296	91
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.131	0.214	0.511	0.353	0.01	0.859	0.48	0.194
Departure Headway (Hd)	8.063	6.672	6.286	5.942	6.443	5.954	5.85	7.654
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	443	536	571	603	554	607	615	467
Service Time	5.844	4.435	4.049	3.705	4.198	3.709	3.605	5.431
HCM Lane V/C Ratio	0.131	0.216	0.513	0.355	0.011	0.855	0.481	0.195
HCM Control Delay	12.1	11.3	15.5	11.9	9.3	34.7	13.9	12.3
HCM Lane LOS	B	B	C	B	A	D	B	B
HCM 95th-tile Q	0.4	0.8	2.9	1.6	0	9.6	2.6	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	419	65	6	742	35	33	21	4	34	24	30
Future Volume (veh/h)	111	419	65	6	742	35	33	21	4	34	24	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1772	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	125	471	73	7	834	39	37	24	4	38	27	34
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	1	8	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	187	1127	174	49	1044	49	474	294	46	326	232	261
Arrive On Green	0.12	0.40	0.40	0.03	0.32	0.32	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1606	2784	429	1606	3275	153	825	595	93	541	469	528
Grp Volume(v), veh/h	125	270	274	7	429	444	65	0	0	99	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1610	1606	1683	1744	1513	0	0	1538	0	0
Q Serve(g_s), s	6.3	10.3	10.4	0.4	19.8	19.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.3	10.3	10.4	0.4	19.8	19.8	1.6	0.0	0.0	2.7	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.09	0.57		0.06	0.38		0.34
Lane Grp Cap(c), veh/h	187	649	652	49	537	556	814	0	0	819	0	0
V/C Ratio(X)	0.67	0.42	0.42	0.14	0.80	0.80	0.08	0.00	0.00	0.12	0.00	0.00
Avail Cap(c_a), veh/h	189	649	652	151	537	556	814	0	0	819	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.0	18.1	18.2	40.1	26.5	26.5	11.3	0.0	0.0	11.6	0.0	0.0
Incr Delay (d2), s/veh	8.6	2.0	2.0	1.3	11.8	11.4	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	4.0	4.0	0.2	9.4	9.6	0.7	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	20.1	20.1	41.4	38.2	37.9	11.5	0.0	0.0	11.9	0.0	0.0
LnGrp LOS	D	C	C	D	D	D	B	A	A	B	A	A
Approach Vol, veh/h		669			880			65			99	
Approach Delay, s/veh		24.7			38.1			11.5			11.9	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	36.4		44.0	11.9	29.1		44.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	8.0	25.0		40.0				
Max Q Clear Time (g_c+I1), s	2.4	12.4		4.7	8.3	21.8		3.6				
Green Ext Time (p_c), s	0.0	2.9		0.6	0.0	1.7		0.3				

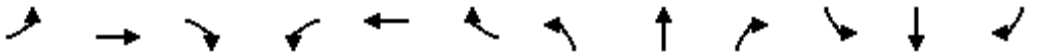
Intersection Summary			
HCM 6th Ctrl Delay		30.3	
HCM 6th LOS		C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	535	80	6	854	35	47	21	4	34	24	72
Future Volume (veh/h)	154	535	80	6	854	35	47	21	4	34	24	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1772	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	173	601	90	7	960	39	53	24	4	38	27	81
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	1	8	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	189	1132	169	49	1047	43	526	227	35	223	169	421
Arrive On Green	0.12	0.40	0.40	0.03	0.32	0.32	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1606	2798	418	1606	3297	134	922	460	72	343	341	852
Grp Volume(v), veh/h	173	344	347	7	490	509	81	0	0	146	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1612	1606	1683	1748	1454	0	0	1536	0	0
Q Serve(g_s), s	9.1	13.8	13.9	0.4	23.8	23.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.1	13.8	13.9	0.4	23.8	23.8	2.1	0.0	0.0	4.2	0.0	0.0
Prop In Lane	1.00		0.26	1.00		0.08	0.65		0.05	0.26		0.55
Lane Grp Cap(c), veh/h	189	649	652	49	535	555	788	0	0	812	0	0
V/C Ratio(X)	0.92	0.53	0.53	0.14	0.92	0.92	0.10	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	189	649	652	151	535	555	788	0	0	812	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.1	19.2	19.2	40.1	27.9	27.9	11.4	0.0	0.0	12.0	0.0	0.0
Incr Delay (d2), s/veh	42.3	3.1	3.1	1.3	23.0	22.3	0.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	5.5	5.5	0.2	12.5	12.9	0.8	0.0	0.0	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.4	22.3	22.3	41.4	50.9	50.3	11.7	0.0	0.0	12.4	0.0	0.0
LnGrp LOS	E	C	C	D	D	D	B	A	A	B	A	A
Approach Vol, veh/h		864			1006			81			146	
Approach Delay, s/veh		33.7			50.5			11.7			12.4	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	36.4		44.0	12.0	29.0		44.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	8.0	25.0		40.0				
Max Q Clear Time (g_c+I1), s	2.4	15.9		6.2	11.1	25.8		4.1				
Green Ext Time (p_c), s	0.0	3.3		0.9	0.0	0.0		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		39.4	
HCM 6th LOS		D	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	535	80	6	854	35	47	21	4	34	24	72
Future Volume (veh/h)	154	535	80	6	854	35	47	21	4	34	24	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1772	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	173	601	90	7	960	39	53	24	4	38	27	81
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	1	8	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	189	1132	169	49	1047	43	526	227	35	223	169	421
Arrive On Green	0.12	0.40	0.40	0.03	0.32	0.32	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1606	2798	418	1606	3297	134	922	460	72	343	341	852
Grp Volume(v), veh/h	173	344	347	7	490	509	81	0	0	146	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1612	1606	1683	1748	1454	0	0	1536	0	0
Q Serve(g_s), s	9.1	13.8	13.9	0.4	23.8	23.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.1	13.8	13.9	0.4	23.8	23.8	2.1	0.0	0.0	4.2	0.0	0.0
Prop In Lane	1.00		0.26	1.00		0.08	0.65		0.05	0.26		0.55
Lane Grp Cap(c), veh/h	189	649	652	49	535	555	788	0	0	812	0	0
V/C Ratio(X)	0.92	0.53	0.53	0.14	0.92	0.92	0.10	0.00	0.00	0.18	0.00	0.00
Avail Cap(c_a), veh/h	189	649	652	151	535	555	788	0	0	812	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.1	19.2	19.2	40.1	27.9	27.9	11.4	0.0	0.0	12.0	0.0	0.0
Incr Delay (d2), s/veh	42.3	3.1	3.1	1.3	23.0	22.3	0.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	5.5	5.5	0.2	12.5	12.9	0.8	0.0	0.0	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	79.4	22.3	22.3	41.4	50.9	50.3	11.7	0.0	0.0	12.4	0.0	0.0
LnGrp LOS	E	C	C	D	D	D	B	A	A	B	A	A
Approach Vol, veh/h		864			1006			81			146	
Approach Delay, s/veh		33.7			50.5			11.7			12.4	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	36.4		44.0	12.0	29.0		44.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	8.0	25.0		40.0				
Max Q Clear Time (g_c+I1), s	2.4	15.9		6.2	11.1	25.8		4.1				
Green Ext Time (p_c), s	0.0	3.3		0.9	0.0	0.0		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		39.4	
HCM 6th LOS		D	

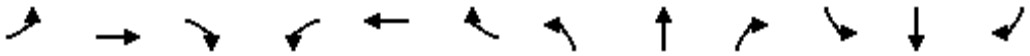
Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1231	5	16	901	2	6
Future Vol, veh/h	1231	5	16	901	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1296	5	17	948	2	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1301	0	1804	648
Stage 1	-	-	-	-	1296	-
Stage 2	-	-	-	-	508	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	534	-	71	415
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	572	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	534	-	69	415
Mov Cap-2 Maneuver	-	-	-	-	169	-
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	554	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	17.2
HCM LOS			C

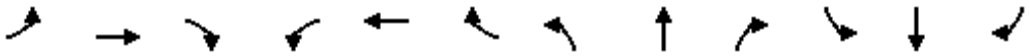
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	304	-	-	534	-
HCM Lane V/C Ratio	0.028	-	-	0.032	-
HCM Control Delay (s)	17.2	-	-	12	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	1136	102	6	949	35	49	20	7	88	34	91
Future Volume (veh/h)	194	1136	102	6	949	35	49	20	7	88	34	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1772	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	204	1196	107	6	999	37	52	21	7	93	36	96
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	214	1305	117	46	1104	41	473	184	57	326	134	300
Arrive On Green	0.13	0.44	0.44	0.03	0.33	0.33	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1606	2977	266	1606	3311	123	873	394	121	577	288	643
Grp Volume(v), veh/h	204	643	660	6	508	528	80	0	0	225	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1640	1606	1683	1750	1388	0	0	1508	0	0
Q Serve(g_s), s	11.3	33.9	34.0	0.3	25.9	25.9	0.0	0.0	0.0	5.3	0.0	0.0
Cycle Q Clear(g_c), s	11.3	33.9	34.0	0.3	25.9	25.9	2.7	0.0	0.0	8.1	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.07	0.65		0.09	0.41		0.43
Lane Grp Cap(c), veh/h	214	703	719	46	561	583	714	0	0	760	0	0
V/C Ratio(X)	0.95	0.92	0.92	0.13	0.91	0.91	0.11	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	214	703	719	143	561	583	714	0	0	760	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	38.7	23.7	23.8	42.6	28.6	28.6	13.5	0.0	0.0	14.9	0.0	0.0
Incr Delay (d2), s/veh	48.0	18.6	18.7	1.3	20.7	20.1	0.3	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	15.6	16.0	0.1	13.2	13.7	0.9	0.0	0.0	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.7	42.3	42.4	43.9	49.3	48.7	13.8	0.0	0.0	15.9	0.0	0.0
LnGrp LOS	F	D	D	D	D	D	B	A	A	B	A	A
Approach Vol, veh/h		1507			1042			80			225	
Approach Delay, s/veh		48.4			49.0			13.8			15.9	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	41.4		44.0	14.0	32.0		44.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	32.0		40.0	10.0	28.0		40.0				
Max Q Clear Time (g_c+I1), s	2.3	36.0		10.1	13.3	27.9		4.7				
Green Ext Time (p_c), s	0.0	0.0		1.4	0.0	0.0		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			45.1									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	1136	102	6	949	35	49	20	7	88	34	91
Future Volume (veh/h)	194	1136	102	6	949	35	49	20	7	88	34	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1772	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	204	1196	107	6	999	37	52	21	7	93	36	96
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	214	1305	117	46	1104	41	473	184	57	326	134	300
Arrive On Green	0.13	0.44	0.44	0.03	0.33	0.33	0.47	0.47	0.47	0.47	0.47	0.47
Sat Flow, veh/h	1606	2977	266	1606	3311	123	873	394	121	577	288	643
Grp Volume(v), veh/h	204	643	660	6	508	528	80	0	0	225	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1640	1606	1683	1750	1388	0	0	1508	0	0
Q Serve(g_s), s	11.3	33.9	34.0	0.3	25.9	25.9	0.0	0.0	0.0	5.3	0.0	0.0
Cycle Q Clear(g_c), s	11.3	33.9	34.0	0.3	25.9	25.9	2.7	0.0	0.0	8.1	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.07	0.65		0.09	0.41		0.43
Lane Grp Cap(c), veh/h	214	703	719	46	561	583	714	0	0	760	0	0
V/C Ratio(X)	0.95	0.92	0.92	0.13	0.91	0.91	0.11	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	214	703	719	143	561	583	714	0	0	760	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	38.7	23.7	23.8	42.6	28.6	28.6	13.5	0.0	0.0	14.9	0.0	0.0
Incr Delay (d2), s/veh	48.0	18.6	18.7	1.3	20.7	20.1	0.3	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	15.6	16.0	0.1	13.2	13.7	0.9	0.0	0.0	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.7	42.3	42.4	43.9	49.3	48.7	13.8	0.0	0.0	15.9	0.0	0.0
LnGrp LOS	F	D	D	D	D	D	B	A	A	B	A	A
Approach Vol, veh/h		1507			1042			80			225	
Approach Delay, s/veh		48.4			49.0			13.8			15.9	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	41.4		44.0	14.0	32.0		44.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	32.0		40.0	10.0	28.0		40.0				
Max Q Clear Time (g_c+I1), s	2.3	36.0		10.1	13.3	27.9		4.7				
Green Ext Time (p_c), s	0.0	0.0		1.4	0.0	0.0		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		45.1	
HCM 6th LOS		D	

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 5
North/South Street: MAPLE AVE
East/West Street: RANCHERO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	54	Approach	102	Left	52	79
NB	Through	22	Departure	44	Through	38	36
	Right	7			Right	11	10
	Left	31	Approach	124	Left	47	40
SB	Through	8	Departure	258	Through	9	10
	Right	72			Right	67	102
	Left	93	Approach	632	Left	115	132
EB	Through	439	Departure	1,149	Through	498	502
	Right	29			Right	25	34
	Left	3	Approach	1,164	Left	10	8
WB	Through	404	Departure	556	Through	1,030	1,000
	Right	23			Right	105	71

P.M. Peak Hour

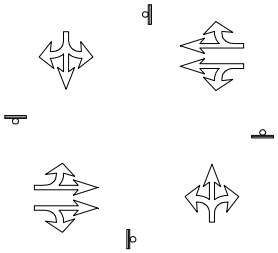
Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	30	Approach	58	Left	33	35
NB	Through	19	Departure	93	Through	17	20
	Right	3			Right	7	7
	Left	31	Approach	181	Left	107	88
SB	Through	22	Departure	162	Through	28	34
	Right	28			Right	48	49
	Left	103	Approach	1,236	Left	114	151
EB	Through	391	Departure	909	Through	1,084	1,020
	Right	60			Right	61	87
	Left	5	Approach	888	Left	4	6
WB	Through	693	Departure	1,198	Through	828	837
	Right	32			Right	31	35

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

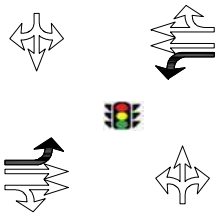
E/W STREET : RANCHERO RD
N/S STREET : COTTONWOOD AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



RANCHERO ROAD WIDENING PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	1		3		5		7	9	11	13
RANCHERO RD										
EB Left	21	2	23	20	43	20	43	21	41	41
EB Thru	439	31	470	20	490	20	490	514	534	534
EB Right	17	2	19	10	29	10	29	21	31	31
WB Left	13	1	14	0	14	0	14	26	26	26
WB Thru	354	25	379	27	406	27	406	1,008	1,035	1,035
WB Right	41	3	44	0	44	0	44	73	73	73
COTTONWOOD AVE										
NB Left	36	3	39	13	52	13	52	63	76	76
NB Thru	44	4	48	0	48	0	48	41	41	41
NB Right	34	3	37	0	37	0	37	39	39	39
SB Left	60	5	65	0	65	0	65	63	63	63
SB Thru	19	2	21	0	21	0	21	19	19	19
SB Right	40	3	43	27	70	27	70	65	92	92
TOTALS	**1,118**	**84**	**1,202**	**117**	**1,319**	**117**	**1,319**	**1,953**	**2,070**	**2,070**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	AW	8/30/2022	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : AM PEAK HOUR

N/S STREET : COTTONWOOD AVE
PHF : 0.88

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
14	5	9	0	0	0	0	0	0	0	0	0
11	4	18	0	0	0	0	0	0	0	0	0
6	3	20	0	1	1	1	1	0	0	0	1
4	4	11	0	1	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
11	10	7	0	1	0	0	0	0	0	0	0
4	11	9	0	1	0	0	0	0	0	0	0
7	5	9	0	2	1	0	0	0	0	0	0
11	14	5	1	0	1	0	0	1	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
4	44	3	1	4	0	0	1	0	0	6	0
12	59	5	1	3	0	0	2	0	0	3	0
11	77	1	1	3	1	0	1	1	0	5	0
10	110	2	0	1	0	0	1	0	1	2	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
5	101	2	0	2	0	0	2	0	0	5	0
3	111	4	0	2	0	0	2	0	0	3	0
5	126	8	0	3	0	0	3	0	0	1	0
4	66	7	0	7	0	0	2	0	0	3	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	21	**21**	**1%**	**21**
EBTH	35	404	**439**	**8%**	**439**
EBR	0	17	**17**	**1%**	**17**
WBL	2	11	**13**	**16%**	**13**
WBTH	32	290	**322**	**10%**	**354**
WBR	4	37	**41**	**10%**	**41**
COTTONWOOD AVE					
NBL	3	30	**33**	**10%**	**36**
NBTH	4	40	**44**	**10%**	**44**
NBR	1	33	**34**	**3%**	**34**
SBL	2	58	**60**	**4%**	**60**
SBTH	3	16	**19**	**16%**	**19**
SBR	1	35	**36**	**3%**	**40**

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	439	17	13	354	41	36	44	34	60	19	40
Future Vol, veh/h	21	439	17	13	354	41	36	44	34	60	19	40
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	1	8	1	16	10	10	10	10	3	4	16	3
Mvmt Flow	24	499	19	15	402	47	41	50	39	68	22	45
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	14.2	13.5	11.9	11.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	32%	9%	0%	7%	0%	50%
Vol Thru, %	39%	91%	93%	93%	81%	16%
Vol Right, %	30%	0%	7%	0%	19%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	114	241	237	190	218	119
LT Vol	36	21	0	13	0	60
Through Vol	44	220	220	177	177	19
RT Vol	34	0	17	0	41	40
Lane Flow Rate	130	273	269	216	248	135
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.24	0.466	0.46	0.388	0.427	0.247
Departure Headway (Hd)	6.665	6.135	6.16	6.474	6.201	6.563
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	536	585	583	553	577	544
Service Time	4.743	3.898	3.924	4.241	3.969	4.641
HCM Lane V/C Ratio	0.243	0.467	0.461	0.391	0.43	0.248
HCM Control Delay	11.9	14.2	14.1	13.3	13.6	11.8
HCM Lane LOS	B	B	B	B	B	B
HCM 95th-tile Q	0.9	2.5	2.4	1.8	2.1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	470	19	14	379	44	39	48	37	65	21	43
Future Volume (veh/h)	23	470	19	14	379	44	39	48	37	65	21	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1488	1660	1660	1567	1660	1758	1647	1575	1758
Adj Flow Rate, veh/h	26	534	22	16	431	50	44	55	42	74	24	49
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	1	8	1	16	10	10	10	10	3	4	16	3
Cap, veh/h	147	1232	51	117	1091	126	257	238	144	347	117	144
Arrive On Green	0.09	0.39	0.39	0.08	0.38	0.38	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1606	3139	129	1417	2848	329	311	725	440	517	357	437
Grp Volume(v), veh/h	26	272	284	16	238	243	141	0	0	147	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1664	1417	1577	1600	1476	0	0	1311	0	0
Q Serve(g_s), s	0.5	3.8	3.8	0.3	3.3	3.4	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	3.8	3.8	0.3	3.3	3.4	2.0	0.0	0.0	2.3	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.21	0.31		0.30	0.50		0.33
Lane Grp Cap(c), veh/h	147	629	653	117	604	613	640	0	0	608	0	0
V/C Ratio(X)	0.18	0.43	0.43	0.14	0.39	0.40	0.22	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	422	2211	2295	372	2174	2207	2145	0	0	2022	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.8	6.8	6.8	13.0	6.8	6.8	7.5	0.0	0.0	7.6	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.5	0.5	0.5	0.4	0.4	0.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.8	0.9	0.1	0.7	0.7	0.5	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	7.2	7.2	13.5	7.2	7.3	7.7	0.0	0.0	7.8	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		582			497			141			147	
Approach Delay, s/veh		7.5			7.4			7.7			7.8	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.5	14.0		12.0	4.8	13.7		12.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	40.0		42.0	6.0	40.0		40.0
Max Q Clear Time (g_c+I1), s	2.3	5.8		4.3	2.5	5.4		4.0
Green Ext Time (p_c), s	0.0	4.2		1.1	0.0	3.5		1.0

Intersection Summary		
HCM 6th Ctrl Delay	7.5	
HCM 6th LOS	A	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	490	29	14	406	44	52	48	37	65	21	70
Future Volume (veh/h)	43	490	29	14	406	44	52	48	37	65	21	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1488	1660	1660	1567	1660	1758	1647	1575	1758
Adj Flow Rate, veh/h	49	557	33	16	461	50	59	55	42	74	24	80
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	1	8	1	16	10	10	10	10	3	4	16	3
Cap, veh/h	175	1246	74	115	1083	117	287	214	126	298	100	191
Arrive On Green	0.11	0.41	0.41	0.08	0.38	0.38	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1606	3076	182	1417	2870	310	397	666	391	417	310	594
Grp Volume(v), veh/h	49	290	300	16	252	259	156	0	0	178	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1655	1417	1577	1604	1454	0	0	1321	0	0
Q Serve(g_s), s	0.9	4.1	4.1	0.3	3.7	3.7	0.0	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	0.9	4.1	4.1	0.3	3.7	3.7	2.3	0.0	0.0	3.0	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.19	0.38		0.27	0.42		0.45
Lane Grp Cap(c), veh/h	175	649	670	115	595	605	627	0	0	588	0	0
V/C Ratio(X)	0.28	0.45	0.45	0.14	0.42	0.43	0.25	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	413	2267	2340	364	2229	2267	2061	0	0	1902	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.8	6.7	6.7	13.3	7.2	7.2	8.0	0.0	0.0	8.2	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.5	0.5	0.6	0.5	0.5	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.9	0.9	0.1	0.8	0.8	0.6	0.0	0.0	0.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.6	7.2	7.2	13.8	7.7	7.7	8.2	0.0	0.0	8.5	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		639			527			156			178	
Approach Delay, s/veh		7.7			7.9			8.2			8.5	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.5	14.6		12.0	5.4	13.7		12.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	42.0		40.0	6.0	42.0		40.0
Max Q Clear Time (g_c+I1), s	2.3	6.1		5.0	2.9	5.7		4.3
Green Ext Time (p_c), s	0.0	4.5		1.3	0.0	3.8		1.1

Intersection Summary		
HCM 6th Ctrl Delay		7.9
HCM 6th LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	490	29	14	406	44	52	48	37	65	21	70
Future Volume (veh/h)	43	490	29	14	406	44	52	48	37	65	21	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1488	1660	1660	1567	1660	1758	1647	1575	1758
Adj Flow Rate, veh/h	49	557	33	16	461	50	59	55	42	74	24	80
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	1	8	1	16	10	10	10	10	3	4	16	3
Cap, veh/h	178	1195	71	117	1035	112	294	220	129	305	103	196
Arrive On Green	0.11	0.39	0.39	0.08	0.36	0.36	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1606	3076	182	1417	2870	310	393	667	391	413	313	592
Grp Volume(v), veh/h	49	290	300	16	252	259	156	0	0	178	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1655	1417	1577	1604	1451	0	0	1318	0	0
Q Serve(g_s), s	0.8	4.1	4.1	0.3	3.7	3.7	0.0	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	0.8	4.1	4.1	0.3	3.7	3.7	2.2	0.0	0.0	2.9	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.19	0.38		0.27	0.42		0.45
Lane Grp Cap(c), veh/h	178	623	643	117	569	578	643	0	0	604	0	0
V/C Ratio(X)	0.28	0.47	0.47	0.14	0.44	0.45	0.24	0.00	0.00	0.29	0.00	0.00
Avail Cap(c_a), veh/h	425	2331	2406	375	2292	2332	2118	0	0	1955	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.3	6.9	6.9	12.9	7.4	7.4	7.5	0.0	0.0	7.7	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.5	0.5	0.5	0.5	0.5	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.6	0.6	0.1	0.6	0.6	0.4	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.2	7.4	7.4	13.4	7.9	7.9	7.7	0.0	0.0	8.0	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		639			527			156			178	
Approach Delay, s/veh		7.9			8.1			7.7			8.0	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.5	13.8		12.0	5.4	12.9		12.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	42.0		40.0	6.0	42.0		40.0
Max Q Clear Time (g_c+I1), s	2.8	6.1		4.9	2.8	5.7		4.2
Green Ext Time (p_c), s	0.0	3.7		1.1	0.0	3.1		0.9

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	514	21	26	1008	73	63	41	39	63	19	65
Future Volume (veh/h)	21	514	21	26	1008	73	63	41	39	63	19	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1488	1660	1660	1567	1660	1758	1647	1575	1758
Adj Flow Rate, veh/h	22	541	22	27	1061	77	66	43	41	66	20	68
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	16	10	10	10	10	3	4	16	3
Cap, veh/h	108	1765	72	101	1688	122	238	125	92	225	66	137
Arrive On Green	0.07	0.56	0.56	0.07	0.57	0.57	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1606	3140	128	1417	2981	216	521	545	401	470	288	599
Grp Volume(v), veh/h	22	276	287	27	561	577	150	0	0	154	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1665	1417	1577	1621	1467	0	0	1358	0	0
Q Serve(g_s), s	0.6	4.0	4.0	0.8	10.5	10.5	0.0	0.0	0.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	0.6	4.0	4.0	0.8	10.5	10.5	3.5	0.0	0.0	3.9	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.13	0.44		0.27	0.43		0.44
Lane Grp Cap(c), veh/h	108	901	936	101	893	918	455	0	0	429	0	0
V/C Ratio(X)	0.20	0.31	0.31	0.27	0.63	0.63	0.33	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	294	1616	1678	260	1589	1634	1465	0	0	1369	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.3	5.1	5.1	19.2	6.4	6.4	14.3	0.0	0.0	14.5	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.2	0.2	1.4	0.7	0.7	0.4	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.9	0.9	0.3	2.3	2.3	1.1	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	5.2	5.2	20.6	7.1	7.1	14.7	0.0	0.0	15.0	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		585			1165			150			154	
Approach Delay, s/veh		5.8			7.4			14.7			15.0	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	26.5		12.0	4.9	26.7		12.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	42.0		40.0	6.0	42.0		40.0
Max Q Clear Time (g_c+I1), s	2.8	6.0		5.9	2.6	12.5		5.5
Green Ext Time (p_c), s	0.0	4.2		1.1	0.0	10.2		1.0

Intersection Summary	
HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	534	31	26	1035	73	76	41	39	63	19	92
Future Volume (veh/h)	41	534	31	26	1035	73	76	41	39	63	19	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1488	1660	1660	1567	1660	1758	1647	1575	1758
Adj Flow Rate, veh/h	43	562	33	27	1089	77	80	43	41	66	20	97
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	16	10	10	10	10	3	4	16	3
Cap, veh/h	129	1769	104	97	1683	119	253	113	84	197	55	165
Arrive On Green	0.08	0.57	0.57	0.07	0.56	0.56	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1606	3078	180	1417	2987	211	606	500	369	400	244	726
Grp Volume(v), veh/h	43	292	303	27	575	591	164	0	0	183	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1655	1417	1577	1622	1475	0	0	1370	0	0
Q Serve(g_s), s	1.2	4.4	4.4	0.8	11.6	11.6	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	1.2	4.4	4.4	0.8	11.6	11.6	4.1	0.0	0.0	5.2	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.13	0.49		0.25	0.36		0.53
Lane Grp Cap(c), veh/h	129	921	951	97	888	914	450	0	0	417	0	0
V/C Ratio(X)	0.33	0.32	0.32	0.28	0.65	0.65	0.36	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	278	1527	1576	245	1501	1544	1367	0	0	1297	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.1	5.1	5.1	20.4	6.9	6.9	15.4	0.0	0.0	15.8	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.2	0.2	1.5	0.8	0.8	0.5	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0	1.0	0.3	2.7	2.7	1.3	0.0	0.0	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	5.3	5.3	22.0	7.7	7.7	15.9	0.0	0.0	16.5	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		638			1193			164			183	
Approach Delay, s/veh		6.4			8.0			15.9			16.5	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	28.6		12.5	5.7	28.0		12.5
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	42.0		40.0	6.0	42.0		40.0
Max Q Clear Time (g_c+I1), s	2.8	6.4		7.2	3.2	13.6		6.1
Green Ext Time (p_c), s	0.0	4.5		1.3	0.0	10.4		1.2

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	534	31	26	1035	73	76	41	39	63	19	92
Future Volume (veh/h)	41	534	31	26	1035	73	76	41	39	63	19	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1488	1660	1660	1567	1660	1758	1647	1575	1758
Adj Flow Rate, veh/h	43	562	33	27	1089	77	80	43	41	66	20	97
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	16	10	10	10	10	3	4	16	3
Cap, veh/h	134	1727	101	101	1641	116	262	114	85	204	56	167
Arrive On Green	0.08	0.56	0.56	0.07	0.55	0.55	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1606	3078	180	1417	2987	211	606	498	368	401	243	725
Grp Volume(v), veh/h	43	292	303	27	575	591	164	0	0	183	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1655	1417	1577	1622	1473	0	0	1369	0	0
Q Serve(g_s), s	1.1	4.3	4.3	0.8	11.3	11.3	0.0	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	4.3	4.3	0.8	11.3	11.3	3.8	0.0	0.0	4.8	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.13	0.49		0.25	0.36		0.53
Lane Grp Cap(c), veh/h	134	900	929	101	866	891	461	0	0	427	0	0
V/C Ratio(X)	0.32	0.32	0.33	0.27	0.66	0.66	0.36	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	295	1620	1672	260	1593	1638	1449	0	0	1375	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.8	5.1	5.1	19.1	7.0	7.0	14.4	0.0	0.0	14.8	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.2	0.2	1.4	0.9	0.9	0.5	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.6	0.6	0.2	1.7	1.8	1.1	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	5.3	5.3	20.5	7.8	7.8	14.9	0.0	0.0	15.4	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		638			1193			164			183	
Approach Delay, s/veh		6.3			8.1			14.9			15.4	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	26.4		12.0	5.6	25.9		12.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	42.0		40.0	6.0	42.0		40.0
Max Q Clear Time (g_c+I1), s	2.8	6.3		6.8	3.1	13.3		5.8
Green Ext Time (p_c), s	0.0	3.7		1.2	0.0	8.7		1.0

Intersection Summary	
HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : COTTONWOOD AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	2		4		6		8	10	12	14
RANCHERO RD										
EB Left	36	3	39	29	68	29	68	66	95	95
EB Thru	367	26	393	29	422	29	422	1,041	1,070	1,070
EB Right	22	2	24	15	39	15	39	45	60	60
WB Left	24	2	26	0	26	0	26	28	28	28
WB Thru	662	47	709	28	737	28	737	809	837	837
WB Right	56	4	60	0	60	0	60	58	58	58
COTTONWOOD AVE										
NB Left	29	3	32	14	46	14	46	33	47	47
NB Thru	66	5	71	0	71	0	71	63	63	63
NB Right	38	3	41	0	41	0	41	66	66	66
SB Left	57	4	61	0	61	0	61	93	93	93
SB Thru	65	5	70	0	70	0	70	66	66	66
SB Right	39	3	42	28	70	28	70	42	70	70
TOTALS	**1,461**	**107**	**1,568**	**143**	**1,711**	**143**	**1,711**	**2,410**	**2,553**	**2,553**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	AW	30-Aug-22	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : PM PEAK HOUR
N/S STREET : COTTONWOOD AVE
PHF : 0.87

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
5	13	13	0	0	0	0	0	0	0	0	0
8	14	16	0	0	0	0	0	0	0	0	0
12	14	14	0	0	0	0	0	0	0	0	0
7	24	14	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
13	22	5	0	0	0	0	0	0	0	0	0
19	27	6	0	0	0	0	0	0	0	0	0
4	9	5	0	0	0	0	0	0	0	0	0
2	8	8	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
13	127	6	0	0	0	0	0	0	0	0	0
23	160	5	0	2	0	0	0	0	0	2	0
13	113	10	0	5	0	0	3	0	0	3	0
7	121	3	0	2	0	0	2	0	0	4	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
3	84	8	0	5	0	0	2	0	0	5	0
4	79	13	0	3	0	0	0	0	0	0	0
9	75	9	0	3	0	0	1	0	0	1	0
6	102	6	0	3	0	0	1	0	0	3	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	36	**36**	**1%**	**36**
EBTH	27	340	**367**	**8%**	**367**
EBR	0	22	**22**	**1%**	**22**
WBL	0	24	**24**	**1%**	**24**
WBTH	23	521	**544**	**5%**	**662**
WBR	0	56	**56**	**1%**	**56**
COTTONWOOD AVE					
NBL	0	24	**24**	**1%**	**29**
NBTH	0	66	**66**	**1%**	**66**
NBR	0	38	**38**	**1%**	**38**
SBL	0	57	**57**	**1%**	**57**
SBTH	0	65	**65**	**1%**	**65**
SBR	0	32	**32**	**1%**	**39**

Intersection	
Intersection Delay, s/veh	23.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	367	22	24	662	56	29	66	38	57	65	39
Future Vol, veh/h	36	367	22	24	662	56	29	66	38	57	65	39
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	1	8	1	1	5	1	1	1	1	1	1	1
Mvmt Flow	41	422	25	28	761	64	33	76	44	66	75	45
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	16.8	30.9	13.9	14.8
HCM LOS	C	D	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	22%	16%	0%	7%	0%	35%
Vol Thru, %	50%	84%	89%	93%	86%	40%
Vol Right, %	29%	0%	11%	0%	14%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	220	206	355	387	161
LT Vol	29	36	0	24	0	57
Through Vol	66	184	184	331	331	65
RT Vol	38	0	22	0	56	39
Lane Flow Rate	153	252	236	408	445	185
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.315	0.508	0.473	0.764	0.824	0.377
Departure Headway (Hd)	7.421	7.252	7.213	6.739	6.671	7.338
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	485	497	501	539	543	490
Service Time	5.462	4.994	4.955	4.477	4.409	5.375
HCM Lane V/C Ratio	0.315	0.507	0.471	0.757	0.82	0.378
HCM Control Delay	13.9	17.3	16.3	28.1	33.5	14.8
HCM Lane LOS	B	C	C	D	D	B
HCM 95th-tile Q	1.3	2.8	2.5	6.8	8.3	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	393	24	26	709	60	32	71	41	61	70	42
Future Volume (veh/h)	39	393	24	26	709	60	32	71	41	61	70	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1730	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	45	452	28	30	815	69	37	82	47	70	80	48
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	8	1	1	5	1	1	1	1	1	1	1
Cap, veh/h	154	1446	89	135	1411	119	190	253	127	255	210	105
Arrive On Green	0.10	0.47	0.47	0.08	0.46	0.46	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1606	3067	189	1606	3067	260	244	913	457	431	755	380
Grp Volume(v), veh/h	45	236	244	30	437	447	166	0	0	198	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1654	1606	1643	1683	1615	0	0	1566	0	0
Q Serve(g_s), s	0.9	3.3	3.3	0.6	7.0	7.0	0.0	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	0.9	3.3	3.3	0.6	7.0	7.0	2.8	0.0	0.0	3.5	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.15	0.22		0.28	0.35		0.24
Lane Grp Cap(c), veh/h	154	756	780	135	756	774	571	0	0	570	0	0
V/C Ratio(X)	0.29	0.31	0.31	0.22	0.58	0.58	0.29	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	357	1291	1331	357	1323	1355	1961	0	0	1907	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.1	5.9	5.9	15.4	7.2	7.2	10.4	0.0	0.0	10.6	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.2	0.2	0.8	0.7	0.7	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.7	0.7	0.2	1.6	1.7	0.8	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.2	6.1	6.1	16.2	7.9	7.8	10.7	0.0	0.0	11.0	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		525			914			166			198	
Approach Delay, s/veh		7.0			8.1			10.7			11.0	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	19.0		12.0	5.5	18.6		12.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	27.0		40.0	6.0	27.0		40.0
Max Q Clear Time (g_c+I1), s	2.6	5.3		5.5	2.9	9.0		4.8
Green Ext Time (p_c), s	0.0	2.9		1.3	0.0	5.5		1.0

Intersection Summary	
HCM 6th Ctrl Delay	8.3
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	422	39	26	737	60	46	71	41	61	70	70
Future Volume (veh/h)	68	422	39	26	737	60	46	71	41	61	70	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1730	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	78	485	45	30	847	69	53	82	47	70	80	80
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	8	1	1	5	1	1	1	1	1	1	1
Cap, veh/h	181	1461	135	131	1421	116	217	225	111	226	172	146
Arrive On Green	0.11	0.49	0.49	0.08	0.46	0.46	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1606	2967	274	1606	3077	251	349	847	417	379	647	547
Grp Volume(v), veh/h	78	261	269	30	452	464	182	0	0	230	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1638	1606	1643	1685	1613	0	0	1573	0	0
Q Serve(g_s), s	1.7	3.7	3.7	0.7	7.7	7.7	0.0	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	1.7	3.7	3.7	0.7	7.7	7.7	3.3	0.0	0.0	4.4	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.15	0.29		0.26	0.30		0.35
Lane Grp Cap(c), veh/h	181	790	807	131	759	778	553	0	0	544	0	0
V/C Ratio(X)	0.43	0.33	0.33	0.23	0.60	0.60	0.33	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	342	1237	1264	342	1268	1300	1846	0	0	1826	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.6	5.8	5.8	16.1	7.5	7.5	11.3	0.0	0.0	11.7	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.2	0.2	0.9	0.8	0.7	0.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.8	0.8	0.2	1.9	1.9	1.0	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	6.0	6.0	17.0	8.3	8.2	11.7	0.0	0.0	12.2	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		608			946			182			230	
Approach Delay, s/veh		7.5			8.5			11.7			12.2	
Approach LOS		A			A			B			B	

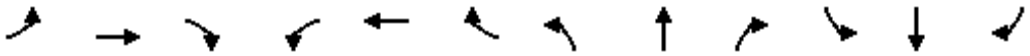
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	20.5		12.0	6.2	19.4		12.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	27.0		40.0	6.0	27.0		40.0
Max Q Clear Time (g_c+I1), s	2.7	5.7		6.4	3.7	9.7		5.3
Green Ext Time (p_c), s	0.0	3.2		1.5	0.0	5.7		1.2

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	422	39	26	737	60	46	71	41	61	70	70
Future Volume (veh/h)	68	422	39	26	737	60	46	71	41	61	70	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1730	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	78	485	45	30	847	69	53	82	47	70	80	80
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	8	1	1	5	1	1	1	1	1	1	1
Cap, veh/h	181	1461	135	131	1421	116	217	225	111	226	172	146
Arrive On Green	0.11	0.49	0.49	0.08	0.46	0.46	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1606	2967	274	1606	3077	251	349	847	417	379	647	547
Grp Volume(v), veh/h	78	261	269	30	452	464	182	0	0	230	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1638	1606	1643	1685	1613	0	0	1573	0	0
Q Serve(g_s), s	1.7	3.7	3.7	0.7	7.7	7.7	0.0	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	1.7	3.7	3.7	0.7	7.7	7.7	3.3	0.0	0.0	4.4	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.15	0.29		0.26	0.30		0.35
Lane Grp Cap(c), veh/h	181	790	807	131	759	778	553	0	0	544	0	0
V/C Ratio(X)	0.43	0.33	0.33	0.23	0.60	0.60	0.33	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	342	1237	1264	342	1268	1300	1846	0	0	1826	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.6	5.8	5.8	16.1	7.5	7.5	11.3	0.0	0.0	11.7	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.2	0.2	0.9	0.8	0.7	0.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.8	0.8	0.2	1.9	1.9	1.0	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.2	6.0	6.0	17.0	8.3	8.2	11.7	0.0	0.0	12.2	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		608			946			182			230	
Approach Delay, s/veh		7.5			8.5			11.7			12.2	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	20.5		12.0	6.2	19.4		12.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	27.0		40.0	6.0	27.0		40.0
Max Q Clear Time (g_c+I1), s	2.7	5.7		6.4	3.7	9.7		5.3
Green Ext Time (p_c), s	0.0	3.2		1.5	0.0	5.7		1.2

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	1020	87	6	837	35	35	20	7	88	34	49
Future Volume (vph)	151	1020	87	6	837	35	35	20	7	88	34	49
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	120			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	1166	0	6	918	0	0	65	0	0	181	0
v/c Ratio	0.77	0.85		0.04	0.90			0.09			0.25	
Control Delay	61.8	30.0		35.8	41.2			10.9			11.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	61.8	30.0		35.8	41.2			10.9			11.0	
Queue Length 50th (ft)	83	267		3	244			16			42	
Queue Length 95th (ft)	#182	#498		15	#359			36			82	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	206	1374		150	1023			724			728	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.77	0.85		0.04	0.90			0.09			0.25	

Intersection Summary	
Area Type:	Other

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	1070	60	28	837	58	47	63	66	93	66	70
Future Volume (veh/h)	95	1070	60	28	837	58	47	63	66	93	66	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1730	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	100	1126	63	29	881	61	49	66	69	98	69	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	1	5	1	1	1	1	1	1	1
Cap, veh/h	194	1621	91	120	1493	103	188	180	157	259	140	124
Arrive On Green	0.12	0.52	0.52	0.07	0.48	0.48	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1606	3087	173	1606	3118	216	312	695	604	537	539	477
Grp Volume(v), veh/h	100	585	604	29	464	478	184	0	0	241	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1657	1606	1643	1691	1612	0	0	1553	0	0
Q Serve(g_s), s	2.5	11.6	11.6	0.7	8.7	8.7	0.0	0.0	0.0	1.5	0.0	0.0
Cycle Q Clear(g_c), s	2.5	11.6	11.6	0.7	8.7	8.7	3.8	0.0	0.0	5.4	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.13	0.27		0.37	0.41		0.31
Lane Grp Cap(c), veh/h	194	842	870	120	787	809	525	0	0	522	0	0
V/C Ratio(X)	0.52	0.69	0.70	0.24	0.59	0.59	0.35	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	303	1096	1133	303	1124	1156	1632	0	0	1590	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.5	7.5	7.5	18.5	8.0	8.0	13.1	0.0	0.0	13.6	0.0	0.0
Incr Delay (d2), s/veh	2.1	1.3	1.3	1.0	0.7	0.7	0.4	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.8	2.9	0.3	2.3	2.3	1.3	0.0	0.0	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.6	8.8	8.8	19.5	8.7	8.7	13.5	0.0	0.0	14.2	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		1289			971			184			241	
Approach Delay, s/veh		9.6			9.1			13.5			14.2	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	24.3		13.0	7.1	22.3		13.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	27.0		40.0	6.0	27.0		40.0
Max Q Clear Time (g_c+I1), s	2.7	13.6		7.4	4.5	10.7		5.8
Green Ext Time (p_c), s	0.0	6.7		1.6	0.0	5.7		1.2

Intersection Summary	
HCM 6th Ctrl Delay	10.1
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	1070	60	28	837	58	47	63	66	93	66	70
Future Volume (veh/h)	95	1070	60	28	837	58	47	63	66	93	66	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1730	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	100	1126	63	29	881	61	49	66	69	98	69	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	1	5	1	1	1	1	1	1	1
Cap, veh/h	194	1621	91	120	1493	103	188	180	157	259	140	124
Arrive On Green	0.12	0.52	0.52	0.07	0.48	0.48	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1606	3087	173	1606	3118	216	312	695	604	537	539	477
Grp Volume(v), veh/h	100	585	604	29	464	478	184	0	0	241	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1657	1606	1643	1691	1612	0	0	1553	0	0
Q Serve(g_s), s	2.5	11.6	11.6	0.7	8.7	8.7	0.0	0.0	0.0	1.5	0.0	0.0
Cycle Q Clear(g_c), s	2.5	11.6	11.6	0.7	8.7	8.7	3.8	0.0	0.0	5.4	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.13	0.27		0.37	0.41		0.31
Lane Grp Cap(c), veh/h	194	842	870	120	787	809	525	0	0	522	0	0
V/C Ratio(X)	0.52	0.69	0.70	0.24	0.59	0.59	0.35	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	303	1096	1133	303	1124	1156	1632	0	0	1590	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.5	7.5	7.5	18.5	8.0	8.0	13.1	0.0	0.0	13.6	0.0	0.0
Incr Delay (d2), s/veh	2.1	1.3	1.3	1.0	0.7	0.7	0.4	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.8	2.9	0.3	2.3	2.3	1.3	0.0	0.0	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.6	8.8	8.8	19.5	8.7	8.7	13.5	0.0	0.0	14.2	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		1289			971			184			241	
Approach Delay, s/veh		9.6			9.1			13.5			14.2	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	24.3		13.0	7.1	22.3		13.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	27.0		40.0	6.0	27.0		40.0
Max Q Clear Time (g_c+I1), s	2.7	13.6		7.4	4.5	10.7		5.8
Green Ext Time (p_c), s	0.0	6.7		1.6	0.0	5.7		1.2

Intersection Summary	
HCM 6th Ctrl Delay	10.1
HCM 6th LOS	B

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 6
North/South Street: COTTONWOOD AVE
East/West Street: RANCHERO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Balanced Volume
	Left	36	Approach	122	Left	51	63
NB	Through	44	Departure	57	Through	31	41
	Right	34			Right	40	39
	Left	60	Approach	119	Left	57	63
SB	Through	19	Departure	106	Through	15	19
	Right	40			Right	46	65
	Left	21	Approach	556	Left	15	21
EB	Through	439	Departure	1,164	Through	520	514
	Right	17			Right	16	21
	Left	13	Approach	1,150	Left	26	26
WB	Through	354	Departure	617	Through	1,066	1,008
	Right	41			Right	61	73

P.M. Peak Hour

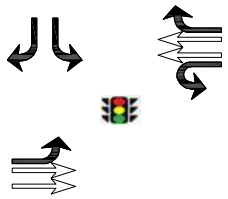
Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Balanced Volume
	Left	29	Approach	139	Left	33	33
NB	Through	66	Departure	128	Through	52	63
	Right	38			Right	55	66
	Left	57	Approach	161	Left	70	93
SB	Through	65	Departure	158	Through	55	66
	Right	39			Right	37	42
	Left	36	Approach	1,198	Left	58	66
EB	Through	367	Departure	888	Through	1,107	1,041
	Right	22			Right	46	45
	Left	24	Approach	899	Left	27	28
WB	Through	662	Departure	1,232	Through	818	809
	Right	56			Right	48	58

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

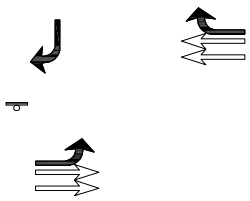
E/W STREET : RANCHERO RD
N/S STREET : TAMARISK AVENUE
CONDITION : AM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



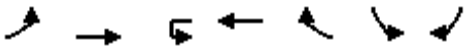
PROPOSED ALTERNATIVE 1 PROJECT GEOMETRICS



PROPOSED ALTERNATIVE 2 PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	1		3		5		7	9	11	13
RANCHERO RD										
EB Left	0	0	0	212	212	137	137	0	212	137
EB Thru	561	41	602	-119	483	119	721	630	511	749
EB Right	0	0	0	0	0	0	0	0	0	0
WB Left	0	0	0	20	20	0	0	0	20	0
WB Thru	532	39	571	40	611	30	601	1,154	1,194	1,184
WB Right	0	0	0	53	53	53	53	0	53	53
TAMARISK AVENUE										
NB Left	0	0	0	0	0	0	0	0	0	0
NB Thru	0	0	0	0	0	0	0	0	0	0
NB Right	0	0	0	0	0	0	0	0	0	0
SB Left	0	0	0	218	218	0	0	0	218	0
SB Thru	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	30	30	30	30	0	30	30
TOTALS	**1,093**	**80**	**1,173**	**454**	**1,627**	**369**	**1,542**	**1,784**	**2,238**	**2,153**



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	212	483	20	611	53	218	30
Future Volume (veh/h)	212	483	20	611	53	218	30
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1700	1674		1674	1800	1700	1800
Adj Flow Rate, veh/h	241	549		694	60	248	34
Peak Hour Factor	0.88	0.88		0.88	0.88	0.88	0.88
Percent Heavy Veh, %	0	9		9	0	0	0
Cap, veh/h	250	1708		1095	525	625	588
Arrive On Green	0.15	0.54		0.34	0.34	0.39	0.39
Sat Flow, veh/h	1619	3264		3264	1525	1619	1525
Grp Volume(v), veh/h	241	549		694	60	248	34
Grp Sat Flow(s),veh/h/ln	1619	1590		1590	1525	1619	1525
Q Serve(g_s), s	7.7	5.0		9.5	1.4	5.8	0.7
Cycle Q Clear(g_c), s	7.7	5.0		9.5	1.4	5.8	0.7
Prop In Lane	1.00				1.00	1.00	1.00
Lane Grp Cap(c), veh/h	250	1708		1095	525	625	588
V/C Ratio(X)	0.96	0.32		0.63	0.11	0.40	0.06
Avail Cap(c_a), veh/h	250	1717		1595	765	625	588
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	6.7		14.3	11.6	11.5	10.0
Incr Delay (d2), s/veh	47.0	0.1		0.6	0.1	1.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	1.3		3.0	0.4	2.1	0.0
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	68.8	6.8		14.9	11.7	13.4	10.2
LnGrp LOS	E	A		B	B	B	B
Approach Vol, veh/h		790		754		282	
Approach Delay, s/veh		25.7		14.6		13.0	
Approach LOS		C		B		B	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			29.8		22.0	10.0	19.8
Change Period (Y+Rc), s			4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s			26.0		18.0	6.0	24.0
Max Q Clear Time (g_c+I1), s			7.0		7.8	9.7	11.5
Green Ext Time (p_c), s			3.9		0.7	0.0	4.4

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.

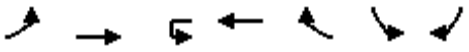
Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	137	721	601	53	0	30
Future Vol, veh/h	137	721	601	53	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	156	819	683	60	0	34

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	743	0	-	0	-	342
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.1	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.2	-	-	-	-	3.3
Pot Cap-1 Maneuver	873	-	-	-	0	660
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	873	-	-	-	-	660
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	873	-	-	-	660
HCM Lane V/C Ratio	0.178	-	-	-	0.052
HCM Control Delay (s)	10	-	-	-	10.8
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	0.6	-	-	-	0.2



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	212	511	20	1194	53	218	30
Future Volume (veh/h)	212	511	20	1194	53	218	30
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1700	1674		1674	1800	1700	1800
Adj Flow Rate, veh/h	223	538		1257	56	229	32
Peak Hour Factor	0.95	0.95		0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	9		9	0	0	0
Cap, veh/h	249	1957		1370	657	523	493
Arrive On Green	0.15	0.62		0.43	0.43	0.32	0.32
Sat Flow, veh/h	1619	3264		3264	1525	1619	1525
Grp Volume(v), veh/h	223	538		1257	56	229	32
Grp Sat Flow(s),veh/h/ln	1619	1590		1590	1525	1619	1525
Q Serve(g_s), s	8.8	5.1		24.2	1.4	7.2	0.9
Cycle Q Clear(g_c), s	8.8	5.1		24.2	1.4	7.2	0.9
Prop In Lane	1.00				1.00	1.00	1.00
Lane Grp Cap(c), veh/h	249	1957		1370	657	523	493
V/C Ratio(X)	0.90	0.27		0.92	0.09	0.44	0.06
Avail Cap(c_a), veh/h	249	1957		1370	657	523	493
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.0	5.8		17.4	10.9	17.3	15.2
Incr Delay (d2), s/veh	31.1	0.1		10.0	0.1	2.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	1.3		9.6	0.4	2.9	1.0
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	58.1	5.9		27.4	11.0	20.0	15.5
LnGrp LOS	E	A		C	B	B	B
Approach Vol, veh/h		761		1313		261	
Approach Delay, s/veh		21.2		26.7		19.4	
Approach LOS		C		C		B	

Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			42.0		23.0	12.0	30.0
Change Period (Y+Rc), s			4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s			30.0		19.0	8.0	26.0
Max Q Clear Time (g_c+I1), s			7.1		9.2	10.8	26.2
Green Ext Time (p_c), s			4.1		0.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	137	749	1184	53	0	30
Future Vol, veh/h	137	749	1184	53	0	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	144	788	1246	56	0	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1302	0	-	0	-	623
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.1	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.2	-	-	-	-	3.3
Pot Cap-1 Maneuver	539	-	-	-	0	434
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	539	-	-	-	-	434
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	539	-	-	-	434
HCM Lane V/C Ratio	0.268	-	-	-	0.073
HCM Control Delay (s)	14.1	-	-	-	13.9
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	1.1	-	-	-	0.2

DAVID EVANS AND ASSOCIATES INC.

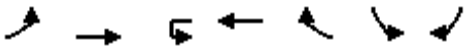
SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : TAMARISK AVENUE
CONDITION : PM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	2		4		6		8	10	12	14
RANCHERO RD										
EB Left	0	0	0	265	265	170	170	0	265	170
EB Thru	556	40	596	-167	429	174	770	1,236	1,069	1,410
EB Right	0	0	0	0	0	0	0	0	0	0
WB Left	0	0	0	29	29	0	0	0	29	0
WB Thru	751	54	805	59	864	44	849	905	964	949
WB Right	0	0	0	56	56	56	56	0	56	56
TAMARISK AVENUE										
NB Left	0	0	0	0	0	0	0	0	0	0
NB Thru	0	0	0	0	0	0	0	0	0	0
NB Right	0	0	0	0	0	0	0	0	0	0
SB Left	0	0	0	312	312	0	0	0	312	0
SB Thru	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	43	43	43	43	0	43	43
TOTALS	**1,307**	**94**	**1,401**	**597**	**1,998**	**487**	**1,888**	**2,141**	**2,738**	**2,628**



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	265	429	29	864	56	312	43
Future Volume (veh/h)	265	429	29	864	56	312	43
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1700	1730		1772	1800	1700	1800
Adj Flow Rate, veh/h	312	505		1016	66	367	51
Peak Hour Factor	0.85	0.85		0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	5		2	0	0	0
Cap, veh/h	381	2196		1359	616	442	417
Arrive On Green	0.24	0.67		0.40	0.40	0.27	0.27
Sat Flow, veh/h	1619	3373		3455	1525	1619	1525
Grp Volume(v), veh/h	312	505		1016	66	367	51
Grp Sat Flow(s),veh/h/ln	1619	1643		1683	1525	1619	1525
Q Serve(g_s), s	12.4	4.1		17.5	1.8	14.5	1.7
Cycle Q Clear(g_c), s	12.4	4.1		17.5	1.8	14.5	1.7
Prop In Lane	1.00				1.00	1.00	1.00
Lane Grp Cap(c), veh/h	381	2196		1359	616	442	417
V/C Ratio(X)	0.82	0.23		0.75	0.11	0.83	0.12
Avail Cap(c_a), veh/h	381	2196		1682	762	452	426
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	4.4		17.3	12.7	23.2	18.6
Incr Delay (d2), s/veh	13.2	0.1		1.5	0.1	12.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	1.0		6.4	0.6	6.6	0.0
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	37.9	4.5		18.8	12.7	35.3	18.7
LnGrp LOS	D	A		B	B	D	B
Approach Vol, veh/h		817		1082		418	
Approach Delay, s/veh		17.2		18.4		33.3	
Approach LOS		B		B		C	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	47.5	20.6	18.0	29.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	40.0	17.0	14.0	32.0
Max Q Clear Time (g_c+I1), s	6.1	16.5	14.4	19.5
Green Ext Time (p_c), s	3.8	0.1	0.0	5.9

Intersection Summary	
HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.

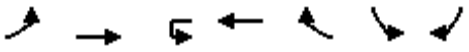
Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	170	770	849	56	0	43
Future Vol, veh/h	170	770	849	56	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	200	906	999	66	0	51

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1065	0	-	0	-	500
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.1	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.2	-	-	-	-	3.3
Pot Cap-1 Maneuver	662	-	-	-	0	522
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	662	-	-	-	-	522
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	662	-	-	-	522
HCM Lane V/C Ratio	0.302	-	-	-	0.097
HCM Control Delay (s)	12.8	-	-	-	12.6
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	1.3	-	-	-	0.3



Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (veh/h)	265	1069	29	964	56	312	43
Future Volume (veh/h)	265	1069	29	964	56	312	43
Initial Q (Qb), veh	0	0		0	0	0	0
Ped-Bike Adj(A_pbT)	1.00				1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00		1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No	
Adj Sat Flow, veh/h/ln	1700	1730		1772	1800	1700	1800
Adj Flow Rate, veh/h	279	1125		1015	59	328	45
Peak Hour Factor	0.95	0.95		0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	5		2	0	0	0
Cap, veh/h	351	2211		1421	644	422	397
Arrive On Green	0.22	0.67		0.42	0.42	0.26	0.26
Sat Flow, veh/h	1619	3373		3455	1525	1619	1525
Grp Volume(v), veh/h	279	1125		1015	59	328	45
Grp Sat Flow(s),veh/h/ln	1619	1643		1683	1525	1619	1525
Q Serve(g_s), s	9.8	10.2		14.9	1.4	11.3	1.3
Cycle Q Clear(g_c), s	9.8	10.2		14.9	1.4	11.3	1.3
Prop In Lane	1.00				1.00	1.00	1.00
Lane Grp Cap(c), veh/h	351	2211		1421	644	422	397
V/C Ratio(X)	0.79	0.51		0.71	0.09	0.78	0.11
Avail Cap(c_a), veh/h	351	2211		1855	841	487	459
HCM Platoon Ratio	1.00	1.00		1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00		1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	4.9		14.3	10.4	20.5	16.9
Incr Delay (d2), s/veh	11.8	0.2		0.9	0.1	6.8	0.1
Initial Q Delay(d3),s/veh	0.0	0.0		0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	2.3		5.1	0.4	4.7	1.3
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	34.0	5.1		15.2	10.5	27.4	17.0
LnGrp LOS	C	A		B	B	C	B
Approach Vol, veh/h		1404		1074		373	
Approach Delay, s/veh		10.8		15.0		26.1	
Approach LOS		B		B		C	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	42.3	17.6	15.0	27.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	36.0	16.0	11.0	31.0
Max Q Clear Time (g_c+I1), s	12.2	13.3	11.8	16.9
Green Ext Time (p_c), s	9.1	0.4	0.0	6.3

Intersection Summary	
HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	170	1410	949	56	0	43
Future Vol, veh/h	170	1410	949	56	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	179	1484	999	59	0	45

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1058	0	-	0	-	500
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.1	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	2.2	-	-	-	-	3.3
Pot Cap-1 Maneuver	666	-	-	-	0	522
Stage 1	-	-	-	-	0	-
Stage 2	-	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	666	-	-	-	-	522
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	12.6
HCM LOS			B

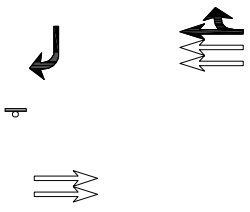
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	666	-	-	-	522
HCM Lane V/C Ratio	0.269	-	-	-	0.087
HCM Control Delay (s)	12.4	-	-	-	12.6
HCM Lane LOS	B	-	-	-	B
HCM 95th %tile Q(veh)	1.1	-	-	-	0.3

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

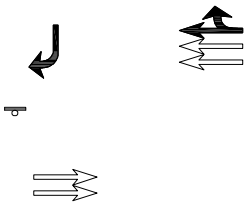
E/W STREET : RANCHERO RD
N/S STREET : PROJECT DRIVEWAY "A"
CONDITION : AM PEAK HOUR

INTERSECTION : 8
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



PROPOSED ALTERNATIVE 1 PROJECT GEOMETRICS



PROPOSED ALTERNATIVE 2 PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	1		3		5		7	9	11	13
RANCHERO RD										
EB Left	0	0	0	0	0	0	0	0	0	0
EB Thru	561	41	602	119	721	119	721	630	749	749
EB Right	0	0	0	0	0	0	0	0	0	0
WB Left	0	0	0	0	0	0	0	0	0	0
WB Thru	532	39	571	-20	551	-20	551	1,154	1,134	1,134
WB Right	0	0	0	149	149	149	149	0	149	149
PROJECT DRIVEWAY "A"										
NB Left	0	0	0	0	0	0	0	0	0	0
NB Thru	0	0	0	0	0	0	0	0	0	0
NB Right	0	0	0	0	0	0	0	0	0	0
SB Left	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	133	133	103	103	0	133	103
TOTALS	**1,093**	**80**	**1,173**	**381**	**1,554**	**351**	**1,524**	**1,784**	**2,165**	**2,135**

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	721	551	149	0	133
Future Vol, veh/h	0	721	551	149	0	133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	819	626	169	0	151

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	398
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	0	518
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	518
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	518
HCM Lane V/C Ratio	-	-	-	0.292
HCM Control Delay (s)	-	-	-	14.8
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	1.2

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↑			↱
Traffic Vol, veh/h	0	721	551	149	0	103
Future Vol, veh/h	0	721	551	149	0	103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	819	626	169	0	117

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	398
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	0	518
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	518
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	518
HCM Lane V/C Ratio	-	-	-	0.226
HCM Control Delay (s)	-	-	-	14
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.9

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	749	1134	149	0	133
Future Vol, veh/h	0	749	1134	149	0	133
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	788	1194	157	0	140

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	676
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	0	343
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	343
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	22.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	343
HCM Lane V/C Ratio	-	-	-	0.408
HCM Control Delay (s)	-	-	-	22.5
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.9

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	749	1134	149	0	103
Future Vol, veh/h	0	749	1134	149	0	103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	788	1194	157	0	108

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	676
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	0	343
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	343
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	20.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	343
HCM Lane V/C Ratio	-	-	-	0.316
HCM Control Delay (s)	-	-	-	20.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.3

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : PROJECT DRIVEWAY "A"
CONDITION : PM PEAK HOUR

INTERSECTION : 8
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	2		4		6		8	10	12	14
RANCHERO RD										
EB Left	0	0	0	0	0	0	0	0	0	0
EB Thru	556	40	596	174	770	174	770	1,236	1,410	1,410
EB Right	0	0	0	0	0	0	0	0	0	0
WB Left	0	0	0	0	0	0	0	0	0	0
WB Thru	751	54	805	-47	758	-47	758	905	858	858
WB Right	0	0	0	187	187	187	187	0	187	187
PROJECT DRIVEWA										
NB Left	0	0	0	0	0	0	0	0	0	0
NB Thru	0	0	0	0	0	0	0	0	0	0
NB Right	0	0	0	0	0	0	0	0	0	0
SB Left	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	191	191	147	147	0	191	147
TOTALS	**1,307**	**94**	**1,401**	**505**	**1,906**	**461**	**1,862**	**2,141**	**2,646**	**2,602**

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	770	758	187	0	191
Future Vol, veh/h	0	770	758	187	0	191
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	906	892	220	0	225

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	556
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	0	410
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	410
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	23.9
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	410
HCM Lane V/C Ratio	-	-	-	0.548
HCM Control Delay (s)	-	-	-	23.9
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	3.2

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	770	758	187	0	147
Future Vol, veh/h	0	770	758	187	0	147
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	906	892	220	0	173

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	556
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	0	410
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	410
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	20
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	410
HCM Lane V/C Ratio	-	-	-	0.422
HCM Control Delay (s)	-	-	-	20
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	2

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↱			↱
Traffic Vol, veh/h	0	1410	858	187	0	191
Future Vol, veh/h	0	1410	858	187	0	191
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	1484	903	197	0	201

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	550
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	0	414
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	414
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	21.6
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	414
HCM Lane V/C Ratio	-	-	-	0.486
HCM Control Delay (s)	-	-	-	21.6
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	2.6

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↑			↱
Traffic Vol, veh/h	0	1411	858	187	0	147
Future Vol, veh/h	0	1411	858	187	0	147
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	1485	903	197	0	155

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	550
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	0	414
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	414
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.8
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	414
HCM Lane V/C Ratio	-	-	-	0.374
HCM Control Delay (s)	-	-	-	18.8
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.7

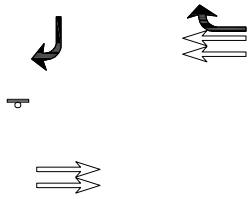
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

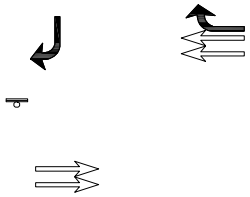
E/W STREET : RANCHERO RD
N/S STREET : PROJECT DRIVEWAY "B"
CONDITION : AM PEAK HOUR

INTERSECTION : 9
PROJECTED GROWTH PER YEAR : 3.5%

CONDITION DIAGRAMS



PROPOSED ALTERNATIVE 1 PROJECT GEOMETRICS



PROPOSED ALTERNATIVE 2 PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	1		3		5		7	9	11	13
RANCHERO RD										
EB Left	0	0	0	0	0	0	0	0	0	0
EB Thru	561	41	602	119	721	119	721	630	749	749
EB Right	0	0	0	0	0	0	0	0	0	0
WB Left	0	0	0	0	0	0	0	0	0	0
WB Thru	532	39	571	83	654	83	654	1,154	1,237	1,237
WB Right	0	0	0	76	76	76	76	0	76	76
PROJECT DRIVEWAY "B"										
NB Left	0	0	0	0	0	0	0	0	0	0
NB Thru	0	0	0	0	0	0	0	0	0	0
NB Right	0	0	0	0	0	0	0	0	0	0
SB Left	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	46	46	46	46	0	46	46
TOTALS	**1,093**	**80**	**1,173**	**324**	**1,497**	**324**	**1,497**	**1,784**	**2,108**	**2,108**

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	721	654	76	0	46
Future Vol, veh/h	0	721	654	76	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	819	743	86	0	52

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	372
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	631
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	631
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	631
HCM Lane V/C Ratio	-	-	-	0.083
HCM Control Delay (s)	-	-	-	11.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	721	654	76	0	46
Future Vol, veh/h	0	721	654	76	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	819	743	86	0	52

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	372
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	631
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	631
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	631
HCM Lane V/C Ratio	-	-	-	0.083
HCM Control Delay (s)	-	-	-	11.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	749	1237	76	0	46
Future Vol, veh/h	0	749	1237	76	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	788	1302	80	0	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	651
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	416
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	416
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	416
HCM Lane V/C Ratio	-	-	-	0.116
HCM Control Delay (s)	-	-	-	14.8
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	749	1237	76	0	46
Future Vol, veh/h	0	749	1237	76	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	788	1302	80	0	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	651
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	416
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	416
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	416
HCM Lane V/C Ratio	-	-	-	0.116
HCM Control Delay (s)	-	-	-	14.8
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	AW	30-Aug-22	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : PROJECT DRIVEWAY "B"
CONDITION : PM PEAK HOUR

INTERSECTION : 9
PROJECTED GROWTH PER YEAR : 3.5%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alternative 1 Project Trips	Opening Day w/ Project - Alt 1 Conditions	Alternative 2 Project Trips	Opening Day w/ Project - Alt 2 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions
	2		4		6		8	10	12	14
RANCHERO RD										
EB Left	0	0	0	0	0	0	0	0	0	0
EB Thru	556	40	596	174	770	174	770	1,236	1,410	1,410
EB Right	0	0	0	0	0	0	0	0	0	0
WB Left	0	0	0	0	0	0	0	0	0	0
WB Thru	751	54	805	76	881	76	881	905	981	981
WB Right	0	0	0	92	92	92	92	0	92	92
PROJECT DRIVEWA										
NB Left	0	0	0	0	0	0	0	0	0	0
NB Thru	0	0	0	0	0	0	0	0	0	0
NB Right	0	0	0	0	0	0	0	0	0	0
SB Left	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	65	65	65	65	0	65	65
TOTALS	**1,307**	**94**	**1,401**	**407**	**1,808**	**407**	**1,808**	**2,141**	**2,548**	**2,548**

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	770	881	92	0	65
Future Vol, veh/h	0	770	881	92	0	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	906	1036	108	0	76

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	518
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	508
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	508
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	508
HCM Lane V/C Ratio	-	-	-	0.151
HCM Control Delay (s)	-	-	-	13.3
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	770	881	92	0	65
Future Vol, veh/h	0	770	881	92	0	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	906	1036	108	0	76

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	518
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	508
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	508
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	508
HCM Lane V/C Ratio	-	-	-	0.151
HCM Control Delay (s)	-	-	-	13.3
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	1410	981	92	0	65
Future Vol, veh/h	0	1410	981	92	0	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	1484	1033	97	0	68

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	517
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	509
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	509
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	509
HCM Lane V/C Ratio	-	-	-	0.134
HCM Control Delay (s)	-	-	-	13.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	1411	981	92	0	65
Future Vol, veh/h	0	1411	981	92	0	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	1485	1033	97	0	68

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	517
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	509
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	509
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	509
HCM Lane V/C Ratio	-	-	-	0.134
HCM Control Delay (s)	-	-	-	13.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5

DAVID EVANS AND ASSOCIATES INC.

Appendix D: Intersection Capacity Analysis Calculations (Alternative 3)

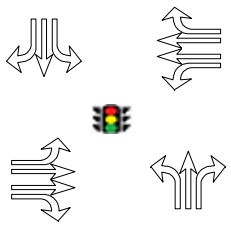
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : ESCONDIDO AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	1		3		5		7		9	11	13	15	17
RANCHERO RD													
EB Left	155	10	165	0	165	0	165	0	165	157	157	157	157
EB Thru	437	27	464	28	492	28	492	28	492	495	523	523	523
EB Right	25	2	27	0	27	0	27	0	27	29	29	29	29
WB Left	20	2	22	10	32	10	32	10	32	30	40	40	40
WB Thru	432	26	458	20	478	20	478	20	478	997	1,017	1,017	1017
WB Right	89	6	95	10	105	10	105	10	105	131	141	141	141
ESCONDIDO AVE													
NB Left	37	3	40	0	40	0	40	0	40	60	60	60	60
NB Thru	57	4	61	0	61	0	61	0	61	53	53	53	53
NB Right	26	2	28	13	41	13	41	13	41	27	40	40	40
SB Left	139	9	148	13	161	13	161	13	161	141	154	154	154
SB Thru	7	1	8	0	8	0	8	0	8	7	7	7	7
SB Right	114	7	121	0	121	0	121	0	121	179	179	179	179
TOTALS	**1,538**	**99**	**1,637**	**94**	**1,731**	**94**	**1,731**	**94**	**1,731**	**2,306**	**2,400**	**2,400**	**2400**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	HEAY	8/17/2023	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : AM PEAK HOUR
N/S STREET : ESCONDIDO AVE
PHF : 0.87

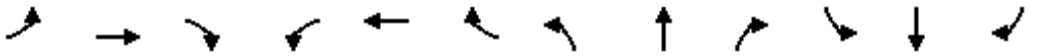
NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
28	7	22	1	0	0	0	0	0	0	0	0
34	0	55	1	0	0	0	0	0	0	0	0
25	0	30	0	0	3	0	0	0	0	0	1
24	0	22	1	0	5	0	0	1	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	10	23	0	0	1	1	0	0	0	0	0
19	33	9	0	0	0	0	0	0	0	0	0
2	11	1	0	1	0	0	0	1	0	0	0
2	2	2	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
28	70	3	0	3	2	0	4	0	0	3	0
26	93	4	0	4	0	0	2	0	1	4	0
21	143	1	0	3	0	0	2	0	0	2	0
13	90	9	0	2	0	0	2	1	0	5	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	118	30	1	2	0	1	1	0	0	3	0
7	124	16	1	3	0	1	2	0	0	1	0
4	86	55	0	7	0	0	1	0	1	2	2
7	70	48	0	11	3	0	2	1	0	4	0

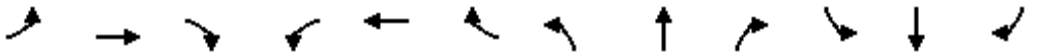
	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	6	149	**155**	**4%**	**155**
EBTH	39	398	**437**	**9%**	**437**
EBR	5	20	**25**	**20%**	**25**
WBL	3	17	**20**	**15%**	**20**
WBTH	36	396	**432**	**9%**	**432**
WBR	1	88	**89**	**2%**	**89**
ESCONDIDO AVE					
NBL	2	35	**37**	**6%**	**37**
NBTH	1	56	**57**	**2%**	**57**
NBR	1	25	**26**	**4%**	**26**
SBL	10	129	**139**	**8%**	**139**
SBTH	0	7	**7**	**1%**	**7**
SBR	3	111	**114**	**3%**	**114**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	437	25	20	432	89	37	57	26	139	7	114
Future Volume (veh/h)	155	437	25	20	432	89	37	57	26	139	7	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1647	1674	1519	1501	1674	1772	1620	1772	1744	1594	1786	1758
Adj Flow Rate, veh/h	178	502	29	23	497	102	43	66	30	160	8	131
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	9	20	15	9	2	6	2	4	8	1	3
Cap, veh/h	300	1432	580	116	1083	511	542	519	432	521	523	436
Arrive On Green	0.19	0.45	0.45	0.08	0.34	0.34	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	1569	3180	1287	1430	3180	1502	1143	1772	1478	1169	1786	1490
Grp Volume(v), veh/h	178	502	29	23	497	102	43	66	30	160	8	131
Grp Sat Flow(s),veh/h/ln	1569	1590	1287	1430	1590	1502	1143	1772	1478	1169	1786	1490
Q Serve(g_s), s	3.5	3.5	0.4	0.5	4.2	1.6	0.9	0.9	0.5	4.0	0.1	2.3
Cycle Q Clear(g_c), s	3.5	3.5	0.4	0.5	4.2	1.6	1.1	0.9	0.5	4.9	0.1	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	300	1432	580	116	1083	511	542	519	432	521	523	436
V/C Ratio(X)	0.59	0.35	0.05	0.20	0.46	0.20	0.08	0.13	0.07	0.31	0.02	0.30
Avail Cap(c_a), veh/h	367	4001	1620	335	4001	1890	1813	2489	2076	1821	2509	2093
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	6.1	5.3	14.7	8.8	8.0	9.0	8.9	8.7	10.7	8.6	9.4
Incr Delay (d2), s/veh	1.9	0.1	0.0	0.8	0.3	0.2	0.1	0.1	0.1	0.3	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.4	0.0	0.1	0.8	0.3	0.1	0.2	0.1	0.6	0.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	6.3	5.3	15.5	9.1	8.2	9.0	9.0	8.8	11.0	8.6	9.8
LnGrp LOS	B	A	A	B	A	A	A	A	A	B	A	A
Approach Vol, veh/h		709			622			139			299	
Approach Delay, s/veh		8.3			9.2			9.0			10.4	
Approach LOS		A			A			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.8	17.4		12.0	8.5	13.6		12.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		46.0	6.0	41.0		46.0				
Max Q Clear Time (g_c+I1), s	2.5	5.5		6.9	5.5	6.2		3.1				
Green Ext Time (p_c), s	0.0	3.3		1.0	0.0	3.5		0.6				

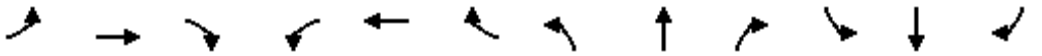
Intersection Summary			
HCM 6th Ctrl Delay		9.0	
HCM 6th LOS		A	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	464	27	22	458	95	40	61	28	148	8	121
Future Volume (veh/h)	165	464	27	22	458	95	40	61	28	148	8	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1647	1674	1519	1501	1674	1772	1620	1772	1744	1594	1786	1758
Adj Flow Rate, veh/h	190	533	31	25	526	109	46	70	32	170	9	139
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	9	20	15	9	2	6	2	4	8	1	3
Cap, veh/h	307	1475	597	112	1103	521	526	525	438	505	529	441
Arrive On Green	0.20	0.46	0.46	0.08	0.35	0.35	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1569	3180	1287	1430	3180	1502	1134	1772	1478	1163	1786	1490
Grp Volume(v), veh/h	190	533	31	25	526	109	46	70	32	170	9	139
Grp Sat Flow(s),veh/h/ln	1569	1590	1287	1430	1590	1502	1134	1772	1478	1163	1786	1490
Q Serve(g_s), s	4.1	4.0	0.5	0.6	4.8	1.9	1.1	1.1	0.6	4.7	0.1	2.7
Cycle Q Clear(g_c), s	4.1	4.0	0.5	0.6	4.8	1.9	1.2	1.1	0.6	5.7	0.1	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	307	1475	597	112	1103	521	526	525	438	505	529	441
V/C Ratio(X)	0.62	0.36	0.05	0.22	0.48	0.21	0.09	0.13	0.07	0.34	0.02	0.31
Avail Cap(c_a), veh/h	338	3683	1491	308	3683	1739	1656	2291	1911	1663	2309	1926
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.7	6.4	5.5	16.1	9.5	8.5	9.7	9.6	9.4	11.7	9.2	10.1
Incr Delay (d2), s/veh	3.0	0.1	0.0	1.0	0.3	0.2	0.1	0.1	0.1	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.6	0.1	0.2	1.0	0.4	0.2	0.3	0.1	0.8	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.6	6.6	5.5	17.0	9.8	8.7	9.8	9.7	9.5	12.1	9.3	10.5
LnGrp LOS	B	A	A	B	A	A	A	A	A	B	A	B
Approach Vol, veh/h		754			660			148			318	
Approach Delay, s/veh		9.1			9.9			9.7			11.3	
Approach LOS		A			A			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	19.2		13.0	9.3	14.9		13.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		46.0	6.0	41.0		46.0				
Max Q Clear Time (g_c+I1), s	2.6	6.0		7.7	6.1	6.8		3.2				
Green Ext Time (p_c), s	0.0	3.8		1.3	0.0	4.1		0.7				

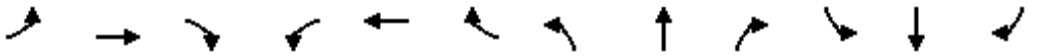
Intersection Summary			
HCM 6th Ctrl Delay		9.8	
HCM 6th LOS		A	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	492	27	32	478	105	40	61	41	161	8	121
Future Volume (veh/h)	165	492	27	32	478	105	40	61	41	161	8	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1647	1674	1519	1501	1674	1772	1620	1772	1744	1594	1786	1758
Adj Flow Rate, veh/h	190	566	31	37	549	121	46	70	47	185	9	139
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	4	9	20	15	9	2	6	2	4	8	1	3
Cap, veh/h	303	1451	588	122	1108	523	526	540	450	501	544	454
Arrive On Green	0.19	0.46	0.46	0.09	0.35	0.35	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	1569	3180	1287	1430	3180	1502	1134	1772	1478	1147	1786	1490
Grp Volume(v), veh/h	190	566	31	37	549	121	46	70	47	185	9	139
Grp Sat Flow(s),veh/h/ln	1569	1590	1287	1430	1590	1502	1134	1772	1478	1147	1786	1490
Q Serve(g_s), s	4.3	4.6	0.5	0.9	5.3	2.2	1.2	1.1	0.9	5.4	0.1	2.8
Cycle Q Clear(g_c), s	4.3	4.6	0.5	0.9	5.3	2.2	1.3	1.1	0.9	6.6	0.1	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	303	1451	588	122	1108	523	526	540	450	501	544	454
V/C Ratio(X)	0.63	0.39	0.05	0.30	0.50	0.23	0.09	0.13	0.10	0.37	0.02	0.31
Avail Cap(c_a), veh/h	321	3502	1418	293	3502	1654	1574	2178	1817	1562	2196	1831
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.5	7.0	5.9	16.8	10.0	9.0	9.9	9.8	9.7	12.2	9.5	10.4
Incr Delay (d2), s/veh	3.5	0.2	0.0	1.4	0.3	0.2	0.1	0.1	0.1	0.5	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.8	0.1	0.3	1.1	0.5	0.2	0.3	0.2	1.0	0.0	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.0	7.2	5.9	18.2	10.4	9.2	10.0	9.9	9.8	12.6	9.5	10.8
LnGrp LOS	B	A	A	B	B	A	B	A	A	B	A	B
Approach Vol, veh/h		787			707			163			333	
Approach Delay, s/veh		9.7			10.6			9.9			11.8	
Approach LOS		A			B			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	19.8		13.9	9.5	15.6		13.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		46.0	6.0	41.0		46.0				
Max Q Clear Time (g_c+I1), s	2.9	6.6		8.6	6.3	7.3		3.3				
Green Ext Time (p_c), s	0.0	4.1		1.4	0.0	4.3		0.7				

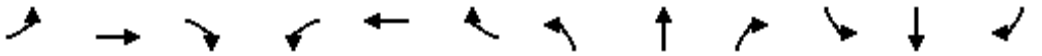
Intersection Summary												
HCM 6th Ctrl Delay			10.4									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	495	29	30	997	131	60	53	27	141	7	179
Future Volume (veh/h)	157	495	29	30	997	131	60	53	27	141	7	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1647	1674	1519	1501	1674	1772	1620	1772	1744	1594	1786	1758
Adj Flow Rate, veh/h	165	521	31	32	1049	138	63	56	28	148	7	188
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	9	20	15	9	2	6	2	4	8	1	3
Cap, veh/h	240	1841	745	95	1566	740	395	424	354	391	428	357
Arrive On Green	0.15	0.58	0.58	0.07	0.49	0.49	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1569	3180	1287	1430	3180	1502	1086	1772	1478	1182	1786	1490
Grp Volume(v), veh/h	165	521	31	32	1049	138	63	56	28	148	7	188
Grp Sat Flow(s),veh/h/ln	1569	1590	1287	1430	1590	1502	1086	1772	1478	1182	1786	1490
Q Serve(g_s), s	5.2	4.3	0.5	1.1	13.0	2.7	2.5	1.3	0.8	5.9	0.2	5.7
Cycle Q Clear(g_c), s	5.2	4.3	0.5	1.1	13.0	2.7	2.6	1.3	0.8	7.2	0.2	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	1841	745	95	1566	740	395	424	354	391	428	357
V/C Ratio(X)	0.69	0.28	0.04	0.34	0.67	0.19	0.16	0.13	0.08	0.38	0.02	0.53
Avail Cap(c_a), veh/h	240	2618	1060	219	2618	1236	1133	1629	1358	1195	1642	1369
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	5.5	4.7	23.3	10.0	7.4	16.2	15.6	15.4	18.4	15.2	17.3
Incr Delay (d2), s/veh	7.9	0.1	0.0	2.0	0.5	0.1	0.2	0.1	0.1	0.6	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.7	0.1	0.4	2.9	0.6	0.5	0.4	0.2	1.4	0.1	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.8	5.6	4.8	25.3	10.5	7.5	16.3	15.7	15.5	19.0	15.2	18.5
LnGrp LOS	C	A	A	C	B	A	B	B	B	B	B	B
Approach Vol, veh/h		717			1219			147			343	
Approach Delay, s/veh		10.9			10.6			16.0			18.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	32.2		14.5	10.0	27.7		14.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		46.0	6.0	41.0		46.0				
Max Q Clear Time (g_c+I1), s	3.1	6.3		9.2	7.2	15.0		4.6				
Green Ext Time (p_c), s	0.0	3.7		1.3	0.0	8.7		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			12.2									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	523	29	40	1017	141	60	53	40	154	7	179
Future Volume (veh/h)	157	523	29	40	1017	141	60	53	40	154	7	179
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1647	1674	1519	1501	1674	1772	1620	1772	1744	1594	1786	1758
Adj Flow Rate, veh/h	165	551	31	42	1071	148	63	56	42	162	7	188
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	9	20	15	9	2	6	2	4	8	1	3
Cap, veh/h	231	1810	733	102	1569	741	400	441	368	394	445	371
Arrive On Green	0.15	0.57	0.57	0.07	0.49	0.49	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1569	3180	1287	1430	3180	1502	1086	1772	1478	1167	1786	1490
Grp Volume(v), veh/h	165	551	31	42	1071	148	63	56	42	162	7	188
Grp Sat Flow(s),veh/h/ln	1569	1590	1287	1430	1590	1502	1086	1772	1478	1167	1786	1490
Q Serve(g_s), s	5.4	4.9	0.6	1.5	14.0	3.0	2.5	1.3	1.2	6.8	0.2	5.9
Cycle Q Clear(g_c), s	5.4	4.9	0.6	1.5	14.0	3.0	2.7	1.3	1.2	8.1	0.2	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	231	1810	733	102	1569	741	400	441	368	394	445	371
V/C Ratio(X)	0.71	0.30	0.04	0.41	0.68	0.20	0.16	0.13	0.11	0.41	0.02	0.51
Avail Cap(c_a), veh/h	231	2516	1019	210	2516	1188	1089	1565	1305	1135	1578	1316
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	6.1	5.2	24.1	10.5	7.7	16.4	15.8	15.8	19.0	15.4	17.5
Incr Delay (d2), s/veh	10.0	0.1	0.0	2.6	0.5	0.1	0.2	0.1	0.1	0.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.9	0.1	0.5	3.2	0.7	0.5	0.5	0.3	1.6	0.1	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.1	6.2	5.2	26.8	11.0	7.9	16.6	16.0	15.9	19.7	15.4	18.6
LnGrp LOS	C	A	A	C	B	A	B	B	B	B	B	B
Approach Vol, veh/h		747			1261			161			357	
Approach Delay, s/veh		11.9			11.2			16.2			19.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	32.9		15.5	10.0	28.8		15.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	41.0		46.0	6.0	41.0		46.0				
Max Q Clear Time (g_c+I1), s	3.5	6.9		10.1	7.4	16.0		4.7				
Green Ext Time (p_c), s	0.0	4.0		1.4	0.0	8.8		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		12.8	
HCM 6th LOS		B	

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : ESCONDIDO AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	2		4		6		8		10	12	14	16	18
RANCHERO RD													
EB Left	502	31	533	0	533	0	533	0	533	747	747	747	747
EB Thru	429	26	455	28	483	28	483	28	483	956	984	984	984
EB Right	45	3	48	0	48	0	48	0	48	66	66	66	66
WB Left	25	2	27	14	41	14	41	14	41	26	40	40	40
WB Thru	639	39	678	31	709	32	710	31	709	782	813	814	813
WB Right	68	5	73	14	87	14	87	14	87	73	87	87	87
ESCONDIDO AVE													
NB Left	20	2	22	0	22	0	22	0	22	23	23	23	23
NB Thru	18	2	20	0	20	0	20	0	20	18	18	18	18
NB Right	17	2	19	14	33	14	33	14	33	26	40	40	40
SB Left	114	7	121	14	135	14	135	14	135	165	179	179	179
SB Thru	38	3	41	0	41	0	41	0	41	34	34	34	34
SB Right	107	7	114	0	114	0	114	0	114	114	114	114	114
TOTALS	**2,022**	**129**	**2,151**	**115**	**2,266**	**116**	**2,267**	**115**	**2,266**	**3,030**	**3,145**	**3,146**	**3145**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	HEAY	17-Aug-23	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : PM PEAK HOUR
N/S STREET : ESCONDIDO AVE
PHF : 0.83

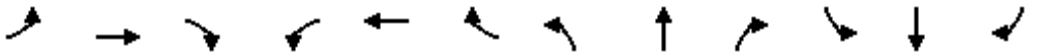
NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
17	17	24	0	0	0	0	0	0	1	0	0
45	10	35	0	0	0	0	0	0	0	0	0
21	3	17	0	0	0	0	0	0	0	0	0
23	8	37	0	0	1	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
3	5	6	0	0	0	0	0	0	0	0	0
4	5	5	0	0	0	0	0	0	0	0	0
3	1	5	0	0	0	0	0	0	0	0	0
7	7	4	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
15	158	5	0	2	0	0	1	0	0	2	0
19	115	7	0	2	0	0	1	0	0	1	0
17	159	5	0	2	0	0	1	0	0	2	0
17	185	8	0	5	0	0	0	0	0	3	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
17	97	121	0	2	0	0	2	0	0	5	0
5	103	110	0	1	0	0	1	0	0	2	0
11	101	91	0	2	0	0	2	0	0	2	0
12	104	180	0	3	0	0	1	0	0	1	0

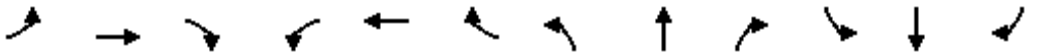
	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	502	**502**	**1%**	**502**
EBTH	24	405	**429**	**6%**	**429**
EBR	0	45	**45**	**1%**	**45**
WBL	0	25	**25**	**1%**	**25**
WBTH	22	617	**639**	**4%**	**639**
WBR	0	68	**68**	**1%**	**68**
ESCONDIDO AVE					
NBL	0	20	**20**	**1%**	**20**
NBTH	0	18	**18**	**1%**	**18**
NBR	0	17	**17**	**1%**	**17**
SBL	1	113	**114**	**1%**	**114**
SBTH	0	38	**38**	**1%**	**38**
SBR	1	106	**107**	**1%**	**107**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	502	429	45	25	639	68	20	18	17	114	38	107
Future Volume (veh/h)	502	429	45	25	639	68	20	18	17	114	38	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1716	1786	1687	1744	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	605	517	54	30	770	82	24	22	20	137	46	129
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	1	6	1	1	4	1	1	1	1	1	1	1
Cap, veh/h	494	1934	898	91	1133	518	84	461	391	338	312	265
Arrive On Green	0.31	0.59	0.59	0.06	0.34	0.34	0.05	0.26	0.26	0.17	0.17	0.17
Sat Flow, veh/h	1606	3260	1514	1606	3313	1514	1606	1786	1514	1299	1786	1514
Grp Volume(v), veh/h	605	517	54	30	770	82	24	22	20	137	46	129
Grp Sat Flow(s),veh/h/ln	1606	1630	1514	1606	1657	1514	1606	1786	1514	1299	1786	1514
Q Serve(g_s), s	20.0	5.0	1.0	1.2	12.9	2.5	0.9	0.6	0.6	6.3	1.4	2.4
Cycle Q Clear(g_c), s	20.0	5.0	1.0	1.2	12.9	2.5	0.9	0.6	0.6	6.3	1.4	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	494	1934	898	91	1133	518	84	461	391	338	312	265
V/C Ratio(X)	1.22	0.27	0.06	0.33	0.68	0.16	0.29	0.05	0.05	0.41	0.15	0.49
Avail Cap(c_a), veh/h	494	2758	1281	198	2192	1001	148	1539	1304	1070	1319	1118
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.5	6.4	5.6	29.5	18.3	14.9	29.6	18.1	18.1	24.7	22.7	5.5
Incr Delay (d2), s/veh	117.8	0.1	0.0	2.1	0.7	0.1	1.8	0.0	0.1	0.8	0.2	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.4	1.1	0.2	0.5	4.2	0.7	0.4	0.2	0.2	1.8	0.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	140.3	6.5	5.6	31.6	19.1	15.0	31.5	18.2	18.2	25.5	22.9	6.9
LnGrp LOS	F	A	A	C	B	B	C	B	B	C	C	A
Approach Vol, veh/h		1176			882			66			312	
Approach Delay, s/veh		75.3			19.1			23.0			17.4	
Approach LOS		E			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	40.6	5.4	13.4	22.0	24.2		18.8				
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	53.0	4.0	46.0	18.0	41.0		54.0				
Max Q Clear Time (g_c+I1), s	3.2	7.0	2.9	8.3	22.0	14.9		2.6				
Green Ext Time (p_c), s	0.0	3.5	0.0	1.0	0.0	5.3		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			46.1									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	533	455	48	27	678	73	22	20	19	121	41	114
Future Volume (veh/h)	533	455	48	27	678	73	22	20	19	121	41	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1716	1786	1687	1744	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	642	548	58	33	817	88	27	24	23	146	49	137
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	1	6	1	1	4	1	1	1	1	1	1	1
Cap, veh/h	733	2460	1142	65	1121	512	210	284	241	246	284	241
Arrive On Green	0.46	0.75	0.75	0.04	0.34	0.34	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1606	3260	1514	1606	3313	1514	1140	1786	1514	1293	1786	1514
Grp Volume(v), veh/h	642	548	58	33	817	88	27	24	23	146	49	137
Grp Sat Flow(s),veh/h/ln	1606	1630	1514	1606	1657	1514	1140	1786	1514	1293	1786	1514
Q Serve(g_s), s	47.1	6.4	1.3	2.6	28.1	5.3	2.7	1.5	1.7	14.1	3.1	10.9
Cycle Q Clear(g_c), s	47.1	6.4	1.3	2.6	28.1	5.3	5.8	1.5	1.7	15.6	3.1	10.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	733	2460	1142	65	1121	512	210	284	241	246	284	241
V/C Ratio(X)	0.88	0.22	0.05	0.51	0.73	0.17	0.13	0.08	0.10	0.59	0.17	0.57
Avail Cap(c_a), veh/h	733	2460	1142	161	1121	512	467	687	582	538	687	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	4.7	4.1	61.1	37.8	30.2	49.8	46.6	46.7	53.2	47.3	50.5
Incr Delay (d2), s/veh	11.6	0.2	0.1	6.1	4.2	0.7	0.3	0.1	0.2	2.3	0.3	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.3	1.8	0.3	1.2	11.5	2.0	0.8	0.7	0.6	4.6	1.4	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.6	4.9	4.2	67.3	41.9	30.9	50.0	46.7	46.8	55.5	47.5	52.6
LnGrp LOS	D	A	A	E	D	C	D	D	D	E	D	D
Approach Vol, veh/h		1248			938			74			332	
Approach Delay, s/veh		24.8			41.8			48.0			53.1	
Approach LOS		C			D			D			D	

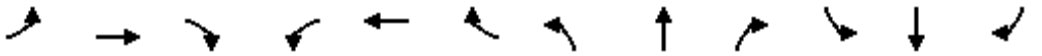
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.2	100.1		22.7	61.3	46.0		22.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	11.0	59.0		48.0	28.0	42.0		48.0				
Max Q Clear Time (g_c+I1), s	4.6	8.4		17.6	49.1	30.1		7.8				
Green Ext Time (p_c), s	0.0	3.8		1.1	0.0	4.1		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			35.2									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	533	483	48	41	709	87	22	20	33	135	41	114
Future Volume (veh/h)	533	483	48	41	709	87	22	20	33	135	41	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1716	1786	1687	1744	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	642	582	58	49	854	105	27	24	40	163	49	137
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	1	6	1	1	4	1	1	1	1	1	1	1
Cap, veh/h	708	2366	1099	85	1121	512	228	312	265	264	312	265
Arrive On Green	0.44	0.73	0.73	0.05	0.34	0.34	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1606	3260	1514	1606	3313	1514	1140	1786	1514	1274	1786	1514
Grp Volume(v), veh/h	642	582	58	49	854	105	27	24	40	163	49	137
Grp Sat Flow(s),veh/h/ln	1606	1630	1514	1606	1657	1514	1140	1786	1514	1274	1786	1514
Q Serve(g_s), s	48.4	7.7	1.4	3.9	29.9	6.4	2.7	1.5	2.9	16.0	3.0	10.7
Cycle Q Clear(g_c), s	48.4	7.7	1.4	3.9	29.9	6.4	5.7	1.5	2.9	17.4	3.0	10.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	708	2366	1099	85	1121	512	228	312	265	264	312	265
V/C Ratio(X)	0.91	0.25	0.05	0.57	0.76	0.20	0.12	0.08	0.15	0.62	0.16	0.52
Avail Cap(c_a), veh/h	708	2366	1099	161	1121	512	467	687	582	531	687	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.9	5.9	5.1	60.1	38.3	30.6	47.9	44.9	45.5	52.1	45.5	48.7
Incr Delay (d2), s/veh	15.5	0.2	0.1	6.0	4.9	0.9	0.2	0.1	0.3	2.4	0.2	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.6	2.3	0.4	1.7	12.3	2.4	0.8	0.6	1.1	5.1	1.3	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.4	6.2	5.2	66.1	43.2	31.5	48.1	45.0	45.7	54.5	45.7	50.2
LnGrp LOS	D	A	A	E	D	C	D	D	D	D	D	D
Approach Vol, veh/h		1282			1008			91			349	
Approach Delay, s/veh		27.8			43.1			46.2			51.6	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	96.4		24.7	59.3	46.0		24.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	11.0	59.0		48.0	28.0	42.0		48.0				
Max Q Clear Time (g_c+I1), s	5.9	9.7		19.4	50.4	31.9		7.7				
Green Ext Time (p_c), s	0.0	4.4		1.3	0.0	4.3		0.3				

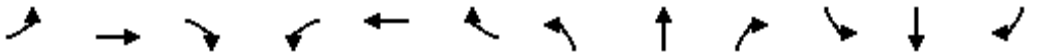
Intersection Summary			
HCM 6th Ctrl Delay		37.1	
HCM 6th LOS		D	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	747	956	66	26	782	73	23	18	26	165	34	114
Future Volume (veh/h)	747	956	66	26	782	73	23	18	26	165	34	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1716	1786	1687	1744	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	786	1006	69	27	823	77	24	19	27	174	36	120
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	6	1	1	4	1	1	1	1	1	1	1
Cap, veh/h	704	2417	1122	57	1121	512	243	316	268	273	316	268
Arrive On Green	0.44	0.74	0.74	0.04	0.34	0.34	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1606	3260	1514	1606	3313	1514	1172	1786	1514	1294	1786	1514
Grp Volume(v), veh/h	786	1006	69	27	823	77	24	19	27	174	36	120
Grp Sat Flow(s),veh/h/ln	1606	1630	1514	1606	1657	1514	1172	1786	1514	1294	1786	1514
Q Serve(g_s), s	57.0	15.0	1.6	2.1	28.4	4.6	2.3	1.2	1.9	16.8	2.2	9.2
Cycle Q Clear(g_c), s	57.0	15.0	1.6	2.1	28.4	4.6	4.5	1.2	1.9	17.9	2.2	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	704	2417	1122	57	1121	512	243	316	268	273	316	268
V/C Ratio(X)	1.12	0.42	0.06	0.48	0.73	0.15	0.10	0.06	0.10	0.64	0.11	0.45
Avail Cap(c_a), veh/h	704	2417	1122	161	1121	512	495	701	594	552	701	594
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	6.3	4.5	61.5	37.8	30.0	46.8	44.5	44.8	52.0	44.9	47.8
Incr Delay (d2), s/veh	70.5	0.5	0.1	6.1	4.3	0.6	0.2	0.1	0.2	2.5	0.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	34.5	4.2	0.4	0.9	11.7	1.7	0.7	0.5	0.7	5.5	1.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.0	6.8	4.7	67.6	42.1	30.6	47.0	44.6	45.0	54.4	45.1	49.0
LnGrp LOS	F	A	A	E	D	C	D	D	D	D	D	D
Approach Vol, veh/h		1861			927			70			330	
Approach Delay, s/veh		49.0			41.9			45.6			51.4	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.6	98.4		25.0	59.0	46.0		25.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	11.0	58.0		49.0	27.0	42.0		49.0				
Max Q Clear Time (g_c+I1), s	4.1	17.0		19.9	59.0	30.4		6.5				
Green Ext Time (p_c), s	0.0	8.0		1.1	0.0	4.1		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			47.1									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	747	984	66	40	813	87	23	18	40	179	34	114
Future Volume (veh/h)	747	984	66	40	813	87	23	18	40	179	34	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1716	1786	1687	1744	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	786	1036	69	42	856	92	24	19	42	188	36	120
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	6	1	1	4	1	1	1	1	1	1	1
Cap, veh/h	683	2334	1084	76	1121	512	259	340	288	287	340	288
Arrive On Green	0.42	0.72	0.72	0.05	0.34	0.34	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1606	3260	1514	1606	3313	1514	1172	1786	1514	1277	1786	1514
Grp Volume(v), veh/h	786	1036	69	42	856	92	24	19	42	188	36	120
Grp Sat Flow(s),veh/h/ln	1606	1630	1514	1606	1657	1514	1172	1786	1514	1277	1786	1514
Q Serve(g_s), s	55.2	17.2	1.8	3.3	30.0	5.6	2.2	1.1	3.0	18.4	2.2	9.1
Cycle Q Clear(g_c), s	55.2	17.2	1.8	3.3	30.0	5.6	4.4	1.1	3.0	19.5	2.2	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	683	2334	1084	76	1121	512	259	340	288	287	340	288
V/C Ratio(X)	1.15	0.44	0.06	0.55	0.76	0.18	0.09	0.06	0.15	0.65	0.11	0.42
Avail Cap(c_a), veh/h	683	2334	1084	161	1121	512	486	687	582	535	687	582
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	7.7	5.5	60.6	38.4	30.3	45.3	43.1	43.8	51.0	43.5	46.3
Incr Delay (d2), s/veh	84.4	0.6	0.1	6.1	4.9	0.8	0.2	0.1	0.2	2.5	0.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	36.2	5.1	0.5	1.4	12.4	2.1	0.6	0.5	1.1	5.9	0.9	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	121.7	8.3	5.6	66.6	43.3	31.1	45.5	43.1	44.0	53.5	43.6	47.2
LnGrp LOS	F	A	A	E	D	C	D	D	D	D	D	D
Approach Vol, veh/h		1891			990			85			344	
Approach Delay, s/veh		55.4			43.2			44.2			50.3	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	95.1		26.8	57.2	46.0		26.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	11.0	59.0		48.0	28.0	42.0		48.0				
Max Q Clear Time (g_c+I1), s	5.3	19.2		21.5	57.2	32.0		6.4				
Green Ext Time (p_c), s	0.0	9.1		1.3	0.0	4.2		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			50.9									
HCM 6th LOS			D									

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 1
North/South Street: ESCONDIDO AVE
East/West Street: RANCHERO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	37	Approach	120	Left	57	60
NB	Through	57	Departure	54	Through	43	53
	Right	26			Right	25	27
	Left	139	Approach	274	Left	121	141
SB	Through	7	Departure	301	Through	5	7
	Right	114			Right	161	179
	Left	155	Approach	668	Left	147	157
EB	Through	437	Departure	1,309	Through	524	495
	Right	25			Right	24	29
	Left	20	Approach	1,164	Left	25	30
WB	Through	432	Departure	670	Through	1,091	997
	Right	89			Right	110	131

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	20	Approach	56	Left	22	23
NB	Through	18	Departure	110	Through	12	18
	Right	17			Right	21	26
	Left	114	Approach	259	Left	127	165
SB	Through	38	Departure	725	Through	24	34
	Right	107			Right	103	114
	Left	502	Approach	1,863	Left	662	747
EB	Through	429	Departure	925	Through	1,094	956
	Right	45			Right	65	66
	Left	25	Approach	885	Left	21	26
WB	Through	639	Departure	1,243	Through	800	782
	Right	68			Right	51	73

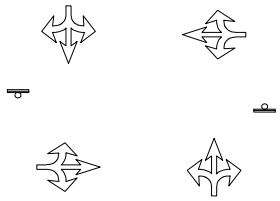
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

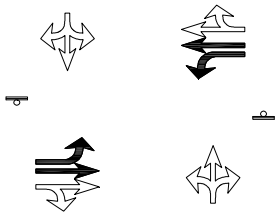
E/W STREET : RANCHERO RD
N/S STREET : TOPAZ AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



RANCHERO ROAD WIDENING PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	1		3		5		7		9	11	13	15	17
RANCHERO RD													
EB Left	9	1	10	0	10	75	85	0	10	9	9	84	9
EB Thru	553	34	587	80	667	5	592	80	667	620	700	625	700
EB Right	3	1	4	0	4	0	4	0	4	4	4	4	4
WB Left	4	1	5	10	15	10	15	10	15	8	18	18	18
WB Thru	522	32	554	60	614	50	604	60	614	1,136	1,196	1,186	1196
WB Right	6	1	7	0	7	0	7	0	7	10	10	10	10
TOPAZ AVE													
NB Left	4	1	5	0	5	0	5	0	5	8	8	8	8
NB Thru	1	1	2	0	2	0	2	0	2	2	2	2	2
NB Right	1	1	2	13	15	13	15	13	15	2	15	15	15
SB Left	7	1	8	0	8	238	246	0	8	8	8	246	8
SB Thru	1	1	2	0	2	0	2	0	2	2	2	2	2
SB Right	5	1	6	0	6	10	16	0	6	8	8	18	8
TOTALS	**1,116**	**76**	**1,192**	**163**	**1,355**	**401**	**1,593**	**163**	**1,355**	**1,817**	**1,980**	**2,218**	**1980**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	HEAY	8/17/2023	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : AM PEAK HOUR
N/S STREET : TOPAZ AVE
PHF : 0.88

NORTH LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
3	0	4	0	0	0	0	0	0	0	0	0
1	0	3	0	0	0	0	0	0	0	0	0

SOUTH LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	1	0	0	2	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0	0	0	0

EAST LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
1	101	2	0	3	0	0	2	0	0	3	0
1	120	0	0	4	0	0	2	0	0	5	0
0	159	2	0	2	0	0	2	0	0	2	0
4	97	0	0	10	0	0	2	0	0	5	0

WEST LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	139	2	0	2	0	0	2	0	0	3	0
0	167	4	0	3	0	0	4	0	0	1	0
1	108	0	0	7	0	0	1	0	0	3	0
0	85	3	0	10	0	0	2	0	0	4	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	9	**9**	**1%**	**9**
EBTH	42	499	**541**	**8%**	**553**
EBR	0	3	**3**	**1%**	**3**
WBL	0	4	**4**	**1%**	**4**
WBTH	42	477	**519**	**9%**	**522**
WBR	0	6	**6**	**1%**	**6**
TOPAZ AVE					
NBL	3	1	**4**	**75%**	**4**
NBTH	0	0	**1**	**1%**	**1**
NBR	0	1	**1**	**1%**	**1**
SBL	0	7	**7**	**1%**	**7**
SBTH	0	0	**1**	**1%**	**1**
SBR	0	5	**5**	**1%**	**5**

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	9	553	3	4	522	6	4	1	1	7	1	5
Future Vol, veh/h	9	553	3	4	522	6	4	1	1	7	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	8	1	1	9	1	1	1	1	1	1	1
Mvmt Flow	10	628	3	5	593	7	5	1	1	8	1	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	600	0	0	631	0	0	1260	1260	630	1258	1258	597
Stage 1	-	-	-	-	-	-	650	650	-	607	607	-
Stage 2	-	-	-	-	-	-	610	610	-	651	651	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	982	-	-	956	-	-	148	171	483	148	172	505
Stage 1	-	-	-	-	-	-	460	467	-	485	488	-
Stage 2	-	-	-	-	-	-	483	486	-	459	466	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	982	-	-	956	-	-	143	167	483	144	168	505
Mov Cap-2 Maneuver	-	-	-	-	-	-	143	167	-	144	168	-
Stage 1	-	-	-	-	-	-	453	460	-	477	484	-
Stage 2	-	-	-	-	-	-	473	482	-	449	459	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	27.5	24.2
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	167	982	-	-	956	-	-	202
HCM Lane V/C Ratio	0.041	0.01	-	-	0.005	-	-	0.073
HCM Control Delay (s)	27.5	8.7	0	-	8.8	0	-	24.2
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	587	4	5	554	7	5	2	2	8	2	6
Future Vol, veh/h	10	587	4	5	554	7	5	2	2	8	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	8	1	1	9	1	1	1	1	1	1	1
Mvmt Flow	11	667	5	6	630	8	6	2	2	9	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	638	0	0	672	0	0	1020	1342	336	1003	1340	319
Stage 1	-	-	-	-	-	-	692	692	-	646	646	-
Stage 2	-	-	-	-	-	-	328	650	-	357	694	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	949	-	-	921	-	-	192	152	663	198	153	680
Stage 1	-	-	-	-	-	-	403	446	-	429	468	-
Stage 2	-	-	-	-	-	-	662	466	-	636	445	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	949	-	-	921	-	-	185	149	663	192	150	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	185	149	-	192	150	-
Stage 1	-	-	-	-	-	-	398	441	-	424	465	-
Stage 2	-	-	-	-	-	-	648	463	-	623	440	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	23.3	20.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	207	949	-	-	921	-	-	251
HCM Lane V/C Ratio	0.049	0.012	-	-	0.006	-	-	0.072
HCM Control Delay (s)	23.3	8.8	-	-	8.9	-	-	20.5
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	667	4	15	614	7	5	2	15	8	2	6
Future Vol, veh/h	10	667	4	15	614	7	5	2	15	8	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	8	1	1	9	1	1	1	1	1	1	1
Mvmt Flow	11	758	5	17	698	8	6	2	17	9	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	706	0	0	763	0	0	1167	1523	382	1138	1521	353
Stage 1	-	-	-	-	-	-	783	783	-	736	736	-
Stage 2	-	-	-	-	-	-	384	740	-	402	785	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	895	-	-	852	-	-	150	118	619	158	119	646
Stage 1	-	-	-	-	-	-	355	405	-	379	426	-
Stage 2	-	-	-	-	-	-	613	424	-	599	404	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	895	-	-	852	-	-	143	114	619	148	115	646
Mov Cap-2 Maneuver	-	-	-	-	-	-	143	114	-	148	115	-
Stage 1	-	-	-	-	-	-	351	400	-	374	417	-
Stage 2	-	-	-	-	-	-	591	416	-	572	399	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	18.7	25
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	287	895	-	-	852	-	-	198
HCM Lane V/C Ratio	0.087	0.013	-	-	0.02	-	-	0.092
HCM Control Delay (s)	18.7	9.1	-	-	9.3	-	-	25
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.3

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	620	4	8	1136	10	8	2	2	8	2	8
Future Vol, veh/h	9	620	4	8	1136	10	8	2	2	8	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	8	1	1	9	1	1	1	1	1	1	1
Mvmt Flow	9	653	4	8	1196	11	8	2	2	8	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1207	0	0	657	0	0	1288	1896	329	1564	1893	604
Stage 1	-	-	-	-	-	-	673	673	-	1218	1218	-
Stage 2	-	-	-	-	-	-	615	1223	-	346	675	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	579	-	-	933	-	-	122	70	670	76	70	444
Stage 1	-	-	-	-	-	-	413	455	-	193	253	-
Stage 2	-	-	-	-	-	-	448	252	-	646	454	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	579	-	-	933	-	-	115	68	670	73	68	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	115	68	-	73	68	-
Stage 1	-	-	-	-	-	-	406	448	-	190	251	-
Stage 2	-	-	-	-	-	-	432	250	-	631	447	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	39.1	42.4
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	118	579	-	-	933	-	-	115
HCM Lane V/C Ratio	0.107	0.016	-	-	0.009	-	-	0.165
HCM Control Delay (s)	39.1	11.3	-	-	8.9	-	-	42.4
HCM Lane LOS	E	B	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	700	4	18	1196	10	8	2	15	8	2	8
Future Vol, veh/h	9	700	4	18	1196	10	8	2	15	8	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	8	1	1	9	1	1	1	1	1	1	1
Mvmt Flow	9	737	4	19	1259	11	8	2	16	8	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1270	0	0	741	0	0	1426	2065	371	1691	2062	635
Stage 1	-	-	-	-	-	-	757	757	-	1303	1303	-
Stage 2	-	-	-	-	-	-	669	1308	-	388	759	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	548	-	-	868	-	-	97	55	629	61	55	424
Stage 1	-	-	-	-	-	-	368	416	-	171	231	-
Stage 2	-	-	-	-	-	-	416	229	-	610	415	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	548	-	-	868	-	-	90	53	629	56	53	424
Mov Cap-2 Maneuver	-	-	-	-	-	-	90	53	-	56	53	-
Stage 1	-	-	-	-	-	-	362	409	-	168	226	-
Stage 2	-	-	-	-	-	-	395	224	-	582	408	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	30.7	55.4
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	166	548	-	-	868	-	-	90
HCM Lane V/C Ratio	0.159	0.017	-	-	0.022	-	-	0.211
HCM Control Delay (s)	30.7	11.7	-	-	9.2	-	-	55.4
HCM Lane LOS	D	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.1	-	-	0.7

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : TOPAZ AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	2		4		6		8		10	12	14	16	18
RANCHERO RD													
EB Left	8	1	9	0	9	95	104	0	9	13	13	108	13
EB Thru	538	33	571	84	655	-11	560	84	655	1,208	1,292	1,197	1292
EB Right	2	1	3	0	3	0	3	0	3	6	6	6	6
WB Left	2	1	3	14	17	14	17	14	17	4	18	18	18
WB Thru	742	45	787	87	874	74	861	87	874	894	981	968	981
WB Right	7	1	8	0	8	0	8	0	8	7	7	7	7
TOPAZ AVE													
NB Left	4	1	5	0	5	0	5	0	5	6	6	6	6
NB Thru	2	1	3	0	3	0	3	0	3	3	3	3	3
NB Right	5	1	6	14	20	14	20	14	20	9	23	23	23
SB Left	13	1	14	0	14	340	354	0	14	19	19	359	19
SB Thru	1	1	2	0	2	0	2	0	2	2	2	2	2
SB Right	6	1	7	0	7	14	21	0	7	7	7	21	7
TOTALS	**1,330**	**88**	**1,418**	**199**	**1,617**	**540**	**1,958**	**199**	**1,617**	**2,178**	**2,377**	**2,718**	**2377**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	HEAY	17-Aug-23	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : PM PEAK HOUR
N/S STREET : TOPAZ AVE
PHF : 0.85

NORTH LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
3	0	3	0	0	0	0	0	0	0	0	0
1	0	5	0	0	0	0	0	0	0	0	0
2	0	3	0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0	0	0	0

SOUTH LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	1	0	0	0	0	0	0	0	0	0
4	0	1	0	0	0	0	0	0	0	0	0
1	1	0	0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0	0	0	2

EAST LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	171	0	0	0	0	0	1	0	0	2	0
3	135	1	0	0	0	0	1	0	0	1	0
0	190	1	0	0	0	0	1	0	0	2	0
2	222	0	0	3	0	0	0	0	0	1	0

WEST LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	97	0	0	2	0	0	2	0	0	5	0
1	135	3	0	2	0	0	1	0	0	2	0
1	112	4	0	2	0	0	2	0	0	2	0
0	140	1	0	4	0	0	1	0	0	1	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	8	**8**	**1%**	**8**
EBTH	26	484	**510**	**6%**	**538**
EBR	0	2	**2**	**1%**	**2**
WBL	0	2	**2**	**1%**	**2**
WBTH	12	718	**730**	**2%**	**742**
WBR	0	7	**7**	**1%**	**7**
TOPAZ AVE					
NBL	2	2	**4**	**50%**	**4**
NBTH	0	2	**2**	**1%**	**2**
NBR	0	5	**5**	**1%**	**5**
SBL	0	12	**12**	**1%**	**13**
SBTH	0	0	**1**	**1%**	**1**
SBR	0	6	**6**	**1%**	**6**

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	538	2	2	742	7	4	2	5	13	1	6
Future Vol, veh/h	8	538	2	2	742	7	4	2	5	13	1	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	6	1	1	2	1	1	1	1	1	1	1
Mvmt Flow	9	633	2	2	873	8	5	2	6	15	1	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	881	0	0	635	0	0	1537	1537	634	1537	1534	877
Stage 1	-	-	-	-	-	-	652	652	-	881	881	-
Stage 2	-	-	-	-	-	-	885	885	-	656	653	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	772	-	-	953	-	-	95	116	481	95	117	349
Stage 1	-	-	-	-	-	-	458	466	-	343	366	-
Stage 2	-	-	-	-	-	-	341	364	-	456	465	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	772	-	-	953	-	-	91	113	481	91	114	349
Mov Cap-2 Maneuver	-	-	-	-	-	-	91	113	-	91	114	-
Stage 1	-	-	-	-	-	-	450	458	-	337	365	-
Stage 2	-	-	-	-	-	-	332	363	-	440	457	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	30.7	43
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	153	772	-	-	953	-	-	118
HCM Lane V/C Ratio	0.085	0.012	-	-	0.002	-	-	0.199
HCM Control Delay (s)	30.7	9.7	0	-	8.8	0	-	43
HCM Lane LOS	D	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	571	3	3	787	8	5	3	6	14	2	7
Future Vol, veh/h	9	571	3	3	787	8	5	3	6	14	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	6	1	1	2	1	1	1	1	1	1	1
Mvmt Flow	11	672	4	4	926	9	6	4	7	16	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	935	0	0	676	0	0	1168	1639	338	1299	1637	468
Stage 1	-	-	-	-	-	-	696	696	-	939	939	-
Stage 2	-	-	-	-	-	-	472	943	-	360	698	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	734	-	-	918	-	-	150	100	661	120	101	544
Stage 1	-	-	-	-	-	-	401	444	-	286	343	-
Stage 2	-	-	-	-	-	-	544	342	-	634	443	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	734	-	-	918	-	-	143	98	661	114	99	544
Mov Cap-2 Maneuver	-	-	-	-	-	-	143	98	-	114	99	-
Stage 1	-	-	-	-	-	-	395	437	-	282	342	-
Stage 2	-	-	-	-	-	-	530	341	-	613	436	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	26	34.7
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	188	734	-	-	918	-	-	148
HCM Lane V/C Ratio	0.088	0.014	-	-	0.004	-	-	0.183
HCM Control Delay (s)	26	10	-	-	8.9	-	-	34.7
HCM Lane LOS	D	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	655	3	17	874	8	5	3	20	14	2	7
Future Vol, veh/h	9	655	3	17	874	8	5	3	20	14	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	6	1	1	2	1	1	1	1	1	1	1
Mvmt Flow	11	771	4	20	1028	9	6	4	24	16	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1037	0	0	775	0	0	1350	1872	388	1483	1870	519
Stage 1	-	-	-	-	-	-	795	795	-	1073	1073	-
Stage 2	-	-	-	-	-	-	555	1077	-	410	797	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	672	-	-	843	-	-	110	72	613	88	72	504
Stage 1	-	-	-	-	-	-	349	400	-	237	297	-
Stage 2	-	-	-	-	-	-	486	296	-	592	399	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	672	-	-	843	-	-	102	69	613	79	69	504
Mov Cap-2 Maneuver	-	-	-	-	-	-	102	69	-	79	69	-
Stage 1	-	-	-	-	-	-	343	394	-	233	290	-
Stage 2	-	-	-	-	-	-	463	289	-	555	393	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	23.8	50.8
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	224	672	-	-	843	-	-	105
HCM Lane V/C Ratio	0.147	0.016	-	-	0.024	-	-	0.258
HCM Control Delay (s)	23.8	10.4	-	-	9.4	-	-	50.8
HCM Lane LOS	C	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.9

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1208	6	4	894	7	6	3	9	19	2	7
Future Vol, veh/h	13	1208	6	4	894	7	6	3	9	19	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	6	1	1	2	1	1	1	1	1	1	1
Mvmt Flow	14	1272	6	4	941	7	6	3	9	20	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	948	0	0	1278	0	0	1783	2259	639	1619	2259	474
Stage 1	-	-	-	-	-	-	1303	1303	-	953	953	-
Stage 2	-	-	-	-	-	-	480	956	-	666	1306	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	726	-	-	544	-	-	52	41	421	69	41	539
Stage 1	-	-	-	-	-	-	171	231	-	280	338	-
Stage 2	-	-	-	-	-	-	538	337	-	417	230	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	726	-	-	544	-	-	48	40	421	62	40	539
Mov Cap-2 Maneuver	-	-	-	-	-	-	48	40	-	62	40	-
Stage 1	-	-	-	-	-	-	168	227	-	275	336	-
Stage 2	-	-	-	-	-	-	523	335	-	394	226	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	62.5	79.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	81	726	-	-	544	-	-	76
HCM Lane V/C Ratio	0.234	0.019	-	-	0.008	-	-	0.388
HCM Control Delay (s)	62.5	10.1	-	-	11.7	-	-	79.7
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0	-	-	1.5

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1292	6	18	981	7	6	3	23	19	2	7
Future Vol, veh/h	13	1292	6	18	981	7	6	3	23	19	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	6	1	1	2	1	1	1	1	1	1	1
Mvmt Flow	14	1360	6	19	1033	7	6	3	24	20	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1040	0	0	1366	0	0	1947	2469	683	1785	2469	520
Stage 1	-	-	-	-	-	-	1391	1391	-	1075	1075	-
Stage 2	-	-	-	-	-	-	556	1078	-	710	1394	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	670	-	-	504	-	-	39	30	394	52	30	504
Stage 1	-	-	-	-	-	-	151	209	-	236	296	-
Stage 2	-	-	-	-	-	-	485	295	-	393	209	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	670	-	-	504	-	-	35	28	394	43	28	504
Mov Cap-2 Maneuver	-	-	-	-	-	-	35	28	-	43	28	-
Stage 1	-	-	-	-	-	-	148	205	-	231	285	-
Stage 2	-	-	-	-	-	-	456	284	-	356	205	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	62.4	137.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	95	670	-	-	504	-	-	53
HCM Lane V/C Ratio	0.355	0.02	-	-	0.038	-	-	0.556
HCM Control Delay (s)	62.4	10.5	-	-	12.4	-	-	137.3
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1.4	0.1	-	-	0.1	-	-	2.2

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 3
North/South Street: TOPAZ AVE
East/West Street: RANCHERO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	4	Approach	11	Left	8	8
NB	Through	1	Departure	11	Through	1	2
	Right	1			Right	2	2
	Left	7	Approach	13	Left	7	8
SB	Through	1	Departure	16	Through	1	2
	Right	5			Right	5	8
	Left	9	Approach	633	Left	7	9
EB	Through	553	Departure	1,154	Through	619	620
	Right	3			Right	3	4
	Left	4	Approach	1,152	Left	7	8
WB	Through	522	Departure	628	Through	1,141	1,136
	Right	6			Right	8	10

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	4	Approach	15	Left	6	6
NB	Through	2	Departure	11	Through	2	3
	Right	5			Right	7	9
	Left	13	Approach	20	Left	13	19
SB	Through	1	Departure	17	Through	1	2
	Right	6			Right	6	7
	Left	8	Approach	1,231	Left	10	13
EB	Through	538	Departure	905	Through	1,217	1,208
	Right	2			Right	6	6
	Left	2	Approach	904	Left	3	4
WB	Through	742	Departure	1,237	Through	893	894
	Right	7			Right	5	7

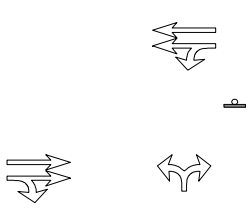
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

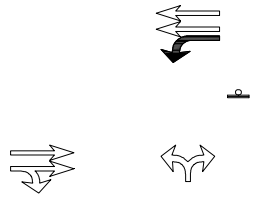
E/W STREET : RANCHERO RD
N/S STREET : TROPICAN ROSE AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



RANCHERO ROAD WIDENING PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	1		3		5		7		9	11	13	15	17
RANCHERO RD													
EB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
EB Thru	560	34	594	93	687	256	850	93	687	630	723	886	723
EB Right	1	1	2	0	2	0	2	0	2	4	4	4	4
WB Left	1	1	2	0	2	0	2	0	2	5	5	5	5
WB Thru	528	32	560	70	630	60	620	70	630	1,145	1,215	1,205	1215
WB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
TROPICAN ROSE AVE													
NB Left	4	1	5	0	5	0	5	0	5	8	8	8	8
NB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Right	1	1	2	0	2	0	2	0	2	2	2	2	2
SB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**1,095**	**70**	**1,165**	**163**	**1,328**	**316**	**1,481**	**163**	**1,328**	**1,794**	**1,957**	**2,110**	**1957**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	HEAY	8/17/2023	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : AM PEAK HOUR

N/S STREET : TROPICAN ROSE AVE
PHF : 0.88

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	2	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	102	0	0	3	0	0	2	0	0	3	0
0	118	0	0	4	0	0	2	0	0	5	0
0	163	0	0	2	0	0	2	0	0	2	0
0	102	0	0	10	0	0	3	0	0	5	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	137	0	0	2	0	0	2	0	0	3	0
0	166	0	0	3	0	0	4	0	0	1	0
0	111	0	0	7	0	0	1	0	0	3	0
1	86	0	0	10	0	0	4	0	0	4	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	0	**0**	**0%**	**0**
EBTH	44	500	**544**	**9%**	**560**
EBR	0	1	**1**	**1%**	**1**
WBL	0	0	**1**	**1%**	**1**
WBTH	43	485	**528**	**9%**	**528**
WBR	0	0	**0**	**0%**	**0**
TROPICAN ROSE AVE					
NBL	0	4	**4**	**1%**	**4**
NBTH	0	0	**0**	**0%**	**0**
NBR	0	1	**1**	**1%**	**1**
SBL	0	0	**0**	**0%**	**0**
SBTH	0	0	**0**	**0%**	**0**
SBR	0	0	**0**	**0%**	**0**

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	560	1	1	528	4	1
Future Vol, veh/h	560	1	1	528	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	636	1	1	600	5	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	637	0	939	319
Stage 1	-	-	-	-	637	-
Stage 2	-	-	-	-	302	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	949	-	264	680
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	727	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	949	-	263	680
Mov Cap-2 Maneuver	-	-	-	-	263	-
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	726	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	300	-	-	949	-
HCM Lane V/C Ratio	0.019	-	-	0.001	-
HCM Control Delay (s)	17.2	-	-	8.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	594	2	2	560	5	2
Future Vol, veh/h	594	2	2	560	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	90	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	675	2	2	636	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	677	0	998	339
Stage 1	-	-	-	-	676	-
Stage 2	-	-	-	-	322	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	917	-	242	660
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	710	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	917	-	242	660
Mov Cap-2 Maneuver	-	-	-	-	361	-
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	709	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	415	-	-	917	-
HCM Lane V/C Ratio	0.019	-	-	0.002	-
HCM Control Delay (s)	13.8	-	-	8.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	687	2	2	630	5	2
Future Vol, veh/h	687	2	2	630	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	781	2	2	716	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	783	0	1144	392
Stage 1	-	-	-	-	782	-
Stage 2	-	-	-	-	362	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	837	-	195	610
Stage 1	-	-	-	-	414	-
Stage 2	-	-	-	-	678	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	837	-	195	610
Mov Cap-2 Maneuver	-	-	-	-	315	-
Stage 1	-	-	-	-	414	-
Stage 2	-	-	-	-	677	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	366	-	-	837	-
HCM Lane V/C Ratio	0.022	-	-	0.003	-
HCM Control Delay (s)	15.1	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	630	4	5	1145	8	2
Future Vol, veh/h	630	4	5	1145	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	90	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	663	4	5	1205	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	667	0	1278	334
Stage 1	-	-	-	-	665	-
Stage 2	-	-	-	-	613	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	925	-	159	665
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	506	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	925	-	158	665
Mov Cap-2 Maneuver	-	-	-	-	295	-
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	503	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	332	-	-	925	-
HCM Lane V/C Ratio	0.032	-	-	0.006	-
HCM Control Delay (s)	16.2	-	-	8.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	723	4	5	1215	8	2
Future Vol, veh/h	723	4	5	1215	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	761	4	5	1279	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	765	0	1413	383
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	650	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	851	-	130	618
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	484	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	851	-	129	618
Mov Cap-2 Maneuver	-	-	-	-	264	-
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	481	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	298	-	-	851	-
HCM Lane V/C Ratio	0.035	-	-	0.006	-
HCM Control Delay (s)	17.5	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : TROPICAN ROSE AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	2		4		6		8		10	12	14	16	18
RANCHERO RD													
EB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
EB Thru	551	34	585	98	683	343	928	98	683	1,230	1,328	1,573	1328
EB Right	5	1	6	0	6	0	6	0	6	19	19	19	19
WB Left	1	1	2	0	2	0	2	0	2	3	3	3	3
WB Thru	747	45	792	101	893	88	880	101	893	901	1,002	989	1002
WB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
TROPICAN ROSE AVE													
NB Left	4	1	5	0	5	0	5	0	5	6	6	6	6
NB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Right	1	1	2	0	2	0	2	0	2	2	2	2	2
SB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**1,309**	**83**	**1,392**	**199**	**1,591**	**431**	**1,823**	**199**	**1,591**	**2,161**	**2,360**	**2,592**	**2360**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	17-Aug-23	PMCO0000-0001	2	OF 2

E/W STREET : RANCHERO RD
CONDITION : PM PEAK HOUR
N/S STREET : TROPICAN ROSE AVE
PHF : 0.85

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0	0	0	0
0	0	2	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	174	0	0	0	0	0	1	0	0	2	0
0	148	1	0	0	0	0	1	0	0	1	0
0	187	0	0	0	0	0	1	0	0	2	0
0	226	0	0	3	0	0	0	0	0	1	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	101	0	0	2	0	0	2	0	0	5	0
0	145	0	0	2	0	0	1	0	0	2	0
4	115	0	0	3	0	0	2	0	0	2	0
1	140	0	0	3	0	0	1	0	0	1	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	0	**0**	**0%**	**0**
EBTH	26	501	**527**	**5%**	**551**
EBR	0	5	**5**	**1%**	**5**
WBL	0	1	**1**	**1%**	**1**
WBTH	12	735	**747**	**2%**	**747**
WBR	0	0	**0**	**0%**	**0**
TROPICAN ROSE AVE					
NBL	0	4	**4**	**1%**	**4**
NBTH	0	0	**0**	**0%**	**0**
NBR	0	0	**1**	**1%**	**1**
SBL	0	0	**0**	**0%**	**0**
SBTH	0	0	**0**	**0%**	**0**
SBR	0	0	**0**	**0%**	**0**

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	551	5	1	747	4	1
Future Vol, veh/h	551	5	1	747	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	648	6	1	879	5	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	654	0	1093	327
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	442	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	936	-	210	672
Stage 1	-	-	-	-	484	-
Stage 2	-	-	-	-	618	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	936	-	210	672
Mov Cap-2 Maneuver	-	-	-	-	210	-
Stage 1	-	-	-	-	484	-
Stage 2	-	-	-	-	617	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	243	-	-	936	-
HCM Lane V/C Ratio	0.024	-	-	0.001	-
HCM Control Delay (s)	20.2	-	-	8.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	585	6	2	792	5	2
Future Vol, veh/h	585	6	2	792	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	688	7	2	932	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	695	0	1162	348
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	470	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	903	-	190	651
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	598	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	903	-	189	651
Mov Cap-2 Maneuver	-	-	-	-	321	-
Stage 1	-	-	-	-	461	-
Stage 2	-	-	-	-	595	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	375	-	-	903	-
HCM Lane V/C Ratio	0.022	-	-	0.003	-
HCM Control Delay (s)	14.8	-	-	9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	683	6	2	893	5	2
Future Vol, veh/h	683	6	2	893	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	804	7	2	1051	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	811	0	1338	406
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	530	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	817	-	146	597
Stage 1	-	-	-	-	401	-
Stage 2	-	-	-	-	558	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	817	-	146	597
Mov Cap-2 Maneuver	-	-	-	-	277	-
Stage 1	-	-	-	-	401	-
Stage 2	-	-	-	-	557	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	327	-	-	817	-
HCM Lane V/C Ratio	0.025	-	-	0.003	-
HCM Control Delay (s)	16.3	-	-	9.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1230	19	3	901	6	2
Future Vol, veh/h	1230	19	3	901	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1295	20	3	948	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1315	0	1785	658
Stage 1	-	-	-	-	1305	-
Stage 2	-	-	-	-	480	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	527	-	74	409
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	591	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	527	-	73	409
Mov Cap-2 Maneuver	-	-	-	-	171	-
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	584	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	23.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	200	-	-	527	-
HCM Lane V/C Ratio	0.042	-	-	0.006	-
HCM Control Delay (s)	23.8	-	-	11.9	0.1
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1328	19	3	1002	6	2
Future Vol, veh/h	1328	19	3	1002	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1398	20	3	1055	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1418	0	1942	709
Stage 1	-	-	-	-	1408	-
Stage 2	-	-	-	-	534	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	481	-	58	379
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	555	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	481	-	58	379
Mov Cap-2 Maneuver	-	-	-	-	150	-
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	552	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	26.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	177	-	-	481	-
HCM Lane V/C Ratio	0.048	-	-	0.007	-
HCM Control Delay (s)	26.4	-	-	12.5	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 4
North/South Street: TROPICAN ROSE AVE
East/West Street: RANCHERO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	4	Approach	9	Left	7	8
NB	Through	0	Departure	10	Through	0	0
	Right	1			Right	2	2
	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
	Left	0	Approach	628	Left	0	0
EB	Through	560	Departure	1,152	Through	630	630
	Right	1			Right	3	4
	Left	1	Approach	1,148	Left	7	5
WB	Through	528	Departure	632	Through	1,145	1,145
	Right	0			Right	0	0

P.M. Peak Hour

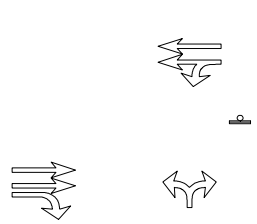
Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	4	Approach	8	Left	6	6
NB	Through	0	Departure	25	Through	0	0
	Right	1			Right	2	2
	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
	Left	0	Approach	1,237	Left	0	0
EB	Through	551	Departure	904	Through	1,232	1,230
	Right	5			Right	22	19
	Left	1	Approach	906	Left	3	3
WB	Through	747	Departure	1,234	Through	898	901
	Right	0			Right	0	0

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

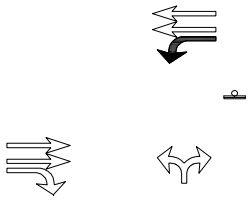
E/W STREET : RANCHERO RD
N/S STREET : PRIMROSE AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



RANCHERO ROAD WIDENING PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	1		3		5		7		9	11	13	15	17
RANCHERO RD													
EB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
EB Thru	560	34	594	119	713	119	713	93	687	629	748	748	722
EB Right	1	1	2	0	2	0	2	0	2	2	2	2	2
WB Left	3	1	4	0	4	0	4	0	4	9	9	9	9
WB Thru	527	32	559	159	718	159	718	120	679	1,145	1,304	1,304	1265
WB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
PRIMROSE AVE													
NB Left	1	1	2	0	2	0	2	0	2	3	3	3	3
NB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Right	1	1	2	0	2	0	2	0	2	3	3	3	3
SB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**1,093**	**70**	**1,163**	**278**	**1,441**	**278**	**1,441**	**213**	**1,376**	**1,791**	**2,069**	**2,069**	**2004**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	HEAY	8/17/2023	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : AM PEAK HOUR

N/S STREET : PRIMROSE AVE
PHF : 0.88

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	102	1	0	3	0	0	2	0	0	3	0
0	117	2	0	4	0	0	2	0	0	5	0
0	163	0	0	2	0	0	2	0	0	2	0
0	102	0	0	10	0	0	3	0	0	5	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	137	0	0	2	0	0	2	0	0	3	0
1	166	0	0	3	0	0	3	0	0	1	0
0	110	0	0	7	0	0	2	0	0	3	0
0	85	0	0	11	0	0	4	0	0	4	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	0	**0**	**0%**	**0**
EBTH	45	498	**543**	**9%**	**560**
EBR	0	1	**1**	**1%**	**1**
WBL	0	3	**3**	**1%**	**3**
WBTH	43	484	**527**	**9%**	**527**
WBR	0	0	**0**	**0%**	**0**
PRIMROSE AVE					
NBL	0	1	**1**	**1%**	**1**
NBTH	0	0	**0**	**0%**	**0**
NBR	0	1	**1**	**1%**	**1**
SBL	0	0	**0**	**0%**	**0**
SBTH	0	0	**0**	**0%**	**0**
SBR	0	0	**0**	**0%**	**0**

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱		↑↑	↰	
Traffic Vol, veh/h	560	1	3	527	1	1
Future Vol, veh/h	560	1	3	527	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	636	1	3	599	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	637	0	942	318
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	306	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	949	-	263	681
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	723	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	949	-	262	681
Mov Cap-2 Maneuver	-	-	-	-	262	-
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	719	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	378	-	-	949	-
HCM Lane V/C Ratio	0.006	-	-	0.004	-
HCM Control Delay (s)	14.6	-	-	8.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	594	2	4	559	2	2
Future Vol, veh/h	594	2	4	559	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	675	2	5	635	2	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	677	0	1003	338
Stage 1	-	-	-	-	675	-
Stage 2	-	-	-	-	328	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	917	-	240	661
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	917	-	239	661
Mov Cap-2 Maneuver	-	-	-	-	359	-
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	701	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	465	-	-	917	-
HCM Lane V/C Ratio	0.01	-	-	0.005	-
HCM Control Delay (s)	12.8	-	-	8.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	687	2	4	679	2	2
Future Vol, veh/h	687	2	4	679	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	781	2	5	772	2	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	783	0	1177	391
Stage 1	-	-	-	-	781	-
Stage 2	-	-	-	-	396	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	837	-	185	611
Stage 1	-	-	-	-	415	-
Stage 2	-	-	-	-	652	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	837	-	184	611
Mov Cap-2 Maneuver	-	-	-	-	184	-
Stage 1	-	-	-	-	415	-
Stage 2	-	-	-	-	648	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	17.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	283	-	-	837	-
HCM Lane V/C Ratio	0.016	-	-	0.005	-
HCM Control Delay (s)	17.9	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	629	2	9	1145	3	3
Future Vol, veh/h	629	2	9	1145	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	662	2	9	1205	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	664	0	1283	331
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	621	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	928	-	158	668
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	501	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	928	-	156	668
Mov Cap-2 Maneuver	-	-	-	-	293	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	407	-	-	928	-
HCM Lane V/C Ratio	0.016	-	-	0.01	-
HCM Control Delay (s)	14	-	-	8.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	722	2	9	1265	3	3
Future Vol, veh/h	722	2	9	1265	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	760	2	9	1332	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	762	0	1444	380
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	684	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	853	-	124	621
Stage 1	-	-	-	-	425	-
Stage 2	-	-	-	-	465	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	853	-	123	621
Mov Cap-2 Maneuver	-	-	-	-	123	-
Stage 1	-	-	-	-	425	-
Stage 2	-	-	-	-	460	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	23.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	205	-	-	853	-
HCM Lane V/C Ratio	0.031	-	-	0.011	-
HCM Control Delay (s)	23.1	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : PRIMROSE AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	2		4		6		8		10	12	14	16	18
RANCHERO RD													
EB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
EB Thru	551	34	585	174	759	173	758	98	683	1,231	1,405	1,404	1329
EB Right	1	1	2	0	2	0	2	0	2	5	5	5	5
WB Left	5	1	6	0	6	0	6	0	6	16	16	16	16
WB Thru	747	45	792	168	960	168	960	126	918	901	1,069	1,069	1027
WB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
PRIMROSE AVE													
NB Left	1	1	2	0	2	0	2	0	2	2	2	2	2
NB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Right	3	1	4	0	4	0	4	0	4	6	6	6	6
SB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTALS	**1,308**	**83**	**1,391**	**342**	**1,733**	**341**	**1,732**	**224**	**1,615**	**2,161**	**2,503**	**2,502**	**2385**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	HEAY	17-Aug-23	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : PM PEAK HOUR
N/S STREET : PRIMROSE AVE
PHF : 0.85

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	174	2	0	0	0	0	1	0	0	2	0
0	148	1	0	0	0	0	1	0	0	1	0
0	187	1	0	0	0	0	1	0	0	2	0
0	226	1	0	3	0	0	0	0	0	1	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	101	0	0	2	0	0	2	0	0	5	0
1	144	0	0	2	0	0	1	0	0	2	0
0	115	0	0	3	0	0	2	0	0	2	0
0	140	0	0	3	0	0	1	0	0	1	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	0	**0**	**0%**	**0**
EBTH	26	500	**526**	**5%**	**551**
EBR	0	1	**1**	**1%**	**1**
WBL	0	5	**5**	**1%**	**5**
WBTH	12	735	**747**	**2%**	**747**
WBR	0	0	**0**	**0%**	**0**
PRIMROSE AVE					
NBL	0	0	**1**	**1%**	**1**
NBTH	0	0	**0**	**0%**	**0**
NBR	0	3	**3**	**1%**	**3**
SBL	0	0	**0**	**0%**	**0**
SBTH	0	0	**0**	**0%**	**0**
SBR	0	0	**0**	**0%**	**0**

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱		↑↑	↰	
Traffic Vol, veh/h	551	1	5	747	1	3
Future Vol, veh/h	551	1	5	747	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	648	1	6	879	1	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	649	0	1100	324
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	452	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	940	-	208	675
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	611	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	940	-	206	675
Mov Cap-2 Maneuver	-	-	-	-	206	-
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	604	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	430	-	-	940	-
HCM Lane V/C Ratio	0.011	-	-	0.006	-
HCM Control Delay (s)	13.5	-	-	8.9	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	585	2	6	792	2	4
Future Vol, veh/h	585	2	6	792	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	688	2	7	932	2	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	690	0	1168	344
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	480	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	907	-	188	655
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	591	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	907	-	186	655
Mov Cap-2 Maneuver	-	-	-	-	319	-
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	586	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	485	-	-	907	-
HCM Lane V/C Ratio	0.015	-	-	0.008	-
HCM Control Delay (s)	12.5	-	-	9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	683	2	6	918	2	4
Future Vol, veh/h	683	2	6	918	2	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	804	2	7	1080	2	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	806	0	1358	402
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	554	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	821	-	141	601
Stage 1	-	-	-	-	403	-
Stage 2	-	-	-	-	542	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	821	-	140	601
Mov Cap-2 Maneuver	-	-	-	-	140	-
Stage 1	-	-	-	-	403	-
Stage 2	-	-	-	-	537	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	17.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	287	-	-	821	-
HCM Lane V/C Ratio	0.025	-	-	0.009	-
HCM Control Delay (s)	17.9	-	-	9.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1231	5	16	901	2	6
Future Vol, veh/h	1231	5	16	901	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1296	5	17	948	2	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1301	0	1804	648
Stage 1	-	-	-	-	1296	-
Stage 2	-	-	-	-	508	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	534	-	71	415
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	572	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	534	-	69	415
Mov Cap-2 Maneuver	-	-	-	-	169	-
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	554	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	17.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	304	-	-	534	-
HCM Lane V/C Ratio	0.028	-	-	0.032	-
HCM Control Delay (s)	17.2	-	-	12	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1329	5	16	1027	2	6
Future Vol, veh/h	1329	5	16	1027	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1399	5	17	1081	2	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1404	0	1974	700
Stage 1	-	-	-	-	1399	-
Stage 2	-	-	-	-	575	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	487	-	55	384
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	529	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	487	-	53	384
Mov Cap-2 Maneuver	-	-	-	-	53	-
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	510	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	30.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	150	-	-	487	-
HCM Lane V/C Ratio	0.056	-	-	0.035	-
HCM Control Delay (s)	30.4	-	-	12.7	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 5
North/South Street: PRIMROSE AVE
East/West Street: RANCHERO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	1	Approach	6	Left	3	3
NB	Through	0	Departure	12	Through	0	0
	Right	1			Right	3	3
	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
	Left	0	Approach	628	Left	0	0
EB	Through	560	Departure	1,148	Through	629	629
	Right	1			Right	2	2
	Left	3	Approach	1,149	Left	10	9
WB	Through	527	Departure	632	Through	1,145	1,145
	Right	0			Right	0	0

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume		Turn Volume	Balanced Volume
	Left	1	Approach	7	Left	2	2
NB	Through	0	Departure	25	Through	0	0
	Right	3			Right	5	6
	Left	0	Approach	0	Left	0	0
SB	Through	0	Departure	0	Through	0	0
	Right	0			Right	0	0
	Left	0	Approach	1,233	Left	0	0
EB	Through	551	Departure	901	Through	1,231	1,231
	Right	1			Right	7	5
	Left	5	Approach	910	Left	18	16
WB	Through	747	Departure	1,236	Through	899	901
	Right	0			Right	0	0

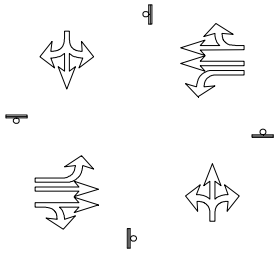
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

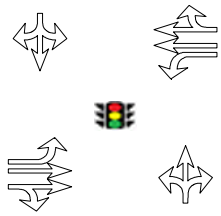
E/W STREET : RANCHERO RD
N/S STREET : MAPLE AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



RANCHERO ROAD WIDENING PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	1		3		5		7		9	11	13	15	17
RANCHERO RD													
EB Left	93	6	99	30	129	30	129	93	192	132	162	162	225
EB Thru	439	27	466	79	545	79	545	0	466	502	581	581	502
EB Right	29	2	31	10	41	10	41	0	31	34	44	44	34
WB Left	3	1	4	0	4	0	4	0	4	8	8	8	8
WB Thru	404	25	429	106	535	106	535	107	536	1,000	1,106	1,106	1107
WB Right	23	2	25	0	25	0	25	0	25	71	71	71	71
MAPLE AVE													
NB Left	54	4	58	13	71	13	71	13	71	79	92	92	92
NB Thru	22	2	24	0	24	0	24	0	24	36	36	36	36
NB Right	7	1	8	0	8	0	8	0	8	10	10	10	10
SB Left	31	2	33	0	33	0	33	79	112	40	40	40	119
SB Thru	8	1	9	0	9	0	9	10	19	10	10	10	20
SB Right	72	5	77	40	117	40	117	0	77	102	142	142	102
TOTALS	**1,185**	**78**	**1,263**	**278**	**1,541**	**278**	**1,541**	**302**	**1,565**	**2,024**	**2,302**	**2,302**	**2326**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	HEAY	8/17/2023	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : AM PEAK HOUR
N/S STREET : MAPLE AVE
PHF : 0.84

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
22	2	3	0	0	0	0	0	0	0	0	0
27	2	8	0	0	0	0	0	0	0	0	0
14	4	8	0	0	0	0	0	0	0	0	0
8	0	10	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	6	13	0	0	0	0	0	0	0	0	0
2	6	26	0	0	0	0	0	0	0	0	0
3	6	10	0	0	0	0	0	0	0	0	0
2	4	5	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
6	71	1	0	3	0	0	2	0	0	3	0
4	84	0	0	4	0	0	2	0	0	5	0
7	114	0	0	2	0	0	2	0	0	2	0
6	89	2	0	10	0	0	3	0	0	5	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
2	118	9	0	2	0	0	2	0	0	3	0
6	132	27	0	3	0	0	3	0	0	1	0
14	64	33	0	7	0	0	2	0	0	3	0
7	56	24	0	10	0	0	4	0	0	4	0

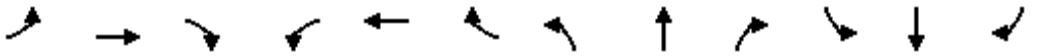
	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	93	**93**	**1%**	**93**
EBTH	44	370	**414**	**11%**	**439**
EBR	0	29	**29**	**1%**	**29**
WBL	0	3	**3**	**1%**	**3**
WBTH	43	358	**401**	**11%**	**404**
WBR	0	23	**23**	**1%**	**23**
MAPLE AVE					
NBL	0	54	**54**	**1%**	**54**
NBTH	0	22	**22**	**1%**	**22**
NBR	0	7	**7**	**1%**	**7**
SBL	0	29	**29**	**1%**	**31**
SBTH	0	8	**8**	**1%**	**8**
SBR	0	71	**71**	**1%**	**72**

Intersection	
Intersection Delay, s/veh	15.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	93	439	29	3	404	23	54	22	7	31	8	72
Future Vol, veh/h	93	439	29	3	404	23	54	22	7	31	8	72
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles, %	1	11	1	1	11	1	1	1	1	1	1	1
Mvmt Flow	111	523	35	4	481	27	64	26	8	37	10	86
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	15.4	15.7	12.8	12.6
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	65%	100%	0%	0%	100%	0%	0%	28%
Vol Thru, %	27%	0%	100%	83%	0%	100%	85%	7%
Vol Right, %	8%	0%	0%	17%	0%	0%	15%	65%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	93	293	175	3	269	158	111
LT Vol	54	93	0	0	3	0	0	31
Through Vol	22	0	293	146	0	269	135	8
RT Vol	7	0	0	29	0	0	23	72
Lane Flow Rate	99	111	348	209	4	321	188	132
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.215	0.205	0.612	0.35	0.007	0.58	0.325	0.264
Departure Headway (Hd)	7.844	6.66	6.324	6.034	6.847	6.511	6.234	7.181
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	455	536	568	593	520	551	572	497
Service Time	5.643	4.433	4.097	3.806	4.625	4.289	4.012	4.973
HCM Lane V/C Ratio	0.218	0.207	0.613	0.352	0.008	0.583	0.329	0.266
HCM Control Delay	12.8	11.2	18.7	12.1	9.7	18	12	12.6
HCM Lane LOS	B	B	C	B	A	C	B	B
HCM 95th-tile Q	0.8	0.8	4.1	1.6	0	3.7	1.4	1.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	466	31	4	429	25	58	24	8	33	9	77
Future Volume (veh/h)	99	466	31	4	429	25	58	24	8	33	9	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1646	1786	1687	1646	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	118	555	37	5	511	30	69	29	10	39	11	92
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	1	11	1	1	11	1	1	1	1	1	1	1
Cap, veh/h	239	1312	87	108	1078	63	436	162	43	228	79	304
Arrive On Green	0.15	0.44	0.44	0.07	0.36	0.36	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	1606	2975	198	1606	3001	176	828	527	138	282	255	988
Grp Volume(v), veh/h	118	291	301	5	266	275	108	0	0	142	0	0
Grp Sat Flow(s),veh/h/ln	1606	1563	1610	1606	1563	1614	1494	0	0	1525	0	0
Q Serve(g_s), s	2.2	4.2	4.2	0.1	4.3	4.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	4.2	4.2	0.1	4.3	4.3	1.5	0.0	0.0	2.2	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.11	0.64		0.09	0.27		0.65
Lane Grp Cap(c), veh/h	239	689	710	108	562	580	641	0	0	610	0	0
V/C Ratio(X)	0.49	0.42	0.42	0.05	0.47	0.47	0.17	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	544	1394	1436	395	1250	1291	2042	0	0	2078	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.7	6.2	6.2	14.2	8.0	8.0	8.3	0.0	0.0	8.6	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.4	0.4	0.2	0.6	0.6	0.1	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.8	0.9	0.0	1.0	1.1	0.4	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.3	6.7	6.7	14.4	8.7	8.6	8.4	0.0	0.0	8.7	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		710			546			108			142	
Approach Delay, s/veh		7.9			8.7			8.4			8.7	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.2	16.3		12.0	6.8	13.7		12.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	9.0	24.0		40.0				
Max Q Clear Time (g_c+I1), s	2.1	6.2		4.2	4.2	6.3		3.5				
Green Ext Time (p_c), s	0.0	4.0		1.0	0.1	3.4		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		8.3	
HCM 6th LOS		A	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	466	31	4	536	25	71	24	8	112	19	77
Future Volume (veh/h)	192	466	31	4	536	25	71	24	8	112	19	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1646	1786	1687	1646	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	229	555	37	5	638	30	85	29	10	133	23	92
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	1	11	1	1	11	1	1	1	1	1	1	1
Cap, veh/h	348	1564	104	86	1102	52	404	124	33	334	62	155
Arrive On Green	0.22	0.53	0.53	0.05	0.36	0.36	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1606	2975	198	1606	3040	143	934	448	121	727	224	561
Grp Volume(v), veh/h	229	291	301	5	328	340	124	0	0	248	0	0
Grp Sat Flow(s),veh/h/ln	1606	1563	1610	1606	1563	1620	1503	0	0	1512	0	0
Q Serve(g_s), s	5.4	4.5	4.5	0.1	7.0	7.0	0.0	0.0	0.0	3.2	0.0	0.0
Cycle Q Clear(g_c), s	5.4	4.5	4.5	0.1	7.0	7.0	2.4	0.0	0.0	5.6	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.09	0.69		0.08	0.54		0.37
Lane Grp Cap(c), veh/h	348	822	846	86	567	587	561	0	0	551	0	0
V/C Ratio(X)	0.66	0.35	0.36	0.06	0.58	0.58	0.22	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	426	1092	1125	310	979	1015	1588	0	0	1623	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.9	5.7	5.7	18.6	10.7	10.7	11.7	0.0	0.0	12.8	0.0	0.0
Incr Delay (d2), s/veh	2.7	0.3	0.3	0.3	0.9	0.9	0.2	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	1.0	1.0	0.0	2.0	2.1	0.8	0.0	0.0	1.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	6.0	6.0	18.9	11.6	11.6	11.9	0.0	0.0	13.4	0.0	0.0
LnGrp LOS	B	A	A	B	B	B	B	A	A	B	A	A
Approach Vol, veh/h		821			673			124			248	
Approach Delay, s/veh		9.2			11.6			11.9			13.4	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.2	23.8		13.5	11.0	17.1		13.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	9.0	24.0		40.0				
Max Q Clear Time (g_c+I1), s	2.1	6.5		7.6	7.4	9.0		4.4				
Green Ext Time (p_c), s	0.0	4.0		1.8	0.1	4.0		0.8				

Intersection Summary			
HCM 6th Ctrl Delay		10.8	
HCM 6th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	502	34	8	1000	71	79	36	10	40	10	102
Future Volume (veh/h)	132	502	34	8	1000	71	79	36	10	40	10	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1646	1786	1687	1646	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	139	528	36	8	1053	75	83	38	11	42	11	107
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	11	1	1	11	1	1	1	1	1	1	1
Cap, veh/h	236	1777	121	84	1489	106	312	126	28	164	46	223
Arrive On Green	0.15	0.60	0.60	0.05	0.50	0.50	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	1606	2970	202	1606	2960	211	843	575	129	297	209	1021
Grp Volume(v), veh/h	139	277	287	8	556	572	132	0	0	160	0	0
Grp Sat Flow(s),veh/h/ln	1606	1563	1609	1606	1563	1608	1546	0	0	1526	0	0
Q Serve(g_s), s	3.7	4.0	4.0	0.2	12.5	12.6	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	3.7	4.0	4.0	0.2	12.5	12.6	2.9	0.0	0.0	4.0	0.0	0.0
Prop In Lane	1.00		0.13	1.00		0.13	0.63		0.08	0.26		0.67
Lane Grp Cap(c), veh/h	236	935	963	84	787	809	466	0	0	433	0	0
V/C Ratio(X)	0.59	0.30	0.30	0.10	0.71	0.71	0.28	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	281	991	1020	281	991	1019	1457	0	0	1473	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	4.5	4.5	20.7	8.8	8.8	15.1	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	2.3	0.2	0.2	0.5	1.7	1.7	0.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.8	0.8	0.1	3.3	3.4	1.0	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	4.7	4.7	21.1	10.5	10.4	15.4	0.0	0.0	16.0	0.0	0.0
LnGrp LOS	C	A	A	C	B	B	B	A	A	B	A	A
Approach Vol, veh/h		703			1136			132			160	
Approach Delay, s/veh		7.8			10.5			15.4			16.0	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.4	29.4		12.0	8.7	25.0		12.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	6.0	27.0		40.0				
Max Q Clear Time (g_c+I1), s	2.2	6.0		6.0	5.7	14.6		4.9				
Green Ext Time (p_c), s	0.0	3.8		1.1	0.0	6.5		0.9				

Intersection Summary			
HCM 6th Ctrl Delay		10.3	
HCM 6th LOS		B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	502	34	8	1107	71	92	36	10	119	20	102
Future Volume (veh/h)	225	502	34	8	1107	71	92	36	10	119	20	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1646	1786	1687	1646	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	237	528	36	8	1165	75	97	38	11	125	21	107
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	11	1	1	11	1	1	1	1	1	1	1
Cap, veh/h	315	1796	122	71	1350	87	314	110	26	266	48	160
Arrive On Green	0.20	0.60	0.60	0.04	0.45	0.45	0.24	0.24	0.24	0.24	0.24	0.24
Sat Flow, veh/h	1606	2970	202	1606	2982	192	847	452	106	695	198	655
Grp Volume(v), veh/h	237	277	287	8	610	630	146	0	0	253	0	0
Grp Sat Flow(s),veh/h/ln	1606	1563	1609	1606	1563	1611	1404	0	0	1548	0	0
Q Serve(g_s), s	7.8	4.8	4.8	0.3	19.7	19.7	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	7.8	4.8	4.8	0.3	19.7	19.7	4.8	0.0	0.0	7.9	0.0	0.0
Prop In Lane	1.00		0.13	1.00		0.12	0.66		0.08	0.49		0.42
Lane Grp Cap(c), veh/h	315	945	973	71	708	729	450	0	0	474	0	0
V/C Ratio(X)	0.75	0.29	0.29	0.11	0.86	0.86	0.32	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	315	945	973	229	724	746	1152	0	0	1207	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.3	5.3	5.3	25.8	13.8	13.8	17.7	0.0	0.0	18.9	0.0	0.0
Incr Delay (d2), s/veh	9.8	0.2	0.2	0.7	10.3	10.1	0.4	0.0	0.0	0.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	1.1	1.2	0.1	7.7	7.9	1.5	0.0	0.0	2.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	5.5	5.5	26.5	24.1	23.9	18.1	0.0	0.0	19.8	0.0	0.0
LnGrp LOS	C	A	A	C	C	C	B	A	A	B	A	A
Approach Vol, veh/h		801			1248			146			253	
Approach Delay, s/veh		13.1			24.0			18.1			19.8	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	35.9		15.7	13.0	27.4		15.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	9.0	24.0		40.0				
Max Q Clear Time (g_c+I1), s	2.3	6.8		9.9	9.8	21.7		6.8				
Green Ext Time (p_c), s	0.0	3.7		1.9	0.0	1.7		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			19.6									
HCM 6th LOS			B									

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : MAPLE AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	2		4		6		8		10	12	14	16	18
RANCHERO RD													
EB Left	103	7	110	43	153	43	153	98	208	151	194	194	249
EB Thru	391	24	415	117	532	116	531	0	415	1,020	1,137	1,136	1020
EB Right	60	4	64	14	78	14	78	0	64	87	101	101	87
WB Left	5	1	6	0	6	0	6	0	6	6	6	6	6
WB Thru	693	42	735	112	847	112	847	112	847	837	949	949	949
WB Right	32	2	34	0	34	0	34	0	34	35	35	35	35
MAPLE AVE													
NB Left	30	2	32	14	46	14	46	14	46	35	49	49	49
NB Thru	19	2	21	0	21	0	21	0	21	20	20	20	20
NB Right	3	1	4	0	4	0	4	0	4	7	7	7	7
SB Left	31	2	33	0	33	0	33	116	149	88	88	88	204
SB Thru	22	2	24	0	24	0	24	14	38	34	34	34	48
SB Right	28	2	30	42	72	42	72	0	30	49	91	91	49
TOTALS	**1,417**	**91**	**1,508**	**342**	**1,850**	**341**	**1,849**	**354**	**1,862**	**2,369**	**2,711**	**2,710**	**2723**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	HEAY	17-Aug-23	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : PM PEAK HOUR
N/S STREET : MAPLE AVE
PHF : 0.89

NORTH LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
5	8	9	0	0	0	0	0	0	0	0	0
7	7	7	0	0	0	0	0	0	0	0	0
9	4	6	0	0	0	0	0	0	0	0	0
7	3	6	0	0	0	0	0	0	0	0	0

SOUTH LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
0	4	4	0	0	0	0	0	0	0	0	0
1	3	6	0	0	0	0	0	0	0	0	0
1	4	10	0	0	0	0	0	0	0	0	0
1	8	10	0	0	0	0	0	0	0	0	0

EAST LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
7	163	2	0	0	0	0	1	0	0	2	0
10	137	1	0	0	0	0	1	0	0	1	0
6	165	1	0	0	0	0	1	0	0	2	0
9	206	1	0	3	0	0	0	0	0	1	0

WEST LEG

AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
13	64	27	0	2	0	0	2	0	0	5	0
14	109	21	0	2	0	0	1	0	0	2	0
18	69	33	0	3	0	0	2	0	0	2	0
15	89	22	0	3	0	0	1	0	0	1	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	103	**103**	**1%**	**103**
EBTH	26	331	**357**	**8%**	**391**
EBR	0	60	**60**	**1%**	**60**
WBL	0	5	**5**	**1%**	**5**
WBTH	12	671	**683**	**2%**	**693**
WBR	0	32	**32**	**1%**	**32**
MAPLE AVE					
NBL	0	30	**30**	**1%**	**30**
NBTH	0	19	**19**	**1%**	**19**
NBR	0	3	**3**	**1%**	**3**
SBL	0	28	**28**	**1%**	**31**
SBTH	0	22	**22**	**1%**	**22**
SBR	0	28	**28**	**1%**	**28**

Intersection	
Intersection Delay, s/veh	20.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	103	391	60	5	693	32	30	19	3	31	22	28
Future Vol, veh/h	103	391	60	5	693	32	30	19	3	31	22	28
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	1	8	1	1	2	1	1	1	1	1	1	1
Mvmt Flow	116	439	67	6	779	36	34	21	3	35	25	31
Number of Lanes	1	2	0	1	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	3
HCM Control Delay	13.5	27	12.1	12.3
HCM LOS	B	D	B	B

Lane	NBLn1	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	58%	100%	0%	0%	100%	0%	0%	38%
Vol Thru, %	37%	0%	100%	68%	0%	100%	88%	27%
Vol Right, %	6%	0%	0%	32%	0%	0%	12%	35%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	52	103	261	190	5	462	263	81
LT Vol	30	103	0	0	5	0	0	31
Through Vol	19	0	261	130	0	462	231	22
RT Vol	3	0	0	60	0	0	32	28
Lane Flow Rate	58	116	293	214	6	519	296	91
Geometry Grp	7	7	7	7	7	7	7	7
Degree of Util (X)	0.131	0.214	0.511	0.353	0.01	0.859	0.48	0.194
Departure Headway (Hd)	8.063	6.672	6.286	5.942	6.443	5.954	5.85	7.654
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	443	536	571	603	554	607	615	467
Service Time	5.844	4.435	4.049	3.705	4.198	3.709	3.605	5.431
HCM Lane V/C Ratio	0.131	0.216	0.513	0.355	0.011	0.855	0.481	0.195
HCM Control Delay	12.1	11.3	15.5	11.9	9.3	34.7	13.9	12.3
HCM Lane LOS	B	B	C	B	A	D	B	B
HCM 95th-tile Q	0.4	0.8	2.9	1.6	0	9.6	2.6	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	415	64	6	735	34	32	21	4	33	24	30
Future Volume (veh/h)	110	415	64	6	735	34	32	21	4	33	24	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1772	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	124	466	72	7	826	38	36	24	4	37	27	34
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	1	8	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	186	1127	173	49	1047	48	469	299	47	321	234	264
Arrive On Green	0.12	0.40	0.40	0.03	0.32	0.32	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1606	2786	428	1606	3277	151	815	605	95	532	474	534
Grp Volume(v), veh/h	124	267	271	7	424	440	64	0	0	98	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1611	1606	1683	1745	1515	0	0	1540	0	0
Q Serve(g_s), s	6.3	10.1	10.2	0.4	19.5	19.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.3	10.1	10.2	0.4	19.5	19.5	1.6	0.0	0.0	2.7	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.09	0.56		0.06	0.38		0.35
Lane Grp Cap(c), veh/h	186	649	652	49	538	557	815	0	0	819	0	0
V/C Ratio(X)	0.67	0.41	0.42	0.14	0.79	0.79	0.08	0.00	0.00	0.12	0.00	0.00
Avail Cap(c_a), veh/h	189	649	652	151	538	557	815	0	0	819	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	36.0	18.1	18.1	40.1	26.3	26.3	11.3	0.0	0.0	11.5	0.0	0.0
Incr Delay (d2), s/veh	8.4	1.9	2.0	1.3	11.2	10.8	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.9	4.0	0.2	9.2	9.4	0.6	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.4	20.0	20.1	41.4	37.5	37.1	11.5	0.0	0.0	11.8	0.0	0.0
LnGrp LOS	D	C	C	D	D	D	B	A	A	B	A	A
Approach Vol, veh/h		662			871			64			98	
Approach Delay, s/veh		24.6			37.4			11.5			11.8	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	36.4		44.0	11.8	29.2		44.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	8.0	25.0		40.0				
Max Q Clear Time (g_c+I1), s	2.4	12.2		4.7	8.3	21.5		3.6				
Green Ext Time (p_c), s	0.0	2.9		0.6	0.0	1.8		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			29.9									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	415	64	6	847	34	46	21	4	149	38	30
Future Volume (veh/h)	208	415	64	6	847	34	46	21	4	149	38	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1772	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	234	466	72	7	952	38	52	24	4	167	43	34
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	1	8	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	189	1127	173	49	1048	42	526	232	36	559	142	102
Arrive On Green	0.12	0.40	0.40	0.03	0.32	0.32	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1606	2786	428	1606	3300	132	924	469	73	987	287	206
Grp Volume(v), veh/h	234	267	271	7	486	504	80	0	0	244	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1611	1606	1683	1748	1466	0	0	1480	0	0
Q Serve(g_s), s	10.0	10.1	10.2	0.4	23.5	23.5	0.0	0.0	0.0	5.9	0.0	0.0
Cycle Q Clear(g_c), s	10.0	10.1	10.2	0.4	23.5	23.5	2.2	0.0	0.0	8.1	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.08	0.65		0.05	0.68		0.14
Lane Grp Cap(c), veh/h	189	649	652	49	535	555	794	0	0	803	0	0
V/C Ratio(X)	1.24	0.41	0.42	0.14	0.91	0.91	0.10	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	189	649	652	151	535	555	794	0	0	803	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.5	18.1	18.1	40.1	27.8	27.8	11.4	0.0	0.0	12.8	0.0	0.0
Incr Delay (d2), s/veh	144.0	1.9	2.0	1.3	21.8	21.2	0.3	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	3.9	4.0	0.2	12.3	12.6	0.8	0.0	0.0	2.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	181.5	20.0	20.1	41.4	49.6	49.0	11.7	0.0	0.0	13.8	0.0	0.0
LnGrp LOS	F	C	C	D	D	D	B	A	A	B	A	A
Approach Vol, veh/h		772			997			80			244	
Approach Delay, s/veh		69.0			49.3			11.7			13.8	
Approach LOS		E			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	36.4		44.0	12.0	29.0		44.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	8.0	25.0		40.0				
Max Q Clear Time (g_c+I1), s	2.4	12.2		10.1	12.0	25.5		4.2				
Green Ext Time (p_c), s	0.0	3.1		1.7	0.0	0.0		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			51.0									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	1020	87	6	837	35	35	20	7	88	34	49
Future Volume (veh/h)	151	1020	87	6	837	35	35	20	7	88	34	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1772	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	159	1074	92	6	881	37	37	21	7	93	36	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	208	1212	104	48	1007	42	470	257	80	426	167	213
Arrive On Green	0.13	0.41	0.41	0.03	0.31	0.31	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1606	2989	256	1606	3292	138	816	519	161	732	338	431
Grp Volume(v), veh/h	159	576	590	6	450	468	65	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1642	1606	1683	1747	1496	0	0	1502	0	0
Q Serve(g_s), s	8.1	28.3	28.4	0.3	21.6	21.6	0.0	0.0	0.0	3.7	0.0	0.0
Cycle Q Clear(g_c), s	8.1	28.3	28.4	0.3	21.6	21.6	1.7	0.0	0.0	5.6	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.08	0.57		0.11	0.51		0.29
Lane Grp Cap(c), veh/h	208	650	666	48	515	534	806	0	0	806	0	0
V/C Ratio(X)	0.76	0.89	0.89	0.13	0.87	0.87	0.08	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	208	650	666	151	515	534	806	0	0	806	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	35.8	23.4	23.4	40.2	28.0	28.0	11.3	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	15.5	16.3	16.1	1.2	18.4	17.9	0.2	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	13.0	13.3	0.1	10.9	11.3	0.7	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	39.7	39.5	41.3	46.4	45.8	11.5	0.0	0.0	12.9	0.0	0.0
LnGrp LOS	D	D	D	D	D	D	B	A	A	B	A	A
Approach Vol, veh/h		1325			924			65			181	
Approach Delay, s/veh		41.0			46.1			11.5			12.9	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	36.5		44.0	13.0	28.0		44.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	9.0	24.0		40.0				
Max Q Clear Time (g_c+I1), s	2.3	30.4		7.6	10.1	23.6		3.7				
Green Ext Time (p_c), s	0.0	0.0		1.1	0.0	0.3		0.3				

Intersection Summary												
HCM 6th Ctrl Delay			40.1									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	249	1020	87	6	949	35	49	20	7	204	48	49
Future Volume (veh/h)	249	1020	87	6	949	35	49	20	7	204	48	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1772	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	262	1074	92	6	999	37	52	21	7	215	51	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	1	2	1	1	1	1	1	1	1
Cap, veh/h	189	1212	104	48	1052	39	513	199	62	552	130	119
Arrive On Green	0.12	0.41	0.41	0.03	0.32	0.32	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1606	2989	256	1606	3311	123	897	403	125	973	264	242
Grp Volume(v), veh/h	262	576	590	6	508	528	80	0	0	318	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1642	1606	1683	1750	1424	0	0	1478	0	0
Q Serve(g_s), s	10.0	28.3	28.4	0.3	25.1	25.1	0.0	0.0	0.0	9.1	0.0	0.0
Cycle Q Clear(g_c), s	10.0	28.3	28.4	0.3	25.1	25.1	2.3	0.0	0.0	11.4	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.07	0.65		0.09	0.68		0.16
Lane Grp Cap(c), veh/h	189	650	666	48	535	556	774	0	0	802	0	0
V/C Ratio(X)	1.39	0.89	0.89	0.13	0.95	0.95	0.10	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	189	650	666	151	535	556	774	0	0	802	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	37.5	23.4	23.4	40.2	28.3	28.3	11.4	0.0	0.0	13.7	0.0	0.0
Incr Delay (d2), s/veh	203.1	16.3	16.1	1.2	28.3	27.6	0.3	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	13.0	13.3	0.1	13.8	14.3	0.8	0.0	0.0	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	240.6	39.7	39.5	41.3	56.7	56.0	11.7	0.0	0.0	15.1	0.0	0.0
LnGrp LOS	F	D	D	D	E	E	B	A	A	B	A	A
Approach Vol, veh/h		1428			1042			80			318	
Approach Delay, s/veh		76.5			56.2			11.7			15.1	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.5	36.5		44.0	12.0	29.0		44.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	6.0	27.0		40.0	8.0	25.0		40.0				
Max Q Clear Time (g_c+I1), s	2.3	30.4		13.4	12.0	27.1		4.3				
Green Ext Time (p_c), s	0.0	0.0		2.3	0.0	0.0		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			60.5									
HCM 6th LOS			E									

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 6
North/South Street: MAPLE AVE
East/West Street: RANCHERO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Balanced Volume
	Left	54	Approach	102	Left	52	79
NB	Through	22	Departure	44	Through	38	36
	Right	7			Right	11	10
	Left	31	Approach	124	Left	47	40
SB	Through	8	Departure	258	Through	9	10
	Right	72			Right	67	102
	Left	93	Approach	632	Left	115	132
EB	Through	439	Departure	1,149	Through	498	502
	Right	29			Right	25	34
	Left	3	Approach	1,164	Left	10	8
WB	Through	404	Departure	556	Through	1,030	1,000
	Right	23			Right	105	71

P.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Balanced Volume
	Left	30	Approach	58	Left	33	35
NB	Through	19	Departure	93	Through	17	20
	Right	3			Right	7	7
	Left	31	Approach	181	Left	107	88
SB	Through	22	Departure	162	Through	28	34
	Right	28			Right	48	49
	Left	103	Approach	1,236	Left	114	151
EB	Through	391	Departure	909	Through	1,084	1,020
	Right	60			Right	61	87
	Left	5	Approach	888	Left	4	6
WB	Through	693	Departure	1,198	Through	828	837
	Right	32			Right	31	35

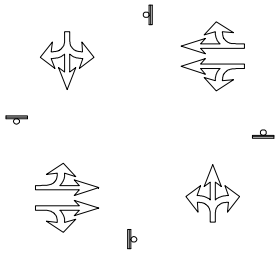
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

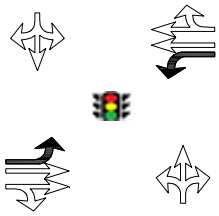
E/W STREET : RANCHERO RD
N/S STREET : COTTONWOOD AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



RANCHERO ROAD WIDENING PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	1		3		5		7		9	11	13	15	17
RANCHERO RD													
EB Left	21	2	23	20	43	20	43	20	43	21	41	41	41
EB Thru	439	27	466	20	486	20	486	20	486	514	534	534	534
EB Right	17	2	19	10	29	10	29	10	29	21	31	31	31
WB Left	13	1	14	0	14	0	14	0	14	26	26	26	26
WB Thru	354	22	376	27	403	27	403	27	403	1,008	1,035	1,035	1035
WB Right	41	3	44	0	44	0	44	0	44	73	73	73	73
COTTONWOOD AVE													
NB Left	36	3	39	13	52	13	52	13	52	63	76	76	76
NB Thru	44	3	47	0	47	0	47	0	47	41	41	41	41
NB Right	34	3	37	0	37	0	37	0	37	39	39	39	39
SB Left	60	4	64	0	64	0	64	0	64	63	63	63	63
SB Thru	19	2	21	0	21	0	21	0	21	19	19	19	19
SB Right	40	3	43	27	70	27	70	27	70	65	92	92	92
TOTALS	**1,118**	**75**	**1,193**	**117**	**1,310**	**117**	**1,310**	**117**	**1,310**	**1,953**	**2,070**	**2,070**	**2070**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	HEAY	8/17/2023	PMCO0000-0001	2 OF 2

E/W STREET : RANCHERO RD
CONDITION : AM PEAK HOUR
N/S STREET : COTTONWOOD AVE
PHF : 0.88

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
14	5	9	0	0	0	0	0	0	0	0	0
11	4	18	0	0	0	0	0	0	0	0	0
6	3	20	0	1	1	1	1	0	0	0	1
4	4	11	0	1	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
11	10	7	0	1	0	0	0	0	0	0	0
4	11	9	0	1	0	0	0	0	0	0	0
7	5	9	0	2	1	0	0	0	0	0	0
11	14	5	1	0	1	0	0	1	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
4	44	3	1	4	0	0	1	0	0	6	0
12	59	5	1	3	0	0	2	0	0	3	0
11	77	1	1	3	1	0	1	1	0	5	0
10	110	2	0	1	0	0	1	0	1	2	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
5	101	2	0	2	0	0	2	0	0	5	0
3	111	4	0	2	0	0	2	0	0	3	0
5	126	8	0	3	0	0	3	0	0	1	0
4	66	7	0	7	0	0	2	0	0	3	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	21	**21**	**1%**	**21**
EBTH	35	404	**439**	**8%**	**439**
EBR	0	17	**17**	**1%**	**17**
WBL	2	11	**13**	**16%**	**13**
WBTH	32	290	**322**	**10%**	**354**
WBR	4	37	**41**	**10%**	**41**
COTTONWOOD AVE					
NBL	3	30	**33**	**10%**	**36**
NBTH	4	40	**44**	**10%**	**44**
NBR	1	33	**34**	**3%**	**34**
SBL	2	58	**60**	**4%**	**60**
SBTH	3	16	**19**	**16%**	**19**
SBR	1	35	**36**	**3%**	**40**

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	439	17	13	354	41	36	44	34	60	19	40
Future Vol, veh/h	21	439	17	13	354	41	36	44	34	60	19	40
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	1	8	1	16	10	10	10	10	3	4	16	3
Mvmt Flow	24	499	19	15	402	47	41	50	39	68	22	45
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	14.2	13.5	11.9	11.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	32%	9%	0%	7%	0%	50%
Vol Thru, %	39%	91%	93%	93%	81%	16%
Vol Right, %	30%	0%	7%	0%	19%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	114	241	237	190	218	119
LT Vol	36	21	0	13	0	60
Through Vol	44	220	220	177	177	19
RT Vol	34	0	17	0	41	40
Lane Flow Rate	130	273	269	216	248	135
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.24	0.466	0.46	0.388	0.427	0.247
Departure Headway (Hd)	6.665	6.135	6.16	6.474	6.201	6.563
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	536	585	583	553	577	544
Service Time	4.743	3.898	3.924	4.241	3.969	4.641
HCM Lane V/C Ratio	0.243	0.467	0.461	0.391	0.43	0.248
HCM Control Delay	11.9	14.2	14.1	13.3	13.6	11.8
HCM Lane LOS	B	B	B	B	B	B
HCM 95th-tile Q	0.9	2.5	2.4	1.8	2.1	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	466	19	14	376	44	39	47	37	64	21	43
Future Volume (veh/h)	23	466	19	14	376	44	39	47	37	64	21	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1488	1660	1660	1567	1660	1758	1647	1575	1758
Adj Flow Rate, veh/h	26	530	22	16	427	50	44	53	42	73	24	49
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	1	8	1	16	10	10	10	10	3	4	16	3
Cap, veh/h	147	1227	51	117	1086	127	260	235	147	346	118	145
Arrive On Green	0.09	0.39	0.39	0.08	0.38	0.38	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	1606	3138	130	1417	2845	331	315	714	445	512	360	440
Grp Volume(v), veh/h	26	270	282	16	236	241	139	0	0	146	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1664	1417	1577	1600	1474	0	0	1312	0	0
Q Serve(g_s), s	0.5	3.8	3.8	0.3	3.3	3.3	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	0.5	3.8	3.8	0.3	3.3	3.3	2.0	0.0	0.0	2.3	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.21	0.32		0.30	0.50		0.34
Lane Grp Cap(c), veh/h	147	627	651	117	602	611	641	0	0	609	0	0
V/C Ratio(X)	0.18	0.43	0.43	0.14	0.39	0.40	0.22	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	423	2216	2300	373	2179	2211	2146	0	0	2029	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.7	6.8	6.8	12.9	6.8	6.8	7.5	0.0	0.0	7.6	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.5	0.5	0.5	0.4	0.4	0.2	0.0	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.8	0.8	0.1	0.7	0.7	0.5	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.3	7.2	7.2	13.5	7.2	7.3	7.7	0.0	0.0	7.8	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		578			493			139			146	
Approach Delay, s/veh		7.5			7.5			7.7			7.8	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.5	13.9		12.0	4.8	13.6		12.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	40.0		42.0	6.0	40.0		40.0
Max Q Clear Time (g_c+I1), s	2.3	5.8		4.3	2.5	5.3		4.0
Green Ext Time (p_c), s	0.0	4.1		1.0	0.0	3.5		0.9

Intersection Summary	
HCM 6th Ctrl Delay	7.5
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	486	29	14	403	44	52	47	37	64	21	70
Future Volume (veh/h)	43	486	29	14	403	44	52	47	37	64	21	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1488	1660	1660	1567	1660	1758	1647	1575	1758
Adj Flow Rate, veh/h	49	552	33	16	458	50	59	53	42	73	24	80
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	1	8	1	16	10	10	10	10	3	4	16	3
Cap, veh/h	175	1240	74	115	1077	117	290	211	128	297	100	192
Arrive On Green	0.11	0.40	0.40	0.08	0.38	0.38	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	1606	3074	184	1417	2868	312	401	655	396	412	312	597
Grp Volume(v), veh/h	49	287	298	16	251	257	154	0	0	177	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1655	1417	1577	1603	1451	0	0	1321	0	0
Q Serve(g_s), s	0.9	4.0	4.1	0.3	3.7	3.7	0.0	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	0.9	4.0	4.1	0.3	3.7	3.7	2.3	0.0	0.0	3.0	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.19	0.38		0.27	0.41		0.45
Lane Grp Cap(c), veh/h	175	647	667	115	592	602	628	0	0	589	0	0
V/C Ratio(X)	0.28	0.44	0.45	0.14	0.42	0.43	0.25	0.00	0.00	0.30	0.00	0.00
Avail Cap(c_a), veh/h	414	2273	2346	365	2235	2273	2064	0	0	1909	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.7	6.7	6.7	13.3	7.2	7.2	7.9	0.0	0.0	8.1	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.5	0.5	0.5	0.5	0.5	0.2	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.9	0.9	0.1	0.8	0.8	0.5	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.6	7.2	7.2	13.8	7.7	7.7	8.1	0.0	0.0	8.4	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		634			524			154			177	
Approach Delay, s/veh		7.7			7.9			8.1			8.4	
Approach LOS		A			A			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	4.5	14.5		12.0	5.4	13.7		12.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	42.0		40.0	6.0	42.0		40.0
Max Q Clear Time (g_c+I1), s	2.3	6.1		5.0	2.9	5.7		4.3
Green Ext Time (p_c), s	0.0	4.5		1.3	0.0	3.8		1.1

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	514	21	26	1008	73	63	41	39	63	19	65
Future Volume (veh/h)	21	514	21	26	1008	73	63	41	39	63	19	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1488	1660	1660	1567	1660	1758	1647	1575	1758
Adj Flow Rate, veh/h	22	541	22	27	1061	77	66	43	41	66	20	68
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	16	10	10	10	10	3	4	16	3
Cap, veh/h	108	1765	72	101	1688	122	238	125	92	225	66	137
Arrive On Green	0.07	0.56	0.56	0.07	0.57	0.57	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1606	3140	128	1417	2981	216	521	545	401	470	288	599
Grp Volume(v), veh/h	22	276	287	27	561	577	150	0	0	154	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1665	1417	1577	1621	1467	0	0	1358	0	0
Q Serve(g_s), s	0.6	4.0	4.0	0.8	10.5	10.5	0.0	0.0	0.0	0.4	0.0	0.0
Cycle Q Clear(g_c), s	0.6	4.0	4.0	0.8	10.5	10.5	3.5	0.0	0.0	3.9	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.13	0.44		0.27	0.43		0.44
Lane Grp Cap(c), veh/h	108	901	936	101	893	918	455	0	0	429	0	0
V/C Ratio(X)	0.20	0.31	0.31	0.27	0.63	0.63	0.33	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	294	1616	1678	260	1589	1634	1465	0	0	1369	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.3	5.1	5.1	19.2	6.4	6.4	14.3	0.0	0.0	14.5	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.2	0.2	1.4	0.7	0.7	0.4	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.9	0.9	0.3	2.3	2.3	1.1	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	5.2	5.2	20.6	7.1	7.1	14.7	0.0	0.0	15.0	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		585			1165			150			154	
Approach Delay, s/veh		5.8			7.4			14.7			15.0	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	26.5		12.0	4.9	26.7		12.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	42.0		40.0	6.0	42.0		40.0
Max Q Clear Time (g_c+I1), s	2.8	6.0		5.9	2.6	12.5		5.5
Green Ext Time (p_c), s	0.0	4.2		1.1	0.0	10.2		1.0

Intersection Summary	
HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	534	31	26	1035	73	76	41	39	63	19	92
Future Volume (veh/h)	41	534	31	26	1035	73	76	41	39	63	19	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1488	1660	1660	1567	1660	1758	1647	1575	1758
Adj Flow Rate, veh/h	43	562	33	27	1089	77	80	43	41	66	20	97
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	16	10	10	10	10	3	4	16	3
Cap, veh/h	129	1769	104	97	1683	119	253	113	84	197	55	165
Arrive On Green	0.08	0.57	0.57	0.07	0.56	0.56	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1606	3078	180	1417	2987	211	606	500	369	400	244	726
Grp Volume(v), veh/h	43	292	303	27	575	591	164	0	0	183	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1655	1417	1577	1622	1475	0	0	1370	0	0
Q Serve(g_s), s	1.2	4.4	4.4	0.8	11.6	11.6	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear(g_c), s	1.2	4.4	4.4	0.8	11.6	11.6	4.1	0.0	0.0	5.2	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.13	0.49		0.25	0.36		0.53
Lane Grp Cap(c), veh/h	129	921	951	97	888	914	450	0	0	417	0	0
V/C Ratio(X)	0.33	0.32	0.32	0.28	0.65	0.65	0.36	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	278	1527	1576	245	1501	1544	1367	0	0	1297	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	20.1	5.1	5.1	20.4	6.9	6.9	15.4	0.0	0.0	15.8	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.2	0.2	1.5	0.8	0.8	0.5	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0	1.0	0.3	2.7	2.7	1.3	0.0	0.0	1.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	5.3	5.3	22.0	7.7	7.7	15.9	0.0	0.0	16.5	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	B	A	A
Approach Vol, veh/h		638			1193			164			183	
Approach Delay, s/veh		6.4			8.0			15.9			16.5	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	28.6		12.5	5.7	28.0		12.5
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	42.0		40.0	6.0	42.0		40.0
Max Q Clear Time (g_c+I1), s	2.8	6.4		7.2	3.2	13.6		6.1
Green Ext Time (p_c), s	0.0	4.5		1.3	0.0	10.4		1.2

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : COTTONWOOD AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	2		4		6		8		10	12	14	16	18
RANCHERO RD													
EB Left	36	3	39	29	68	29	68	29	68	66	95	95	95
EB Thru	367	23	390	29	419	29	419	29	419	1,041	1,070	1,070	1070
EB Right	22	2	24	14	38	14	38	14	38	45	59	59	59
WB Left	24	2	26	0	26	0	26	0	26	28	28	28	28
WB Thru	662	40	702	28	730	28	730	28	730	809	837	837	837
WB Right	56	4	60	0	60	0	60	0	60	58	58	58	58
COTTONWOOD AVE													
NB Left	29	2	31	14	45	14	45	14	45	33	47	47	47
NB Thru	66	4	70	0	70	0	70	0	70	63	63	63	63
NB Right	38	3	41	0	41	0	41	0	41	66	66	66	66
SB Left	57	4	61	0	61	0	61	0	61	93	93	93	93
SB Thru	65	4	69	0	69	0	69	0	69	66	66	66	66
SB Right	39	3	42	28	70	28	70	28	70	42	70	70	70
TOTALS	**1,461**	**94**	**1,555**	**142**	**1,697**	**142**	**1,697**	**142**	**1,697**	**2,410**	**2,552**	**2,552**	**2552**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET	OF
TURN VOLUME SUMMARY	HEAY	17-Aug-23	PMCO0000-0001	2	OF 2

E/W STREET : RANCHERO RD
CONDITION : PM PEAK HOUR
N/S STREET : COTTONWOOD AVE
PHF : 0.87

NORTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
5	13	13	0	0	0	0	0	0	0	0	0
8	14	16	0	0	0	0	0	0	0	0	0
12	14	14	0	0	0	0	0	0	0	0	0
7	24	14	0	0	0	0	0	0	0	0	0

SOUTH LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
13	22	5	0	0	0	0	0	0	0	0	0
19	27	6	0	0	0	0	0	0	0	0	0
4	9	5	0	0	0	0	0	0	0	0	0
2	8	8	0	0	0	0	0	0	0	0	0

EAST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
13	127	6	0	0	0	0	0	0	0	0	0
23	160	5	0	2	0	0	0	0	0	2	0
13	113	10	0	5	0	0	3	0	0	3	0
7	121	3	0	2	0	0	2	0	0	4	0

WEST LEG											
AUTOS			2 AXLE			3 AXLE			4(+) AXLE		
RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT
3	84	8	0	5	0	0	2	0	0	5	0
4	79	13	0	3	0	0	0	0	0	0	0
9	75	9	0	3	0	0	1	0	0	1	0
6	102	6	0	3	0	0	1	0	0	3	0

	Truck Volumes	Auto Volumes	Totals	Truck Percentage	Balanced Totals
RANCHERO RD					
EBL	0	36	**36**	**1%**	**36**
EBTH	27	340	**367**	**8%**	**367**
EBR	0	22	**22**	**1%**	**22**
WBL	0	24	**24**	**1%**	**24**
WBTH	23	521	**544**	**5%**	**662**
WBR	0	56	**56**	**1%**	**56**
COTTONWOOD AVE					
NBL	0	24	**24**	**1%**	**29**
NBTH	0	66	**66**	**1%**	**66**
NBR	0	38	**38**	**1%**	**38**
SBL	0	57	**57**	**1%**	**57**
SBTH	0	65	**65**	**1%**	**65**
SBR	0	32	**32**	**1%**	**39**

Intersection	
Intersection Delay, s/veh	23.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰↑↱			↰↑↱			↔			↔	
Traffic Vol, veh/h	36	367	22	24	662	56	29	66	38	57	65	39
Future Vol, veh/h	36	367	22	24	662	56	29	66	38	57	65	39
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	1	8	1	1	5	1	1	1	1	1	1	1
Mvmt Flow	41	422	25	28	761	64	33	76	44	66	75	45
Number of Lanes	0	2	0	0	2	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	2
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	2	2
HCM Control Delay	16.8	30.9	13.9	14.8
HCM LOS	C	D	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Vol Left, %	22%	16%	0%	7%	0%	35%
Vol Thru, %	50%	84%	89%	93%	86%	40%
Vol Right, %	29%	0%	11%	0%	14%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	220	206	355	387	161
LT Vol	29	36	0	24	0	57
Through Vol	66	184	184	331	331	65
RT Vol	38	0	22	0	56	39
Lane Flow Rate	153	252	236	408	445	185
Geometry Grp	2	7	7	7	7	2
Degree of Util (X)	0.315	0.508	0.473	0.764	0.824	0.377
Departure Headway (Hd)	7.421	7.252	7.213	6.739	6.671	7.338
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	485	497	501	539	543	490
Service Time	5.462	4.994	4.955	4.477	4.409	5.375
HCM Lane V/C Ratio	0.315	0.507	0.471	0.757	0.82	0.378
HCM Control Delay	13.9	17.3	16.3	28.1	33.5	14.8
HCM Lane LOS	B	C	C	D	D	B
HCM 95th-tile Q	1.3	2.8	2.5	6.8	8.3	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	390	24	26	702	60	31	70	41	61	69	42
Future Volume (veh/h)	39	390	24	26	702	60	31	70	41	61	69	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1730	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	45	448	28	30	807	69	36	80	47	70	79	48
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	8	1	1	5	1	1	1	1	1	1	1
Cap, veh/h	154	1439	90	136	1403	120	189	253	130	257	209	106
Arrive On Green	0.10	0.47	0.47	0.08	0.46	0.46	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	1606	3066	191	1606	3064	262	240	908	465	433	751	381
Grp Volume(v), veh/h	45	234	242	30	433	443	163	0	0	197	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1653	1606	1643	1683	1613	0	0	1565	0	0
Q Serve(g_s), s	0.9	3.2	3.3	0.6	7.0	7.0	0.0	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	0.9	3.2	3.3	0.6	7.0	7.0	2.7	0.0	0.0	3.4	0.0	0.0
Prop In Lane	1.00		0.12	1.00		0.16	0.22		0.29	0.36		0.24
Lane Grp Cap(c), veh/h	154	753	776	136	753	771	572	0	0	572	0	0
V/C Ratio(X)	0.29	0.31	0.31	0.22	0.57	0.58	0.28	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	358	1296	1336	358	1328	1360	1968	0	0	1914	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.1	5.9	5.9	15.3	7.2	7.2	10.3	0.0	0.0	10.6	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.2	0.2	0.8	0.7	0.7	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.7	0.7	0.2	1.6	1.7	0.8	0.0	0.0	1.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	6.1	6.1	16.1	7.8	7.8	10.6	0.0	0.0	10.9	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		521			906			163			197	
Approach Delay, s/veh		7.0			8.1			10.6			10.9	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.0	18.8		12.0	5.4	18.4		12.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	27.0		40.0	6.0	27.0		40.0
Max Q Clear Time (g_c+I1), s	2.6	5.3		5.4	2.9	9.0		4.7
Green Ext Time (p_c), s	0.0	2.9		1.3	0.0	5.5		1.0

Intersection Summary		
HCM 6th Ctrl Delay	8.3	
HCM 6th LOS	A	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	419	38	26	730	60	45	70	41	61	69	70
Future Volume (veh/h)	68	419	38	26	730	60	45	70	41	61	69	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1730	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	78	482	44	30	839	69	52	80	47	70	79	80
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	1	8	1	1	5	1	1	1	1	1	1	1
Cap, veh/h	179	1474	134	130	1431	118	213	225	113	224	172	146
Arrive On Green	0.11	0.50	0.50	0.08	0.47	0.47	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	1606	2972	270	1606	3075	253	345	844	423	379	644	549
Grp Volume(v), veh/h	78	259	267	30	448	460	179	0	0	229	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1639	1606	1643	1684	1612	0	0	1571	0	0
Q Serve(g_s), s	1.7	3.7	3.8	0.7	7.7	7.7	0.0	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	1.7	3.7	3.8	0.7	7.7	7.7	3.3	0.0	0.0	4.5	0.0	0.0
Prop In Lane	1.00		0.16	1.00		0.15	0.29		0.26	0.31		0.35
Lane Grp Cap(c), veh/h	179	795	813	130	765	784	551	0	0	542	0	0
V/C Ratio(X)	0.44	0.33	0.33	0.23	0.59	0.59	0.32	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	336	1215	1242	336	1245	1276	1812	0	0	1793	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.9	5.8	5.8	16.5	7.5	7.5	11.5	0.0	0.0	11.9	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.2	0.2	0.9	0.7	0.7	0.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.8	0.8	0.2	1.9	1.9	1.0	0.0	0.0	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.6	6.0	6.0	17.4	8.2	8.2	11.8	0.0	0.0	12.4	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		604			938			179			229	
Approach Delay, s/veh		7.5			8.5			11.8			12.4	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	21.0		12.2	6.3	19.8		12.2
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	27.0		40.0	6.0	27.0		40.0
Max Q Clear Time (g_c+I1), s	2.7	5.8		6.5	3.7	9.7		5.3
Green Ext Time (p_c), s	0.0	3.5		1.7	0.0	6.1		1.3

Intersection Summary	
HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	1041	45	28	809	58	33	63	66	93	66	42
Future Volume (veh/h)	66	1041	45	28	809	58	33	63	66	93	66	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1730	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	69	1096	47	29	852	61	35	66	69	98	69	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	1	5	1	1	1	1	1	1	1
Cap, veh/h	166	1642	70	124	1549	111	166	181	163	286	151	80
Arrive On Green	0.10	0.52	0.52	0.08	0.50	0.50	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1606	3133	134	1606	3110	223	230	728	655	622	604	323
Grp Volume(v), veh/h	69	561	582	29	450	463	170	0	0	211	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1664	1606	1643	1690	1614	0	0	1549	0	0
Q Serve(g_s), s	1.6	10.3	10.3	0.7	7.6	7.6	0.0	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear(g_c), s	1.6	10.3	10.3	0.7	7.6	7.6	3.4	0.0	0.0	4.3	0.0	0.0
Prop In Lane	1.00		0.08	1.00		0.13	0.21		0.41	0.46		0.21
Lane Grp Cap(c), veh/h	166	840	872	124	819	842	510	0	0	517	0	0
V/C Ratio(X)	0.42	0.67	0.67	0.23	0.55	0.55	0.33	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	320	1158	1202	320	1187	1221	1746	0	0	1675	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.9	7.0	7.0	17.4	7.0	7.0	12.6	0.0	0.0	12.9	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.9	0.9	1.0	0.6	0.6	0.4	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.3	2.4	0.3	1.8	1.9	1.1	0.0	0.0	1.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	7.9	7.9	18.4	7.5	7.5	13.0	0.0	0.0	13.4	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		1212			942			170			211	
Approach Delay, s/veh		8.5			7.9			13.0			13.4	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.1	23.0		12.0	6.1	22.0		12.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	27.0		40.0	6.0	27.0		40.0
Max Q Clear Time (g_c+I1), s	12.3	12.3		6.3	3.6	9.6		5.4
Green Ext Time (p_c), s	0.0	6.8		1.4	0.0	5.7		1.1

Intersection Summary		
HCM 6th Ctrl Delay	9.0	
HCM 6th LOS	A	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	1070	59	28	837	58	47	63	66	93	66	70
Future Volume (veh/h)	95	1070	59	28	837	58	47	63	66	93	66	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1687	1688	1786	1687	1730	1786	1687	1786	1786	1687	1786	1786
Adj Flow Rate, veh/h	100	1126	62	29	881	61	49	66	69	98	69	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	8	1	1	5	1	1	1	1	1	1	1
Cap, veh/h	193	1630	90	118	1500	104	186	181	157	256	141	124
Arrive On Green	0.12	0.53	0.53	0.07	0.48	0.48	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	1606	3090	170	1606	3118	216	310	696	604	535	541	477
Grp Volume(v), veh/h	100	584	604	29	464	478	184	0	0	241	0	0
Grp Sat Flow(s),veh/h/ln	1606	1603	1657	1606	1643	1691	1610	0	0	1553	0	0
Q Serve(g_s), s	2.5	11.7	11.7	0.7	8.8	8.8	0.0	0.0	0.0	1.6	0.0	0.0
Cycle Q Clear(g_c), s	2.5	11.7	11.7	0.7	8.8	8.8	3.9	0.0	0.0	5.5	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.13	0.27		0.37	0.41		0.31
Lane Grp Cap(c), veh/h	193	846	874	118	790	813	525	0	0	521	0	0
V/C Ratio(X)	0.52	0.69	0.69	0.25	0.59	0.59	0.35	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	297	1074	1110	297	1101	1133	1599	0	0	1558	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.9	7.6	7.6	18.9	8.1	8.1	13.3	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	2.2	1.3	1.3	1.1	0.7	0.7	0.4	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.9	3.0	0.3	2.3	2.4	1.3	0.0	0.0	1.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	8.9	8.9	20.0	8.8	8.8	13.7	0.0	0.0	14.4	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		1288			971			184			241	
Approach Delay, s/veh		9.8			9.1			13.7			14.4	
Approach LOS		A			A			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	5.2	24.8		13.3	7.2	22.8		13.3
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.6	27.0		40.0	6.0	27.0		40.0
Max Q Clear Time (g_c+I1), s	2.7	13.7		7.5	4.5	10.8		5.9
Green Ext Time (p_c), s	0.0	7.1		1.8	0.0	6.2		1.3

Intersection Summary	
HCM 6th Ctrl Delay	10.2
HCM 6th LOS	B

CALCULATION OF FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES (NCHRP 255)

Intersection No.: 7
North/South Street: COTTONWOOD AVE
East/West Street: RANCHERO RD

Analysis Condition: YEAR 2040 FUTURE TRAFFIC

A.M. Peak Hour

Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Balanced Volume
	Left	36	Approach	122	Left	51	63
NB	Through	44	Departure	57	Through	31	41
	Right	34			Right	40	39
	Left	60	Approach	119	Left	57	63
SB	Through	19	Departure	106	Through	15	19
	Right	40			Right	46	65
	Left	21	Approach	556	Left	15	21
EB	Through	439	Departure	1,164	Through	520	514
	Right	17			Right	16	21
	Left	13	Approach	1,150	Left	26	26
WB	Through	354	Departure	617	Through	1,066	1,008
	Right	41			Right	61	73

P.M. Peak Hour

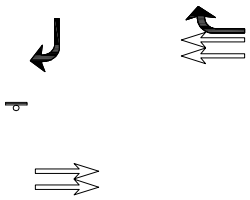
Approach Direction		Base Year Count	Forecast Future Year Link Volume			Turn Volume	Balanced Volume
	Left	29	Approach	139	Left	33	33
NB	Through	66	Departure	128	Through	52	63
	Right	38			Right	55	66
	Left	57	Approach	161	Left	70	93
SB	Through	65	Departure	158	Through	55	66
	Right	39			Right	37	42
	Left	36	Approach	1,198	Left	58	66
EB	Through	367	Departure	888	Through	1,107	1,041
	Right	22			Right	46	45
	Left	24	Approach	899	Left	27	28
WB	Through	662	Departure	1,232	Through	818	809
	Right	56			Right	48	58

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : TAMARISK AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 8
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



PROPOSED ALTERNATIVE 3
PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	1		3		5		7		9	11	13	15	17
RANCHERO RD													
EB Left	0	0	0	212	212	137	137	0	0	0	212	137	0
EB Thru	561	36	597	-119	478	119	716	93	690	630	511	749	723
EB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
WB Left	0	0	0	20	20	0	0	0	0	0	20	0	0
WB Thru	532	34	566	40	606	30	596	-41	525	1,154	1,194	1,184	1113
WB Right	0	0	0	53	53	53	53	98	98	0	53	53	98
TAMARISK AVE													
NB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Left	0	0	0	218	218	0	0	0	0	0	218	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	30	30	30	30	111	111	0	30	30	111
TOTALS	**1,093**	**70**	**1,163**	**454**	**1,617**	**369**	**1,532**	**261**	**1,424**	**1,784**	**2,238**	**2,153**	**2045**

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	690	525	98	0	111
Future Vol, veh/h	0	690	525	98	0	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	784	597	111	0	126

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	299
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	703
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	703
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	703
HCM Lane V/C Ratio	-	-	-	0.179
HCM Control Delay (s)	-	-	-	11.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.7

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	723	1113	98	0	111
Future Vol, veh/h	0	723	1113	98	0	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	761	1172	103	0	117

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	586
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	459
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	459
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	459
HCM Lane V/C Ratio	-	-	-	0.255
HCM Control Delay (s)	-	-	-	15.5
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : TAMARISK AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 8
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	2		4		6		8		10	12	14	16	18
RANCHERO RD													
EB Left	0	0	0	265	265	170	170	0	0	0	265	170	0
EB Thru	556	35	591	-167	424	173	764	98	689	1,236	1,069	1,409	1334
EB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
WB Left	0	0	0	29	29	0	0	0	0	0	29	0	0
WB Thru	751	47	798	58	856	44	842	-57	741	905	963	949	848
WB Right	0	0	0	56	56	56	56	128	128	0	56	56	128
TAMARISK AVE													
NB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Left	0	0	0	312	312	0	0	0	0	0	312	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	43	43	44	44	158	158	0	43	44	158
TOTALS	**1,307**	**82**	**1,389**	**596**	**1,985**	**487**	**1,876**	**327**	**1,716**	**2,141**	**2,737**	**2,628**	**2468**

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	689	741	128	0	158
Future Vol, veh/h	0	689	741	128	0	158
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	811	872	151	0	186

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	436
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	574
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	574
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	574
HCM Lane V/C Ratio	-	-	-	0.324
HCM Control Delay (s)	-	-	-	14.2
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	1.4

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	1334	848	128	0	158
Future Vol, veh/h	0	1334	848	128	0	158
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	1404	893	135	0	166

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	447
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	564
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	564
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14
HCM LOS			B

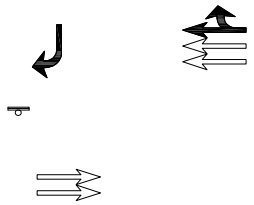
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	564
HCM Lane V/C Ratio	-	-	-	0.295
HCM Control Delay (s)	-	-	-	14
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	1.2

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : PROJECT DRIVEWAY "A"
CONDITION : AM PEAK HOUR

INTERSECTION : 9
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



PROPOSED ALTERNATIVE 3
PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	1		3		5		7		9	11	13	15	17
RANCHERO RD													
EB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
EB Thru	561	36	597	119	716	119	716	93	690	630	749	749	723
EB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
WB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
WB Thru	532	34	566	-20	546	-20	546	-22	544	1,154	1,134	1,134	1132
WB Right	0	0	0	149	149	149	149	112	112	0	149	149	112
PROJECT DRIVEWAY "													
NB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	133	133	103	103	79	79	0	133	103	79
TOTALS	**1,093**	**70**	**1,163**	**381**	**1,544**	**351**	**1,514**	**262**	**1,425**	**1,784**	**2,165**	**2,135**	**2046**

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↑			↱
Traffic Vol, veh/h	0	690	544	112	0	79
Future Vol, veh/h	0	690	544	112	0	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	784	618	127	0	90

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	373
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	0	538
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	538
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	538
HCM Lane V/C Ratio	-	-	-	0.167
HCM Control Delay (s)	-	-	-	13
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↑			↱
Traffic Vol, veh/h	0	723	1132	112	0	79
Future Vol, veh/h	0	723	1132	112	0	79
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	761	1192	118	0	83

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	655
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	0	354
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	354
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	18.3
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	354
HCM Lane V/C Ratio	-	-	-	0.235
HCM Control Delay (s)	-	-	-	18.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	0.9

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : PROJECT DRIVEWAY "A"
CONDITION : PM PEAK HOUR

INTERSECTION : 9
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	2		4		6		8		10	12	14	16	18
RANCHERO RD													
EB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
EB Thru	556	35	591	174	765	173	764	98	689	1,236	1,410	1,409	1334
EB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
WB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
WB Thru	751	47	798	-47	751	-47	751	-42	756	905	858	858	863
WB Right	0	0	0	187	187	187	187	140	140	0	187	187	140
PROJECT DRIVEWAY "													
NB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	190	190	147	147	113	113	0	190	147	113
TOTALS	**1,307**	**82**	**1,389**	**504**	**1,893**	**460**	**1,849**	**309**	**1,698**	**2,141**	**2,645**	**2,601**	**2450**

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↑			↱
Traffic Vol, veh/h	0	689	756	140	0	113
Future Vol, veh/h	0	689	756	140	0	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	811	889	165	0	133

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	527
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	0	428
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	428
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	428
HCM Lane V/C Ratio	-	-	-	0.311
HCM Control Delay (s)	-	-	-	17.2
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.3

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑↑			↱
Traffic Vol, veh/h	0	1334	863	140	0	113
Future Vol, veh/h	0	1334	863	140	0	113
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	1404	908	147	0	119

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	528
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	0	-	-	-	0	428
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	428
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	16.6
HCM LOS			C

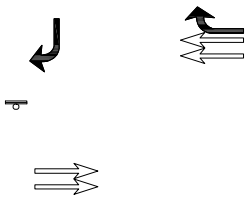
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	428
HCM Lane V/C Ratio	-	-	-	0.278
HCM Control Delay (s)	-	-	-	16.6
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.1

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : PROJECT DRIVEWAY "B"
CONDITION : AM PEAK HOUR

INTERSECTION : 10
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



PROPOSED ALTERNATIVE 3
PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	1		3		5		7		9	11	13	15	17
RANCHERO RD													
EB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
EB Thru	561	36	597	119	716	119	716	93	690	630	749	749	723
EB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
WB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
WB Thru	532	34	566	83	649	83	649	44	610	1,154	1,237	1,237	1198
WB Right	0	0	0	76	76	76	76	76	76	0	76	76	76
PROJECT DRIVEWAY "													
NB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	46	46	46	46	46	46	0	46	46	46
TOTALS	**1,093**	**70**	**1,163**	**324**	**1,487**	**324**	**1,487**	**259**	**1,422**	**1,784**	**2,108**	**2,108**	**2043**

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	690	610	76	0	46
Future Vol, veh/h	0	690	610	76	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	784	693	86	0	52

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	347
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	655
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	655
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	655
HCM Lane V/C Ratio	-	-	-	0.08
HCM Control Delay (s)	-	-	-	11
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	723	1198	76	0	46
Future Vol, veh/h	0	723	1198	76	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	9	9	0	0	0
Mvmt Flow	0	761	1261	80	0	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	631
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	429
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	429
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	14.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	429
HCM Lane V/C Ratio	-	-	-	0.113
HCM Control Delay (s)	-	-	-	14.5
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : RANCHERO RD
N/S STREET : PROJECT DRIVEWAY "B"
CONDITION : PM PEAK HOUR

INTERSECTION : 10
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 1 Project Trips	Opening Day w/ Project Alt 1 Conditions	Alt 2 Project Trips	Opening Day w/ Project Alt 2 Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 1 Conditions	Future w/ Project Alt 2 Conditions	Future w/ Project Alt 3 Conditions
	2		4		6		8		10	12	14	16	18
RANCHERO RD													
EB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
EB Thru	556	35	591	174	765	173	764	98	689	1,236	1,410	1,409	1334
EB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
WB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
WB Thru	751	47	798	76	874	76	874	34	832	905	981	981	939
WB Right	0	0	0	92	92	92	92	92	92	0	92	92	92
PROJECT DRIVEWAY "													
NB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
NB Right	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Left	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Thru	0	0	0	0	0	0	0	0	0	0	0	0	0
SB Right	0	0	0	64	64	64	64	64	64	0	64	64	64
TOTALS	**1,307**	**82**	**1,389**	**406**	**1,795**	**405**	**1,794**	**288**	**1,677**	**2,141**	**2,547**	**2,546**	**2429**

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	689	832	92	0	64
Future Vol, veh/h	0	689	832	92	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	811	979	108	0	75

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	490
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	529
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	529
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	529
HCM Lane V/C Ratio	-	-	-	0.142
HCM Control Delay (s)	-	-	-	12.9
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Vol, veh/h	0	1334	939	92	0	64
Future Vol, veh/h	0	1334	939	92	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	5	2	0	0	0
Mvmt Flow	0	1404	988	97	0	67

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	-	494
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	0	-	-	-	0	526
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	526
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.8
HCM LOS			B

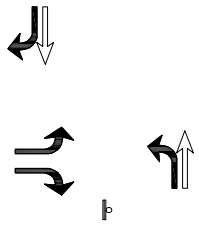
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	526
HCM Lane V/C Ratio	-	-	-	0.128
HCM Control Delay (s)	-	-	-	12.8
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.4

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : WELLS FARGO ST
N/S STREET : MAPLE AVE
CONDITION : AM PEAK HOUR

INTERSECTION : 11
PROJECTED GROWTH PER YEAR : 2.0%

CONDITION DIAGRAMS



PROPOSED ALTERNATIVE 3
PROJECT GEOMETRICS

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 3 Conditions
	1		3		9	11	17
WELLS FARGO ST							
EB Left	0	0	0	30	30	0	30
EB Thru	0	0	0	0	0	0	0
EB Right	0	0	0	160	160	0	160
WB Left	0	0	0	0	0	0	0
WB Thru	0	0	0	0	0	0	0
WB Right	0	0	0	0	0	0	0
MAPLE AVE							
NB Left	0	0	0	93	93	0	93
NB Thru	138	10	148	0	148	239	239
NB Right	0	0	0	0	0	0	0
SB Left	0	0	0	0	0	0	0
SB Thru	111	8	119	-71	48	152	81
SB Right	0	0	0	111	111	0	111
TOTALS	**249**	**18**	**267**	**323**	**590**	**391**	**714**

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	160	93	148	48	111
Future Vol, veh/h	30	160	93	148	48	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	36	190	111	176	57	132

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	455	57	189	0	-	0
Stage 1	57	-	-	-	-	-
Stage 2	398	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	565	1012	1391	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	520	1012	1391	-	-	-
Mov Cap-2 Maneuver	577	-	-	-	-	-
Stage 1	891	-	-	-	-	-
Stage 2	681	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1391	-	577	1012	-	-
HCM Lane V/C Ratio	0.08	-	0.062	0.188	-	-
HCM Control Delay (s)	7.8	-	11.7	9.4	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	0.2	0.7	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	160	93	239	81	111
Future Vol, veh/h	30	160	93	239	81	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	32	168	98	252	85	117

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	533	85	202	0	-	0
Stage 1	85	-	-	-	-	-
Stage 2	448	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	509	977	1376	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	646	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	473	977	1376	-	-	-
Mov Cap-2 Maneuver	542	-	-	-	-	-
Stage 1	874	-	-	-	-	-
Stage 2	646	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	2.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1376	-	542	977	-	-
HCM Lane V/C Ratio	0.071	-	0.058	0.172	-	-
HCM Control Delay (s)	7.8	-	12.1	9.5	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.2	0.6	-	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	HEAY	17-Aug-23	PMCO0000-0001	1 OF 2

E/W STREET : WELLS FARGO ST
N/S STREET : MAPLE AVE
CONDITION : PM PEAK HOUR

INTERSECTION : 11
PROJECTED GROWTH PER YEAR : 2.0%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Ambient Growth	Opening Day w/o Project Conditions	Alt 3 Project Trips	Opening Day w/ Project Alt 3 Conditions	Future Year 2040 Conditions	Future w/ Project Alt 3 Conditions
	2		4		10	12	18
WELLS FARGO ST							
EB Left	0	0	0	43	43	0	43
EB Thru	0	0	0	0	0	0	0
EB Right	0	0	0	230	230	0	230
WB Left	0	0	0	0	0	0	0
WB Thru	0	0	0	0	0	0	0
WB Right	0	0	0	0	0	0	0
MAPLE AVE							
NB Left	0	0	0	98	98	0	98
NB Thru	154	11	165	0	165	206	206
NB Right	0	0	0	0	0	0	0
SB Left	0	0	0	0	0	0	0
SB Thru	81	6	87	-100	-13	171	71
SB Right	0	0	0	142	142	0	142
TOTALS	**235**	**17**	**252**	**413**	**665**	**377**	**790**

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	43	230	98	165	0	142
Future Vol, veh/h	43	230	98	165	0	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	48	258	110	185	0	160

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	405	0	160	0	-	0
Stage 1	0	-	-	-	-	-
Stage 2	405	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	604	-	1425	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	557	-	1425	-	-	-
Mov Cap-2 Maneuver	646	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	676	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s		2.9	0
HCM LOS	-		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1425	-	646	-	-	-
HCM Lane V/C Ratio	0.077	-	0.075	-	-	-
HCM Control Delay (s)	7.7	-	11	-	-	-
HCM Lane LOS	A	-	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	0.2	-	-	-

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	43	230	98	206	71	142
Future Vol, veh/h	43	230	98	206	71	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	45	242	103	217	75	149

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	498	75	224	0	-	0
Stage 1	75	-	-	-	-	-
Stage 2	423	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	534	989	1351	-	-	-
Stage 1	950	-	-	-	-	-
Stage 2	663	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	493	989	1351	-	-	-
Mov Cap-2 Maneuver	558	-	-	-	-	-
Stage 1	878	-	-	-	-	-
Stage 2	663	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	2.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1351	-	558	989	-	-
HCM Lane V/C Ratio	0.076	-	0.081	0.245	-	-
HCM Control Delay (s)	7.9	-	12	9.8	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	1	-	-

DAVID EVANS AND ASSOCIATES INC.

Appendix E:
Traffic Signal Warrant Analyses

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 1 of 5)

DIST ____ CO ____ RTE ____ PM ____

COUNT DATE 8-16-22
CALC TNM DATE 9-15-22
CHK ____ DATE ____

Major St: RANCHERO RD — Critical Approach Speed 50 mph
Minor St: TOPAZ AVE — Critical Approach Speed ____ mph

Speed limit or critical speed on major street traffic > 40 mph ☒ } RURAL (R)
In built up area of isolated community of < 10,000 population ☐ } or
☐ URBAN (U)

WARRANT 1 - Eight Hour Vehicular Volume SATISFIED YES ☐ NO ☐ N/A
(Condition A or Condition B or combination of A and B must be satisfied)

Condition A - Minimum Vehicle Volume 100% SATISFIED YES ☐ NO ☐
80% SATISFIED YES ☐ NO ☐

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)										
	U	R	U	R							
APPROACH LANES	1		2 or More								Hour
Both Approaches Major Street	500 (400)	350 (280)	500 (480)	420 (336)							
Highest Approach Minor Street	150 (120)	105 (84)	200 (160)	140 (112)							

Condition B - Interruption of Continuous Traffic 100% SATISFIED YES ☐ NO ☐
80% SATISFIED YES ☐ NO ☐

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)										
	U	R	U	R							
APPROACH LANES	1		2 or More								Hour
Both Approaches Major Street	750 (600)	525 (420)	900 (720)	630 (504)							
Highest Approach Minor Street	75 (60)	53 (42)	100 (80)	70 (56)							

Combination of Conditions A & B SATISFIED YES ☐ NO ☐

REQUIREMENT	CONDITION	✓	FULFILLED
TWO CONDITIONS SATISFIED 80%	A. MINIMUM VEHICULAR VOLUME		Yes ☐ No ☐
	AND, B. INTERRUPTION OF CONTINUOUS TRAFFIC		
AND, AN ADEQUATE TRIAL OF OTHER ALTERNATIVES THAT COULD CAUSE LESS DELAY AND INCONVENIENCE TO TRAFFIC HAS FAILED TO SOLVE THE TRAFFIC PROBLEMS			Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume SATISFIED* YES ☐ NO ☐ N/A

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More				Hour
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR. All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour SATISFIED YES ☐ NO ☒
(Part A or Part B must be satisfied)

PART A SATISFIED YES ☐ NO ☒

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

PART B SATISFIED YES ☒ NO ☐

APPROACH LANES	One	2 or More	5:00 - 6:00 PM Hour
Both Approaches - Major Street	X		1,299
Higher Approach - Minor Street	X		20

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR. The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 3 of 5)

WARRANT 4 - Pedestrian Volume
(Parts 1 and 2 Must Be Satisfied)

SATISFIED YES ☐ NO ☐ N/A

Part 1 (Parts A or B must be satisfied)

	Hours - - ->				
A.	Vehicles per hour for any 4 hours				
	Pedestrians per hour for any 4 hours				

Figure 4C-5 or Figure 4C-6
SATISFIED YES ☐ NO ☐

	Hours - - ->				
B.	Vehicles per hour for any 1 hour				
	Pedestrians per hour for any 1 hour				

Figure 4C-7 or Figure 4C-8
SATISFIED YES ☐ NO ☐

Part 2 **SATISFIED YES ☐ NO ☐**

AND, The distance to the nearest traffic signal along the major street is greater than 300 ft	Yes ☐ No ☐
OR, The proposed traffic signal will not restrict progressive traffic flow along the major street.	Yes ☐ No ☐

WARRANT 5 - School Crossing
(Parts A and B Must Be Satisfied)

SATISFIED YES ☐ NO ☐ N/A

Part A
Gap/Minutes and # of Children

SATISFIED YES ☐ NO ☐

Gaps vs Minutes	Hour
Minutes Children Using Crossing	
Number of Adequate Gaps	
School Age Pedestrians Crossing Street / hr	

Gaps < Minutes YES ☐ NO ☐
AND Children > 20/hr YES ☐ NO ☐

AND, Consideration has been given to less restrictive remedial measures.	Yes ☐ No ☐

Part B **SATISFIED YES ☐ NO ☐**

The distance to the nearest traffic signal along the major street is greater than 300 ft	Yes ☐ No ☐
OR, The proposed signal will not restrict the progressive movement of traffic.	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 4 of 5)

WARRANT 6 - Coordinated Signal System **SATISFIED YES ☐ NO ☐** N/A
(All Parts Must Be Satisfied)

MINIMUM REQUIREMENTS	DISTANCE TO NEAREST SIGNAL	
≥ 1000 ft	N _____ ft, S _____ ft, E _____ ft, W _____ ft	Yes ☐ No ☐
On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.		Yes ☐ No ☐
OR, On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.		

WARRANT 7 - Crash Experience Warrant **SATISFIED YES ☐ NO ☒**
(All Parts Must Be Satisfied)

Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency.			Yes ☐ No ☒
REQUIREMENTS	Number of crashes reported within a 12 month period susceptible to correction by a traffic signal, and involving injury or damage exceeding the requirements for a reportable crash.		Yes ☒ No ☐
5 OR MORE			
REQUIREMENTS	CONDITIONS	✓	
ONE CONDITION SATISFIED 80%	Warrant 1, Condition A - Minimum Vehicular Volume		Yes ☐ No ☒
	OR, Warrant 1, Condition B - Interruption of Continuous Traffic		
	OR, Warrant 4, Pedestrian Volume Condition Ped Vol ≥ 80% of Figure 4C-5 through Figure 4C-8		

WARRANT 8 - Roadway Network **SATISFIED YES ☐ NO ☐** N/A
(All Parts Must Be Satisfied)

MINIMUM VOLUME REQUIREMENTS	ENTERING VOLUMES - ALL APPROACHES	✓	FULFILLED
1000 Veh/Hr	During Typical Weekday Peak Hour _____ Veh/Hr and has 5-year projected traffic volumes that meet one or more of Warrants 1, 2, and 3 during an average weekday.		Yes ☐ No ☐
	OR During Each of Any 5 Hrs. of a Sat. or Sun _____ Veh/Hr		

CHARACTERISTICS OF MAJOR ROUTES	MAJOR ROUTE A	MAJOR ROUTE B	
Hwy. System Serving as Principal Network for Through Traffic			
Rural or Suburban Highway Outside Of, Entering, or Traversing a City			
Appears as Major Route on an Official Plan			
Any Major Route Characteristics Met, Both Streets			Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 5 of 5)

WARRANT 9 - Intersection Near a Grade Crossing SATISFIED YES ☐ NO ☐ N/A
(Both Parts A and B Must Be Satisfied)

PART A A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach. Track Center Line to Limit Line _____ ft	Yes ☐ No ☐
PART B **There is one minor street approach lane at the track crossing -** During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point falls above the applicable curve in Figure 4C-9. Major Street - Total of both approaches: _____ VPH Minor Street - Crosses the track (one direction only, approaching the intersection): _____ VPH X AF (Use Tables 4C-2, 3, & 4 below to calculate AF) = _____ VPH	Yes ☐ No ☐
OR, There are two or more minor street approach lanes at the track crossing - During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point falls *above* the applicable curve in Figure 4C-10. Major Street - Total of both approaches : _____ VPH Minor Street - Crosses the track (one direction only, approaching the intersection): _____ VPH X AF (Use Tables 4C-2, 3, & 4 below to calcualte AF) = _____ VPH	

The minor street approach volume may be multiplied by up to three following adjustment factors (AF) as described in Section 4C.10.

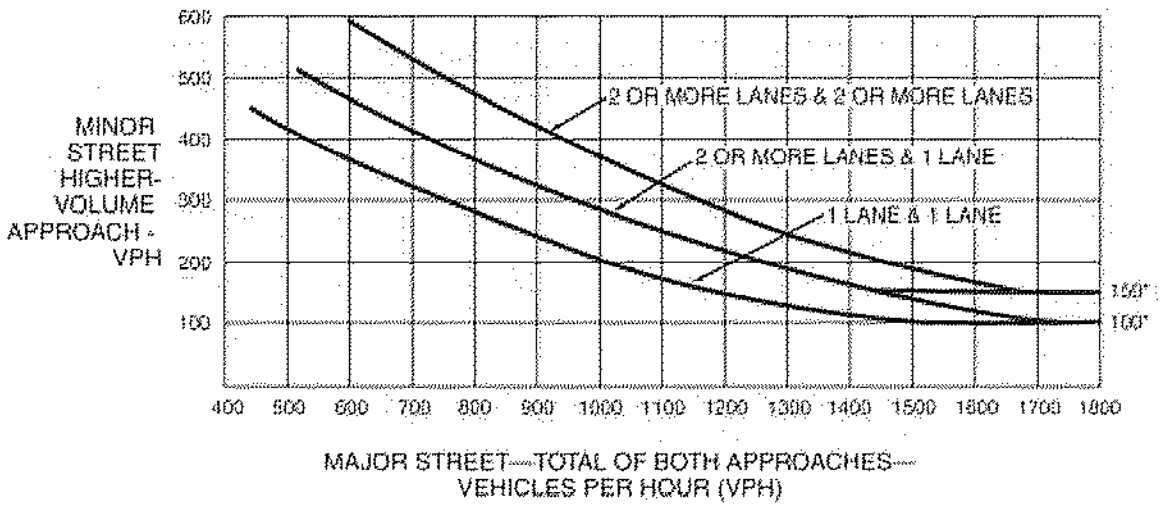
1- Number of Rail Traffic per Day_____ Adjustment factor from table 4C-2____

2- Percentage of High-Occupancy Buses on Minor Street Approach_____ Adjustment factor from table 4C-3____

3- Percentage of Tractor-Trailer Trucks on Minor Street Approach_____ Adjustment factor from table 4C-4____

NOTE: If no data is available or known, then use AF = 1 (no adjustment)

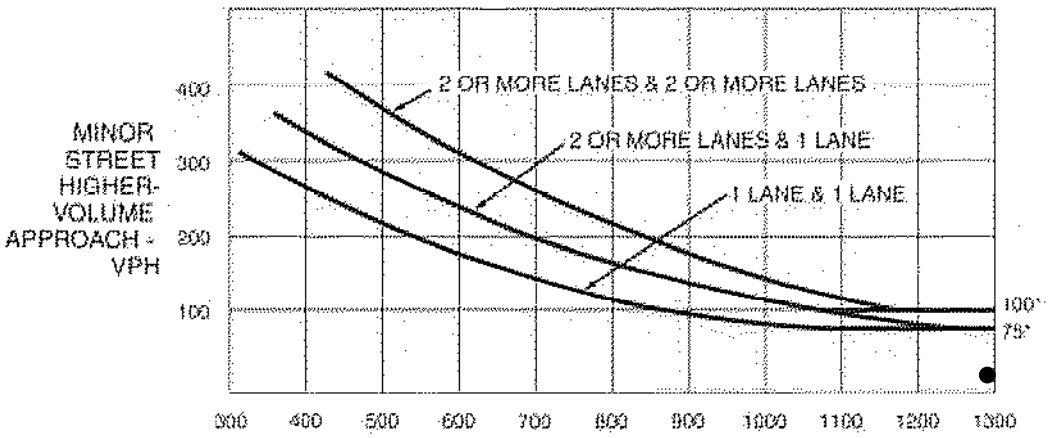
Figure 4C-3. Warrant 3, Peak Hour



*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.

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

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



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

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☐ N/A**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More				Hour
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR. All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

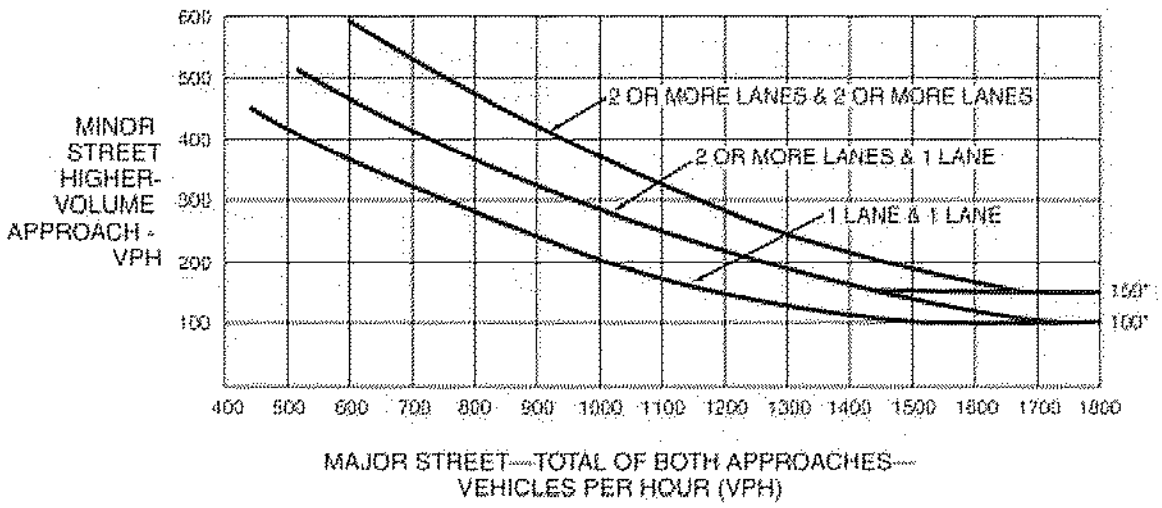
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	5:00 - 6:00 PM Hour
Both Approaches - Major Street		X	1,393
Higher Approach - Minor Street	X		23

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR. The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

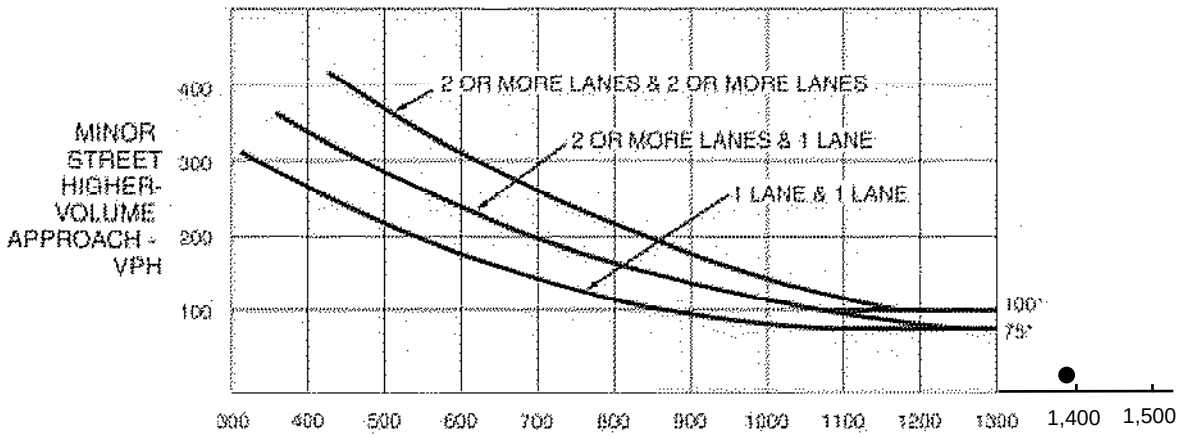
Figure 4C-3. Warrant 3, Peak Hour



*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.

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

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



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

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☐ N/A**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More				Hour
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR. All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

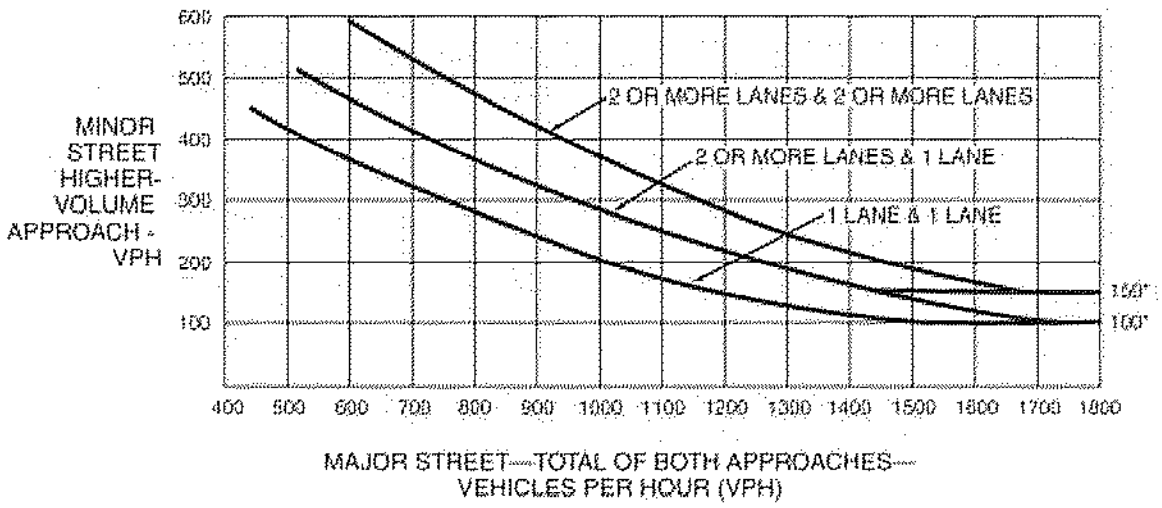
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	5:00 - 6:00 PM Hour
Both Approaches - Major Street		X	1,579
Higher Approach - Minor Street	X		28

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR. The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

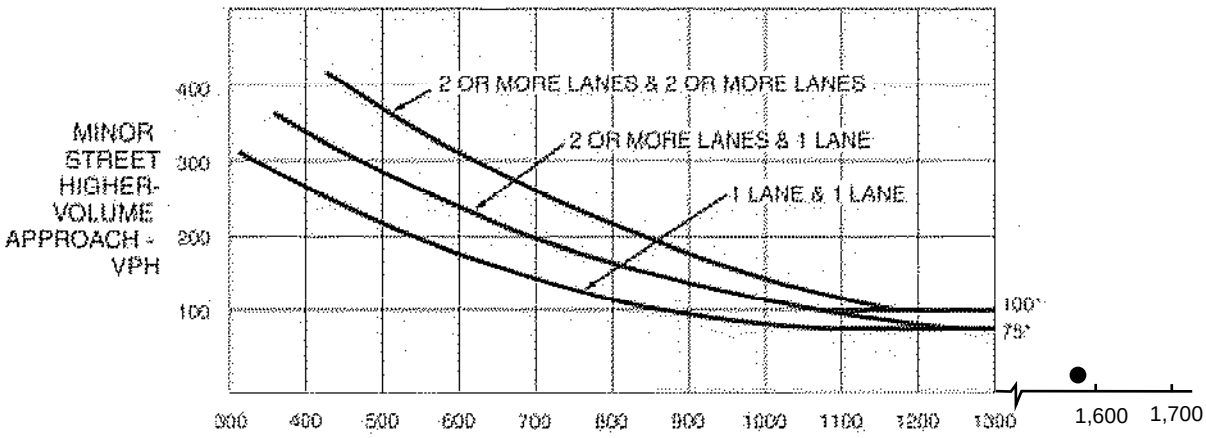
Figure 4C-3. Warrant 3, Peak Hour



*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.

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

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



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

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☐ N/A**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More				Hour
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR. All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☒ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

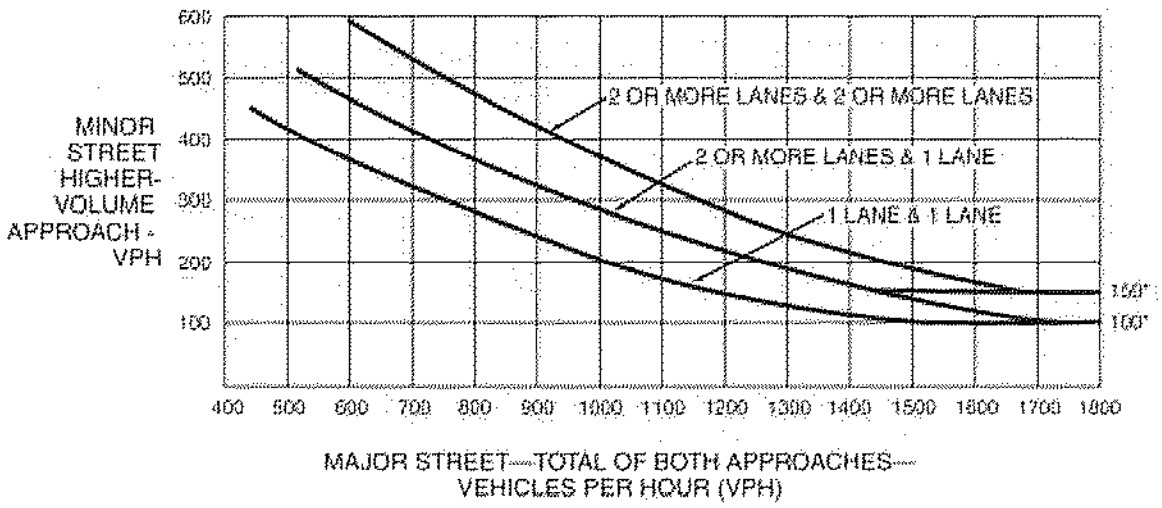
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	5:00 - 6:00 PM Hour
Both Approaches - Major Street		X	1,564
Higher Approach - Minor Street		X	378

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR. The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

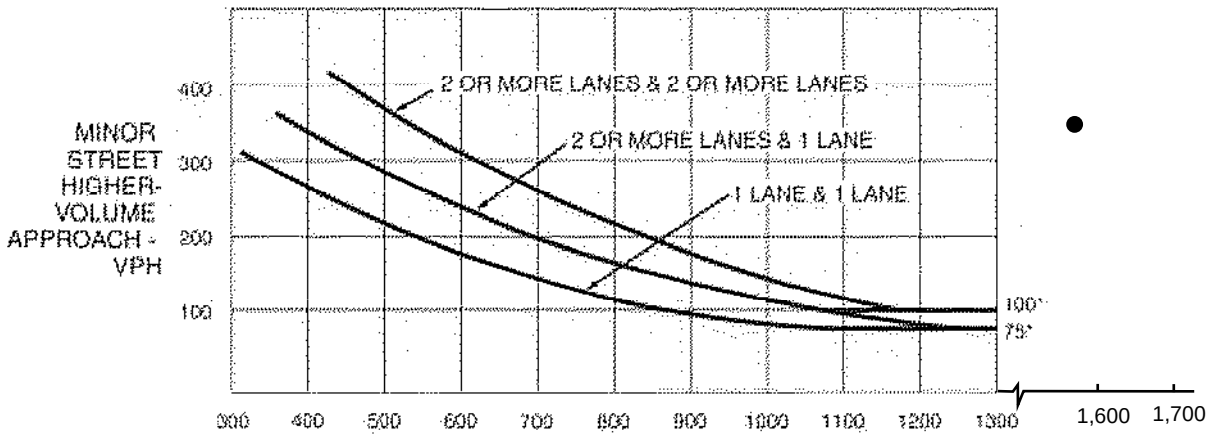
Figure 4C-3. Warrant 3, Peak Hour



*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.

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

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



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

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☐ N/A**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More				Hour
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR. All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

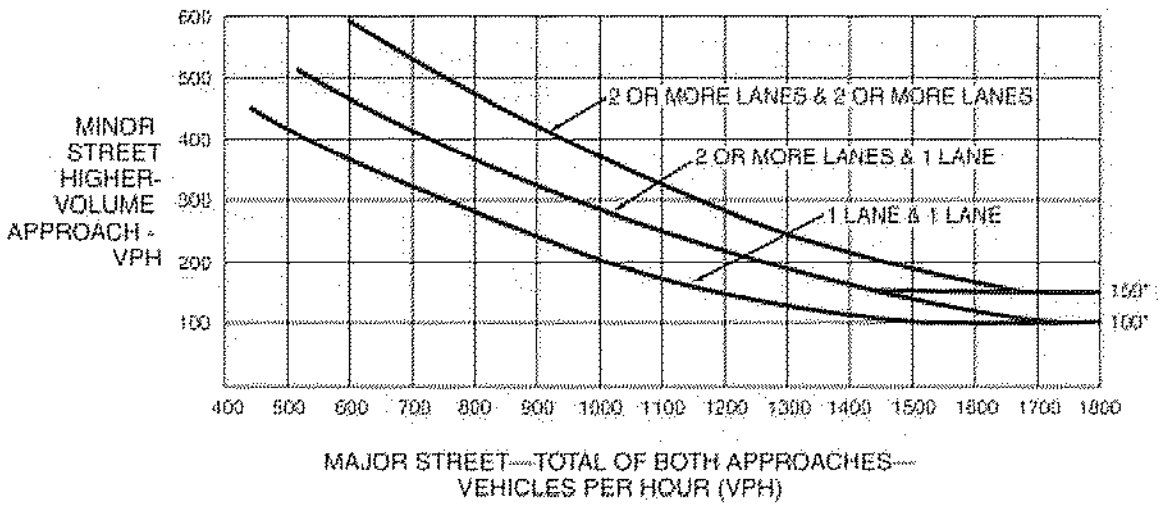
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	5:00 - 6:00 PM Hour
Both Approaches - Major Street		X	2,132
Higher Approach - Minor Street	X		28

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR. The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

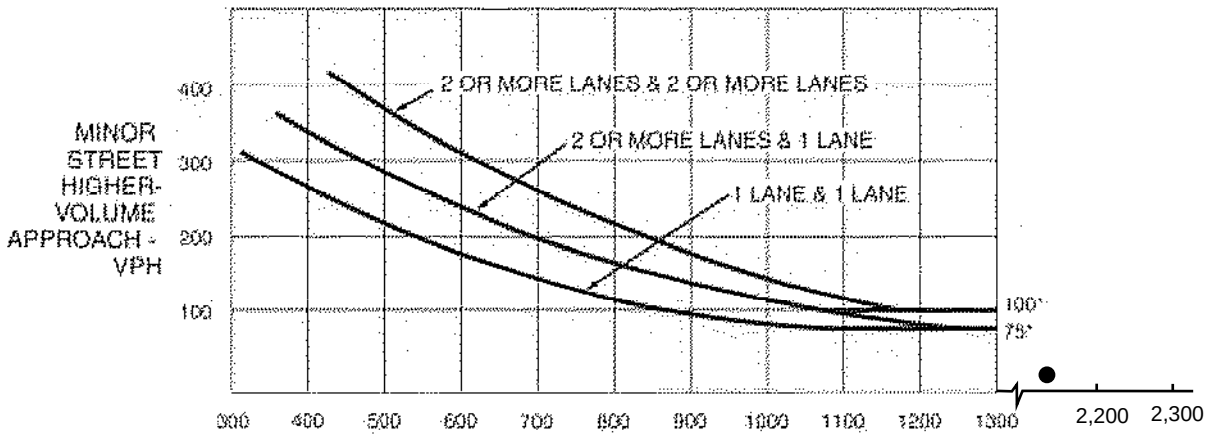
Figure 4C-3. Warrant 3, Peak Hour



*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.

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

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



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

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☐ N/A**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More				Hour
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR. All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☒
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

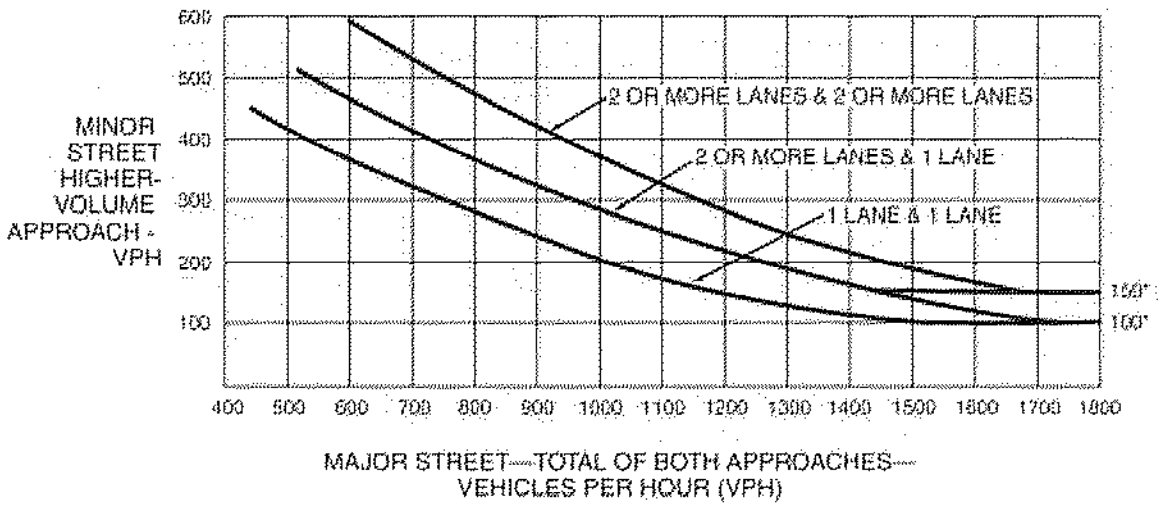
PART B **SATISFIED YES ☐ NO ☒**

APPROACH LANES	One	2 or More	5:00 - 6:00 PM Hour
Both Approaches - Major Street		X	2,318
Higher Approach - Minor Street	X		32

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR. The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☒

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

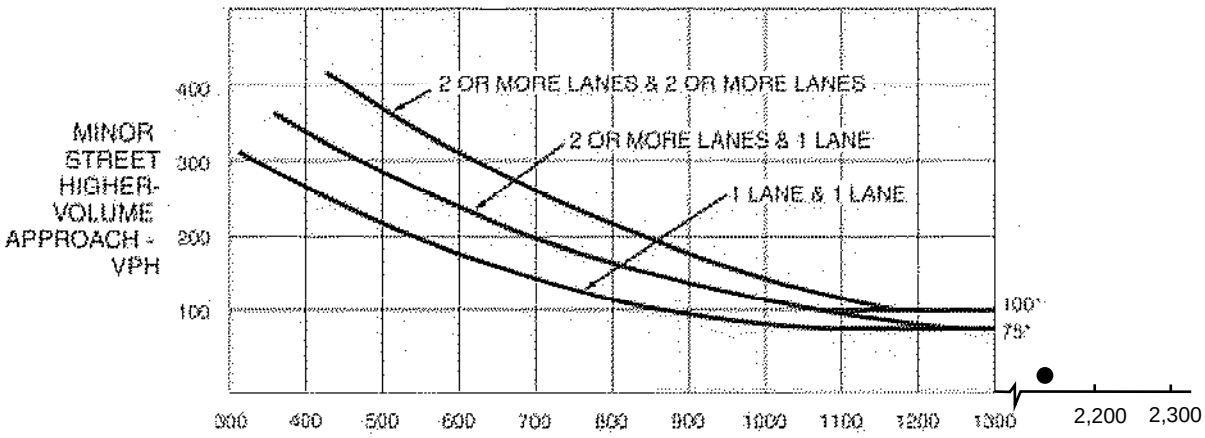
Figure 4C-3. Warrant 3, Peak Hour



*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.

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

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



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

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume **SATISFIED* YES ☐ NO ☐ N/A**

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More				Hour
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐ No ☐
OR. All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐ No ☐

WARRANT 3 - Peak Hour **SATISFIED YES ☐ NO ☒**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☒**

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒ No ☐

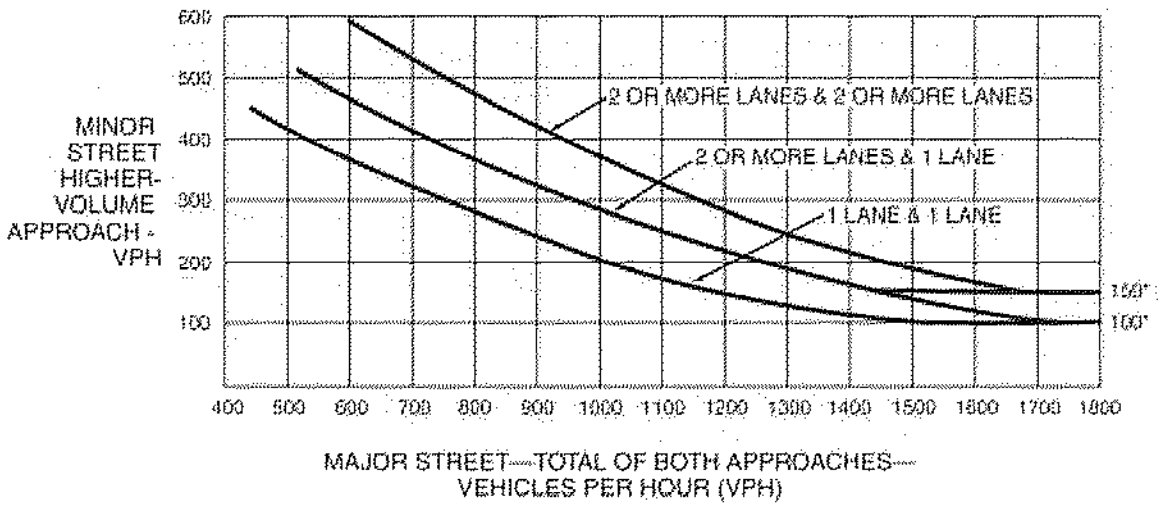
PART B **SATISFIED YES ☒ NO ☐**

APPROACH LANES	One	2 or More	5:00 - 6:00 PM Hour
Both Approaches - Major Street		X	2,303
Higher Approach - Minor Street		X	383

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☐ No ☐
OR. The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

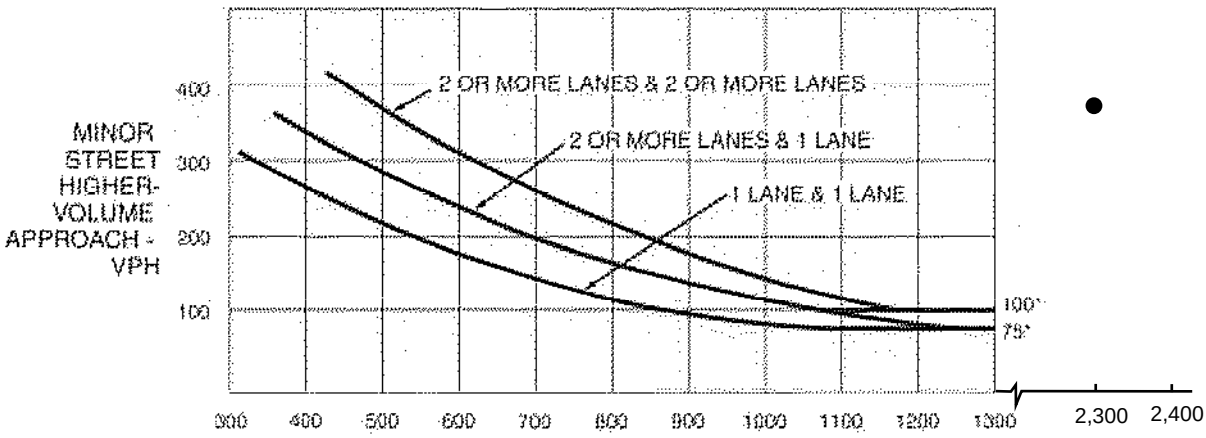
Figure 4C-3. Warrant 3, Peak Hour



*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.

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

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



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

Figure 4C-101 (CA). Traffic Signal Warrants Worksheet (Sheet 2 of 5)

WARRANT 2 - Four Hour Vehicular Volume SATISFIED* YES ☐ NO ☐ N/A

Record hourly vehicular volumes for any four hours of an average day.

APPROACH LANES	One	2 or More				Hour
Both Approaches - Major Street						
Higher Approach - Minor Street						

*All plotted points fall above the applicable curve in Figure 4C-1. (URBAN AREAS)	Yes ☐	No ☐
OR, All plotted points fall above the applicable curve in Figure 4C-2. (RURAL AREAS)	Yes ☐	No ☐

WARRANT 3 - Peak Hour SATISFIED YES ☒ NO ☐
(Part A or Part B must be satisfied)

PART A SATISFIED YES ☐ NO ☒

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☒
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☒	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☒	No ☐

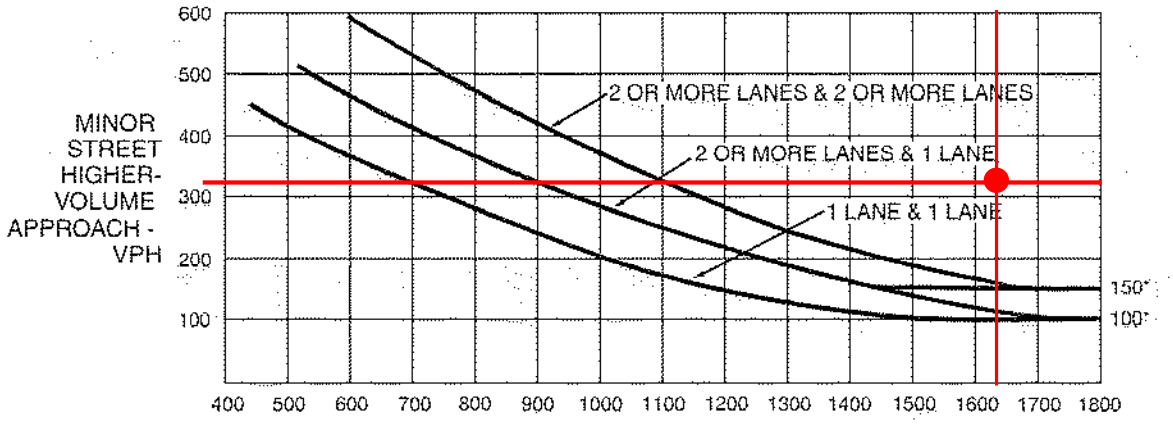
PART B SATISFIED YES ☒ NO ☐

APPROACH LANES	One	2 or More	5:00 - 6:00 PM Hour
Both Approaches - Major Street		X	1,643
Higher Approach - Minor Street	X		312

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☒	No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☒	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

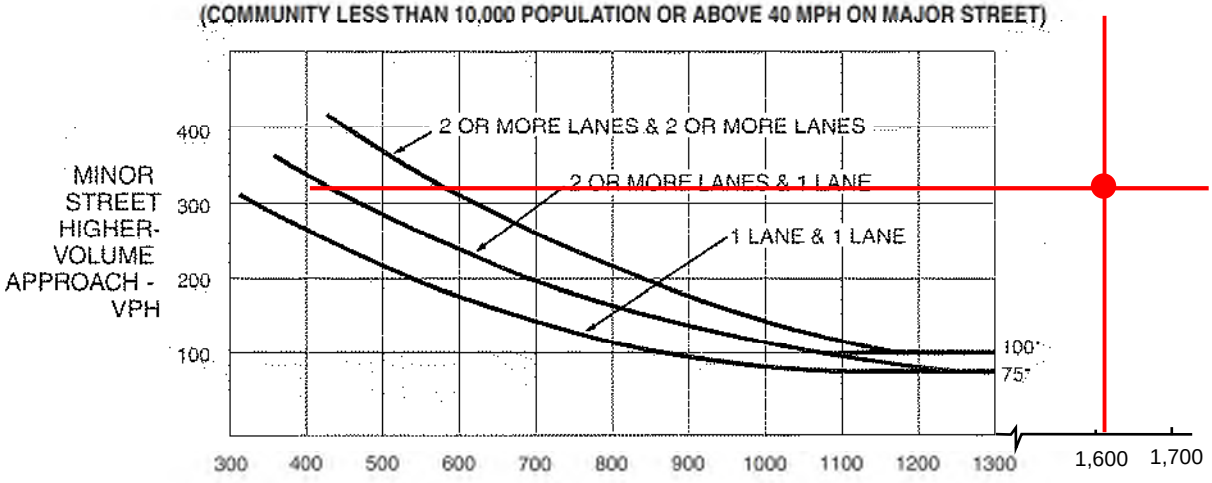
Figure 4C-3. Warrant 3, Peak Hour



*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.

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

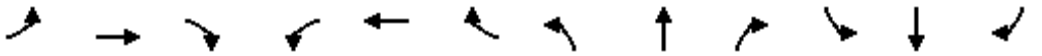
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



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

DAVID EVANS AND ASSOCIATES INC.

Appendix F:
Queuing Analysis



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	437	25	20	432	89	37	57	26	139	7	114
Future Volume (vph)	155	437	25	20	432	89	37	57	26	139	7	114
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			150			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	178	502	29	23	497	102	43	66	30	160	8	131
v/c Ratio	0.62	0.29	0.04	0.09	0.46	0.17	0.11	0.11	0.06	0.43	0.01	0.23
Control Delay	33.0	7.8	2.3	19.8	13.2	4.0	11.8	11.5	0.2	16.6	10.9	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	7.8	2.3	19.8	13.2	4.0	11.8	11.5	0.2	16.6	10.9	4.0
Queue Length 50th (ft)	41	26	0	5	47	0	7	11	0	30	1	0
Queue Length 95th (ft)	#143	94	7	23	93	22	25	34	0	77	8	25
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	289	2924	1192	261	2924	1405	1170	1713	1430	1091	1729	1445
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.17	0.02	0.09	0.17	0.07	0.04	0.04	0.02	0.15	0.00	0.09

Intersection Summary

Area Type: Other

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	502	429	45	25	639	68	20	18	17	114	38	107
Future Volume (vph)	502	429	45	25	639	68	20	18	17	114	38	107
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			150			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	605	517	54	30	770	82	24	22	20	137	46	129
v/c Ratio	1.31	0.25	0.05	0.17	0.65	0.14	0.17	0.05	0.04	0.48	0.11	0.29
Control Delay	183.0	8.7	1.5	38.5	22.9	5.2	41.4	20.8	0.2	33.0	25.7	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	183.0	8.7	1.5	38.5	22.9	5.2	41.4	20.8	0.2	33.0	25.7	7.4
Queue Length 50th (ft)	~339	33	0	12	134	0	10	7	0	50	15	0
Queue Length 95th (ft)	#693	113	8	42	227	24	37	23	0	116	46	35
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	461	2541	1210	184	2039	970	138	1422	1225	866	1233	1088
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.31	0.20	0.04	0.16	0.38	0.08	0.17	0.02	0.02	0.16	0.04	0.12

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	468	27	22	463	96	40	61	28	149	8	122
Future Volume (vph)	166	468	27	22	463	96	40	61	28	149	8	122
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	191	538	31	25	532	110	46	70	32	171	9	140
v/c Ratio	0.68	0.31	0.04	0.10	0.48	0.18	0.12	0.12	0.06	0.46	0.02	0.24
Control Delay	38.0	8.2	2.5	21.2	13.7	3.9	12.2	11.8	0.2	17.4	11.1	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	8.2	2.5	21.2	13.7	3.9	12.2	11.8	0.2	17.4	11.1	4.0
Queue Length 50th (ft)	75	48	0	9	85	0	13	19	0	54	2	0
Queue Length 95th (ft)	#265	169	13	41	166	37	44	58	0	137	14	42
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	280	2856	1165	253	2856	1375	1152	1686	1409	1069	1702	1424
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.19	0.03	0.10	0.19	0.08	0.04	0.04	0.02	0.16	0.01	0.10

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	592	4	5	559	7	5	2	2	8	2	6
Future Vol, veh/h	10	592	4	5	559	7	5	2	2	8	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	8	1	1	9	1	75	1	1	1	1	1
Mvmt Flow	11	673	5	6	635	8	6	2	2	9	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	643	0	0	678	0	0	1029	1353	339	1011	1351	322
Stage 1	-	-	-	-	-	-	698	698	-	651	651	-
Stage 2	-	-	-	-	-	-	331	655	-	360	700	-
Critical Hdwy	4.12	-	-	4.12	-	-	9	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4.25	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	945	-	-	917	-	-	112	150	660	195	150	677
Stage 1	-	-	-	-	-	-	264	443	-	426	465	-
Stage 2	-	-	-	-	-	-	490	463	-	634	442	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	945	-	-	917	-	-	108	147	660	189	147	677
Mov Cap-2 Maneuver	-	-	-	-	-	-	108	147	-	189	147	-
Stage 1	-	-	-	-	-	-	261	438	-	421	462	-
Stage 2	-	-	-	-	-	-	480	460	-	621	437	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	32.1	20.7
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	143	945	-	-	917	-	-	247
HCM Lane V/C Ratio	0.072	0.012	-	-	0.006	-	-	0.074
HCM Control Delay (s)	32.1	8.9	-	-	8.9	-	-	20.7
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	538	460	49	27	684	73	22	20	19	122	41	115
Future Volume (vph)	538	460	49	27	684	73	22	20	19	122	41	115
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			150			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	648	554	59	33	824	88	27	24	23	147	49	139
v/c Ratio	1.76	0.24	0.05	0.26	0.46	0.10	0.13	0.08	0.07	0.67	0.16	0.36
Control Delay	382.1	7.6	2.4	60.8	19.8	3.8	43.5	41.9	0.4	63.8	43.7	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	382.1	7.6	2.4	60.8	19.8	3.8	43.5	41.9	0.4	63.8	43.7	9.2
Queue Length 50th (ft)	~811	80	0	27	212	0	19	17	0	117	35	0
Queue Length 95th (ft)	#938	128	14	55	275	23	41	36	0	161	62	41
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	369	2356	1122	160	1797	868	448	685	629	480	685	668
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.76	0.24	0.05	0.21	0.46	0.10	0.06	0.04	0.04	0.31	0.07	0.21

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	576	3	3	794	8	5	3	6	14	2	7
Future Vol, veh/h	9	576	3	3	794	8	5	3	6	14	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	6	1	1	2	1	50	1	1	1	1	1
Mvmt Flow	11	678	4	4	934	9	6	4	7	16	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	943	0	0	682	0	0	1178	1653	341	1310	1651	472
Stage 1	-	-	-	-	-	-	702	702	-	947	947	-
Stage 2	-	-	-	-	-	-	476	951	-	363	704	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.5	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	729	-	-	913	-	-	100	98	658	118	99	541
Stage 1	-	-	-	-	-	-	300	441	-	283	340	-
Stage 2	-	-	-	-	-	-	430	339	-	631	440	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	729	-	-	913	-	-	95	96	658	112	97	541
Mov Cap-2 Maneuver	-	-	-	-	-	-	95	96	-	112	97	-
Stage 1	-	-	-	-	-	-	296	434	-	279	339	-
Stage 2	-	-	-	-	-	-	419	338	-	610	433	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	31.7	35.4
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	151	729	-	-	913	-	-	145
HCM Lane V/C Ratio	0.109	0.015	-	-	0.004	-	-	0.187
HCM Control Delay (s)	31.7	10	-	-	9	-	-	35.4
HCM Lane LOS	D	B	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	495	27	32	483	106	40	61	41	162	8	122
Future Volume (vph)	166	495	27	32	483	106	40	61	41	162	8	122
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	191	569	31	37	555	122	46	70	47	186	9	140
v/c Ratio	0.71	0.36	0.05	0.16	0.49	0.20	0.11	0.12	0.08	0.49	0.01	0.24
Control Delay	41.8	10.4	2.6	23.2	14.2	3.9	12.4	12.1	1.2	18.5	11.5	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	10.4	2.6	23.2	14.2	3.9	12.4	12.1	1.2	18.5	11.5	4.0
Queue Length 50th (ft)	79	56	0	14	94	0	13	20	0	62	3	0
Queue Length 95th (ft)	#281	188	13	57	184	41	45	59	8	154	15	43
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	269	2775	1133	242	2775	1340	1127	1650	1381	1046	1666	1397
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.21	0.03	0.15	0.20	0.09	0.04	0.04	0.03	0.18	0.01	0.10

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	672	4	15	619	7	5	2	15	8	2	6
Future Vol, veh/h	10	672	4	15	619	7	5	2	15	8	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	8	1	1	9	1	75	1	1	1	1	1
Mvmt Flow	11	764	5	17	703	8	6	2	17	9	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	711	0	0	769	0	0	1176	1534	385	1146	1532	356
Stage 1	-	-	-	-	-	-	789	789	-	741	741	-
Stage 2	-	-	-	-	-	-	387	745	-	405	791	-
Critical Hdwy	4.12	-	-	4.12	-	-	9	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4.25	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	891	-	-	848	-	-	83	116	616	155	117	643
Stage 1	-	-	-	-	-	-	225	402	-	376	423	-
Stage 2	-	-	-	-	-	-	447	422	-	596	402	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	891	-	-	848	-	-	79	112	616	145	113	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	79	112	-	145	113	-
Stage 1	-	-	-	-	-	-	222	397	-	371	415	-
Stage 2	-	-	-	-	-	-	431	414	-	569	397	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	24.6	25.4
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	209	891	-	-	848	-	-	195
HCM Lane V/C Ratio	0.12	0.013	-	-	0.02	-	-	0.093
HCM Control Delay (s)	24.6	9.1	-	-	9.3	-	-	25.4
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	549	42	4	539	25	71	24	8	34	9	118
Future Volume (vph)	130	549	42	4	539	25	71	24	8	34	9	118
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	11%	1%	1%	11%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	155	704	0	5	672	0	0	124	0	0	191	0
v/c Ratio	0.43	0.37		0.02	0.56			0.37			0.39	
Control Delay	22.8	6.2		21.0	13.7			18.9			8.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	22.8	6.2		21.0	13.7			18.9			8.6	
Queue Length 50th (ft)	59	53		2	115			43			18	
Queue Length 95th (ft)	149	173		15	185			107			78	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	373	1987		271	1698			1113			1315	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.42	0.35		0.02	0.40			0.11			0.15	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	538	488	49	42	713	88	22	20	33	136	41	115
Future Volume (vph)	538	488	49	42	713	88	22	20	33	136	41	115
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	648	588	59	51	859	106	27	24	40	164	49	139
v/c Ratio	1.76	0.26	0.06	0.36	0.49	0.12	0.12	0.07	0.11	0.69	0.14	0.35
Control Delay	382.1	9.8	2.9	62.0	21.6	3.8	41.3	39.9	1.9	62.7	41.6	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	382.1	9.8	2.9	62.0	21.6	3.8	41.3	39.9	1.9	62.7	41.6	8.5
Queue Length 50th (ft)	~811	95	0	41	232	0	19	17	0	130	35	0
Queue Length 95th (ft)	#938	152	16	75	304	26	39	35	2	173	60	39
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	369	2222	1061	165	1748	855	451	685	629	480	685	668
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.76	0.26	0.06	0.31	0.49	0.12	0.06	0.04	0.06	0.34	0.07	0.21

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	660	3	18	881	8	5	3	20	14	2	7
Future Vol, veh/h	9	660	3	18	881	8	5	3	20	14	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	6	1	1	2	1	50	1	1	1	1	1
Mvmt Flow	11	776	4	21	1036	9	6	4	24	16	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1045	0	0	780	0	0	1361	1887	390	1495	1885	523
Stage 1	-	-	-	-	-	-	800	800	-	1083	1083	-
Stage 2	-	-	-	-	-	-	561	1087	-	412	802	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.5	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	667	-	-	840	-	-	70	70	612	86	71	501
Stage 1	-	-	-	-	-	-	257	398	-	234	294	-
Stage 2	-	-	-	-	-	-	376	292	-	591	397	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	667	-	-	840	-	-	65	67	612	77	68	501
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	67	-	77	68	-
Stage 1	-	-	-	-	-	-	253	392	-	230	287	-
Stage 2	-	-	-	-	-	-	358	285	-	554	391	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	29.3	52.6
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	181	667	-	-	840	-	-	102
HCM Lane V/C Ratio	0.182	0.016	-	-	0.025	-	-	0.265
HCM Control Delay (s)	29.3	10.5	-	-	9.4	-	-	52.6
HCM Lane LOS	D	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	154	535	80	6	854	35	47	21	4	34	24	72
Future Volume (vph)	154	535	80	6	854	35	47	21	4	34	24	72
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	173	691	0	7	999	0	0	81	0	0	146	0
v/c Ratio	0.92	0.50		0.05	0.94			0.12			0.18	
Control Delay	87.7	19.1		36.0	45.9			11.5			6.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	87.7	19.1		36.0	45.9			11.5			6.4	
Queue Length 50th (ft)	93	125		3	269			21			17	
Queue Length 95th (ft)	#208	212		16	#391			44			47	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	188	1374		150	1062			704			797	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.92	0.50		0.05	0.94			0.12			0.18	

Intersection Summary

Area Type: Other

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

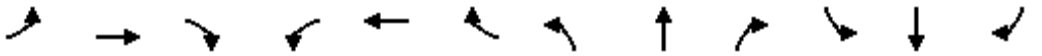
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	495	27	32	483	106	40	61	41	162	8	122
Future Volume (vph)	166	495	27	32	483	106	40	61	41	162	8	122
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	191	569	31	37	555	122	46	70	47	186	9	140
v/c Ratio	0.71	0.36	0.05	0.16	0.49	0.20	0.11	0.12	0.08	0.49	0.01	0.24
Control Delay	41.8	10.4	2.6	23.2	14.2	3.9	12.4	12.1	1.2	18.5	11.5	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	10.4	2.6	23.2	14.2	3.9	12.4	12.1	1.2	18.5	11.5	4.0
Queue Length 50th (ft)	79	56	0	14	94	0	13	20	0	62	3	0
Queue Length 95th (ft)	#281	188	13	57	184	41	45	59	8	154	15	43
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	269	2775	1133	242	2775	1340	1127	1650	1381	1046	1666	1397
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.21	0.03	0.15	0.20	0.09	0.04	0.04	0.03	0.18	0.01	0.10

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	549	42	4	539	25	71	24	8	34	9	118
Future Volume (vph)	130	549	42	4	539	25	71	24	8	34	9	118
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		9.7			7.5			17.8			16.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	11%	1%	1%	11%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	155	704	0	5	672	0	0	124	0	0	191	0
v/c Ratio	0.42	0.37		0.02	0.57			0.36			0.39	
Control Delay	22.2	6.3		20.5	14.0			18.3			8.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	22.2	6.3		20.5	14.0			18.3			8.4	
Queue Length 50th (ft)	57	53		2	115			41			17	
Queue Length 95th (ft)	146	174		15	186			105			77	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	377	1983		274	1716			1131			1327	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.41	0.36		0.02	0.39			0.11			0.14	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	538	488	49	42	713	88	22	20	33	136	41	115
Future Volume (vph)	538	488	49	42	713	88	22	20	33	136	41	115
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	648	588	59	51	859	106	27	24	40	164	49	139
v/c Ratio	1.76	0.26	0.06	0.36	0.49	0.12	0.12	0.07	0.11	0.69	0.14	0.35
Control Delay	382.1	9.8	2.9	62.0	21.6	3.8	41.3	39.9	1.9	62.7	41.6	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	382.1	9.8	2.9	62.0	21.6	3.8	41.3	39.9	1.9	62.7	41.6	8.5
Queue Length 50th (ft)	~811	95	0	41	232	0	19	17	0	130	35	0
Queue Length 95th (ft)	#938	152	16	75	304	26	39	35	2	173	60	39
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	369	2222	1061	165	1748	855	451	685	629	480	685	668
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.76	0.26	0.06	0.31	0.49	0.12	0.06	0.04	0.06	0.34	0.07	0.21

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

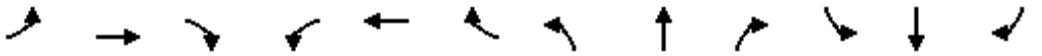
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	154	535	80	6	854	35	47	21	4	34	24	72
Future Volume (vph)	154	535	80	6	854	35	47	21	4	34	24	72
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	173	691	0	7	999	0	53	28	0	38	108	0
v/c Ratio	1.03	0.56		0.05	1.05		0.40	0.03		0.29	0.14	
Control Delay	121.5	25.0		41.2	77.9		50.7	13.4		46.9	6.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	121.5	25.0		41.2	77.9		50.7	13.4		46.9	6.1	
Queue Length 50th (ft)	~112	157		4	~348		31	8		22	9	
Queue Length 95th (ft)	#238	251		17	#467		69	23		53	38	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140			200			200		
Base Capacity (vph)	168	1229		134	950		134	846		134	776	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.03	0.56		0.05	1.05		0.40	0.03		0.28	0.14	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	495	29	30	997	131	60	53	27	141	7	179
Future Volume (vph)	157	495	29	30	997	131	60	53	27	141	7	179
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	521	31	32	1049	138	63	56	28	148	7	188
v/c Ratio	0.78	0.27	0.04	0.17	0.68	0.17	0.19	0.12	0.06	0.48	0.01	0.35
Control Delay	58.3	7.8	1.6	31.7	14.8	2.5	20.8	19.4	0.3	26.6	18.9	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	7.8	1.6	31.7	14.8	2.5	20.8	19.4	0.3	26.6	18.9	6.2
Queue Length 50th (ft)	94	53	0	17	227	0	28	24	0	70	3	3
Queue Length 95th (ft)	#339	166	11	67	395	39	86	76	0	185	19	75
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	212	2312	953	192	2312	1141	970	1417	1200	910	1431	1228
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.23	0.03	0.17	0.45	0.12	0.06	0.04	0.02	0.16	0.00	0.15

Intersection Summary

Area Type: Other

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

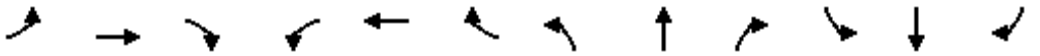
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	620	4	8	1136	10	8	2	2	8	2	8
Future Vol, veh/h	9	620	4	8	1136	10	8	2	2	8	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	8	1	1	9	1	75	1	1	1	1	1
Mvmt Flow	9	653	4	8	1196	11	8	2	2	8	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1207	0	0	657	0	0	1288	1896	329	1564	1893	604
Stage 1	-	-	-	-	-	-	673	673	-	1218	1218	-
Stage 2	-	-	-	-	-	-	615	1223	-	346	675	-
Critical Hdwy	4.12	-	-	4.12	-	-	9	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4.25	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	579	-	-	933	-	-	66	70	670	76	70	444
Stage 1	-	-	-	-	-	-	275	455	-	193	253	-
Stage 2	-	-	-	-	-	-	304	252	-	646	454	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	579	-	-	933	-	-	62	68	670	73	68	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	62	68	-	73	68	-
Stage 1	-	-	-	-	-	-	271	448	-	190	251	-
Stage 2	-	-	-	-	-	-	293	250	-	631	447	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	63.4	42.4
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	74	579	-	-	933	-	-	115
HCM Lane V/C Ratio	0.171	0.016	-	-	0.009	-	-	0.165
HCM Control Delay (s)	63.4	11.3	-	-	8.9	-	-	42.4
HCM Lane LOS	F	B	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	502	34	8	1000	71	79	36	10	40	10	102
Future Volume (vph)	132	502	34	8	1000	71	79	36	10	40	10	102
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	11%	1%	1%	11%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	564	0	8	1128	0	0	132	0	0	160	0
v/c Ratio	0.60	0.27		0.04	0.70			0.44			0.38	
Control Delay	37.1	5.3		22.4	13.4			22.2			10.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	37.1	5.3		22.4	13.4			22.2			10.1	
Queue Length 50th (ft)	70	40		4	208			57			23	
Queue Length 95th (ft)	#190	148		21	368			123			86	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	230	2053		230	1606			983			1159	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.60	0.27		0.03	0.70			0.13			0.14	

Intersection Summary

Area Type: Other

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	747	956	66	26	782	73	23	18	26	165	34	114
Future Volume (vph)	747	956	66	26	782	73	23	18	26	165	34	114
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			150			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	786	1006	69	27	823	77	24	19	27	174	36	120
v/c Ratio	2.21	0.44	0.06	0.23	0.47	0.09	0.10	0.05	0.07	0.70	0.10	0.30
Control Delay	577.8	10.5	3.7	60.3	21.2	4.3	40.0	38.8	0.4	62.7	40.0	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	577.8	10.5	3.7	60.3	21.2	4.3	40.0	38.8	0.4	62.7	40.0	8.4
Queue Length 50th (ft)	~1064	188	4	22	220	0	17	13	0	138	25	0
Queue Length 95th (ft)	#1309	313	25	53	321	28	38	32	0	201	51	48
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	356	2295	1093	159	1751	842	482	699	640	491	699	667
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.21	0.44	0.06	0.17	0.47	0.09	0.05	0.03	0.04	0.35	0.05	0.18

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1208	6	4	894	7	6	3	9	19	2	7
Future Vol, veh/h	13	1208	6	4	894	7	6	3	9	19	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	6	1	1	2	1	50	1	1	1	1	1
Mvmt Flow	14	1272	6	4	941	7	6	3	9	20	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	948	0	0	1278	0	0	1783	2259	639	1619	2259	474
Stage 1	-	-	-	-	-	-	1303	1303	-	953	953	-
Stage 2	-	-	-	-	-	-	480	956	-	666	1306	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.5	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	726	-	-	544	-	-	31	41	421	69	41	539
Stage 1	-	-	-	-	-	-	113	231	-	280	338	-
Stage 2	-	-	-	-	-	-	427	337	-	417	230	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	726	-	-	544	-	-	29	40	421	62	40	539
Mov Cap-2 Maneuver	-	-	-	-	-	-	29	40	-	62	40	-
Stage 1	-	-	-	-	-	-	111	227	-	275	336	-
Stage 2	-	-	-	-	-	-	415	335	-	394	226	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	92.6	79.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	59	726	-	-	544	-	-	76
HCM Lane V/C Ratio	0.321	0.019	-	-	0.008	-	-	0.388
HCM Control Delay (s)	92.6	10.1	-	-	11.7	-	-	79.7
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0	-	-	1.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	1020	87	6	837	35	35	20	7	88	34	49
Future Volume (vph)	151	1020	87	6	837	35	35	20	7	88	34	49
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	120			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	1166	0	6	918	0	0	65	0	0	181	0
v/c Ratio	0.77	0.85		0.04	0.90			0.09			0.25	
Control Delay	61.8	30.0		35.8	41.2			10.9			11.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	61.8	30.0		35.8	41.2			10.9			11.0	
Queue Length 50th (ft)	83	267		3	244			16			42	
Queue Length 95th (ft)	#182	#498		15	#359			36			82	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	206	1374		150	1023			724			728	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.77	0.85		0.04	0.90			0.09			0.25	

Intersection Summary

Area Type: Other

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	522	29	40	1017	141	60	53	40	154	7	179
Future Volume (vph)	157	522	29	40	1017	141	60	53	40	154	7	179
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	549	31	42	1071	148	63	56	42	162	7	188
v/c Ratio	0.81	0.31	0.04	0.23	0.70	0.18	0.19	0.11	0.09	0.51	0.01	0.35
Control Delay	63.9	9.5	1.7	34.1	15.7	2.6	20.8	19.4	0.6	27.4	18.9	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	9.5	1.7	34.1	15.7	2.6	20.8	19.4	0.6	27.4	18.9	6.1
Queue Length 50th (ft)	99	100	0	23	244	0	29	25	0	81	3	3
Queue Length 95th (ft)	#354	190	12	84	438	43	86	75	4	200	19	75
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	204	2225	919	185	2225	1107	940	1374	1166	882	1388	1196
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.25	0.03	0.23	0.48	0.13	0.07	0.04	0.04	0.18	0.01	0.16

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	700	4	18	1196	10	8	2	15	8	2	8
Future Vol, veh/h	9	700	4	18	1196	10	8	2	15	8	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	8	1	1	9	1	75	1	1	1	1	1
Mvmt Flow	9	737	4	19	1259	11	8	2	16	8	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1270	0	0	741	0	0	1426	2065	371	1691	2062	635
Stage 1	-	-	-	-	-	-	757	757	-	1303	1303	-
Stage 2	-	-	-	-	-	-	669	1308	-	388	759	-
Critical Hdwy	4.12	-	-	4.12	-	-	9	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4.25	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	548	-	-	868	-	-	50	55	629	61	55	424
Stage 1	-	-	-	-	-	-	238	416	-	171	231	-
Stage 2	-	-	-	-	-	-	277	229	-	610	415	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	548	-	-	868	-	-	46	53	629	56	53	424
Mov Cap-2 Maneuver	-	-	-	-	-	-	46	53	-	56	53	-
Stage 1	-	-	-	-	-	-	234	409	-	168	226	-
Stage 2	-	-	-	-	-	-	263	224	-	582	408	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	49.8	55.4
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	106	548	-	-	868	-	-	90
HCM Lane V/C Ratio	0.248	0.017	-	-	0.022	-	-	0.211
HCM Control Delay (s)	49.8	11.7	-	-	9.2	-	-	55.4
HCM Lane LOS	E	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	0.7

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	723	4	5	1215	8	2
Future Vol, veh/h	723	4	5	1215	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	761	4	5	1279	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	765	0	1413	383
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	650	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	851	-	130	618
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	484	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	851	-	129	618
Mov Cap-2 Maneuver	-	-	-	-	264	-
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	481	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	298	-	-	851	-
HCM Lane V/C Ratio	0.035	-	-	0.006	-
HCM Control Delay (s)	17.5	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

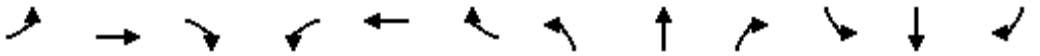
Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	748	2	9	1304	3	3
Future Vol, veh/h	748	2	9	1304	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	787	2	9	1373	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	789	0	1492	394
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	705	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	833	-	115	608
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	454	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	833	-	114	608
Mov Cap-2 Maneuver	-	-	-	-	114	-
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	449	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	24.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	192	-	-	833	-
HCM Lane V/C Ratio	0.033	-	-	0.011	-
HCM Control Delay (s)	24.4	-	-	9.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

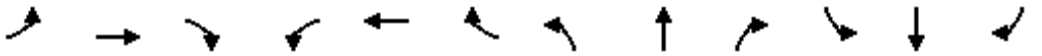


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	581	44	8	1106	71	92	36	10	40	10	142
Future Volume (vph)	162	581	44	8	1106	71	92	36	10	40	10	142
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	11%	1%	1%	11%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	658	0	8	1239	0	0	146	0	0	202	0
v/c Ratio	0.72	0.31		0.04	0.73			0.64			0.46	
Control Delay	48.5	5.5		28.9	15.5			36.8			11.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	48.5	5.5		28.9	15.5			36.8			11.0	
Queue Length 50th (ft)	109	59		5	293			85			29	
Queue Length 95th (ft)	#277	192		25	499			174			108	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	237	2149		190	1688			650			987	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.72	0.31		0.04	0.73			0.22			0.20	

Intersection Summary

Area Type: Other

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	747	984	66	41	811	88	23	18	40	179	34	114
Future Volume (vph)	747	984	66	41	811	88	23	18	40	179	34	114
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	786	1036	69	43	854	93	24	19	42	188	36	120
v/c Ratio	2.21	0.48	0.07	0.32	0.50	0.11	0.09	0.05	0.11	0.72	0.10	0.29
Control Delay	577.8	13.0	4.6	61.5	22.6	4.2	38.6	37.4	2.2	62.1	38.6	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	577.8	13.0	4.6	61.5	22.6	4.2	38.6	37.4	2.2	62.1	38.6	8.0
Queue Length 50th (ft)	~1064	213	5	35	237	0	16	13	0	149	25	0
Queue Length 95th (ft)	#1309	353	29	73	345	31	37	32	7	213	50	47
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	356	2177	1039	173	1713	833	482	699	640	491	699	667
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.21	0.48	0.07	0.25	0.50	0.11	0.05	0.03	0.07	0.38	0.05	0.18

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1292	6	19	981	7	6	3	23	19	2	7
Future Vol, veh/h	13	1292	6	19	981	7	6	3	23	19	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	6	1	1	2	1	50	1	1	1	1	1
Mvmt Flow	14	1360	6	20	1033	7	6	3	24	20	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1040	0	0	1366	0	0	1949	2471	683	1787	2471	520
Stage 1	-	-	-	-	-	-	1391	1391	-	1077	1077	-
Stage 2	-	-	-	-	-	-	558	1080	-	710	1394	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.5	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	670	-	-	504	-	-	22	30	394	52	30	504
Stage 1	-	-	-	-	-	-	97	209	-	236	296	-
Stage 2	-	-	-	-	-	-	378	295	-	393	209	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	670	-	-	504	-	-	20	28	394	43	28	504
Mov Cap-2 Maneuver	-	-	-	-	-	-	20	28	-	43	28	-
Stage 1	-	-	-	-	-	-	95	205	-	231	284	-
Stage 2	-	-	-	-	-	-	355	283	-	356	205	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	99.3	137.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	69	670	-	-	504	-	-	53
HCM Lane V/C Ratio	0.488	0.02	-	-	0.04	-	-	0.556
HCM Control Delay (s)	99.3	10.5	-	-	12.4	-	-	137.3
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	2	0.1	-	-	0.1	-	-	2.2

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1328	19	3	1003	6	2
Future Vol, veh/h	1328	19	3	1003	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1398	20	3	1056	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1418	0	1942	709
Stage 1	-	-	-	-	1408	-
Stage 2	-	-	-	-	534	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	481	-	58	379
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	555	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	481	-	58	379
Mov Cap-2 Maneuver	-	-	-	-	150	-
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	552	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	26.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	177	-	-	481	-
HCM Lane V/C Ratio	0.048	-	-	0.007	-
HCM Control Delay (s)	26.4	-	-	12.5	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

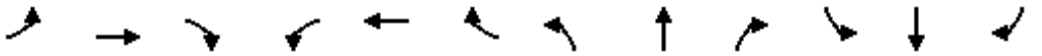
Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1405	5	16	1069	2	6
Future Vol, veh/h	1405	5	16	1069	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1479	5	17	1125	2	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1484	0	2076	740
Stage 1	-	-	-	-	1479	-
Stage 2	-	-	-	-	597	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	454	-	47	362
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	454	-	45	362
Mov Cap-2 Maneuver	-	-	-	-	45	-
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	34.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	131	-	-	454	-
HCM Lane V/C Ratio	0.064	-	-	0.037	-
HCM Control Delay (s)	34.4	-	-	13.2	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	1136	102	6	949	35	49	20	7	88	34	91
Future Volume (vph)	194	1136	102	6	949	35	49	20	7	88	34	91
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	1303	0	6	1036	0	0	80	0	0	225	0
v/c Ratio	0.96	0.88		0.04	0.93			0.13			0.32	
Control Delay	93.0	31.5		38.5	44.4			13.1			12.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	93.0	31.5		38.5	44.4			13.1			12.6	
Queue Length 50th (ft)	117	322		3	295			23			56	
Queue Length 95th (ft)	#253	#576		15	#426			49			107	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	213	1473		142	1115			637			702	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.96	0.88		0.04	0.93			0.13			0.32	

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	522	29	40	1017	141	60	53	40	154	7	179
Future Volume (vph)	157	522	29	40	1017	141	60	53	40	154	7	179
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	549	31	42	1071	148	63	56	42	162	7	188
v/c Ratio	0.81	0.31	0.04	0.23	0.70	0.18	0.19	0.11	0.09	0.51	0.01	0.35
Control Delay	63.9	9.5	1.7	34.1	15.7	2.6	20.8	19.4	0.6	27.4	18.9	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	9.5	1.7	34.1	15.7	2.6	20.8	19.4	0.6	27.4	18.9	6.1
Queue Length 50th (ft)	99	100	0	23	244	0	29	25	0	81	3	3
Queue Length 95th (ft)	#354	190	12	84	438	43	86	75	4	200	19	75
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	204	2225	919	185	2225	1107	940	1374	1166	882	1388	1196
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.25	0.03	0.23	0.48	0.13	0.07	0.04	0.04	0.18	0.01	0.16

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	886	4	5	1205	8	2
Future Vol, veh/h	886	4	5	1205	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	933	4	5	1268	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	937	0	1579	469
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	644	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	733	-	101	544
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	488	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	733	-	100	544
Mov Cap-2 Maneuver	-	-	-	-	228	-
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	485	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	258	-	-	733	-
HCM Lane V/C Ratio	0.041	-	-	0.007	-
HCM Control Delay (s)	19.5	-	-	9.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

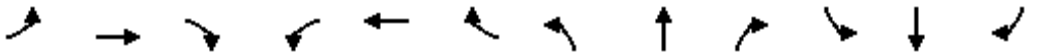
Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	748	2	9	1304	3	3
Future Vol, veh/h	748	2	9	1304	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	787	2	9	1373	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	789	0	1492	394
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	705	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	833	-	115	608
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	454	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	833	-	114	608
Mov Cap-2 Maneuver	-	-	-	-	114	-
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	449	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	24.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	192	-	-	833	-
HCM Lane V/C Ratio	0.033	-	-	0.011	-
HCM Control Delay (s)	24.4	-	-	9.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	581	44	8	1106	71	92	36	10	40	10	142
Future Volume (vph)	162	581	44	8	1106	71	92	36	10	40	10	142
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		9.7			7.5			17.8			16.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	11%	1%	1%	11%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	658	0	8	1239	0	0	146	0	0	202	0
v/c Ratio	0.72	0.31		0.04	0.73			0.64			0.46	
Control Delay	48.5	5.5		28.9	15.5			36.8			11.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	48.5	5.5		28.9	15.5			36.8			11.0	
Queue Length 50th (ft)	109	59		5	293			85			29	
Queue Length 95th (ft)	#277	192		25	499			174			108	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	237	2149		190	1688			650			987	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.72	0.31		0.04	0.73			0.22			0.20	

Intersection Summary

Area Type: Other

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	747	984	66	41	811	88	23	18	40	179	34	114
Future Volume (vph)	747	984	66	41	811	88	23	18	40	179	34	114
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	786	1036	69	43	854	93	24	19	42	188	36	120
v/c Ratio	2.21	0.48	0.07	0.32	0.50	0.11	0.09	0.05	0.11	0.72	0.10	0.29
Control Delay	577.8	13.0	4.6	61.5	22.6	4.2	38.6	37.4	2.2	62.1	38.6	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	577.8	13.0	4.6	61.5	22.6	4.2	38.6	37.4	2.2	62.1	38.6	8.0
Queue Length 50th (ft)	~1064	213	5	35	237	0	16	13	0	149	25	0
Queue Length 95th (ft)	#1309	353	29	73	345	31	37	32	7	213	50	47
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	356	2177	1039	173	1713	833	482	699	640	491	699	667
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.21	0.48	0.07	0.25	0.50	0.11	0.05	0.03	0.07	0.38	0.05	0.18

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1573	19	3	988	6	2
Future Vol, veh/h	1573	19	3	988	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1656	20	3	1040	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1676	0	2192	838
Stage 1	-	-	-	-	1666	-
Stage 2	-	-	-	-	526	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	383	-	39	312
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	560	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	383	-	39	312
Mov Cap-2 Maneuver	-	-	-	-	113	-
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	556	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	33.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	134	-	-	383	-
HCM Lane V/C Ratio	0.063	-	-	0.008	-
HCM Control Delay (s)	33.7	-	-	14.5	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑	↰↑	
Traffic Vol, veh/h	1405	5	16	1069	2	6
Future Vol, veh/h	1405	5	16	1069	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1479	5	17	1125	2	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1484	0	2076	740
Stage 1	-	-	-	-	1479	-
Stage 2	-	-	-	-	597	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	454	-	47	362
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	454	-	45	362
Mov Cap-2 Maneuver	-	-	-	-	45	-
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	34.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	131	-	-	454	-
HCM Lane V/C Ratio	0.064	-	-	0.037	-
HCM Control Delay (s)	34.4	-	-	13.2	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	1136	102	6	949	35	49	20	7	88	34	91
Future Volume (vph)	194	1136	102	6	949	35	49	20	7	88	34	91
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	1303	0	6	1036	0	0	80	0	0	225	0
v/c Ratio	0.96	0.88		0.04	0.93			0.13			0.32	
Control Delay	93.0	31.5		38.5	44.4			13.1			12.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	93.0	31.5		38.5	44.4			13.1			12.6	
Queue Length 50th (ft)	117	322		3	295			23			56	
Queue Length 95th (ft)	#253	#576		15	#426			49			107	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	213	1473		142	1115			637			702	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.96	0.88		0.04	0.93			0.13			0.32	

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	468	27	22	463	96	40	61	28	149	8	122
Future Volume (vph)	166	468	27	22	463	96	40	61	28	149	8	122
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	191	538	31	25	532	110	46	70	32	171	9	140
v/c Ratio	0.68	0.31	0.04	0.10	0.48	0.18	0.12	0.12	0.06	0.46	0.02	0.24
Control Delay	38.0	8.2	2.5	21.2	13.7	3.9	12.2	11.8	0.2	17.4	11.1	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	8.2	2.5	21.2	13.7	3.9	12.2	11.8	0.2	17.4	11.1	4.0
Queue Length 50th (ft)	75	48	0	9	85	0	13	19	0	54	2	0
Queue Length 95th (ft)	#265	169	13	41	166	37	44	58	0	137	14	42
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	280	2856	1165	253	2856	1375	1152	1686	1409	1069	1702	1424
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.19	0.03	0.10	0.19	0.08	0.04	0.04	0.02	0.16	0.01	0.10

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	592	4	5	559	7	5	2	2	8	2	6
Future Vol, veh/h	10	592	4	5	559	7	5	2	2	8	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	8	1	1	9	1	75	1	1	1	1	1
Mvmt Flow	11	673	5	6	635	8	6	2	2	9	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	643	0	0	678	0	0	1029	1353	339	1011	1351	322
Stage 1	-	-	-	-	-	-	698	698	-	651	651	-
Stage 2	-	-	-	-	-	-	331	655	-	360	700	-
Critical Hdwy	4.12	-	-	4.12	-	-	9	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4.25	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	945	-	-	917	-	-	112	150	660	195	150	677
Stage 1	-	-	-	-	-	-	264	443	-	426	465	-
Stage 2	-	-	-	-	-	-	490	463	-	634	442	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	945	-	-	917	-	-	108	147	660	189	147	677
Mov Cap-2 Maneuver	-	-	-	-	-	-	108	147	-	189	147	-
Stage 1	-	-	-	-	-	-	261	438	-	421	462	-
Stage 2	-	-	-	-	-	-	480	460	-	621	437	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	32.1	20.7
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	143	945	-	-	917	-	-	247
HCM Lane V/C Ratio	0.072	0.012	-	-	0.006	-	-	0.074
HCM Control Delay (s)	32.1	8.9	-	-	8.9	-	-	20.7
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	538	460	49	27	684	73	22	20	19	122	41	115
Future Volume (vph)	538	460	49	27	684	73	22	20	19	122	41	115
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			150			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	648	554	59	33	824	88	27	24	23	147	49	139
v/c Ratio	1.76	0.24	0.05	0.26	0.46	0.10	0.13	0.08	0.07	0.67	0.16	0.36
Control Delay	382.1	7.6	2.4	60.8	19.8	3.8	43.5	41.9	0.4	63.8	43.7	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	382.1	7.6	2.4	60.8	19.8	3.8	43.5	41.9	0.4	63.8	43.7	9.2
Queue Length 50th (ft)	~811	80	0	27	212	0	19	17	0	117	35	0
Queue Length 95th (ft)	#938	128	14	55	275	23	41	36	0	161	62	41
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	369	2356	1122	160	1797	868	448	685	629	480	685	668
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.76	0.24	0.05	0.21	0.46	0.10	0.06	0.04	0.04	0.31	0.07	0.21

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	576	3	3	794	8	5	3	6	14	2	7
Future Vol, veh/h	9	576	3	3	794	8	5	3	6	14	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	6	1	1	2	1	50	1	1	1	1	1
Mvmt Flow	11	678	4	4	934	9	6	4	7	16	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	943	0	0	682	0	0	1178	1653	341	1310	1651	472
Stage 1	-	-	-	-	-	-	702	702	-	947	947	-
Stage 2	-	-	-	-	-	-	476	951	-	363	704	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.5	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	729	-	-	913	-	-	100	98	658	118	99	541
Stage 1	-	-	-	-	-	-	300	441	-	283	340	-
Stage 2	-	-	-	-	-	-	430	339	-	631	440	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	729	-	-	913	-	-	95	96	658	112	97	541
Mov Cap-2 Maneuver	-	-	-	-	-	-	95	96	-	112	97	-
Stage 1	-	-	-	-	-	-	296	434	-	279	339	-
Stage 2	-	-	-	-	-	-	419	338	-	610	433	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	31.7	35.4
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	151	729	-	-	913	-	-	145
HCM Lane V/C Ratio	0.109	0.015	-	-	0.004	-	-	0.187
HCM Control Delay (s)	31.7	10	-	-	9	-	-	35.4
HCM Lane LOS	D	B	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	495	27	32	483	106	40	61	41	162	8	122
Future Volume (vph)	166	495	27	32	483	106	40	61	41	162	8	122
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	191	569	31	37	555	122	46	70	47	186	9	140
v/c Ratio	0.71	0.36	0.05	0.16	0.49	0.20	0.11	0.12	0.08	0.49	0.01	0.24
Control Delay	41.8	10.4	2.6	23.2	14.2	3.9	12.4	12.1	1.2	18.5	11.5	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	10.4	2.6	23.2	14.2	3.9	12.4	12.1	1.2	18.5	11.5	4.0
Queue Length 50th (ft)	79	56	0	14	94	0	13	20	0	62	3	0
Queue Length 95th (ft)	#281	188	13	57	184	41	45	59	8	154	15	43
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	269	2775	1133	242	2775	1340	1127	1650	1381	1046	1666	1397
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.21	0.03	0.15	0.20	0.09	0.04	0.04	0.03	0.18	0.01	0.10

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	672	4	15	619	7	5	2	15	8	2	6
Future Vol, veh/h	10	672	4	15	619	7	5	2	15	8	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	8	1	1	9	1	75	1	1	1	1	1
Mvmt Flow	11	764	5	17	703	8	6	2	17	9	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	711	0	0	769	0	0	1176	1534	385	1146	1532	356
Stage 1	-	-	-	-	-	-	789	789	-	741	741	-
Stage 2	-	-	-	-	-	-	387	745	-	405	791	-
Critical Hdwy	4.12	-	-	4.12	-	-	9	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4.25	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	891	-	-	848	-	-	83	116	616	155	117	643
Stage 1	-	-	-	-	-	-	225	402	-	376	423	-
Stage 2	-	-	-	-	-	-	447	422	-	596	402	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	891	-	-	848	-	-	79	112	616	145	113	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	79	112	-	145	113	-
Stage 1	-	-	-	-	-	-	222	397	-	371	415	-
Stage 2	-	-	-	-	-	-	431	414	-	569	397	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	24.6	25.4
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	209	891	-	-	848	-	-	195
HCM Lane V/C Ratio	0.12	0.013	-	-	0.02	-	-	0.093
HCM Control Delay (s)	24.6	9.1	-	-	9.3	-	-	25.4
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	549	42	4	539	25	71	24	8	34	9	118
Future Volume (vph)	130	549	42	4	539	25	71	24	8	34	9	118
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	11%	1%	1%	11%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	155	704	0	5	672	0	0	124	0	0	191	0
v/c Ratio	0.43	0.37		0.02	0.56			0.37			0.39	
Control Delay	22.8	6.2		21.0	13.7			18.9			8.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	22.8	6.2		21.0	13.7			18.9			8.6	
Queue Length 50th (ft)	59	53		2	115			43			18	
Queue Length 95th (ft)	149	173		15	185			107			78	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	373	1987		271	1698			1113			1315	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.42	0.35		0.02	0.40			0.11			0.15	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	538	488	49	42	713	88	22	20	33	136	41	115
Future Volume (vph)	538	488	49	42	713	88	22	20	33	136	41	115
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	648	588	59	51	859	106	27	24	40	164	49	139
v/c Ratio	1.76	0.26	0.06	0.36	0.49	0.12	0.12	0.07	0.11	0.69	0.14	0.35
Control Delay	382.1	9.8	2.9	62.0	21.6	3.8	41.3	39.9	1.9	62.7	41.6	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	382.1	9.8	2.9	62.0	21.6	3.8	41.3	39.9	1.9	62.7	41.6	8.5
Queue Length 50th (ft)	~811	95	0	41	232	0	19	17	0	130	35	0
Queue Length 95th (ft)	#938	152	16	75	304	26	39	35	2	173	60	39
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	369	2222	1061	165	1748	855	451	685	629	480	685	668
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.76	0.26	0.06	0.31	0.49	0.12	0.06	0.04	0.06	0.34	0.07	0.21

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	660	3	18	881	8	5	3	20	14	2	7
Future Vol, veh/h	9	660	3	18	881	8	5	3	20	14	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	6	1	1	2	1	50	1	1	1	1	1
Mvmt Flow	11	776	4	21	1036	9	6	4	24	16	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1045	0	0	780	0	0	1361	1887	390	1495	1885	523
Stage 1	-	-	-	-	-	-	800	800	-	1083	1083	-
Stage 2	-	-	-	-	-	-	561	1087	-	412	802	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.5	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	667	-	-	840	-	-	70	70	612	86	71	501
Stage 1	-	-	-	-	-	-	257	398	-	234	294	-
Stage 2	-	-	-	-	-	-	376	292	-	591	397	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	667	-	-	840	-	-	65	67	612	77	68	501
Mov Cap-2 Maneuver	-	-	-	-	-	-	65	67	-	77	68	-
Stage 1	-	-	-	-	-	-	253	392	-	230	287	-
Stage 2	-	-	-	-	-	-	358	285	-	554	391	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	29.3	52.6
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	181	667	-	-	840	-	-	102
HCM Lane V/C Ratio	0.182	0.016	-	-	0.025	-	-	0.265
HCM Control Delay (s)	29.3	10.5	-	-	9.4	-	-	52.6
HCM Lane LOS	D	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.6	0	-	-	0.1	-	-	1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	154	535	80	6	854	35	47	21	4	34	24	72
Future Volume (vph)	154	535	80	6	854	35	47	21	4	34	24	72
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	173	691	0	7	999	0	0	81	0	0	146	0
v/c Ratio	0.92	0.50		0.05	0.94			0.12			0.18	
Control Delay	87.7	19.1		36.0	45.9			11.5			6.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	87.7	19.1		36.0	45.9			11.5			6.4	
Queue Length 50th (ft)	93	125		3	269			21			17	
Queue Length 95th (ft)	#208	212		16	#391			44			47	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	188	1374		150	1062			704			797	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.92	0.50		0.05	0.94			0.12			0.18	

Intersection Summary

Area Type: Other

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

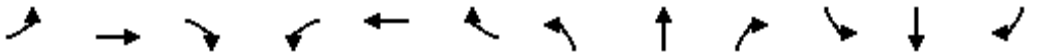
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	495	27	32	483	106	40	61	41	162	8	122
Future Volume (vph)	166	495	27	32	483	106	40	61	41	162	8	122
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	191	569	31	37	555	122	46	70	47	186	9	140
v/c Ratio	0.71	0.36	0.05	0.16	0.49	0.20	0.11	0.12	0.08	0.49	0.01	0.24
Control Delay	41.8	10.4	2.6	23.2	14.2	3.9	12.4	12.1	1.2	18.5	11.5	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	10.4	2.6	23.2	14.2	3.9	12.4	12.1	1.2	18.5	11.5	4.0
Queue Length 50th (ft)	79	56	0	14	94	0	13	20	0	62	3	0
Queue Length 95th (ft)	#281	188	13	57	184	41	45	59	8	154	15	43
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	269	2775	1133	242	2775	1340	1127	1650	1381	1046	1666	1397
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.21	0.03	0.15	0.20	0.09	0.04	0.04	0.03	0.18	0.01	0.10

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	549	42	4	539	25	71	24	8	34	9	118
Future Volume (vph)	130	549	42	4	539	25	71	24	8	34	9	118
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		9.7			7.5			17.8			16.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	11%	1%	1%	11%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	155	704	0	5	672	0	0	124	0	0	191	0
v/c Ratio	0.42	0.37		0.02	0.57			0.36			0.39	
Control Delay	22.2	6.3		20.5	14.0			18.3			8.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	22.2	6.3		20.5	14.0			18.3			8.4	
Queue Length 50th (ft)	57	53		2	115			41			17	
Queue Length 95th (ft)	146	174		15	186			105			77	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	377	1983		274	1716			1131			1327	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.41	0.36		0.02	0.39			0.11			0.14	

Intersection Summary	
Area Type:	Other

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	538	488	49	42	713	88	22	20	33	136	41	115
Future Volume (vph)	538	488	49	42	713	88	22	20	33	136	41	115
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	648	588	59	51	859	106	27	24	40	164	49	139
v/c Ratio	1.76	0.26	0.06	0.36	0.49	0.12	0.12	0.07	0.11	0.69	0.14	0.35
Control Delay	382.1	9.8	2.9	62.0	21.6	3.8	41.3	39.9	1.9	62.7	41.6	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	382.1	9.8	2.9	62.0	21.6	3.8	41.3	39.9	1.9	62.7	41.6	8.5
Queue Length 50th (ft)	~811	95	0	41	232	0	19	17	0	130	35	0
Queue Length 95th (ft)	#938	152	16	75	304	26	39	35	2	173	60	39
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	369	2222	1061	165	1748	855	451	685	629	480	685	668
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.76	0.26	0.06	0.31	0.49	0.12	0.06	0.04	0.06	0.34	0.07	0.21

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

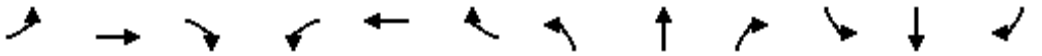
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	154	535	80	6	854	35	47	21	4	34	24	72
Future Volume (vph)	154	535	80	6	854	35	47	21	4	34	24	72
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	173	691	0	7	999	0	53	28	0	38	108	0
v/c Ratio	1.03	0.56		0.05	1.05		0.40	0.03		0.29	0.14	
Control Delay	121.5	25.0		41.2	77.9		50.7	13.4		46.9	6.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	121.5	25.0		41.2	77.9		50.7	13.4		46.9	6.1	
Queue Length 50th (ft)	~112	157		4	~348		31	8		22	9	
Queue Length 95th (ft)	#238	251		17	#467		69	23		53	38	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140			200			200		
Base Capacity (vph)	168	1229		134	950		134	846		134	776	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.03	0.56		0.05	1.05		0.40	0.03		0.28	0.14	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	495	29	30	997	131	60	53	27	141	7	179
Future Volume (vph)	157	495	29	30	997	131	60	53	27	141	7	179
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	521	31	32	1049	138	63	56	28	148	7	188
v/c Ratio	0.78	0.27	0.04	0.17	0.68	0.17	0.19	0.12	0.06	0.48	0.01	0.35
Control Delay	58.3	7.8	1.6	31.7	14.8	2.5	20.8	19.4	0.3	26.6	18.9	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	7.8	1.6	31.7	14.8	2.5	20.8	19.4	0.3	26.6	18.9	6.2
Queue Length 50th (ft)	94	53	0	17	227	0	28	24	0	70	3	3
Queue Length 95th (ft)	#339	166	11	67	395	39	86	76	0	185	19	75
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	212	2312	953	192	2312	1141	970	1417	1200	910	1431	1228
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.23	0.03	0.17	0.45	0.12	0.06	0.04	0.02	0.16	0.00	0.15

Intersection Summary

Area Type: Other

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

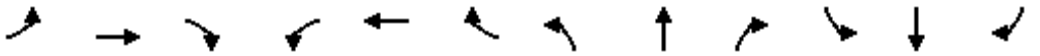
Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	620	4	8	1136	10	8	2	2	8	2	8
Future Vol, veh/h	9	620	4	8	1136	10	8	2	2	8	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	8	1	1	9	1	75	1	1	1	1	1
Mvmt Flow	9	653	4	8	1196	11	8	2	2	8	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1207	0	0	657	0	0	1288	1896	329	1564	1893	604
Stage 1	-	-	-	-	-	-	673	673	-	1218	1218	-
Stage 2	-	-	-	-	-	-	615	1223	-	346	675	-
Critical Hdwy	4.12	-	-	4.12	-	-	9	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4.25	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	579	-	-	933	-	-	66	70	670	76	70	444
Stage 1	-	-	-	-	-	-	275	455	-	193	253	-
Stage 2	-	-	-	-	-	-	304	252	-	646	454	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	579	-	-	933	-	-	62	68	670	73	68	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	62	68	-	73	68	-
Stage 1	-	-	-	-	-	-	271	448	-	190	251	-
Stage 2	-	-	-	-	-	-	293	250	-	631	447	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	63.4	42.4
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	74	579	-	-	933	-	-	115
HCM Lane V/C Ratio	0.171	0.016	-	-	0.009	-	-	0.165
HCM Control Delay (s)	63.4	11.3	-	-	8.9	-	-	42.4
HCM Lane LOS	F	B	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	502	34	8	1000	71	79	36	10	40	10	102
Future Volume (vph)	132	502	34	8	1000	71	79	36	10	40	10	102
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	11%	1%	1%	11%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	564	0	8	1128	0	0	132	0	0	160	0
v/c Ratio	0.60	0.27		0.04	0.70			0.44			0.38	
Control Delay	37.1	5.3		22.4	13.4			22.2			10.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	37.1	5.3		22.4	13.4			22.2			10.1	
Queue Length 50th (ft)	70	40		4	208			57			23	
Queue Length 95th (ft)	#190	148		21	368			123			86	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	230	2053		230	1606			983			1159	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.60	0.27		0.03	0.70			0.13			0.14	

Intersection Summary

Area Type: Other

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	747	956	66	26	782	73	23	18	26	165	34	114
Future Volume (vph)	747	956	66	26	782	73	23	18	26	165	34	114
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	150			150			120			120		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	786	1006	69	27	823	77	24	19	27	174	36	120
v/c Ratio	2.21	0.44	0.06	0.23	0.47	0.09	0.10	0.05	0.07	0.70	0.10	0.30
Control Delay	577.8	10.5	3.7	60.3	21.2	4.3	40.0	38.8	0.4	62.7	40.0	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	577.8	10.5	3.7	60.3	21.2	4.3	40.0	38.8	0.4	62.7	40.0	8.4
Queue Length 50th (ft)	~1064	188	4	22	220	0	17	13	0	138	25	0
Queue Length 95th (ft)	#1309	313	25	53	321	28	38	32	0	201	51	48
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	356	2295	1093	159	1751	842	482	699	640	491	699	667
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.21	0.44	0.06	0.17	0.47	0.09	0.05	0.03	0.04	0.35	0.05	0.18

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1208	6	4	894	7	6	3	9	19	2	7
Future Vol, veh/h	13	1208	6	4	894	7	6	3	9	19	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	6	1	1	2	1	50	1	1	1	1	1
Mvmt Flow	14	1272	6	4	941	7	6	3	9	20	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	948	0	0	1278	0	0	1783	2259	639	1619	2259	474
Stage 1	-	-	-	-	-	-	1303	1303	-	953	953	-
Stage 2	-	-	-	-	-	-	480	956	-	666	1306	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.5	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	726	-	-	544	-	-	31	41	421	69	41	539
Stage 1	-	-	-	-	-	-	113	231	-	280	338	-
Stage 2	-	-	-	-	-	-	427	337	-	417	230	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	726	-	-	544	-	-	29	40	421	62	40	539
Mov Cap-2 Maneuver	-	-	-	-	-	-	29	40	-	62	40	-
Stage 1	-	-	-	-	-	-	111	227	-	275	336	-
Stage 2	-	-	-	-	-	-	415	335	-	394	226	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	92.6	79.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	59	726	-	-	544	-	-	76
HCM Lane V/C Ratio	0.321	0.019	-	-	0.008	-	-	0.388
HCM Control Delay (s)	92.6	10.1	-	-	11.7	-	-	79.7
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1.2	0.1	-	-	0	-	-	1.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	1020	87	6	837	35	35	20	7	88	34	49
Future Volume (vph)	151	1020	87	6	837	35	35	20	7	88	34	49
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	120			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	159	1166	0	6	918	0	0	65	0	0	181	0
v/c Ratio	0.77	0.85		0.04	0.90			0.09			0.25	
Control Delay	61.8	30.0		35.8	41.2			10.9			11.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	61.8	30.0		35.8	41.2			10.9			11.0	
Queue Length 50th (ft)	83	267		3	244			16			42	
Queue Length 95th (ft)	#182	#498		15	#359			36			82	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	206	1374		150	1023			724			728	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.77	0.85		0.04	0.90			0.09			0.25	

Intersection Summary

Area Type: Other

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	522	29	40	1017	141	60	53	40	154	7	179
Future Volume (vph)	157	522	29	40	1017	141	60	53	40	154	7	179
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	549	31	42	1071	148	63	56	42	162	7	188
v/c Ratio	0.81	0.31	0.04	0.23	0.70	0.18	0.19	0.11	0.09	0.51	0.01	0.35
Control Delay	63.9	9.5	1.7	34.1	15.7	2.6	20.8	19.4	0.6	27.4	18.9	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	9.5	1.7	34.1	15.7	2.6	20.8	19.4	0.6	27.4	18.9	6.1
Queue Length 50th (ft)	99	100	0	23	244	0	29	25	0	81	3	3
Queue Length 95th (ft)	#354	190	12	84	438	43	86	75	4	200	19	75
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	204	2225	919	185	2225	1107	940	1374	1166	882	1388	1196
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.25	0.03	0.23	0.48	0.13	0.07	0.04	0.04	0.18	0.01	0.16

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	700	4	18	1196	10	8	2	15	8	2	8
Future Vol, veh/h	9	700	4	18	1196	10	8	2	15	8	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	8	1	1	9	1	75	1	1	1	1	1
Mvmt Flow	9	737	4	19	1259	11	8	2	16	8	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1270	0	0	741	0	0	1426	2065	371	1691	2062	635
Stage 1	-	-	-	-	-	-	757	757	-	1303	1303	-
Stage 2	-	-	-	-	-	-	669	1308	-	388	759	-
Critical Hdwy	4.12	-	-	4.12	-	-	9	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	8	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4.25	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	548	-	-	868	-	-	50	55	629	61	55	424
Stage 1	-	-	-	-	-	-	238	416	-	171	231	-
Stage 2	-	-	-	-	-	-	277	229	-	610	415	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	548	-	-	868	-	-	46	53	629	56	53	424
Mov Cap-2 Maneuver	-	-	-	-	-	-	46	53	-	56	53	-
Stage 1	-	-	-	-	-	-	234	409	-	168	226	-
Stage 2	-	-	-	-	-	-	263	224	-	582	408	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	49.8	55.4
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	106	548	-	-	868	-	-	90
HCM Lane V/C Ratio	0.248	0.017	-	-	0.022	-	-	0.211
HCM Control Delay (s)	49.8	11.7	-	-	9.2	-	-	55.4
HCM Lane LOS	E	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	0.7

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	723	4	5	1215	8	2
Future Vol, veh/h	723	4	5	1215	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	761	4	5	1279	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	765	0	1413	383
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	650	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	851	-	130	618
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	484	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	851	-	129	618
Mov Cap-2 Maneuver	-	-	-	-	264	-
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	481	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	298	-	-	851	-
HCM Lane V/C Ratio	0.035	-	-	0.006	-
HCM Control Delay (s)	17.5	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

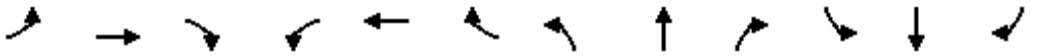
Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	748	2	9	1304	3	3
Future Vol, veh/h	748	2	9	1304	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	787	2	9	1373	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	789	0	1492	394
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	705	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	833	-	115	608
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	454	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	833	-	114	608
Mov Cap-2 Maneuver	-	-	-	-	114	-
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	449	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	24.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	192	-	-	833	-
HCM Lane V/C Ratio	0.033	-	-	0.011	-
HCM Control Delay (s)	24.4	-	-	9.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

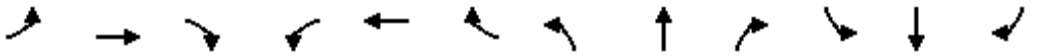


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	581	44	8	1106	71	92	36	10	40	10	142
Future Volume (vph)	162	581	44	8	1106	71	92	36	10	40	10	142
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	11%	1%	1%	11%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	658	0	8	1239	0	0	146	0	0	202	0
v/c Ratio	0.72	0.31		0.04	0.73			0.64			0.46	
Control Delay	48.5	5.5		28.9	15.5			36.8			11.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	48.5	5.5		28.9	15.5			36.8			11.0	
Queue Length 50th (ft)	109	59		5	293			85			29	
Queue Length 95th (ft)	#277	192		25	499			174			108	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	237	2149		190	1688			650			987	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.72	0.31		0.04	0.73			0.22			0.20	

Intersection Summary

Area Type: Other

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	747	984	66	41	811	88	23	18	40	179	34	114
Future Volume (vph)	747	984	66	41	811	88	23	18	40	179	34	114
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	786	1036	69	43	854	93	24	19	42	188	36	120
v/c Ratio	2.21	0.48	0.07	0.32	0.50	0.11	0.09	0.05	0.11	0.72	0.10	0.29
Control Delay	577.8	13.0	4.6	61.5	22.6	4.2	38.6	37.4	2.2	62.1	38.6	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	577.8	13.0	4.6	61.5	22.6	4.2	38.6	37.4	2.2	62.1	38.6	8.0
Queue Length 50th (ft)	~1064	213	5	35	237	0	16	13	0	149	25	0
Queue Length 95th (ft)	#1309	353	29	73	345	31	37	32	7	213	50	47
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	356	2177	1039	173	1713	833	482	699	640	491	699	667
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.21	0.48	0.07	0.25	0.50	0.11	0.05	0.03	0.07	0.38	0.05	0.18

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1292	6	19	981	7	6	3	23	19	2	7
Future Vol, veh/h	13	1292	6	19	981	7	6	3	23	19	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	6	1	1	2	1	50	1	1	1	1	1
Mvmt Flow	14	1360	6	20	1033	7	6	3	24	20	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1040	0	0	1366	0	0	1949	2471	683	1787	2471	520
Stage 1	-	-	-	-	-	-	1391	1391	-	1077	1077	-
Stage 2	-	-	-	-	-	-	558	1080	-	710	1394	-
Critical Hdwy	4.12	-	-	4.12	-	-	8.5	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7.5	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	4	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	670	-	-	504	-	-	22	30	394	52	30	504
Stage 1	-	-	-	-	-	-	97	209	-	236	296	-
Stage 2	-	-	-	-	-	-	378	295	-	393	209	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	670	-	-	504	-	-	20	28	394	43	28	504
Mov Cap-2 Maneuver	-	-	-	-	-	-	20	28	-	43	28	-
Stage 1	-	-	-	-	-	-	95	205	-	231	284	-
Stage 2	-	-	-	-	-	-	355	283	-	356	205	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	99.3	137.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	69	670	-	-	504	-	-	53
HCM Lane V/C Ratio	0.488	0.02	-	-	0.04	-	-	0.556
HCM Control Delay (s)	99.3	10.5	-	-	12.4	-	-	137.3
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	2	0.1	-	-	0.1	-	-	2.2

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1328	19	3	1003	6	2
Future Vol, veh/h	1328	19	3	1003	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1398	20	3	1056	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1418	0	1942	709
Stage 1	-	-	-	-	1408	-
Stage 2	-	-	-	-	534	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	481	-	58	379
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	555	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	481	-	58	379
Mov Cap-2 Maneuver	-	-	-	-	150	-
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	552	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	26.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	177	-	-	481	-
HCM Lane V/C Ratio	0.048	-	-	0.007	-
HCM Control Delay (s)	26.4	-	-	12.5	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

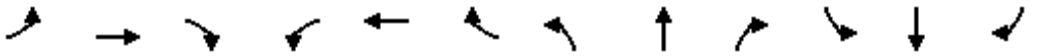
Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1405	5	16	1069	2	6
Future Vol, veh/h	1405	5	16	1069	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1479	5	17	1125	2	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1484	0	2076	740
Stage 1	-	-	-	-	1479	-
Stage 2	-	-	-	-	597	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	454	-	47	362
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	454	-	45	362
Mov Cap-2 Maneuver	-	-	-	-	45	-
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	34.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	131	-	-	454	-
HCM Lane V/C Ratio	0.064	-	-	0.037	-
HCM Control Delay (s)	34.4	-	-	13.2	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	1136	102	6	949	35	49	20	7	88	34	91
Future Volume (vph)	194	1136	102	6	949	35	49	20	7	88	34	91
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	1303	0	6	1036	0	0	80	0	0	225	0
v/c Ratio	0.96	0.88		0.04	0.93			0.13			0.32	
Control Delay	93.0	31.5		38.5	44.4			13.1			12.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	93.0	31.5		38.5	44.4			13.1			12.6	
Queue Length 50th (ft)	117	322		3	295			23			56	
Queue Length 95th (ft)	#253	#576		15	#426			49			107	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	213	1473		142	1115			637			702	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.96	0.88		0.04	0.93			0.13			0.32	

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	522	29	40	1017	141	60	53	40	154	7	179
Future Volume (vph)	157	522	29	40	1017	141	60	53	40	154	7	179
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	549	31	42	1071	148	63	56	42	162	7	188
v/c Ratio	0.81	0.31	0.04	0.23	0.70	0.18	0.19	0.11	0.09	0.51	0.01	0.35
Control Delay	63.9	9.5	1.7	34.1	15.7	2.6	20.8	19.4	0.6	27.4	18.9	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	9.5	1.7	34.1	15.7	2.6	20.8	19.4	0.6	27.4	18.9	6.1
Queue Length 50th (ft)	99	100	0	23	244	0	29	25	0	81	3	3
Queue Length 95th (ft)	#354	190	12	84	438	43	86	75	4	200	19	75
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	204	2225	919	185	2225	1107	940	1374	1166	882	1388	1196
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.25	0.03	0.23	0.48	0.13	0.07	0.04	0.04	0.18	0.01	0.16

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	886	4	5	1205	8	2
Future Vol, veh/h	886	4	5	1205	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	933	4	5	1268	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	937	0	1579	469
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	644	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	733	-	101	544
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	488	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	733	-	100	544
Mov Cap-2 Maneuver	-	-	-	-	228	-
Stage 1	-	-	-	-	345	-
Stage 2	-	-	-	-	485	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	19.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	258	-	-	733	-
HCM Lane V/C Ratio	0.041	-	-	0.007	-
HCM Control Delay (s)	19.5	-	-	9.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

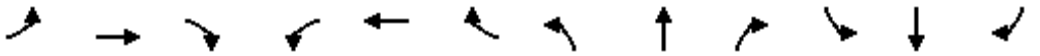
Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	748	2	9	1304	3	3
Future Vol, veh/h	748	2	9	1304	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	787	2	9	1373	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	789	0	1492	394
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	705	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	833	-	115	608
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	454	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	833	-	114	608
Mov Cap-2 Maneuver	-	-	-	-	114	-
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	449	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	24.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	192	-	-	833	-
HCM Lane V/C Ratio	0.033	-	-	0.011	-
HCM Control Delay (s)	24.4	-	-	9.4	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	581	44	8	1106	71	92	36	10	40	10	142
Future Volume (vph)	162	581	44	8	1106	71	92	36	10	40	10	142
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		9.7			7.5			17.8			16.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	11%	1%	1%	11%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	171	658	0	8	1239	0	0	146	0	0	202	0
v/c Ratio	0.72	0.31		0.04	0.73			0.64			0.46	
Control Delay	48.5	5.5		28.9	15.5			36.8			11.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	48.5	5.5		28.9	15.5			36.8			11.0	
Queue Length 50th (ft)	109	59		5	293			85			29	
Queue Length 95th (ft)	#277	192		25	499			174			108	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	237	2149		190	1688			650			987	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.72	0.31		0.04	0.73			0.22			0.20	

Intersection Summary

Area Type: Other

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	747	984	66	41	811	88	23	18	40	179	34	114
Future Volume (vph)	747	984	66	41	811	88	23	18	40	179	34	114
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		175	200		0	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			465			841			622	
Travel Time (s)		7.7			6.3			11.5			8.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	786	1036	69	43	854	93	24	19	42	188	36	120
v/c Ratio	2.21	0.48	0.07	0.32	0.50	0.11	0.09	0.05	0.11	0.72	0.10	0.29
Control Delay	577.8	13.0	4.6	61.5	22.6	4.2	38.6	37.4	2.2	62.1	38.6	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	577.8	13.0	4.6	61.5	22.6	4.2	38.6	37.4	2.2	62.1	38.6	8.0
Queue Length 50th (ft)	~1064	213	5	35	237	0	16	13	0	149	25	0
Queue Length 95th (ft)	#1309	353	29	73	345	31	37	32	7	213	50	47
Internal Link Dist (ft)		486			385			761			542	
Turn Bay Length (ft)	200		175	200			100		100	100		200
Base Capacity (vph)	356	2177	1039	173	1713	833	482	699	640	491	699	667
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.21	0.48	0.07	0.25	0.50	0.11	0.05	0.03	0.07	0.38	0.05	0.18

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1573	19	3	988	6	2
Future Vol, veh/h	1573	19	3	988	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1656	20	3	1040	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1676	0	2192	838
Stage 1	-	-	-	-	1666	-
Stage 2	-	-	-	-	526	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	383	-	39	312
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	560	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	383	-	39	312
Mov Cap-2 Maneuver	-	-	-	-	113	-
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	556	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	33.7
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	134	-	-	383	-
HCM Lane V/C Ratio	0.063	-	-	0.008	-
HCM Control Delay (s)	33.7	-	-	14.5	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↱	↰	↑↑	↰↑	
Traffic Vol, veh/h	1405	5	16	1069	2	6
Future Vol, veh/h	1405	5	16	1069	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	200	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1479	5	17	1125	2	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1484	0	2076	740
Stage 1	-	-	-	-	1479	-
Stage 2	-	-	-	-	597	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	454	-	47	362
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	515	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	454	-	45	362
Mov Cap-2 Maneuver	-	-	-	-	45	-
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	34.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	131	-	-	454	-
HCM Lane V/C Ratio	0.064	-	-	0.037	-
HCM Control Delay (s)	34.4	-	-	13.2	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

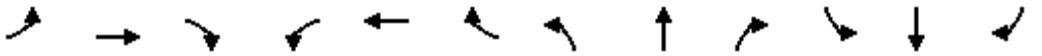
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	1136	102	6	949	35	49	20	7	88	34	91
Future Volume (vph)	194	1136	102	6	949	35	49	20	7	88	34	91
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	200		0	140		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			1230	
Travel Time (s)		16.1			12.5			29.7			28.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	8%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	204	1303	0	6	1036	0	0	80	0	0	225	0
v/c Ratio	0.96	0.88		0.04	0.93			0.13			0.32	
Control Delay	93.0	31.5		38.5	44.4			13.1			12.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	93.0	31.5		38.5	44.4			13.1			12.6	
Queue Length 50th (ft)	117	322		3	295			23			56	
Queue Length 95th (ft)	#253	#576		15	#426			49			107	
Internal Link Dist (ft)		629			472			1227			1150	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	213	1473		142	1115			637			702	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.96	0.88		0.04	0.93			0.13			0.32	

Intersection Summary

Area Type: Other

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

Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	492	27	32	478	105	40	61	41	161	8	121
Future Volume (vph)	165	492	27	32	478	105	40	61	41	161	8	121
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Storage Length (ft)	200		175	200		200	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			638			841			622	
Travel Time (s)		7.7			8.7			11.5			8.5	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	190	566	31	37	549	121	46	70	47	185	9	139
v/c Ratio	0.70	0.36	0.05	0.15	0.49	0.20	0.11	0.12	0.08	0.49	0.01	0.23
Control Delay	40.6	10.4	2.6	23.0	14.2	4.0	12.4	12.1	1.2	18.2	11.4	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	10.4	2.6	23.0	14.2	4.0	12.4	12.1	1.2	18.2	11.4	4.0
Queue Length 50th (ft)	78	55	0	14	92	0	13	20	0	61	3	0
Queue Length 95th (ft)	#276	186	13	57	182	40	45	59	8	153	15	42
Internal Link Dist (ft)		486			558			761			542	
Turn Bay Length (ft)	200		175	200		200	100		100	100		200
Base Capacity (vph)	272	2782	1136	244	2782	1343	1129	1652	1383	1048	1668	1399
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.20	0.03	0.15	0.20	0.09	0.04	0.04	0.03	0.18	0.01	0.10

Intersection Summary

Area Type: Other

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

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	667	4	15	614	7	5	2	15	8	2	6
Future Vol, veh/h	10	667	4	15	614	7	5	2	15	8	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	1	8	1	1	9	1	1	1	1	1	1	1
Mvmt Flow	11	758	5	17	698	8	6	2	17	9	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	706	0	0	763	0	0	1167	1523	382	1138	1521	353
Stage 1	-	-	-	-	-	-	783	783	-	736	736	-
Stage 2	-	-	-	-	-	-	384	740	-	402	785	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	895	-	-	852	-	-	150	118	619	158	119	646
Stage 1	-	-	-	-	-	-	355	405	-	379	426	-
Stage 2	-	-	-	-	-	-	613	424	-	599	404	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	895	-	-	852	-	-	143	114	619	148	115	646
Mov Cap-2 Maneuver	-	-	-	-	-	-	143	114	-	148	115	-
Stage 1	-	-	-	-	-	-	351	400	-	374	417	-
Stage 2	-	-	-	-	-	-	591	416	-	572	399	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	18.7	25
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	287	895	-	-	852	-	-	198
HCM Lane V/C Ratio	0.087	0.013	-	-	0.02	-	-	0.092
HCM Control Delay (s)	18.7	9.1	-	-	9.3	-	-	25
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	466	31	4	536	25	71	24	8	112	19	77
Future Volume (vph)	192	466	31	4	536	25	71	24	8	112	19	77
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			650	
Travel Time (s)		16.1			12.5			29.7			14.8	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Heavy Vehicles (%)	1%	11%	1%	1%	11%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	592	0	5	668	0	0	124	0	0	248	0
v/c Ratio	0.67	0.33		0.02	0.59			0.31			0.55	
Control Delay	35.5	7.8		24.2	16.4			16.6			17.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	35.5	7.8		24.2	16.4			16.6			17.8	
Queue Length 50th (ft)	107	59		2	134			44			80	
Queue Length 95th (ft)	#299	179		16	225			104			174	
Internal Link Dist (ft)		629			472			1227			570	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	343	1861		249	1561			1053			1129	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.67	0.32		0.02	0.43			0.12			0.22	

Intersection Summary

Area Type: Other

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	533	483	48	41	709	87	22	20	33	135	41	114
Future Volume (vph)	533	483	48	41	709	87	22	20	33	135	41	114
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Storage Length (ft)	200		175	200		200	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			638			841			622	
Travel Time (s)		7.7			8.7			11.5			8.5	
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	642	582	58	49	854	105	27	24	40	163	49	137
v/c Ratio	1.74	0.26	0.05	0.35	0.49	0.13	0.12	0.07	0.11	0.69	0.15	0.34
Control Delay	375.2	9.5	3.3	61.9	21.3	8.8	41.6	40.2	1.9	63.3	42.0	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	375.2	9.5	3.3	61.9	21.3	8.8	41.6	40.2	1.9	63.3	42.0	8.6
Queue Length 50th (ft)	~1282	149	2	63	368	29	31	27	0	207	56	0
Queue Length 95th (ft)	#1486	236	28	117	475	78	63	57	3	278	96	64
Internal Link Dist (ft)		486			558			761			542	
Turn Bay Length (ft)	200		175	200		200	100		100	100		200
Base Capacity (vph)	369	2232	1064	164	1754	836	451	685	629	480	685	667
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.74	0.26	0.05	0.30	0.49	0.13	0.06	0.04	0.06	0.34	0.07	0.21

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	655	3	17	874	8	5	3	20	14	2	7
Future Vol, veh/h	9	655	3	17	874	8	5	3	20	14	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	1	6	1	1	2	1	1	1	1	1	1	1
Mvmt Flow	11	771	4	20	1028	9	6	4	24	16	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1037	0	0	775	0	0	1350	1872	388	1483	1870	519
Stage 1	-	-	-	-	-	-	795	795	-	1073	1073	-
Stage 2	-	-	-	-	-	-	555	1077	-	410	797	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	672	-	-	843	-	-	110	72	613	88	72	504
Stage 1	-	-	-	-	-	-	349	400	-	237	297	-
Stage 2	-	-	-	-	-	-	486	296	-	592	399	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	672	-	-	843	-	-	102	69	613	79	69	504
Mov Cap-2 Maneuver	-	-	-	-	-	-	102	69	-	79	69	-
Stage 1	-	-	-	-	-	-	343	394	-	233	290	-
Stage 2	-	-	-	-	-	-	463	289	-	555	393	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	23.8	50.8
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	224	672	-	-	843	-	-	105
HCM Lane V/C Ratio	0.147	0.016	-	-	0.024	-	-	0.258
HCM Control Delay (s)	23.8	10.4	-	-	9.4	-	-	50.8
HCM Lane LOS	C	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	208	415	64	6	847	34	46	21	4	149	38	30
Future Volume (vph)	208	415	64	6	847	34	46	21	4	149	38	30
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			650	
Travel Time (s)		16.1			12.5			29.7			14.8	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	1%	8%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	234	538	0	7	990	0	0	80	0	0	244	0
v/c Ratio	1.24	0.39		0.05	0.93			0.12			0.37	
Control Delay	181.5	17.4		36.0	44.6			11.6			14.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	181.5	17.4		36.0	44.6			11.6			14.4	
Queue Length 50th (ft)	~252	144		6	425			33			115	
Queue Length 95th (ft)	#468	254		25	#616			71			198	
Internal Link Dist (ft)		629			472			1227			570	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	188	1375		150	1062			674			667	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	1.24	0.39		0.05	0.93			0.12			0.37	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	523	29	40	1017	141	60	53	40	154	7	179
Future Volume (vph)	157	523	29	40	1017	141	60	53	40	154	7	179
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Storage Length (ft)	200		175	200		200	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			638			841			622	
Travel Time (s)		7.7			8.7			11.5			8.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	9%	20%	15%	9%	2%	6%	2%	4%	8%	1%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	165	551	31	42	1071	148	63	56	42	162	7	188
v/c Ratio	0.81	0.31	0.04	0.23	0.70	0.19	0.19	0.11	0.09	0.51	0.01	0.35
Control Delay	63.9	9.5	1.7	34.1	15.7	5.1	20.8	19.4	0.6	27.4	18.9	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.9	9.5	1.7	34.1	15.7	5.1	20.8	19.4	0.6	27.4	18.9	6.1
Queue Length 50th (ft)	99	100	0	23	244	17	29	25	0	81	3	3
Queue Length 95th (ft)	#354	190	12	84	438	69	86	75	4	200	19	75
Internal Link Dist (ft)		486			558			761			542	
Turn Bay Length (ft)	200		175	200		200	100		100	100		200
Base Capacity (vph)	204	2225	919	185	2225	1090	940	1374	1166	882	1388	1196
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.25	0.03	0.23	0.48	0.14	0.07	0.04	0.04	0.18	0.01	0.16

Intersection Summary

Area Type: Other

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

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	700	4	18	1196	10	8	2	15	8	2	8
Future Vol, veh/h	9	700	4	18	1196	10	8	2	15	8	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	8	1	1	9	1	1	1	1	1	1	1
Mvmt Flow	9	737	4	19	1259	11	8	2	16	8	2	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1270	0	0	741	0	0	1426	2065	371	1691	2062	635
Stage 1	-	-	-	-	-	-	757	757	-	1303	1303	-
Stage 2	-	-	-	-	-	-	669	1308	-	388	759	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	548	-	-	868	-	-	97	55	629	61	55	424
Stage 1	-	-	-	-	-	-	368	416	-	171	231	-
Stage 2	-	-	-	-	-	-	416	229	-	610	415	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	548	-	-	868	-	-	90	53	629	56	53	424
Mov Cap-2 Maneuver	-	-	-	-	-	-	90	53	-	56	53	-
Stage 1	-	-	-	-	-	-	362	409	-	168	226	-
Stage 2	-	-	-	-	-	-	395	224	-	582	408	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	30.7	55.4
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	166	548	-	-	868	-	-	90
HCM Lane V/C Ratio	0.159	0.017	-	-	0.022	-	-	0.211
HCM Control Delay (s)	30.7	11.7	-	-	9.2	-	-	55.4
HCM Lane LOS	D	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.1	-	-	0.7

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	723	4	5	1215	8	2
Future Vol, veh/h	723	4	5	1215	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	761	4	5	1279	8	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	765	0	1413	383
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	650	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	851	-	130	618
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	484	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	851	-	129	618
Mov Cap-2 Maneuver	-	-	-	-	264	-
Stage 1	-	-	-	-	424	-
Stage 2	-	-	-	-	481	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	298	-	-	851	-
HCM Lane V/C Ratio	0.035	-	-	0.006	-
HCM Control Delay (s)	17.5	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	722	2	9	1265	3	3
Future Vol, veh/h	722	2	9	1265	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	9	1	1	9	1	1
Mvmt Flow	760	2	9	1332	3	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	762	0	1444	380
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	684	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	853	-	124	621
Stage 1	-	-	-	-	425	-
Stage 2	-	-	-	-	465	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	853	-	123	621
Mov Cap-2 Maneuver	-	-	-	-	123	-
Stage 1	-	-	-	-	425	-
Stage 2	-	-	-	-	460	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	23.1
HCM LOS			C

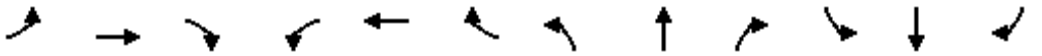
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	205	-	-	853	-
HCM Lane V/C Ratio	0.031	-	-	0.011	-
HCM Control Delay (s)	23.1	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	502	34	8	1107	71	92	36	10	119	20	102
Future Volume (vph)	225	502	34	8	1107	71	92	36	10	119	20	102
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			650	
Travel Time (s)		16.1			12.5			29.7			14.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	11%	1%	1%	11%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	564	0	8	1240	0	0	146	0	0	253	0
v/c Ratio	0.80	0.29		0.04	0.91			0.43			0.61	
Control Delay	47.4	7.1		25.4	29.5			20.7			20.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	47.4	7.1		25.4	29.5			20.7			20.7	
Queue Length 50th (ft)	130	54		4	323			64			92	
Queue Length 95th (ft)	#347	185		23	#662			133			193	
Internal Link Dist (ft)		629			472			1227			570	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	298	1942		217	1359			881			991	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.80	0.29		0.04	0.91			0.17			0.26	

Intersection Summary

Area Type: Other

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	747	984	66	40	813	87	23	18	40	179	34	114
Future Volume (vph)	747	984	66	40	813	87	23	18	40	179	34	114
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Storage Length (ft)	200		175	200		200	100		100	100		200
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		50			50			50			50	
Link Distance (ft)		566			638			841			622	
Travel Time (s)		7.7			8.7			11.5			8.5	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	6%	1%	1%	4%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	786	1036	69	42	856	92	24	19	42	188	36	120
v/c Ratio	2.13	0.48	0.07	0.32	0.51	0.11	0.09	0.05	0.11	0.72	0.10	0.29
Control Delay	543.5	12.9	5.4	61.5	23.3	9.9	38.6	37.4	2.2	62.2	38.6	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	543.5	12.9	5.4	61.5	23.3	9.9	38.6	37.4	2.2	62.2	38.6	8.0
Queue Length 50th (ft)	~1685	339	12	54	387	27	26	21	0	238	40	0
Queue Length 95th (ft)	#2077	562	51	114	562	86	60	51	12	342	80	75
Internal Link Dist (ft)		486			558			761			542	
Turn Bay Length (ft)	200		175	200		200	100		100	100		200
Base Capacity (vph)	369	2179	1037	162	1688	803	473	685	629	482	685	656
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2.13	0.48	0.07	0.26	0.51	0.11	0.05	0.03	0.07	0.39	0.05	0.18

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	1292	6	18	981	7	6	3	23	19	2	7
Future Vol, veh/h	13	1292	6	18	981	7	6	3	23	19	2	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	6	1	1	2	1	1	1	1	1	1	1
Mvmt Flow	14	1360	6	19	1033	7	6	3	24	20	2	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1040	0	0	1366	0	0	1947	2469	683	1785	2469	520
Stage 1	-	-	-	-	-	-	1391	1391	-	1075	1075	-
Stage 2	-	-	-	-	-	-	556	1078	-	710	1394	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.21	-	-	2.21	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	670	-	-	504	-	-	39	30	394	52	30	504
Stage 1	-	-	-	-	-	-	151	209	-	236	296	-
Stage 2	-	-	-	-	-	-	485	295	-	393	209	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	670	-	-	504	-	-	35	28	394	43	28	504
Mov Cap-2 Maneuver	-	-	-	-	-	-	35	28	-	43	28	-
Stage 1	-	-	-	-	-	-	148	205	-	231	285	-
Stage 2	-	-	-	-	-	-	456	284	-	356	205	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	62.4	137.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	95	670	-	-	504	-	-	53
HCM Lane V/C Ratio	0.355	0.02	-	-	0.038	-	-	0.556
HCM Control Delay (s)	62.4	10.5	-	-	12.4	-	-	137.3
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	1.4	0.1	-	-	0.1	-	-	2.2

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1328	19	3	1002	6	2
Future Vol, veh/h	1328	19	3	1002	6	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	60	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1398	20	3	1055	6	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1418	0	1942	709
Stage 1	-	-	-	-	1408	-
Stage 2	-	-	-	-	534	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	481	-	58	379
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	555	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	481	-	58	379
Mov Cap-2 Maneuver	-	-	-	-	150	-
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	552	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	26.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	177	-	-	481	-
HCM Lane V/C Ratio	0.048	-	-	0.007	-
HCM Control Delay (s)	26.4	-	-	12.5	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1329	5	16	1027	2	6
Future Vol, veh/h	1329	5	16	1027	2	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	275	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	5	1	1	2	1	1
Mvmt Flow	1399	5	17	1081	2	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1404	0	1974	700
Stage 1	-	-	-	-	1399	-
Stage 2	-	-	-	-	575	-
Critical Hdwy	-	-	4.12	-	6.82	6.92
Critical Hdwy Stg 1	-	-	-	-	5.82	-
Critical Hdwy Stg 2	-	-	-	-	5.82	-
Follow-up Hdwy	-	-	2.21	-	3.51	3.31
Pot Cap-1 Maneuver	-	-	487	-	55	384
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	529	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	487	-	53	384
Mov Cap-2 Maneuver	-	-	-	-	53	-
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	510	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	30.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	150	-	-	487	-
HCM Lane V/C Ratio	0.056	-	-	0.035	-
HCM Control Delay (s)	30.4	-	-	12.7	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	249	1020	87	6	949	35	49	20	7	204	48	49
Future Volume (vph)	249	1020	87	6	949	35	49	20	7	204	48	49
Ideal Flow (vphpl)	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
Storage Length (ft)	200		0	140		0	200		0	200		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	100			100			100			100		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		709			552			1307			650	
Travel Time (s)		16.1			12.5			29.7			14.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	8%	1%	1%	2%	1%	1%	1%	1%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	262	1166	0	6	1036	0	0	80	0	0	318	0
v/c Ratio	1.39	0.85		0.04	0.97			0.12			0.48	
Control Delay	238.3	30.0		35.8	52.1			11.3			16.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	238.3	30.0		35.8	52.1			11.3			16.4	
Queue Length 50th (ft)	~303	428		5	454			32			162	
Queue Length 95th (ft)	#537	#798		23	#676			70			275	
Internal Link Dist (ft)		629			472			1227			570	
Turn Bay Length (ft)	200			140								
Base Capacity (vph)	188	1374		150	1063			649			667	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	1.39	0.85		0.04	0.97			0.12			0.48	

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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