

Murrieta Road Warehouse Project

TRAFFIC IMPACT
ANALYSIS

January 25, 2024

E | P | D
SOLUTIONS, INC

Murrieta Road Warehouse Project

Traffic Impact Analysis

January 25, 2024

Prepared For
City of Menifee

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1 EXECUTIVE SUMMARY

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the potential traffic-related impacts of the proposed warehouse project (Project) according to the approved scope of work using methodologies and significance criteria consistent with the City of Menifee Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and the City of Menifee General Plan. The Project proposes the development of an approximately 517,720 square feet (SF) warehouse. The Project site is located south of Floyd Avenue, east of Geary Street, west of Murrieta Road, and north of McLaughlin Road.

The trip generation for the proposed Project was analyzed in accordance with the ITE Trip Generation Manual, 11th Edition, 2021. The proposed Project is estimated to generate approximately 1135 daily trips, including 65 AM peak hour trips, and 88 PM peak hour trips. In terms of passenger car equivalent (PCE), the proposed Project is estimated to generate approximately 1489 daily PCE trips, including 84 PCE AM trips and 105 PCE PM trips.

The following intersections were evaluated during the AM and PM peak hours:

1. Geary St/Ethanac Rd
2. Stewart Avenue and Live Oak Avenue
3. Geary St/Project Dwy 2
4. Murrieta Rd/Ethanac Rd
5. Murrieta Rd/Project Dwy 3
6. Murrieta Rd/Project Dwy 4
7. Murrieta Rd/Project Dwy 5
8. Case Rd-Barnett Rd/Ethanac Rd
9. I-215 SB Ramps/Ethanac Rd
10. I-215 NB Ramps/Ethanac Rd

AM and PM peak hour traffic operations were evaluated for the following scenarios:

- Existing Conditions
- Existing Plus Project Conditions
- Opening Year Cumulative Without Project Conditions
- Opening Year Cumulative With Project Conditions

Existing Plus Project Intersection Analysis Results

All study intersections are forecast to operate at satisfactory LOS during the AM and PM peak hours under Existing Plus Project conditions based on HCM methodologies.

Opening Year Cumulative With Project Intersection Analysis Results

The following intersections would result in an unsatisfactory LOS:

4. Murrieta Road/Ethanac Road (LOS F at AM/PM peak hour)
8. Case Rd-Barnett Rd/Ethanac Road (LOS F at AM/PM peak hour)
9. I-215 SB Ramps/Ethanac Road (LOS F at AM/PM peak hour)
10. I-215 NB Ramps/Ethanac Road (LOS F at AM/PM peak hour)

Project Improvement and Fair-Share Calculation

The following improvements reduce the LOS to either below the baseline LOS or a satisfactory LOS:

4. Murrieta Rd/Ethanac Rd (AM and PM peak hours):
Widen and restripe the NB shared left-thru-right lane to provide exclusive left-turn, through, and left-turn lanes.

8. Barnett Road-Case Road/Ethanac Road (AM and PM peak hours):
Widen and restripe the northbound shared left-thru-right lane to provide an exclusive right-turn lane and a shared thru-left turn lane. To increase intersection safety, it is recommended that cat tracks pavement markers be installed for all the edges of the dual SBL instead of the single cat track currently installed in the middle of the SBL turns. It is also recommended that a “Keep Clear” pavement marking be installed approximately 85 feet beyond the stop line of the 50 feet left turn pocket at Barnett Road/Ethanac Road. This will ensure that the WBL traffic does not block traffic waiting to make a SBL given the staggered nature of this intersection.

9. I-215 SB Ramps/Ethanac Road (AM and PM peak hours):
Widen and restripe the southbound (SB) shared thru-left turn lane to provide an exclusive left-turn lane, to remove the SB thru movement and to add a second right-turn lane. Widen and restripe the eastbound (EB) approach to add two thru-lanes and a right-turn lane. Widen and restripe the westbound (WB) approach to add a second left-turn lane. In addition, add overlap right-turn phasing during the SB phase.

10. I-215 NB Ramps/Ethanac Road (AM and PM peak hours):
Widen and restripe the northbound (NB) shared thru-left turn lane to provide two left-turn lanes, to remove the NB thru movement and a right-turn lane. Widen and restripe the EB approach to add an exclusive left-turn lane and a thru-lane. Widen and restripe the WB approach to add three thru-lanes and an exclusive right-turn lane. In addition, add overlap right-turn phasing during the NB phase.

Improvements at intersections 9 and 10 are part of the Transportation Uniform Mitigation Fee (TUMF) program. The Project would be required to pay TUMF fees which would contribute towards the construction of the I-215 and Ethanac Road Interchange. The Project would be responsible for 4.17% of the improvement cost at intersection 4, and 2.65% of the improvement cost at intersection 8. The Project would be responsible for 2.35% for improvement at Ethanac Rd between Geary St and Murrieta Rd, 3.87% for improvement at Ethanac Rd between Murrieta Rd and Barnett Rd, 46.56% for improvement at Murrieta Rd between Ethanac Rd and McLaughlin Rd, 14.31% for improvement at Murrieta Rd between McLaughlin Rd and Rouse Rd, and 0.56% for improvement at Murrieta Rd between Ethanac Rd and Green Valley Pkwy.

2 INTRODUCTION

This Traffic Impact Analysis (TIA) has been prepared by EPD Solutions, Inc. (EPD) to analyze the potential traffic-related impacts of the proposed Project according to the approved scope of work using methodologies and significance criteria consistent with the City of Menifee Traffic Impact Analysis Guidelines for Vehicle Miles Traveled and the City of Menifee General Plan. The approved scope of work is provided in Appendix A.

The Project proposes the development of an approximately 517,720 square foot (SF) warehouse. The Project site is located south of Floyd Avenue, east of Geary Street, west of Murrieta Road, and north of McLaughlin Road.

2.1 Project Description

The applicant for the proposed Project would develop a new distribution warehouse facility on a 28.27-acre site within the City of Menifee. The Project includes development of an approximately 517,720 square foot (SF) warehouse building measuring a maximum of 55 feet in height. To provide a conservative analysis, a three percent buffer in building square footage has been included, which would equal 533,252 SF of building area. The proposed warehouse building would include a mezzanine, loading docks, and associated vehicle and truck trailer parking spaces. The warehouse building including the three percent buffer would include approximately 20,320 SF of ground floor office space, 7,000 SF of mezzanine office space, and 505,932 SF of warehouse space.

The Project site will have five driveways. The warehouse building is expected to have 90 dock-high doors and four grade level doors for trucks, 194 truck trailer stalls, and 409 passenger vehicle parking spaces, nine of which are accessible.

The location of the site is shown in Figure 2.1. The proposed Project site plan is shown in Figure 2.2.

Figure 2.1: Project Location

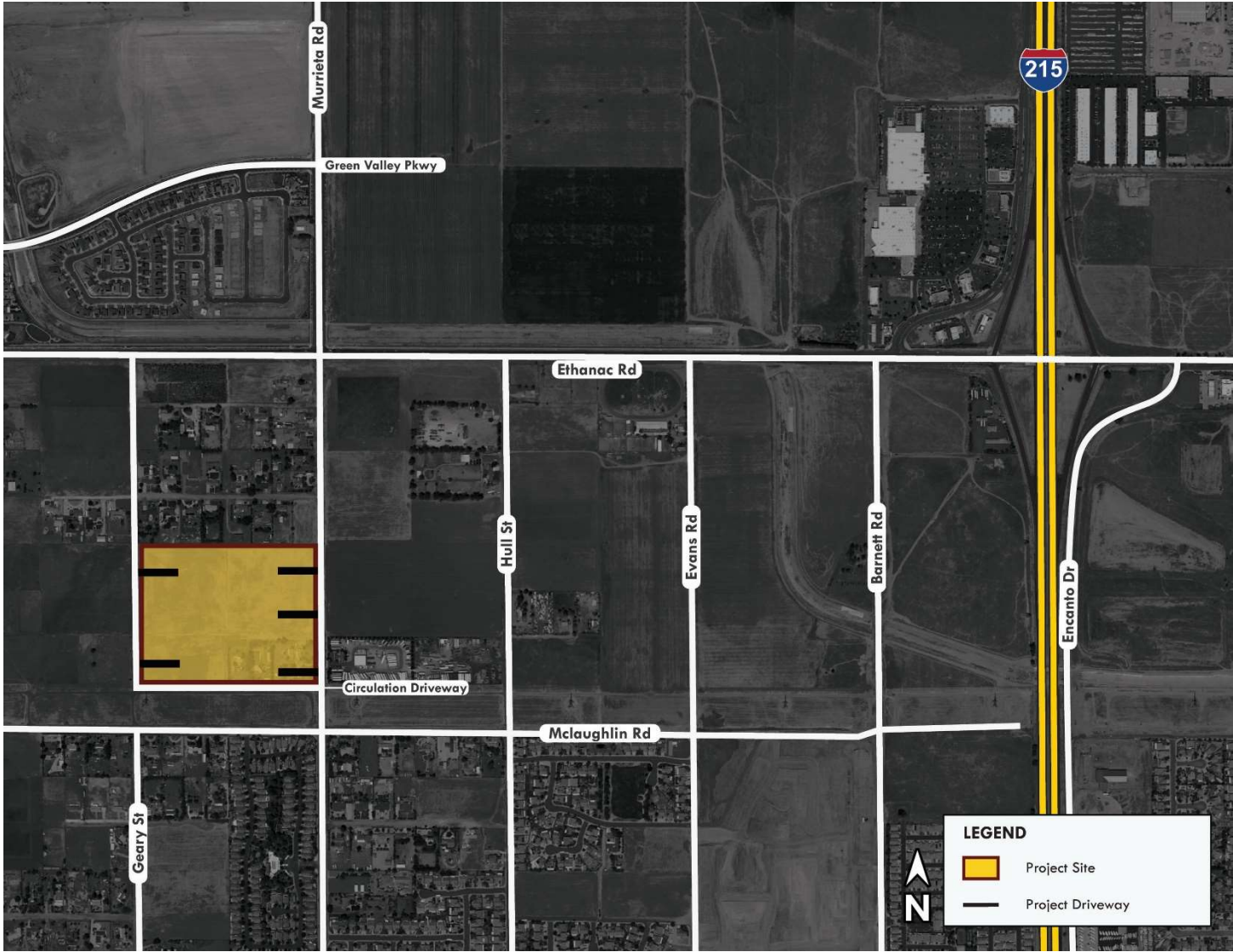
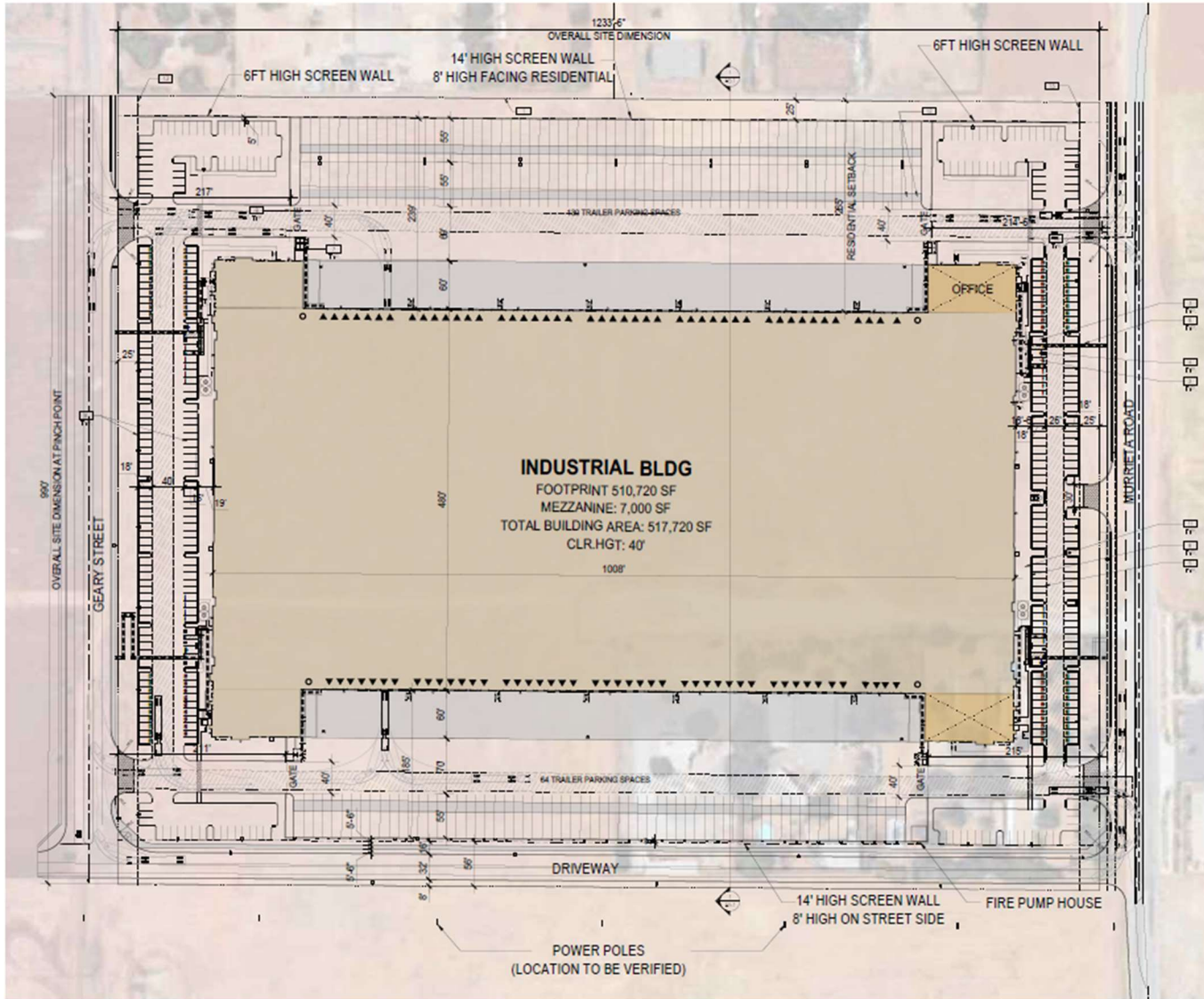


Figure 2.2: Project Site Plan



2.2 Study Area and Analysis Scenarios

The City of Menifee LOS Traffic Study (TS) Guidelines require that the traffic and circulation deficiencies of the proposed warehouse project be analyzed. The study area was selected to include intersections at which the project would add 50 or more peak hour trips. This TIA includes the analysis of signalized intersections and two-way stop-control (TWSC) intersections. The following intersections were included in the analysis:

1. Geary St/Ethanac Rd
2. Geary St/Project Dwy 1
3. Geary St/Project Dwy 2
4. Murrieta Rd/Ethanac Rd
5. Murrieta Rd/Project Dwy 3
6. Murrieta Rd/Project Dwy 4
7. Murrieta Rd/Project Dwy 5
8. Case Rd-Barnett Rd/Ethanac Rd
9. I-215 SB Ramps/Ethanac Rd
10. I-215 NB Ramps/Ethanac Rd

The locations of the study area intersections are shown in Figure 2.3. Study area intersections were evaluated during the AM and PM peak hours, which are defined as the hour with the highest traffic volumes during the 7 AM to 9 AM and 4 PM to 6 PM peak commute periods. AM and PM peak hour traffic operations were evaluated for the following scenarios:

- Existing Conditions
- Existing Plus Project Conditions
- Opening Year (2026) Cumulative Without Project Conditions
- Opening Year (2026) Cumulative With Project Conditions

EPD collected counts for the study intersections on Tuesday, May 10th, 2023. The counts were taken while schools were in session. All traffic count data are provided in *Appendix B*.

As per the City of Menifee LOS TS Guidelines, forecast traffic volumes for the Opening Year (2026) conditions were developed by applying a growth rate of 2 percent per year to the existing (2023) traffic counts and adding traffic from nearby cumulative development projects (approved and not yet built and those under review). Because the proposed development is located in proximity to the boundary of the City of Perris, cumulative projects provided by the City of Menifee and City of Perris are included in the Cumulative analysis.

EPD also obtained the signal timing plan for intersection 3: Barnett Road-Case Road/Ethanac Road from the City of Perris and it is provided in *Appendix C*. All signalized intersections use a 120 seconds cycle length as suggested by the City of Menifee Traffic Engineer. As per the Manual on Uniform Traffic Control Devices (MUTCD) Section 4D.26 Guidance 14. 'A yellow change interval should have a minimum duration of 3 seconds and a maximum duration of 6 seconds. The longer intervals should be reserved

for use on approaches with higher speeds', because the City of Menifee Traffic Engineer did not provide the length of the yellow change, this TIA uses 3 second yellow change for all signalized intersections except intersection 3.

This TIA consists of two driveway scenarios for all plus Project conditions analyses.

For both scenarios, full movements are allowed on all driveway intersections (Int#2, #3, #5, #6 & #7) for passenger vehicles. For trucks, only right-in, right-out turn movements are allowed on Int #2, Int #3 & Int #7. Truck movements are also prohibited at Int #6.

For the first scenario (Scenario 1 – No Signal), only right-in, right-out turn movements for trucks are allowed at Int #5. Intersection #5 will be a TWSC intersection.

For the second scenario (Scenario 2 – With Signal), only right-in and left-out turn movements for trucks are allowed at Int #5. Right-out turn movements for trucks are not allowed at Int #5. Intersection #5 will be a signalized intersection.

Both scenarios utilize a truck-only access driveway for Project site circulation.

The traffic control and intersection geometrics at study area intersections for Scenarios 1 and 2 are shown in Figures 2.4 and 2.5.

Figure 2.3: Project Study Area

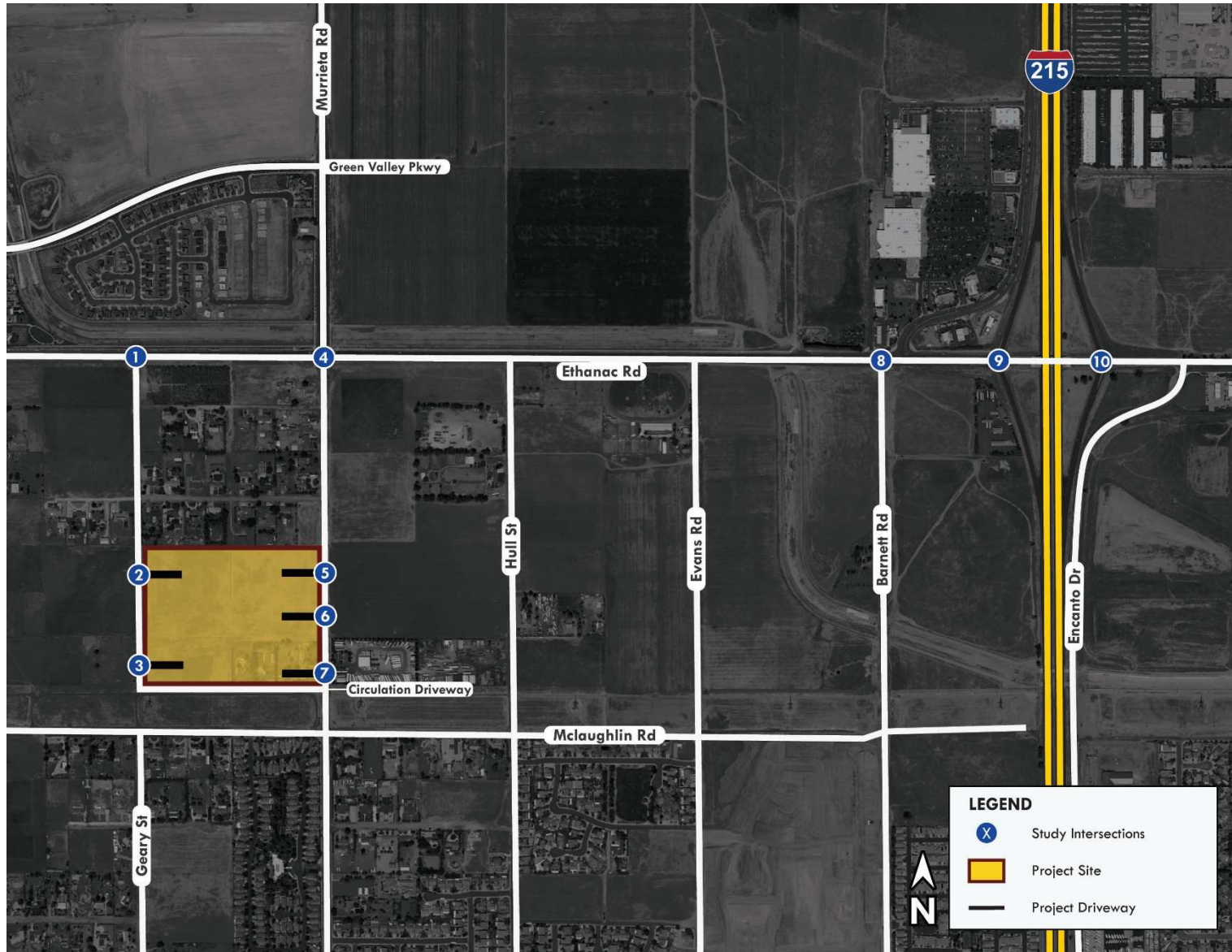


Figure 2.4: Lane Geometries and Traffic Control (Scenario 1 – No Signal)

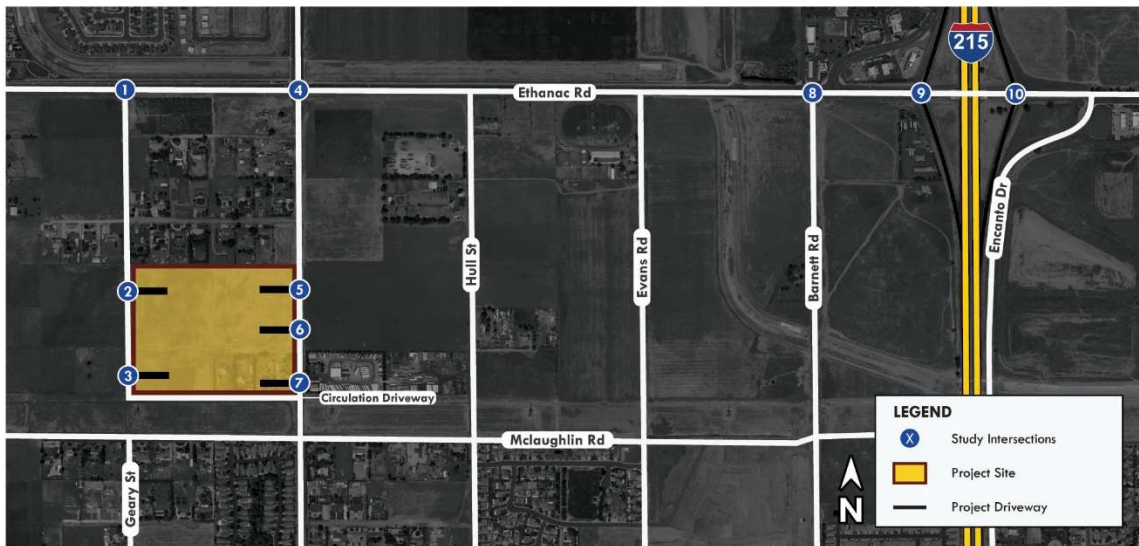
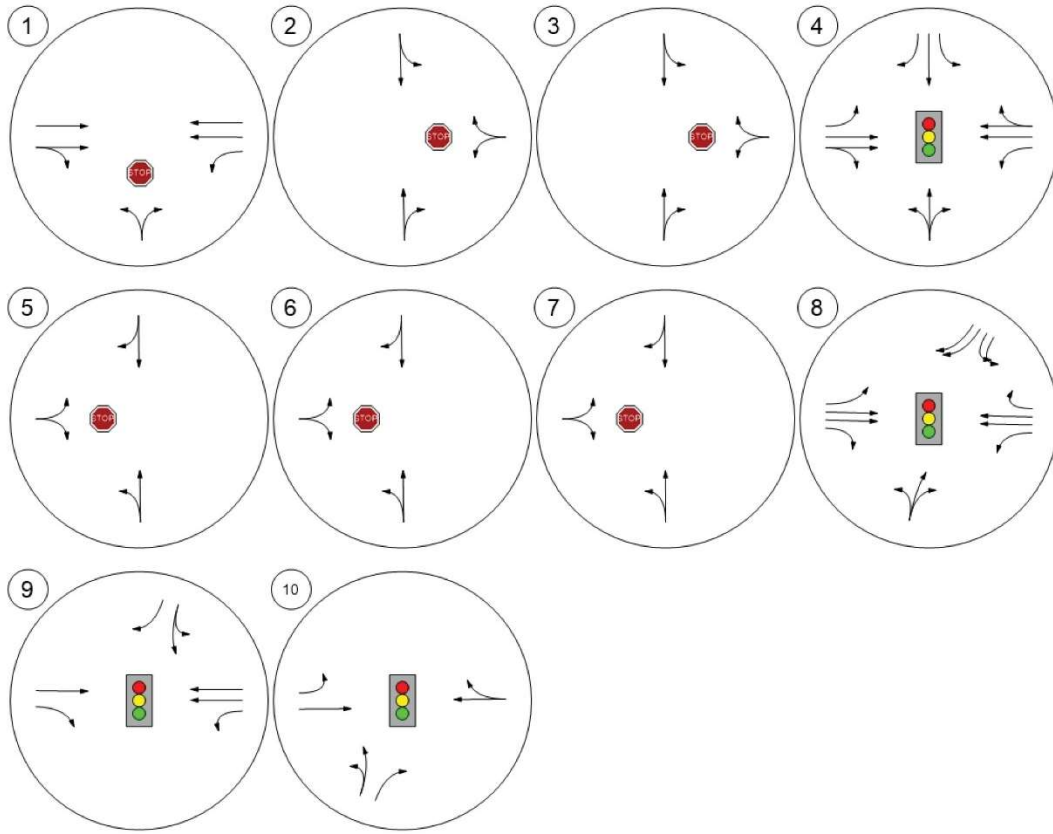
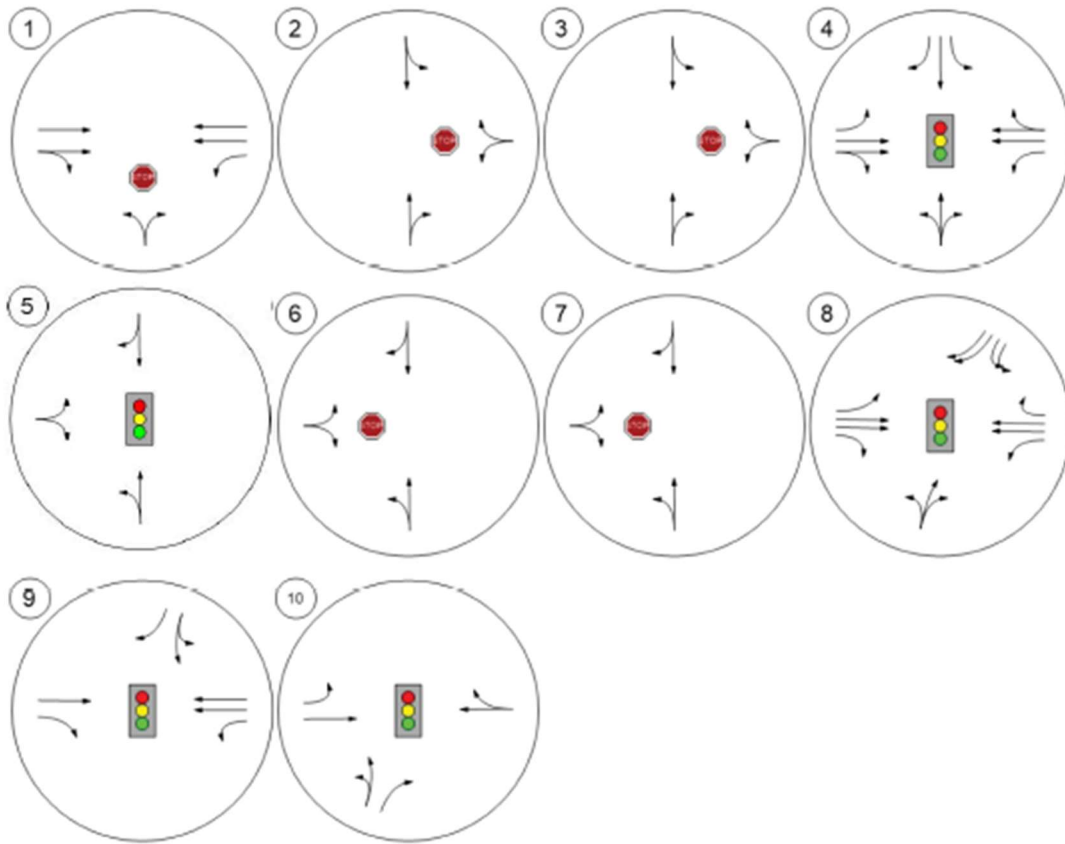


Figure 2.5: Lane Geometries and Traffic Control (Scenario 2 – With Signal)



2.3 Methodology

Intersection operations are evaluated using Level of Service (LOS), which is a measure of the delay experienced by drivers on a roadway facility. LOS A indicates free-flow traffic conditions and is generally the best operating conditions. LOS F is an extremely congested condition and is the worst operating condition from the driver’s perspective. In this report, LOS at signalized and unsignalized intersections is calculated using the *Highway Capacity Manual (HCM)*, 7th Edition methodology.

LOS at signalized intersections is defined in terms of the weighted average control delay for the intersection as a whole. Control delay is a measure of the increase in travel time that is experienced due to traffic signal control and is expressed in terms of average control delay per vehicle (in seconds). Control delay is determined based on the intersection geometry and volume, signal cycle length, phasing and coordination along the arterial corridor. Table 2.1 shows the relationship between control delay and LOS.

Table 2.1: Relationship between Control Delay and LOS at a Signalized Intersection

LOS	Delay (Seconds per Vehicle)
A	≤ 10
B	>10 – 20
C	>20 – 35
D	>35 – 55
E	>55 – 80
F	>80

Unsignalized intersections are categorized as either all-way stop control (AWSC) or two-way stop control (TWSC). LOS at AWSC intersections is determined by the weighted average control delay of the overall intersection. The HCM TWSC intersection methodology calculates LOS based on the delay experienced by drivers on the minor (stop-controlled) approaches to the intersection. For TWSC intersections, LOS is determined for each minor-street movement, as well as the major-street left-turns. The relationship between delay and LOS at Unsignalized intersections is shown in Table 2.2.

Table 2.2: Relationship between Delay and LOS an Unsignalized Intersection

LOS	Delay (seconds)
A	0-10
B	>10 – 15
C	>15 – 25
D	>25 – 35
E	>35 – 50
F	>50

The roadway segment analysis would be performed by comparing the Average Daily Traffic (ADT) on a roadway segment with the Roadway Capacity and Level of Service table provided in Appendix D.

2.4 Significance Criteria

City of Menifee

The City of Menifee LOS Traffic Study (TS) Guidelines identifies LOS D as the threshold for acceptable operating conditions for intersections except at constrained intersections and roadway segments in close proximity to I-215, where LOS E is accepted during peak hours.

As per the TS guidelines, a project would not meet the LOS standard under the following conditions:

1. If the pre-Project condition at an intersection or roadway segment is at or better than the minimum acceptable LOS (LOS D, or LOS E at constrained locations near I-215) and the addition of project trips results in unacceptable LOS (LOS E or LOS F), a significant impact is forecast to occur. This type of impact would be considered a “direct” project impact in which the project would be fully responsible for mitigating the impact.
2. If the pre-Project condition is LOS E or F and the Project adds 50 or more peak hour trips to the intersection or roadway segment, then a significant impact is forecast to occur. This type of impact would be considered a “cumulative” project impact in which the project would be required to contribute a fair share payment toward mitigating the impact.

City of Perris

The City of Perris LOS Standards and Significance Criteria for Traffic Studies identifies LOS D as the threshold for acceptable operating conditions for intersections except at constrained intersections and roadway segments in close proximity to State Route (SR) 74, the Ramona-Cajalco Expressway, or at I-215 freeway ramps, where LOS E is accepted during peak hours.

As per the TIA guidelines, a project would not meet the LOS standard under the following conditions:

1. A project-related impact is considered direct and significant when a study intersection operates at an acceptable Level of Service for existing conditions (without the project) and the addition of 50 or more a.m. or p.m. peak hour project trips causes the intersection to operate at an unacceptable Level of Service for existing plus project conditions.
2. A project-related impact is considered direct and significant when a study intersection operates at an unacceptable Level of Service for existing conditions (without the project) and the addition of 50 or more a.m. or p.m. peak hour project trips causes the intersection delay to increase by 2 seconds or more.
3. A cumulative impact is considered significant when a study intersection is forecast to operate at an unacceptable Level of Service with the addition of cumulative/background traffic and 50 or more a.m. or p.m. peak hour project trips.

California Department of Transportation (Caltrans)

The Caltrans *Guide for the Preparation of Traffic Impact Studies* (December 2002) required that State Highway facilities be analyzed when project traffic was added to the facility. As per the guidelines, LOS D is the required standard at intersections under the jurisdiction of Caltrans. However, Caltrans states the following: *“Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.”*

In response to implementation of SB743, Caltrans released the *Vehicle Miles Traveled-Focused Transportation Impact Study Guide*, May 20, 2020. According to the latest guide, *“With this guidance, the Department will transition away from requesting LOS or other vehicle operations analyses of land use projects.”*

3 BASELINE CONDITIONS

This section discusses the baseline (without Project) conditions. Baseline conditions are those conditions that exist within the study area in the existing condition and that are forecast to occur in the future, without the proposed Project.

3.1 Existing Transportation System and Access

The proposed Project is located south of Floyd Avenue, east of Geary Street, west of Murrieta Road, and north of McLaughlin Road in the City of Menifee. Roadways providing access to the project site include I-215, Ethanac Road and Murrieta Road. The characteristics of each roadway are discussed below:

- Regional access is provided to the project via interstate highway I-215 which provides connections between Riverside County, San Bernardino County, Los Angeles County and San Diego County.
- Ethanac Road is designated as a six-lane divided expressway as per the City of Menifee General Plan and the City of Perris General Plan. In the vicinity of the project, the existing Ethanac Road is a four-lane divided arterial.
- Murrieta Road is designated as a four-lane undivided secondary as per the City of Menifee General Plan and a four-lane divided secondary arterial as per the City of Perris General Plan. However, Murrieta Road is currently a four-lane divided secondary arterial on the north of Ethanac Road and a two-lane collector on the south of Ethanac Road under existing conditions.

There are existing bike lanes on the north side of Ethanac Road between Murrieta Road and Barnett Road. There are existing sidewalks on the north side of Ethanac Road between Murrieta Road and southbound of I-215 ramps. The closest bus stop is located approximately 1.4 miles away from the proposed Project site on Case Road at Perris Crossing.

3.2 Existing Traffic Volumes and Intersection Operations

Existing AM and PM peak hour traffic volumes at the study area intersections are shown in Figures 3.1 and 3.2. The existing Levels of Service at the study area intersections were determined using the HCM methodology, described previously in section 2.3. Tables 3.1 shows the existing AM and PM peak hour LOS at study intersections. All LOS calculations are provided in *Appendix E*.

Table 3.1: Existing Conditions AM and PM Peak Hour LOS

Intersection	Control Type	Jurisdiction	AM Peak		PM Peak		Threshold of Significance
			Delay	LOS	Delay	LOS	
1. Geary St/Ethanac Rd	TWSC	City of Menifee/Perris	11.8	B	10.7	B	D
2. Geary St/Project Dwy 1	TWSC	City of Menifee	-	-	-	-	D
3. Geary St/Project Dwy 2	TWSC	City of Menifee	-	-	-	-	D
4. Murrieta Rd/Ethanac Rd	Signal	City of Menifee/Perris	46.6	D	46.0	D	D
5. Murrieta Rd/Project Dwy 3	TWSC	City of Menifee	-	-	-	-	D
6. Murrieta Rd/Project Dwy 4	TWSC	City of Menifee	-	-	-	-	D
7. Murrieta Rd/Project Dwy 5	TWSC	City of Menifee	-	-	-	-	D
8. Case Rd-Barnett Rd / Ethanac Rd	Signal	City of Menifee/Perris	61.9	E	53.4	D	E
9. I-215 SB Ramps/Ethanac Rd	Signal	Caltrans/City of Perris	28.3	C	26.8	C	E
10. I-215 NB Ramps/Ethanac Rd	Signal	Caltrans/City of Perris	38.6	D	38.6	D	E

TWSC = Two Way Stop Control

Delay Reported in Seconds per Vehicle

LOS = Level of Service

Unsatisfactory Level of Service

Figure 3.1: Existing AM Peak Hour Traffic Volumes

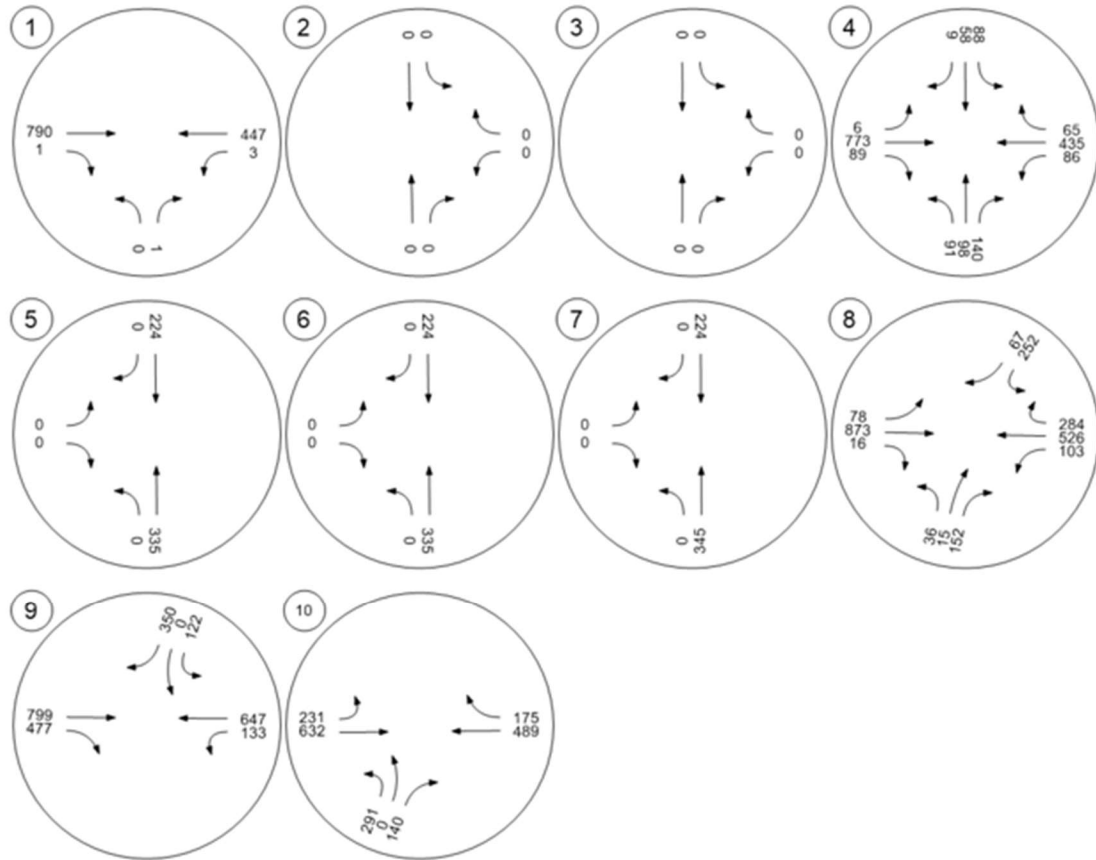
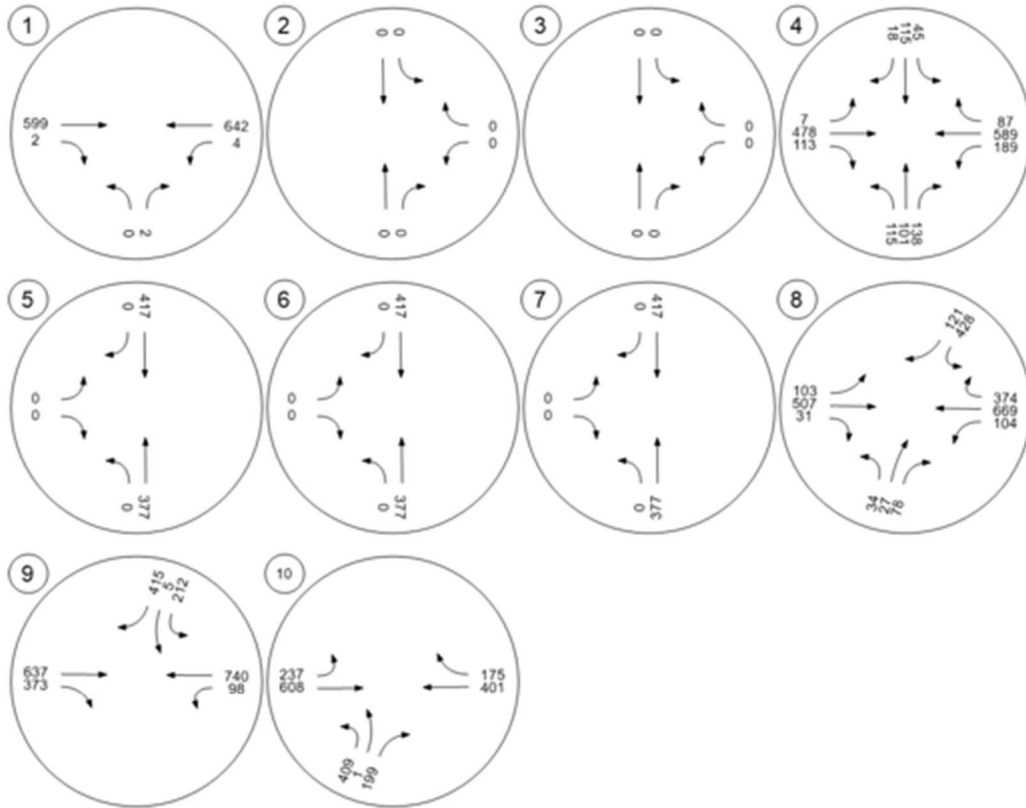


Figure 3.2: Existing PM Peak Hour Traffic Volumes



3.3 Opening Year Traffic Volumes and Intersection Operations

Opening Year Baseline (2026) traffic volumes were developed by applying a growth rate of two percent per year to the existing (2023) traffic volumes and adding traffic generated by other approved and pending development projects. A total of 56 cumulative development projects are included in the Opening Year Baseline traffic volumes. Out of the 56 cumulative projects, 14 projects are located in the City of Perris, 42 are located in the City of Menifee. The project trip generation for each cumulative project was calculated using trip rates from the Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition. The location of the cumulative projects is shown in Figure 3.3. The Opening Year (2026) Baseline AM & PM traffic volumes are illustrated in Figures 3.4 and 3.5 respectively. Table 3.2 below shows the Opening Year AM and PM peak hour levels of service at study intersections. Table 3.3 shows the trip generation for each cumulative project, and the cumulative assignment can be found in *Appendix F*. As shown in Table 3.2, the following intersections would operate at an unsatisfactory LOS:

- 4. Murrieta Road/Ethanac Road (LOS F at AM/PM peak hour)
- 8. Barnett Road-Case Road/Ethanac Road (LOS F at AM/PM peak hour)
- 9. I-215 SB Ramps/Ethanac Road (LOS F at AM/PM peak hour)
- 10. I-215 NB Ramps/Ethanac Road (LOS F at AM/PM peak hour)

Table 3.2: Opening Year AM and PM Peak Hour Level of Service

Intersection	Control Type	Jurisdiction	AM Peak		PM Peak		Threshold of Significance
			Delay	LOS	Delay	LOS	
1. Geary St/Ethanac Rd	TWSC	City of Menifee/Perris	16.8	C	13.8	B	D
2. Geary St/Project Dwy 1	TWSC	City of Menifee	-	-	-	-	D
3. Geary St/Project Dwy 2	TWSC	City of Menifee	-	-	-	-	D
4. Murrieta Rd/Ethanac Rd	Signal	City of Menifee/Perris	221.9	F	217.0	F	D
5. Murrieta Rd/Project Dwy 3	TWSC	City of Menifee	-	-	-	-	D
6. Murrieta Rd/Project Dwy 4	TWSC	City of Menifee	-	-	-	-	D
7. Murrieta Rd/Project Dwy 5	TWSC	City of Menifee	-	-	-	-	D
8. Case Rd-Barnett Rd / Ethanac Rd	Signal	City of Menifee/Perris	326.2	F	362.0	F	E
9. I-215 SB Ramps/Ethanac Rd	Signal	Caltrans/City of Perris	920.9	F	995.4	F	E
10. I-215 NB Ramps/Ethanac Rd	Signal	Caltrans/City of Perris	634.1	F	600.1	F	E

TWSC = Two Way Stop Control
 Delay Reported in Seconds per Vehicle
 LOS = Level of Service
 Unsatisfactory Level of Service

Figure 3.3: Location of Cumulative Projects

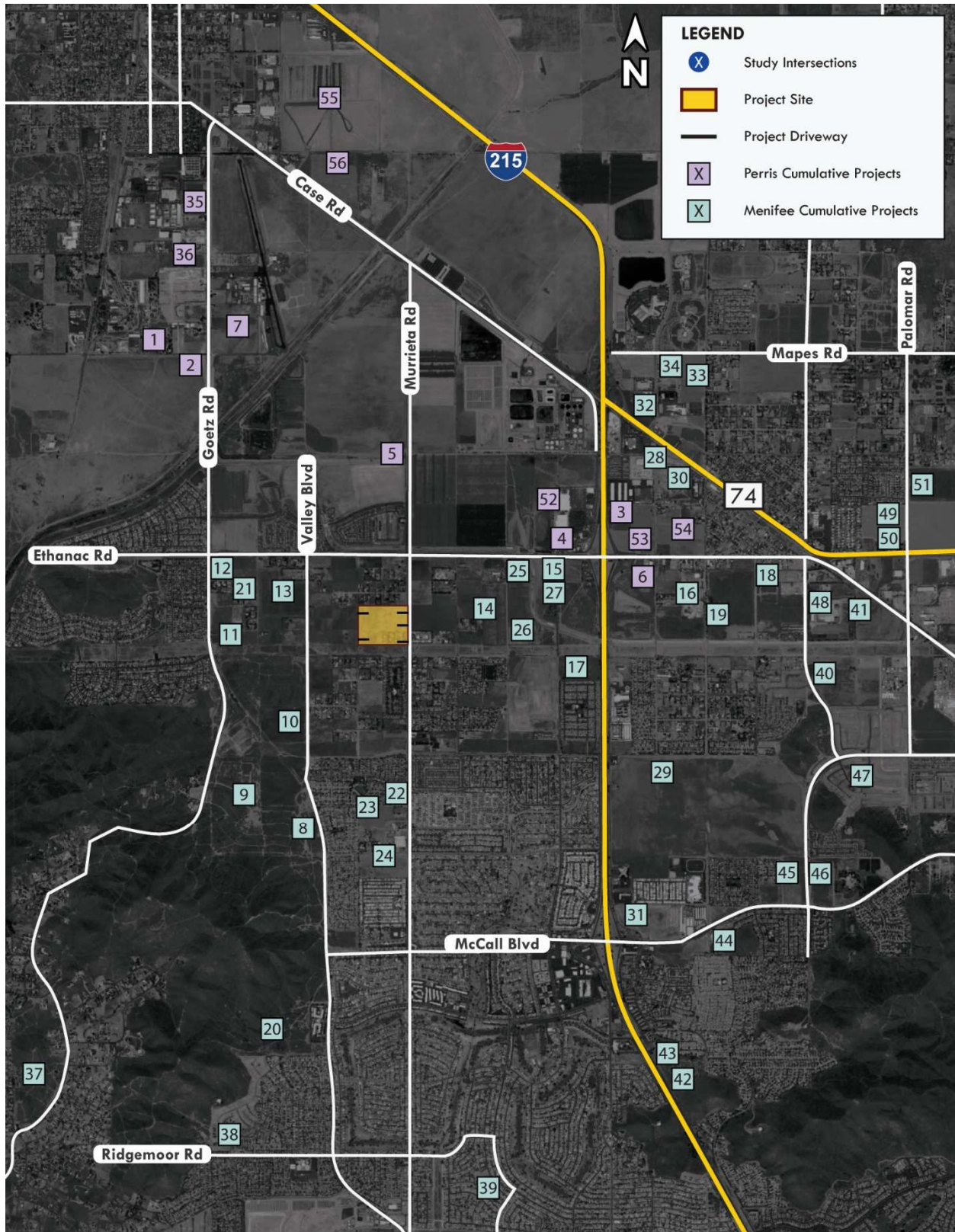


Table 3.3: Cumulative Projects Trip Generation (Page 1)

Table 1. Cumulative Trip Generation								
Land Use	Units	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Trip Rates								
ITE 154 High-Cube Transload and Short-Term Warehouse ¹	TSF	1.40	0.06	0.02	0.08	0.03	0.07	0.10
ITE 140 Manufacturing ²	TSF	4.75	0.52	0.16	0.68	0.23	0.51	0.74
ITE 880 Pharmacy/Drugstore without Drive-Through Window ³	TSF	90.08	1.91	1.03	2.94	4.17	4.34	8.51
ITE 948 Automated Car Wash ⁴	TSF	-	-	-	-	7.10	7.10	14.20
ITE 820 Shopping Center (>150k) ⁵	TSF	37.01	0.52	0.32	0.84	1.63	1.77	3.40
ITE 210 Single Family Detached Housing ⁶	DU	9.43	0.18	0.52	0.70	0.59	0.35	0.94
ITE 150 Warehouse ⁷	TSF	1.71	0.13	0.04	0.17	0.05	0.13	0.18
ITE 945 Convenience Store/Gas Station (VFP 9-15) ⁸	TSF	700.43	28.26	28.26	56.52	27.26	27.26	54.52
ITE 930 Fast Casual Restaurant ⁹	TSF	97.14	0.72	0.72	1.43	6.90	5.65	12.55
ITE 220 Multifamily Housing (Low Rise) ¹⁰	DU	6.74	0.10	0.30	0.40	0.32	0.19	0.51
ITE 110 General Light Industrial ¹¹	TSF	4.87	0.65	0.09	0.74	0.09	0.56	0.65
ITE 310 Hotel ¹²	Rooms	7.99	0.26	0.20	0.46	0.30	0.29	0.59
ITE 151 Mini-Warehouse ¹³	TSF	1.45	0.05	0.04	0.09	0.07	0.08	0.15
ITE 822 Strip Retail Plaza (<40k) ¹⁴	TSF	54.45	1.42	0.94	2.36	3.30	3.30	6.59
ITE 934 Fast-Food Restaurant with Drive-Through Window ¹⁵	TSF	467.48	22.75	21.86	44.61	17.18	15.85	33.03
ITE 130 Industrial Park ¹⁶	TSF	3.37	0.28	0.06	0.34	0.07	0.27	0.34
ITE 950 Truck Stop ¹⁷	VFP	224.00	6.85	7.12	13.97	8.17	7.25	15.42
ITE 770 Business Park ¹⁸	TSF	12.44	1.15	0.20	1.35	0.32	0.90	1.22
ITE 155 High-Cube Fulfillment Center Warehouse - Non Sort ¹⁹	TSF	1.81	0.12	0.03	0.15	0.06	0.10	0.16
ITE 560 Church ²⁰	TSF	7.60	0.20	0.12	0.32	0.22	0.27	0.49
ITE 252 Senior Adult Housing - Multifamily ²¹	DU	3.24	0.07	0.13	0.20	0.14	0.11	0.25
ITE 215 Single-Family Attached Housing ²²	DU	7.20	0.15	0.33	0.48	0.32	0.25	0.57
ITE 710 General Office Building ²³	TSF	10.84	1.34	0.18	1.52	0.24	1.20	1.44
ITE 945 Convenience Store/Gas Station VFP (16-24) ²⁴	TSF	1283.38	45.68	45.68	91.35	39.48	39.48	78.95
ITE 110 General Light Industrial ²⁵	EMP	3.10	0.44	0.09	0.53	0.11	0.38	0.49
ITE 821 Shopping Plaza (40-150k) ²⁶	TSF	94.49	2.19	1.34	3.53	4.33	4.70	9.03
ITE 630 Clinic ²⁷	TSF	37.60	2.23	0.52	2.75	1.11	2.58	3.69
ITE 932 High-Turnover (Sit-Down) Restaurant ²⁸	TSF	107.20	5.26	4.31	9.57	5.52	3.53	9.05
ITE 948 Automated Car Wash ²⁹	TUN	-	-	-	-	38.75	38.75	77.50
TUMF Fulfillment Center Rates ^{TUMF}	TSF	2.13	0.09	0.03	0.12	0.05	0.1188	0.165
Passenger Vehicles	TSF	1.75	0.08	0.02	0.10	0.04	0.10368	0.144
2-4 Axle Trucks	TSF	0.16	0.01	0.00	0.01	0.00	0.00792	0.011
5-Axle Trucks	TSF	0.22	0.01	0.00	0.01	0.00	0.0072	0.01

City of Perris

<u>1. Marijuana Manufacturing and Cultivation (PCE)</u> ²	30.000	TSF	208	23	7	30	10	22	32
<u>2. IDI Site 2 (PCE)</u> ¹	3,448.734	TSF	7064	311	93	404	141	363	505
<u>3. Marijuana Manufacturing 12 TSF</u> ²	12.000	TSF	83	9	3	12	4	9	13
<u>4. Walgreens</u> ³	16.000	TSF	1441	31	16	47	67	69	136
<u>5. Green Valley Specific Plan</u>									
Single family ⁶	623.000	DU	5875	113	323	436	369	217	586
Multi-family ¹⁰	842.000	DU	5675	81	256	337	271	159	429
<u>6. Matte Town Center</u> ⁵	484.300	TSF	17924	252	155	407	790	856	1647
<u>7. Mapes Commerce Center (PCE)*</u>	650.280	TSF	2592	208	36	244	69	190	259
<u>35. Marijuana Manufacturing 50 TSF (PCE)</u> ²	50.000	TSF	490	52	15	67	18	51	77
<u>36. IDI Site 1 (PCE)</u> ¹	784.000	TSF	1606	71	21	92	32	83	115
<u>52. Case Road Mixed Use (Richland)</u>									
Warehouse ^{TUMF} (PCE)	480.000	TSF	1341	58	18	76	28	68	95
Self Storage ¹³ (PCE)	194.000	TSF	401	16	10	25	20	23	42
Four Story Hotel ¹²	128.000	Rooms	1022	32	26	58	39	37	76
Commercial Retail ¹⁴	27.000	TSF	1470	38	26	64	89	89	178
Drive Through ¹⁵	5.600	TSF	2618	128	122	250	96	88	184

Table 3.3: Cumulative Projects Trip Generation (page 2)

<u>53. Truck Stop</u> ¹⁷	7.000	VFP	1568	48	50	98	57	51	108
<u>54. Hillwood Warehouse</u> ^{TUMF (PCE)}	410.650	TSF	1147	50	15	65	24	58	82
<u>55. South Perris Industrial Phase 3</u> ^{16 (PCE)}	2840.838	TSF	13633	1114	262	1375	303	1073	1375
<u>56. Ellis Logistics Center</u> ^{11 (PCE)}	643.419	TSF	4462	597	80	678	84	511	596
City of Menefee									
<u>8. Valley Blvd. Residential</u> ⁶	68.000	DU	641	12	35	48	40	24	64
<u>9. Cimarron Ridge</u> ⁶	756.000	DU	7129	138	392	529	448	263	711
<u>10. TTM 38128</u> ⁶	96.000	DU	905	17	50	67	57	33	90
<u>11. Corsica Business Park (PCE)</u> ^{TUMF}	276.682	TSF	589	26	8	34	13	33	46
<u>12. Goetz & Ethanac Commercial</u> ⁸	4.000	TSF	2802	113	113	226	109	109	218
Gas Station Pass-By Trips (76% AM, 75% PM)				-68	-68	-136	-61	-61	-122
Car Wash Tunnel ²⁹	1.000	TUN					39	39	78
Drive Through ¹⁵	3.250	TSF	1520	73	71	144	56	52	108
Pass By AM (50%) PM (55%)				-37	-35	-72	-31	-29	-59
<u>13. Capstone Industrial (PCE)</u> ^{TUMF}	700.037	TSF	1955	84	26	109	40	99	139
<u>14. Northern Gateway Commerce Center (PCE)</u> ⁷	1286.607	TSF	2200	168	50	218	65	167	232
<u>15. Ethanac Square</u>									
Gas Station ⁸	3.800	TSF	2662	107	107	215	104	104	207
Gas Station Pass-By Trips (76% AM, 75% PM)				-81	-81	-163	-78	-78	-156
Car Wash ⁴	2.080	TSF					15	15	30
Large Truck Diesel Fuel Station (4 Pump) ¹⁷	4.000	VFP	896	27	29	56	33	29	62
<u>16. Ethanac Industrial</u> ^{TUMF}	264.710	TSF	740	32	10	43	16	37	53
<u>17. McLaughlin Village</u> ¹⁰	126.000	DU	849	12	38	50	40	24	64
<u>18. Motte Business Center (PCE)</u> ¹⁹	1138.638	TSF	2060	138	32	170	71	111	182
<u>19. Menifee Commerce Center (Core 5) (PCE)</u> ^{TUMF}	1640.130	TSF	4580	197	59	257	93	236	328
<u>20. Stonegate (Enclave)</u> ⁶	177.000	DU	1670	32	92	124	105	61	166
<u>21. Wheat Warehouse</u> ^{7 (PCE)}	87.676	TSF	213	16	4	20	5	17	23
<u>22. Vista Ridge</u> ⁶	30.000	DU	282	6	16	22	18	10	28
<u>23. Coronado Condos</u> ⁶	73.000	DU	688	14	38	52	43	25	68
<u>24. TR/PP Di Capri</u> ⁶	61.000	DU	576	11	31	42	37	21	58
<u>25. Ethanac and Evans Warehouse</u> ^{7 (PCE)}	137.896	TSF	336	25	8	34	10	24	34
<u>26. Menifee Logistics</u> ^{TUMF (PCE)}	411.829	TSF	1150	50	16	65	24	58	82
<u>27. Ethanac and Barnett Warehouse</u> ^{TUMF (PCE)}	250.000	TSF	699	30	10	40	15	35	50
<u>28. Paragon Framing</u>									
Office Building ²³	5.454	TSF	60	7	1	8	1	7	8
Workshop/Storage Building ^{13(PCE)}	5.000	TSF	12	0	0	0	0	0	0
<u>29. Legado</u> ⁶	1022.000	DU	9638	186	530	716	605	355	960
<u>30. Trumble and Watson Warehouse</u> ^{TUMF (PCE)}	327.631	TSF	915	40	13	52	19	46	65
<u>31. McCall-Encanto Gas Station</u>									
Gas Station with convenience store, car wash ²⁴	4.640	TSF	5954	212	212	424	183	183	366
Pass By AM (76%) PM (75%)				-161	-161	-322	-137	-137	-275
Fast Food ¹⁵	6.700	TSF	3132	152	146	298	115	107	222
Pass By AM (50%) PM (55%)				-76	-73	-149	-63	-59	-122
<u>32. On-Deck</u> ¹²	120.000	Rooms	958	31	25	56	36	34	70

Table 3.3: Cumulative Projects Trip Generation (page 3)

<u>33. Mapes and Sherman Warehouse</u> ^{TUMF (PCE)}	277.578	TSF	776	34	11	45	16	39	55
<u>34. United Carports Warehouse</u> ^{7 (PCE)}	58.643	TSF	143	12	2	14	4	10	14
<u>37. Quail Hills</u> ⁶	145.000	DU	1368	27	75	102	86	50	136
<u>38. Woodside Homes (Skyview)</u> ⁶	246.000	DU	2320	45	127	172	146	86	232
<u>39. Kingdom Hall</u> ²⁰	3.312	TSF	26	1	1	2	1	1	2
<u>40. McLaughlin San Jacinto Warehouses</u> ^{7 (PCE)}	491.467	TSF	840	65	19	84	25	63	88
<u>41. Double Butte</u> ²⁵	6.000	EMP	18	3	1	4	0	2	2
<u>42. Kensington Apartments</u> ²¹	221.000	DU	716	15	29	44	31	25	56
<u>43. Village Villas</u> ⁶	24.000	DU	226	4	12	16	14	8	22
<u>44. McCall Plaza</u>									
Gas Station ⁸	3.100	TSF	2172	88	88	176	85	85	170
Gas Station Pass-By Trips (76% AM, 75% PM)				-67	-67	-134	-64	-64	-128
Car Wash ⁴	2.080	TSF					15	15	30
Drive Through ¹⁵	3.200	TSF	1496	72	70	142	55	51	106
Drive Through Pass-By Trips (50% AM, 55% PM)				-36	-35	-71	-30	-28	-58
Restaurant ⁹	4.100	TSF	398	3	3	6	29	23	52
<u>45. Cypress and Sands Apartments</u> ¹⁰	136.000	DU	916	13	41	54	44	26	70
<u>46. Beyond Menifee</u> ⁶	240.000	DU	2264	44	124	168	142	84	226
<u>Phase 1</u>									
Gas Station with convenience store ⁸	7.460	TSF	5226	211	211	422	203	203	406
Gas Station Pass-By Trips (76% AM, 75% PM)				-160	-160	-321	-152	-152	-305
Car Wash	1.790	TSF					13	13	26
<u>Phase 2</u>									
<u>Fast Casual Restaurant 1</u> ⁹	2.065	TSF	200	1	1	2	14	12	26
<u>Fast Casual Restaurant 2</u> ⁹	2.309	TSF	224	2	2	4	15	13	28
<u>Restaurant 1</u> ²⁸	2.670	TSF	286	14	12	26	15	9	24
Pass-By Trips (43% PM)							-6	-4	-10
<u>Restaurant 2</u> ²⁸	2.670	TSF	286	14	12	26	15	9	24
Pass-By Trips (43% PM)							-6	-4	-10
<u>Restaurant 3</u> ²⁸	4.095	TSF	438	22	18	40	23	15	38
Pass-By Trips (43% PM)							-10	-6	-16
<u>Phase 3 Commercial</u>									
<u>Shopping Plaza</u> ²⁶	43.600	TSF	4120	95	59	154	189	205	394
Pass-By Trips (40% PM)							-76	-82	-158
<u>Medical Office</u> ²⁷	10.000	TSF	376	23	5	28	11	25	36
<u>Medical Office</u> ²⁷	3.500	TSF	132	8	2	10	4	8	12
<u>Restaurant 4</u> ²⁸	7.000	TSF	750	36	30	66	39	25	64
Pass-By Trips (43% PM)							-17	-11	-28
<u>Restaurant 5</u> ²⁸	7.000	TSF	750	36	30	66	39	25	64
Pass-By Trips (43% PM)							-17	-11	-28

Figure 3.4: Opening Year AM Peak Hour Volumes

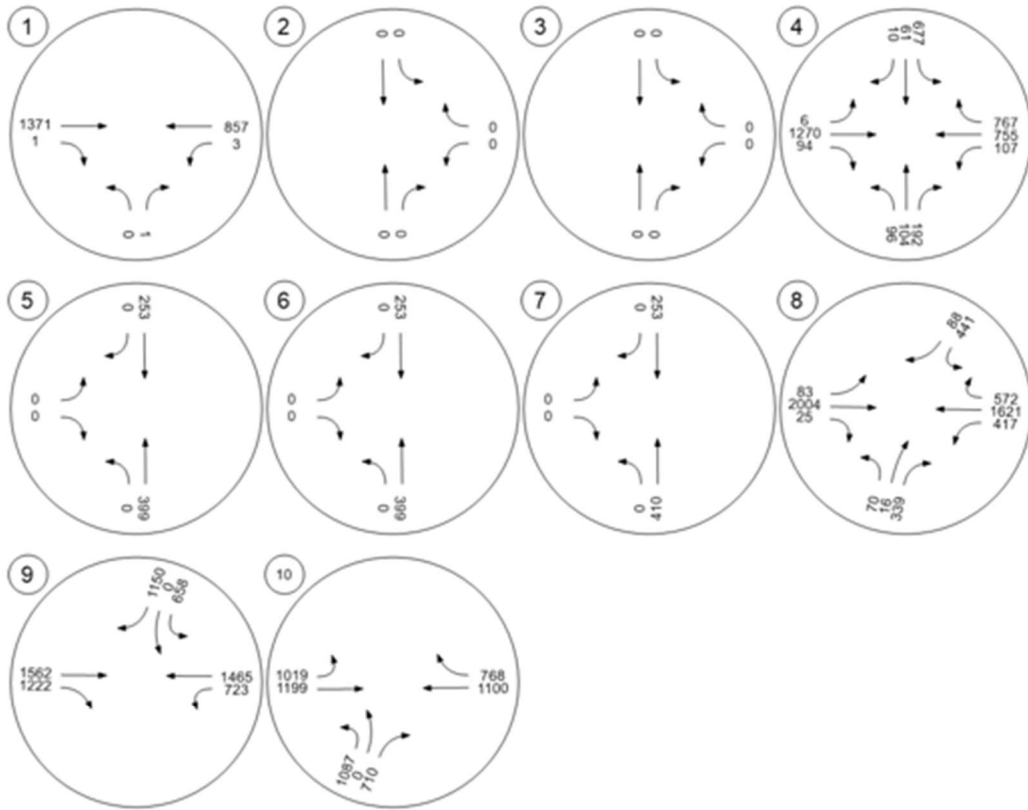
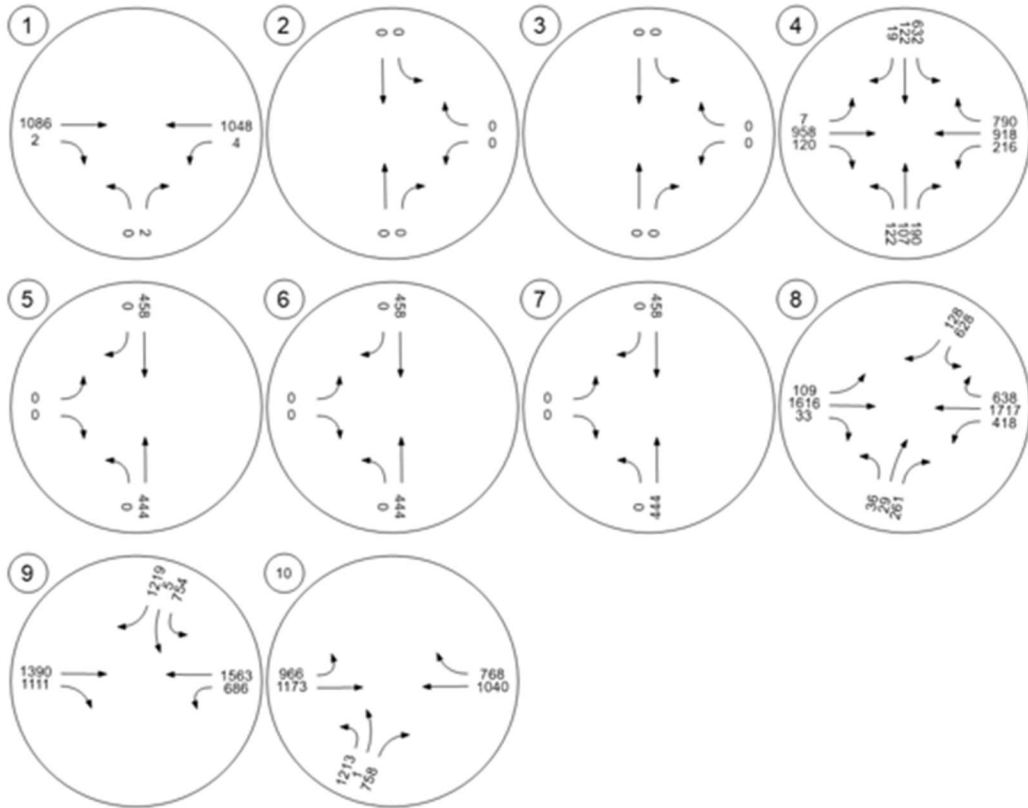


Figure 3.5: Opening Year PM Peak Hour Volumes



4 PROPOSED PROJECT

4.1 Project Trip Generation

Vehicle trips were generated for the proposed Project using trip rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Edition, 2021). The Project trip generation is shown in Table 4.1. The proposed Project is estimated to generate approximately 1135 daily trips, including 65 AM peak hour trips and 88 PM peak hour trips. In terms of passenger car equivalent (PCE), the proposed project is estimated to generate approximately 1489 daily PCE trips, including 84 PCE AM trips and 105 PCE PM trips.

4.2 Project Trips

Project trips were distributed to the study area intersections based on the location of the Project and logical routes of travel to and from the site. Project trips were assigned to the study area intersections by multiplying the Project trip generation by the trip distribution percent at each location. The passenger vehicle trip distribution for the proposed Project with Scenarios 1 and 2 are shown in Figures 4.1 and 4.2. The truck distribution for the proposed Project with Scenarios 1 and 2 are shown in Figures 4.3 and 4.4. The passenger vehicle AM and PM peak hour Project trip assignment with Scenarios 1 and 2 are shown in Figures 4.5, 4.6, 4.7 and 4.8 respectively. The truck AM and PM peak hour Project trip assignment with Scenarios 1 and 2 are shown in Figures 4.9, 4.10, 4.11 and 4.12 respectively. Total trip assignments for both passenger vehicles and trucks with Scenarios 1 and 2 are shown in Figures 4.13, 4.14, 4.15, and 4.16 respectively.

Table 4.1: Project Trip Generation

Land Use	Units	AM Peak Hour			PM Peak Hour						
		Daily	In	Out	Total	In	Out	Total			
<u>Trip Rates</u>											
TUMF Fulfillment Center Rates ¹	TSF	2.129	0.094	0.028	0.122	0.046	0.119	0.165			
Passenger Vehicles	TSF	1.750	0.079	0.024	0.103	0.040	0.104	0.144			
2-4 Axle Trucks	TSF	0.162	0.006	0.002	0.008	0.003	0.008	0.011			
5-Axle Trucks	TSF	0.217	0.008	0.003	0.011	0.003	0.007	0.010			
<u>Total Vehicle Trip Generation</u>											
Project Warehouse	533.252 TSF	1,135	50	15	65	25	63	88			
<u>Vehicle Mix¹</u>											
		<u>% Daily</u>	<u>% AM</u>	<u>% PM</u>							
Passenger Vehicles		82.20%	84.40%	87.30%	933	42	13	55	22	55	77
2-Axle Trucks		1.30%	1.100%	1.10%	15	1	0	1	0	0	1
3-Axle Trucks		2.50%	2.20%	2.20%	28	1	0	1	1	1	2
4-Axle Trucks		3.80%	3.30%	3.30%	43	2	0	2	1	2	3
5+-Axle Trucks		10.20%	9.00%	6.10%	116	5	1	6	1	4	5
		100.00%	100.00%	100.00%	1,135	50	15	65	25	63	88
<u>PCE Trip Generation²</u>											
				<u>PCE Factor</u>							
Passenger Vehicles				1.0	933	42	13	55	22	55	77
2-Axle Trucks				1.5	22	1	1	2	1	0	1
3-Axle Trucks				2.0	57	2	1	3	2	3	5
4-Axle Trucks				3.0	129	5	1	6	2	6	8
5+-Axle Trucks				3.0	347	14	4	18	3	12	15
Total PCE Trip Generation					1,489	64	20	84	30	75	105

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

¹ Trip rates and truck percentages from Exhibit 6 of the TUMF High-Cube Warehouse Trip Generation Study, January 29, 2019. 2, 3 and 4 axle trucks were split as follows: 50% 4-axle, 33.3% 3-axle, and 16.7% 2-axle.

² Passenger Car Equivalent (PCE) factors from County of Riverside Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled, dated December 2020.

Figure 4.1: Project Passenger Vehicle Trip Distribution (Scenario 1 – No Signal)

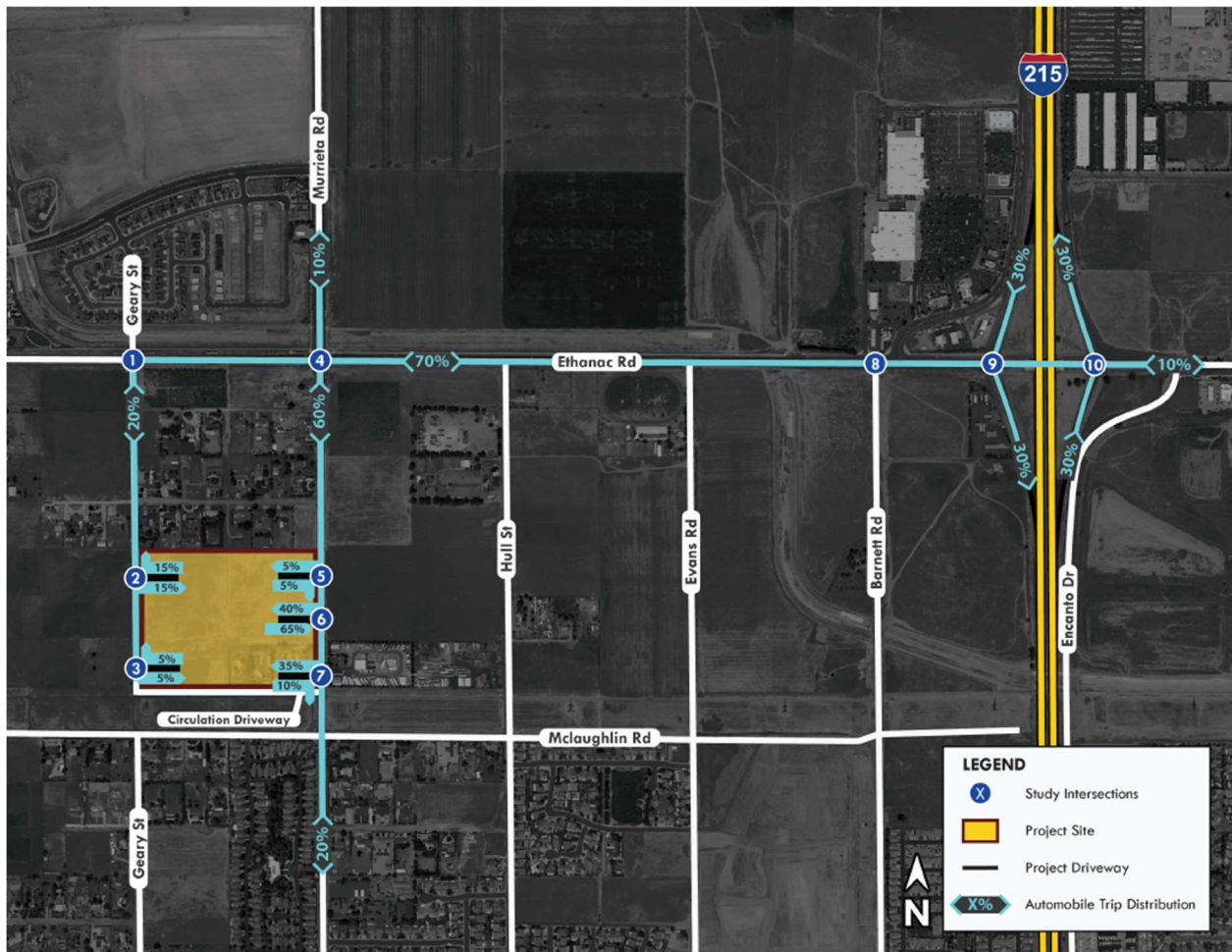


Figure 4.2: Project Passenger Vehicle Trip Distribution (Scenario 2 – With Signal)

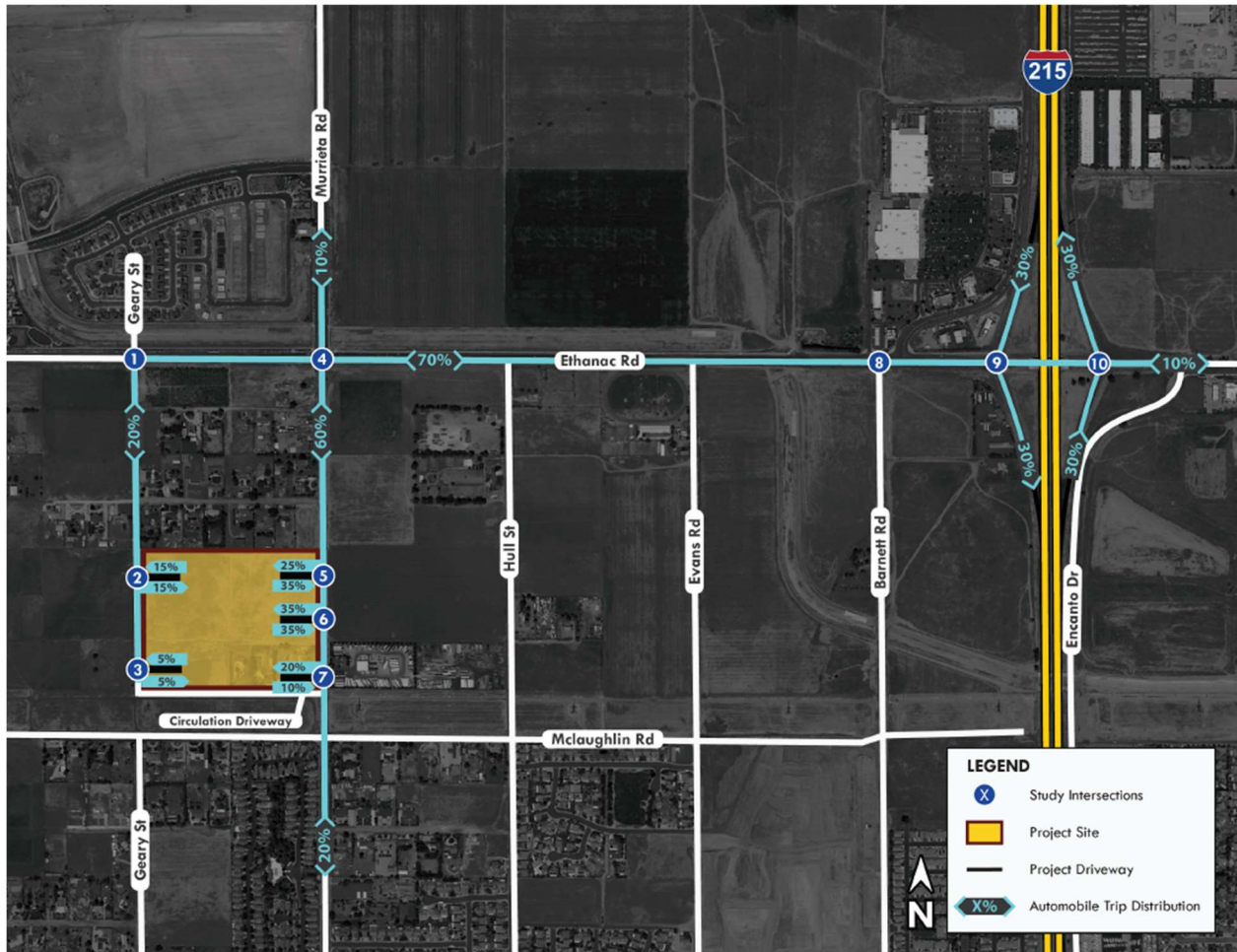


Figure 4.4: Project Truck Trip Distribution (Scenario 2 - With Signal)

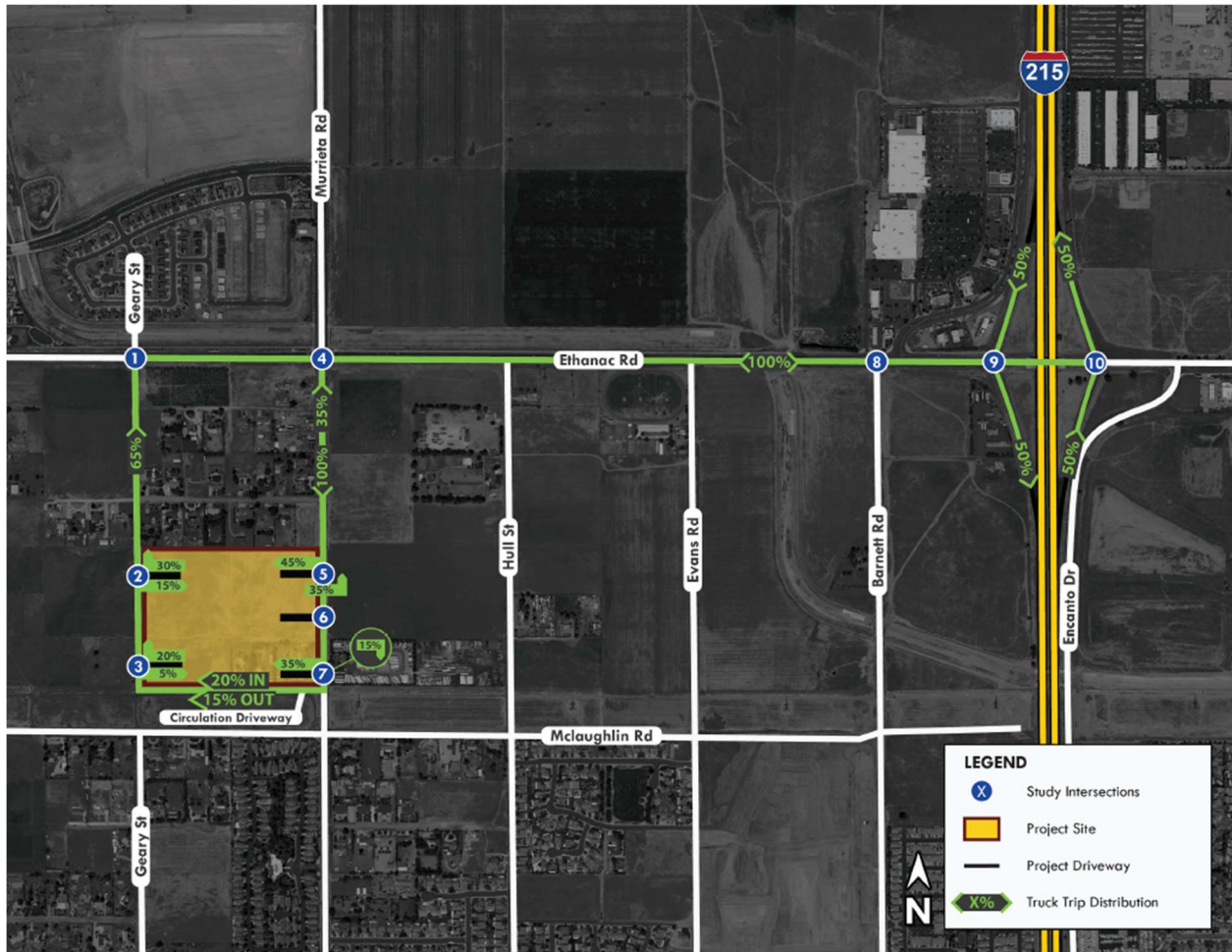


Figure 4.5: Project Passenger Vehicle AM Peak Hour Trip Assignment (Scenario 1- No Signal)

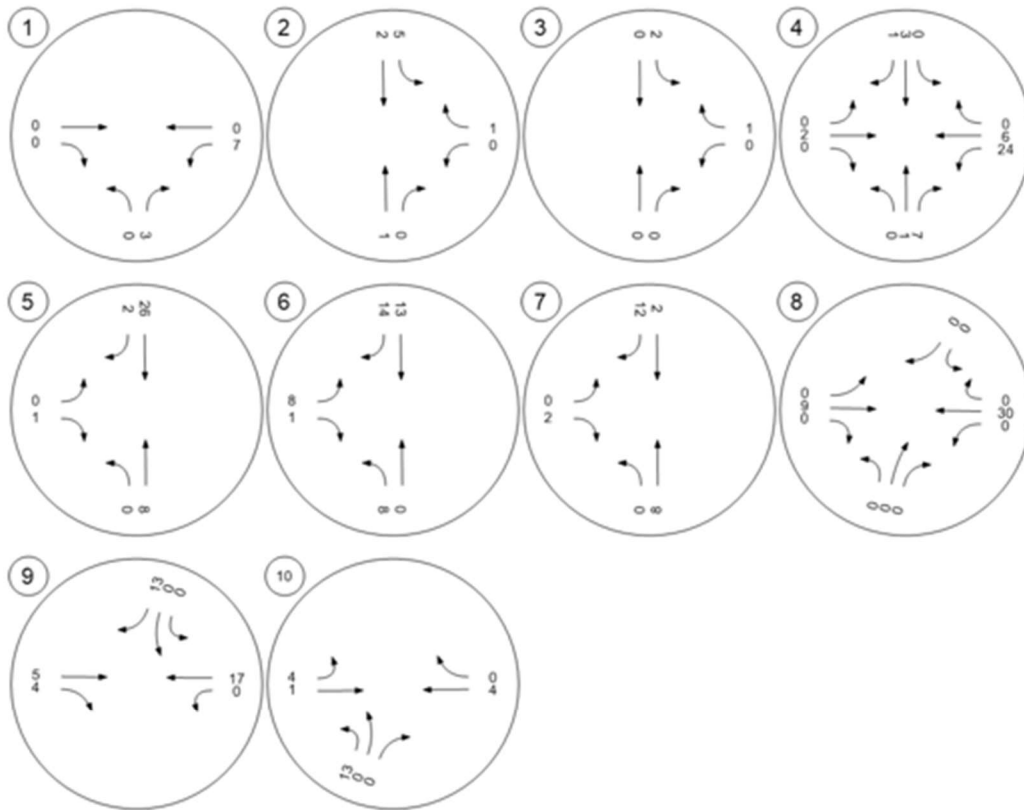


Figure 4.6: Project Passenger Vehicle AM Peak Hour Trip Assignment (Scenario 2- With Signal)

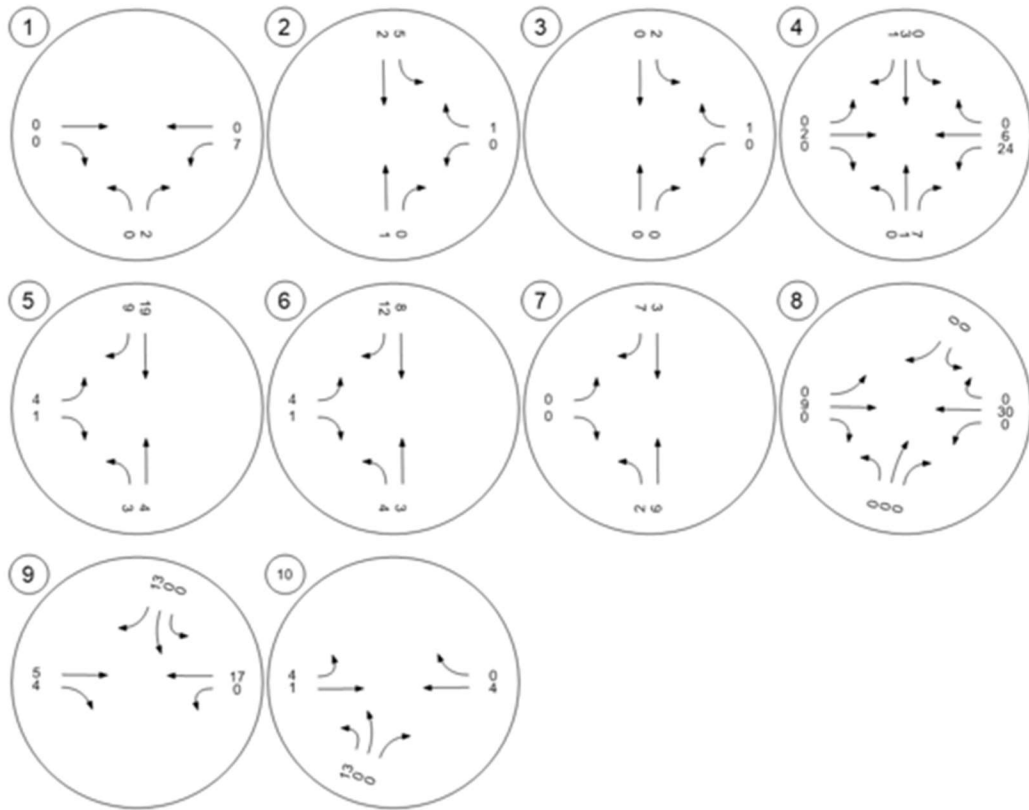


Figure 4.7: Project Passenger Vehicle PM Peak Hour Trip Assignment (Scenario 1 – No Signal)

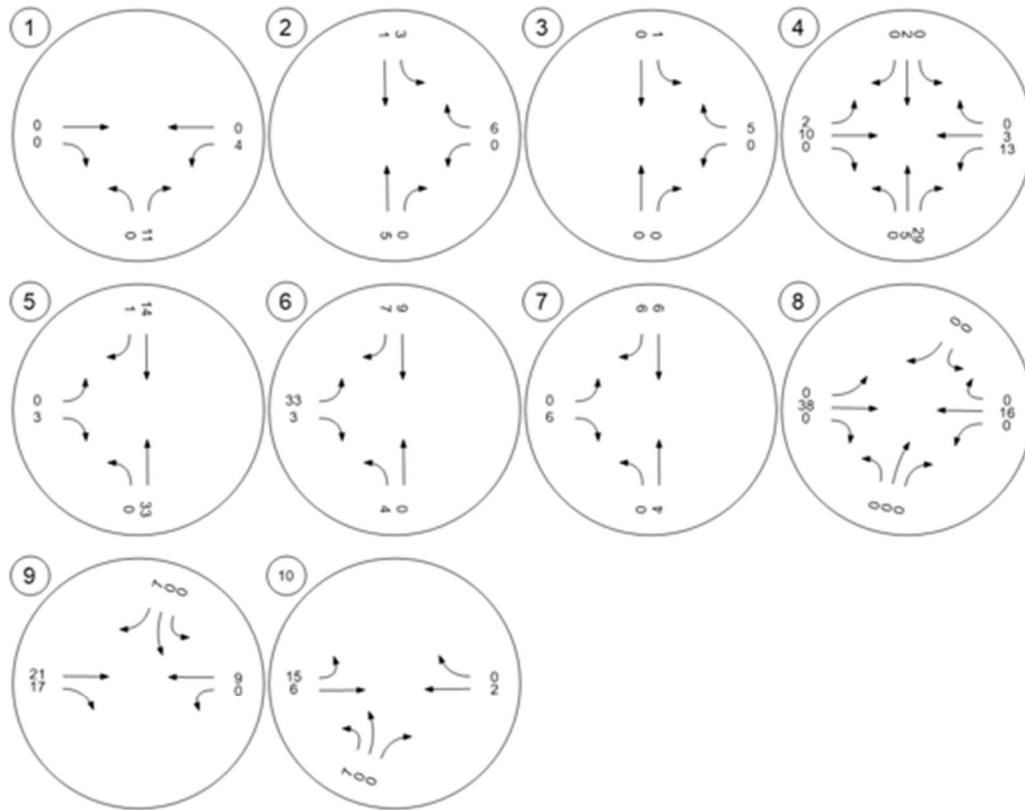


Figure 4.8: Project Passenger Vehicle PM Peak Hour Trip Assignment (Scenario 2 – With Signal)

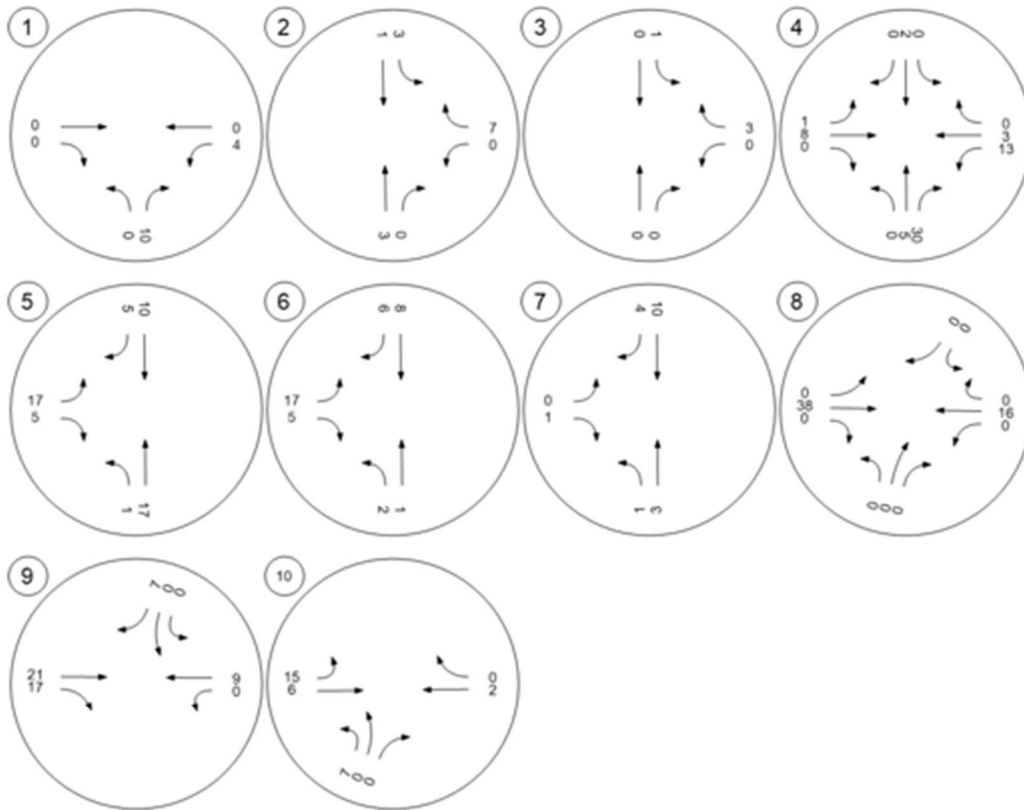


Figure 4.9: Project Truck AM Peak Hour Trip Assignment (Scenario 1 – No Signal)

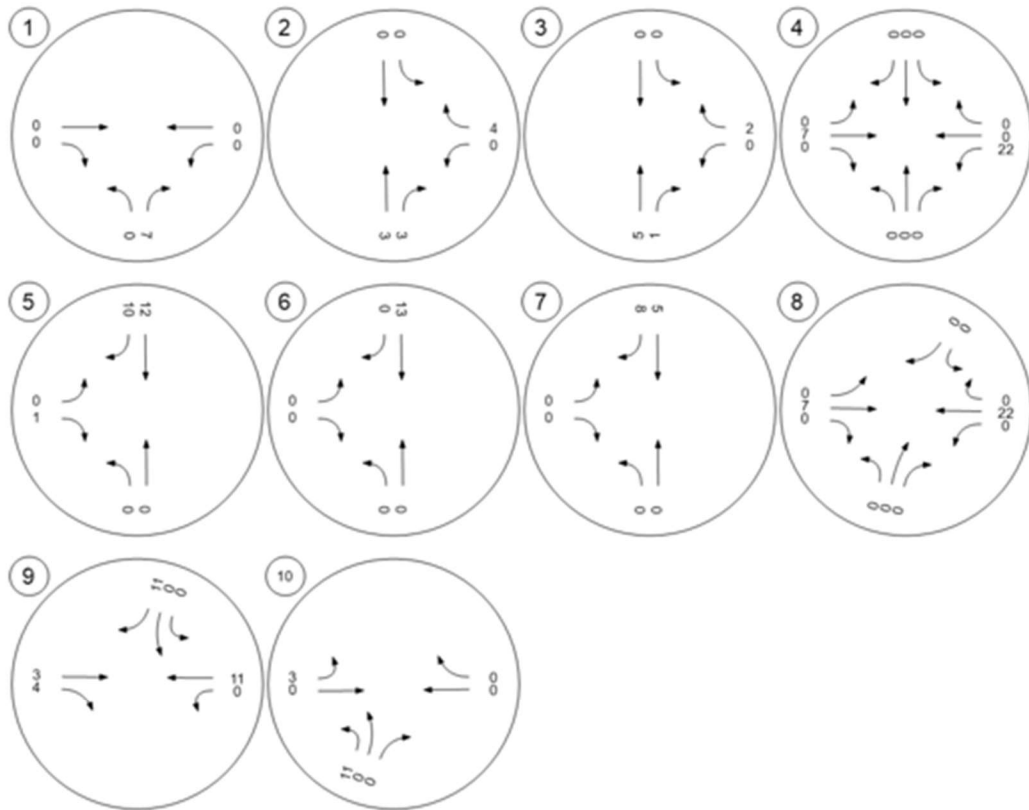


Figure 4.10: Project Truck AM Peak Hour Trip Assignment (Scenario 2 – With Signal)

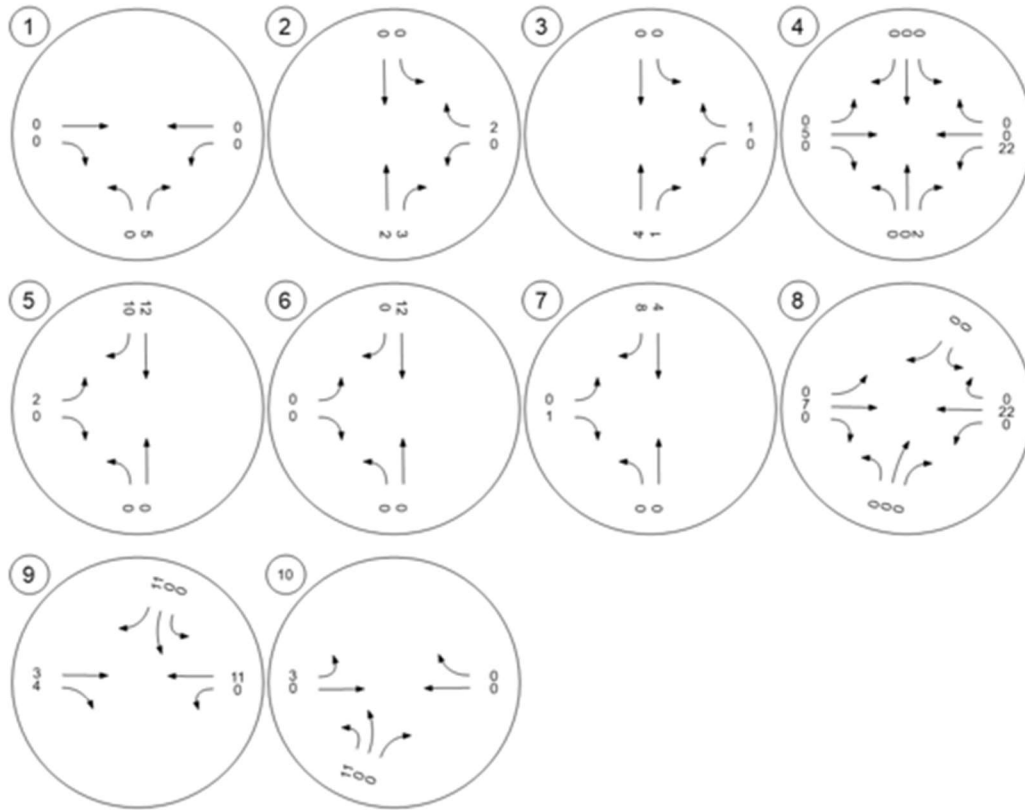


Figure 4.11: Project Truck PM Peak Hour Trip Assignment (Scenario 1 – No Signal)

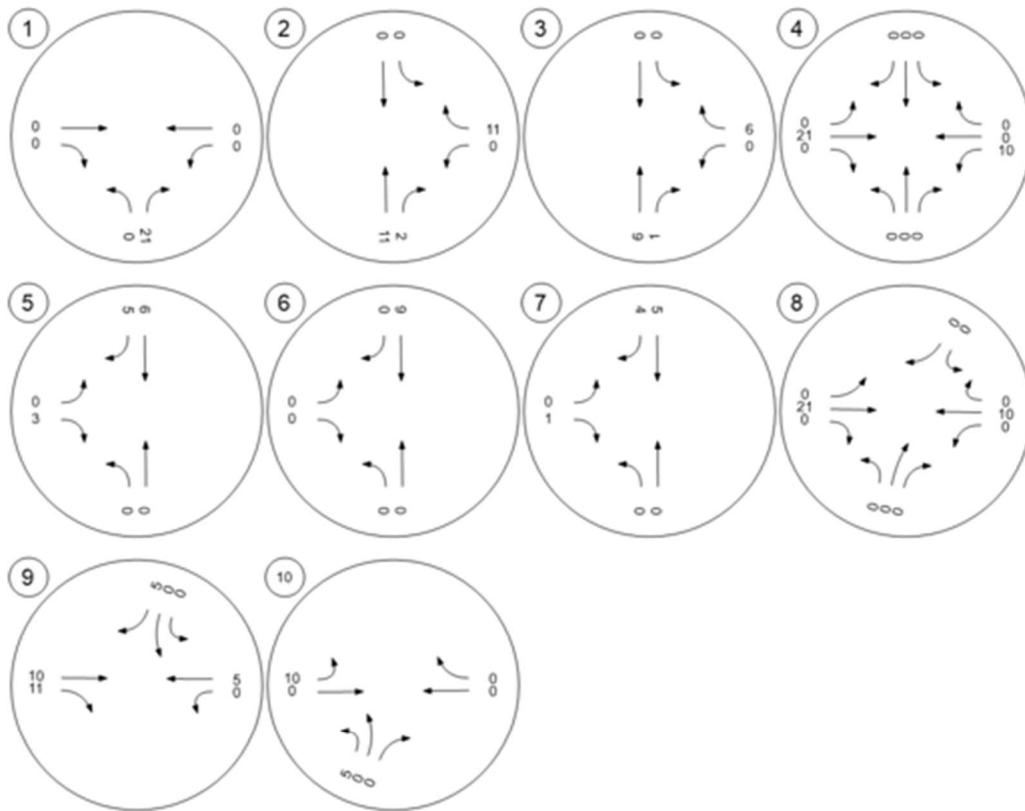


Figure 4.12: Project Truck PM Peak Hour Trip Assignment (Scenario 2 – With Signal)

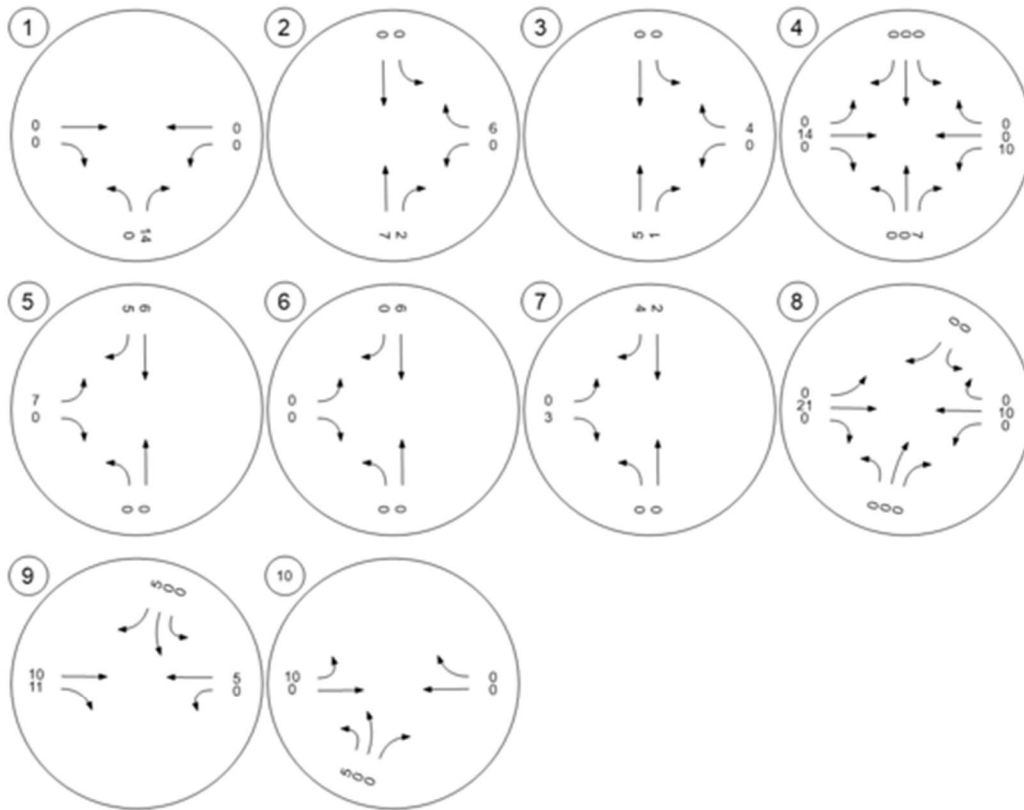


Figure 4.13: Project AM Peak Hour Trip Assignment (Scenario 1 – No Signal)

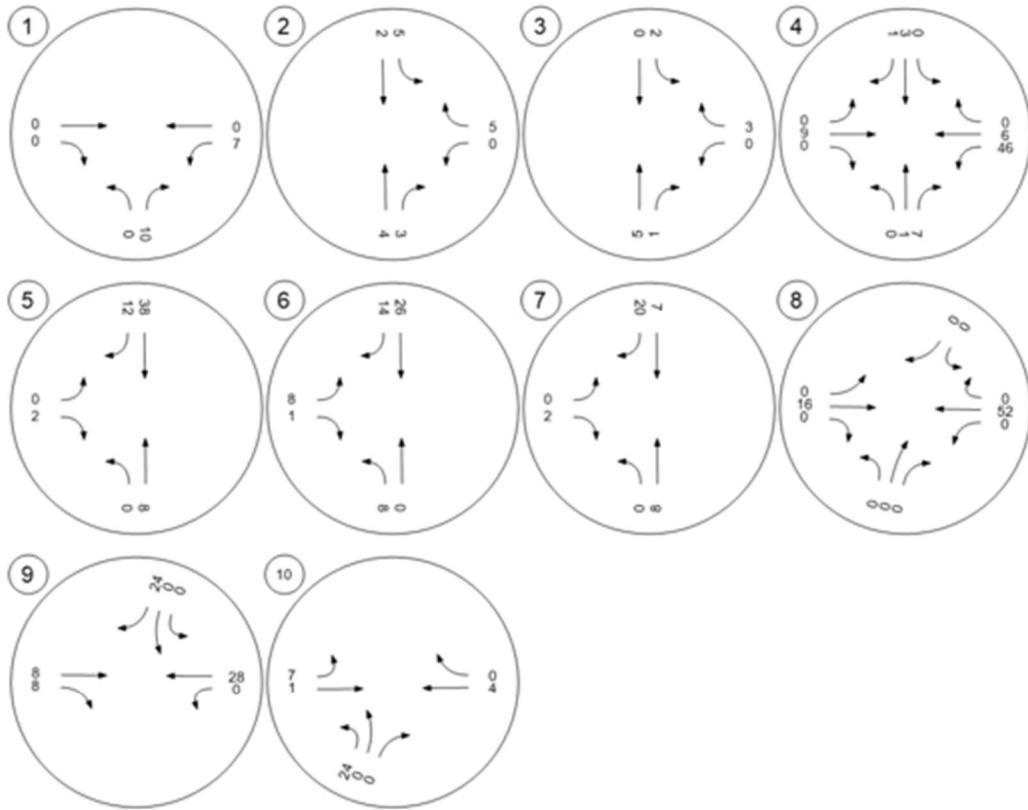


Figure 4.14: Project AM Peak Hour Trip Assignment (Scenario 2 – With Signal)

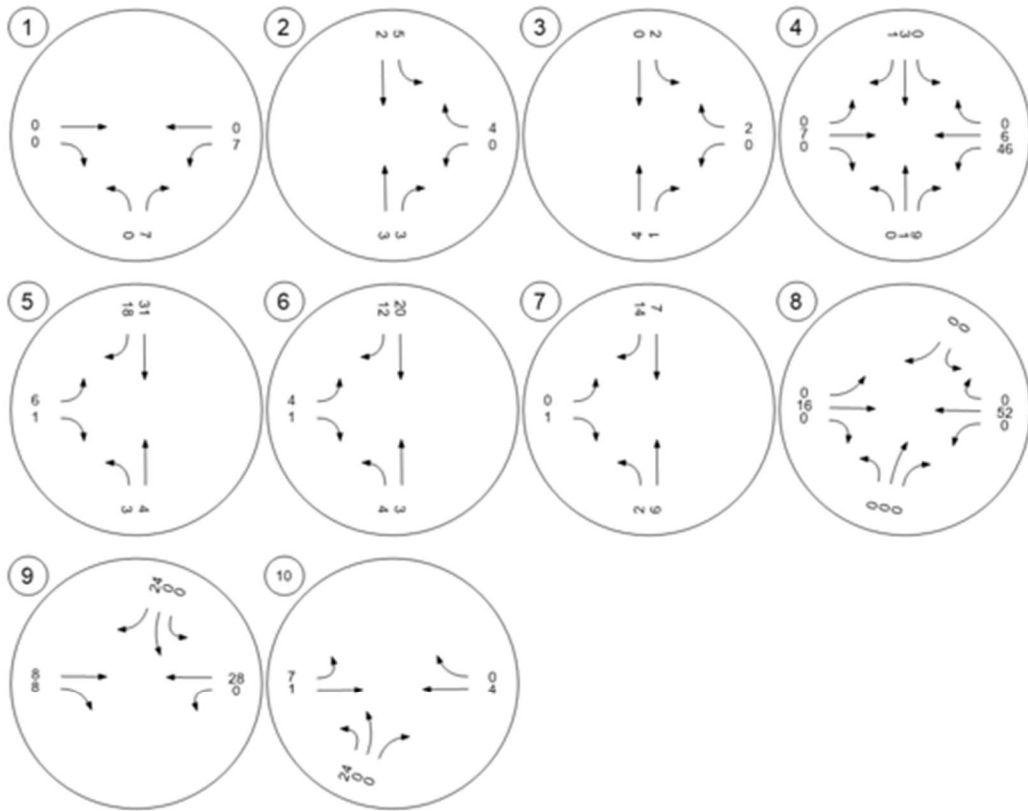


Figure 4.15: Project PM Peak Hour Trip Assignment (Scenario 1 – No Signal)

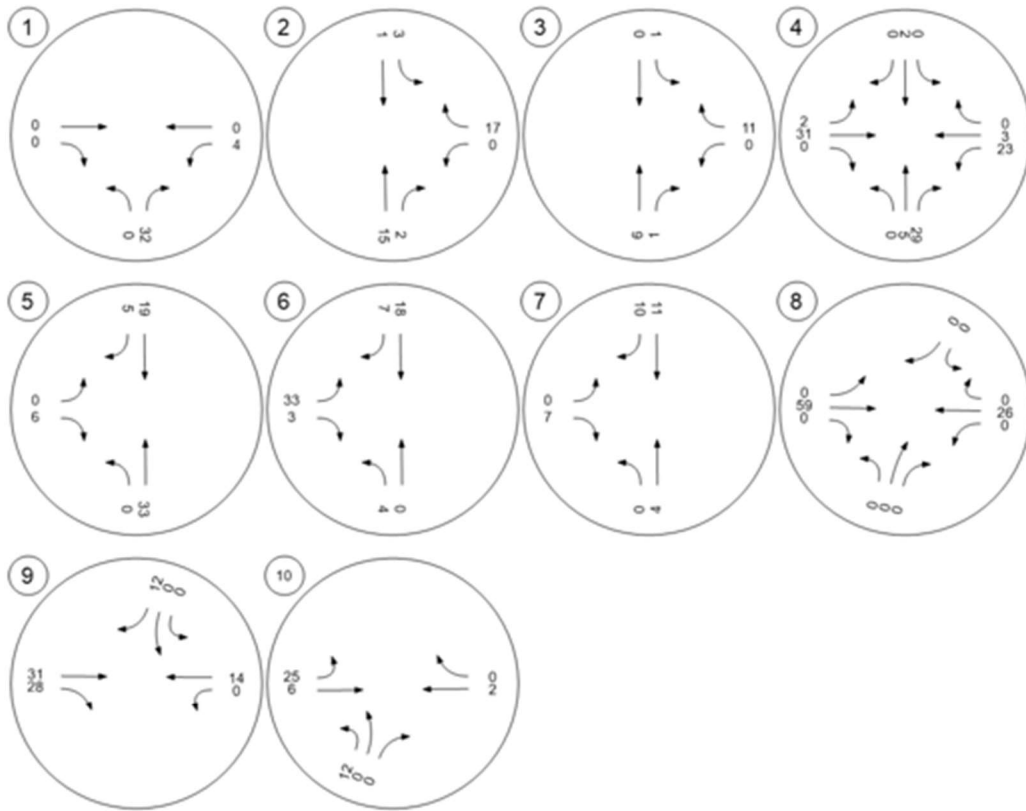
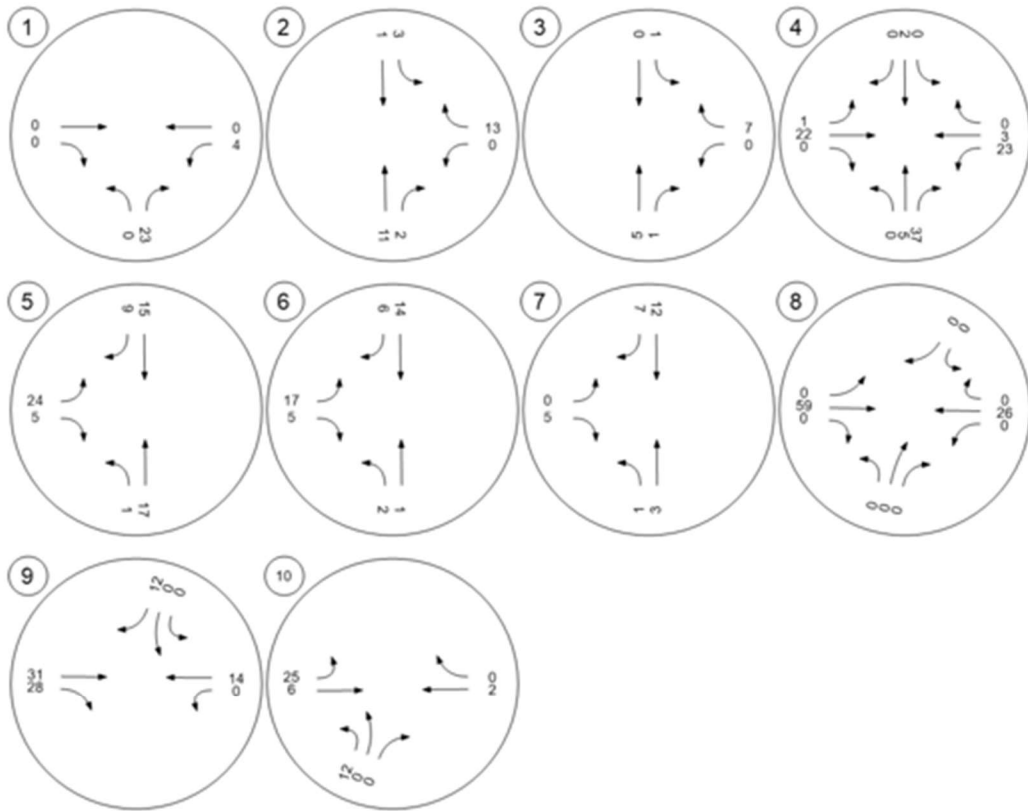


Figure 4.16: Project PM Peak Hour Trip Assignment (Scenario 2 – With Signal)



5 BASELINE PLUS PROJECT CONDITIONS

5.1 Existing Plus Project Traffic Volumes and Intersection Operations

The Existing plus Project traffic volumes were developed by adding the Project trips to the Existing traffic volumes. The Existing plus Project traffic volumes for scenarios 1 and 2 are shown in Figures 5.1, 5.2, 5.3, and 5.4 respectively. LOS at the study area intersections was determined using the HCM methodology, described previously in Section 2.3. Tables 5.1 and 5.2 show the Existing plus Project AM and PM peak hour levels of service at the study area intersections for scenarios 1 and 2. All LOS calculations are provided in Appendix E.

Table 5.1: Existing Plus Project AM and PM Peak Hour Level of Service (Scenario 1 – No Signal)

Intersection	Control Type	Jurisdiction	Existing Year				Existing Year Plus Project				Difference		Threshold of Significance	Significant?
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak	PM Peak		
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS				
1. Geary St/Ethanac Rd	TWSC	City of Menifee/Perris	11.8	B	10.7	B	12.4	B	12.1	B	0.60	1.40	D	No
2. Geary St/Project Dwy 1	TWSC	City of Menifee	-	-	-	-	8.4	A	8.4	A	-	-	D	No
3. Geary St/Project Dwy 2	TWSC	City of Menifee	-	-	-	-	8.4	A	8.4	A	-	-	D	No
4. Murrieta Rd/Ethanac Rd	Signal	City of Menifee/Perris	46.6	D	46.0	D	48.6	D	47.5	D	2.00	1.50	D	No
5. Murrieta Rd/Project Dwy 3	TWSC	City of Menifee	-	-	-	-	9.7	A	10.9	B	-	-	D	No
6. Murrieta Rd/Project Dwy 4	TWSC	City of Menifee	-	-	-	-	13.0	B	16.7	C	-	-	D	No
7. Murrieta Rd/Project Dwy 5	TWSC	City of Menifee	-	-	-	-	9.5	A	10.8	B	-	-	D	No
8. Case Rd-Barnett Rd / Ethanac Rd	Signal	City of Menifee/Perris	61.9	E	53.4	D	63.8	E	54.0	D	1.90	0.60	E	No
9. I-215 SB Ramps/Ethanac Rd	Signal	Caltrans/City of Perris	28.3	C	26.8	C	30.9	C	27.3	C	2.60	0.50	E	No
10. I-215 NB Ramps/Ethanac Rd	Signal	Caltrans/City of Perris	38.6	D	38.6	D	38.9	D	38.8	D	0.30	0.20	E	No

TWSC = Two Way Stop Control
 Delay Reported in Seconds per Vehicle
 LOS = Level of Service
 Unsatisfactory Level of Service

Table 5.2: Existing Plus Project AM and PM Peak Hour Level of Service (Scenario 2 – With Signal)

Intersection	Control Type	Jurisdiction	Existing Year				Existing Year Plus Project				Difference		Threshold of Significance	Significant?
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak	PM Peak		
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS				
1. Geary St/Ethanac Rd	TWSC	City of Menifee/Perris	11.8	B	10.7	B	12.2	B	11.6	B	0.40	0.90	D	No
2. Geary St/Project Dwy 1	TWSC	City of Menifee	-	-	-	-	8.3	A	8.4	A	-	-	D	No
3. Geary St/Project Dwy 2	TWSC	City of Menifee	-	-	-	-	8.3	A	8.4	A	-	-	D	No
4. Murrieta Rd/Ethanac Rd	Signal	City of Menifee/Perris	46.6	D	46.0	D	48.6	D	47.5	D	2.00	1.50	D	No
5. Murrieta Rd/Project Dwy 3	Signal	City of Menifee	-	-	-	-	11.1	B	10.5	B	-	-	D	No
6. Murrieta Rd/Project Dwy 4	TWSC	City of Menifee	-	-	-	-	12.8	B	16.0	C	-	-	D	No
7. Murrieta Rd/Project Dwy 5	TWSC	City of Menifee	-	-	-	-	9.5	A	10.8	B	-	-	D	No
8. Case Rd-Barnett Rd / Ethanac Rd	Signal	City of Menifee/Perris	33.2	C	34.8	C	33.3	C	36.4	D	0.10	1.60	E	No
9. I-215 SB Ramps/Ethanac Rd	Signal	Caltrans/City of Perris	28.3	C	26.5	C	31.1	C	27.1	C	2.80	0.60	E	No
10. I-215 NB Ramps/Ethanac Rd	Signal	Caltrans/City of Perris	38.6	D	38.6	D	38.9	D	38.8	D	0.30	0.20	E	No

TWSC = Two Way Stop Control
 Delay Reported in Seconds per Vehicle
 LOS = Level of Service
 Unsatisfactory Level of Service

Figure 5.2: Existing Plus Project AM Peak Hour Volumes (Scenario 2 – With Signal)

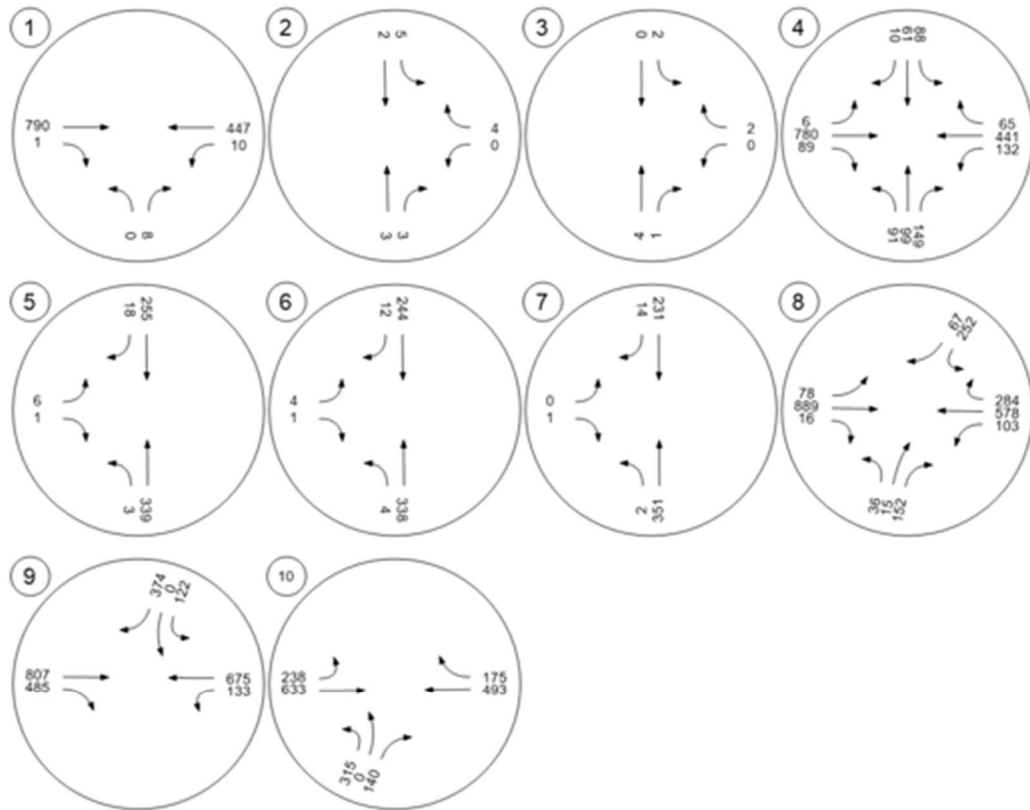


Figure 5.3: Existing Plus Project PM Peak Hour Volumes (Scenario 1 – No Signal)

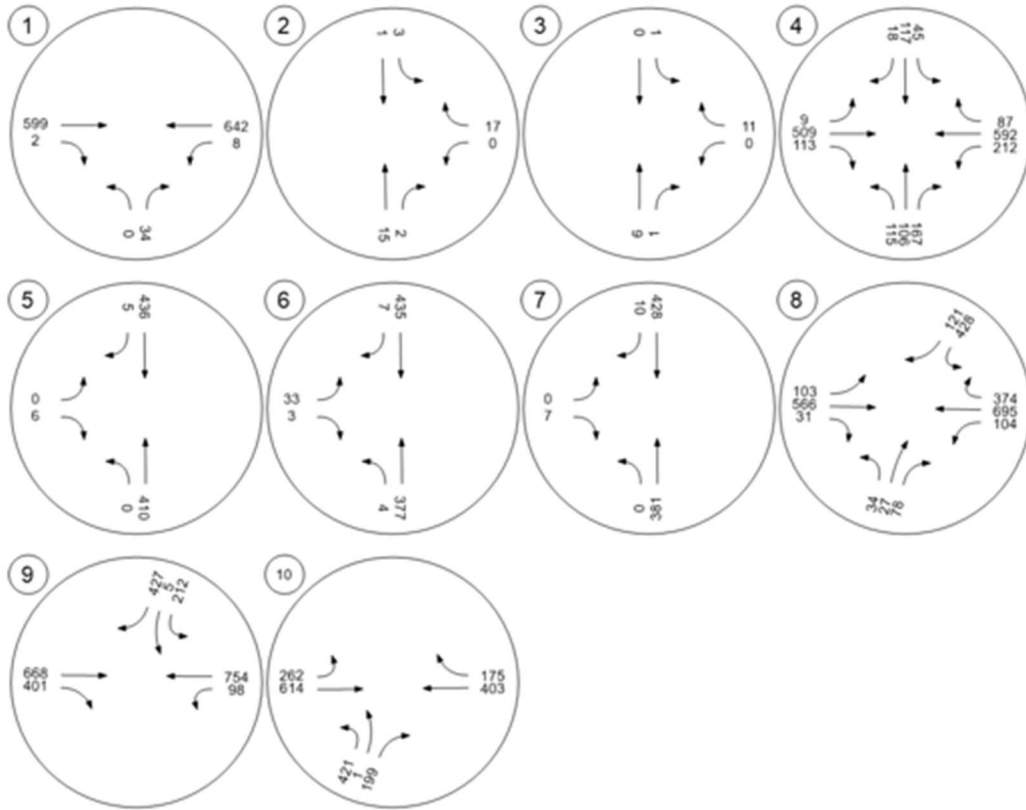
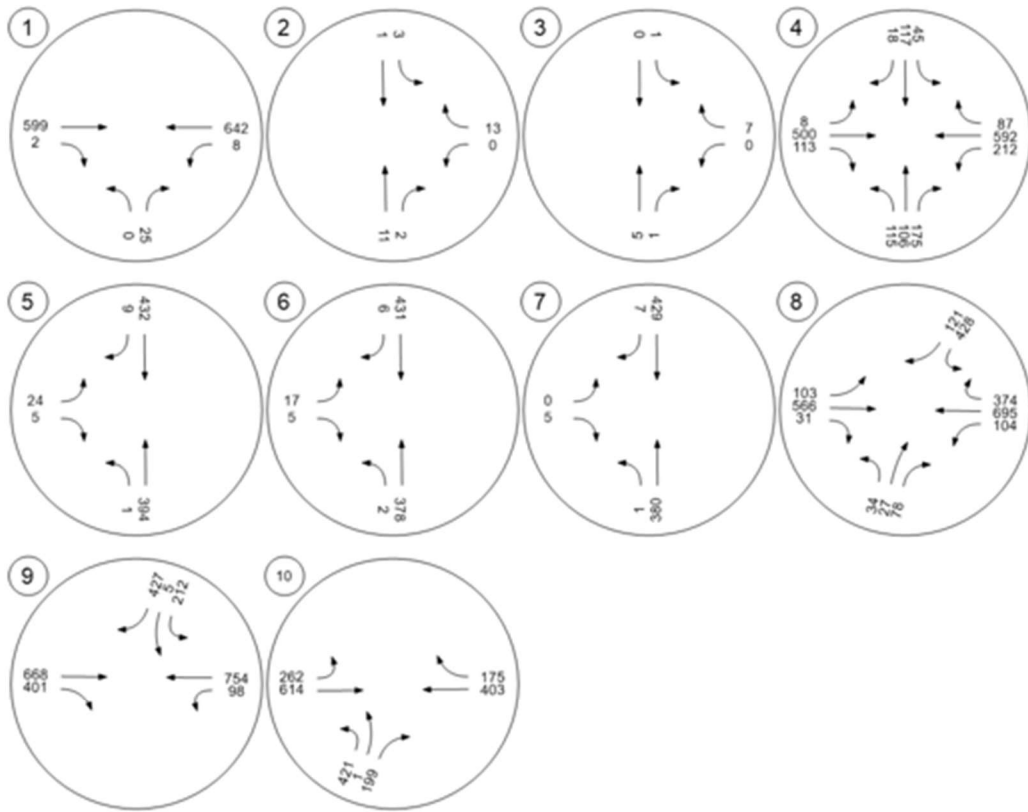


Figure 5.4: Existing Plus Project PM Peak Hour Volumes (Scenario 2 – With Signal)



5.2 Existing Roadway Segment Capacity Analysis

As discussed in Section 3.1, Ethanac Road is designated as a six-lane divided expressway as per the City of Menifee General Plan. In the vicinity of the project, the existing Ethanac Road is a four-lane divided arterial. EPD collected roadway segment counts for the study roadway segment on Wednesday, May 10, 2023. All traffic count data are provided in Appendix B. Existing roadway segment capacity analysis for Scenarios 1 and 2 are shown in Tables 5.3 and 5.4.

Table 5.3: Existing Year Roadway Segment Capacity Analysis (Scenario 1 – No Signal)

Roadway Segment	Type of Roadway	Threshold of Significance	Threshold Capacity ¹	Existing Roadway ADT	Project Volume on Roadway Segment	Existing Roadway ADT + Project Volume	Over Capacity?
1. Ethanac Rd between Geary St and Murrieta Rd	4-Lane Arterial	LOS D	33,400	14,878	446	15,324	No
2. Ethanac Rd between Murrieta Rd and Barnett Rd	4-Lane Arterial	LOS D	33,400	16,049	1,209	17,258	No
3. Murrieta Rd between Ethanac Rd and McLaughlin Rd	2-Lane Collector	LOS D	11,700	8,608	858	9,466	No
4. Murrieta Rd between McLaughlin Rd and Rouse Rd	2-Lane Collector	LOS D	11,700	7,843	186	8,029	No
5. Murrieta Rd between Ethanac Rd and Green Valley Pkwy	2-Lane Collector	LOS D	11,700	2,698	94	2,792	No

¹ City of Menifee LOS Traffic Study Guidelines, October 2020

Table 5.4: Existing Year Roadway Segment Capacity Analysis (Scenario 2 – With Signal)

Roadway Segment	Type of Roadway	Threshold of Significance	Threshold Capacity ¹	Existing Roadway ADT	Project Volume on Roadway Segment	Existing Roadway ADT + Project Volume	Over Capacity?
1. Ethanac Rd between Geary St and Murrieta Rd	4-Lane Arterial	LOS D	33,400	14,878	339	15,217	No
2. Ethanac Rd between Murrieta Rd and Barnett Rd	4-Lane Arterial	LOS D	33,400	16,049	1,209	17,258	No
3. Murrieta Rd between Ethanac Rd and McLaughlin Rd	2-Lane Collector	LOS D	11,700	8,608	966	9,574	No
4. Murrieta Rd between McLaughlin Rd and Rouse Rd	2-Lane Collector	LOS D	11,700	7,843	186	8,029	No
5. Murrieta Rd between Ethanac Rd and Green Valley Pkwy	2-Lane Collector	LOS D	11,700	2,698	94	2,792	No

¹ City of Menifee LOS Traffic Study Guidelines, October 2020

5.3 Opening Year Cumulative With Project Traffic Volumes and Intersection Operations

Opening Year Cumulative with Project traffic volumes were determined by adding the project trips to Opening Year traffic volumes. The Opening Year Cumulative with Project traffic volumes for scenarios 1 and 2 are shown in Figures 5.5, 5.6, 5.7 and 5.8 respectively. LOS at the study area intersections were determined using the HCM methodology, described previously in Section 2.3. Tables 5.5 and 5.6 shows the Opening Year plus Project AM and PM peak hour LOS at the study area intersections for scenarios 1 and 2. All LOS calculations are provided in *Appendix E*. As shown in Tables 5.5 and 5.6, the following intersections would operate at an unsatisfactory LOS for scenarios 1 and 2:

4. Murrieta Road/Ethanac Road (LOS F at AM/PM peak hour)
8. Barnett Road-Case Road/Ethanac Road (LOS F at AM/PM peak hour)
9. I-215 SB Ramps/Ethanac Road (LOS F at AM/PM peak hour)
10. I-215 NB Ramps/Ethanac Road (LOS F at AM/PM peak hour)

As stated in the City of Menefee LOS TS Guidelines, a project that adds 50 trips to an intersection that operates at an LOS E or F in the base line scenario would result in a cumulative deficiency. For Intersection 1: Geary St/Ethanac Road, the project would not result in a significant deficiency. Intersections 4: Geary St/Ethanac Rd, 8: Case Rd-Barnett Rd/Ethanac Rd, 9: I-215 SB Ramps/Ethanac Rd and 10: I-215 NB Ramps/Ethanac Rd would operate at LOS F during AM and PM peak hour and would result in an increase of delay more than 2 seconds after the proposed project is constructed. Therefore, the project would have a significant deficiency at Intersections 4: Geary St/Ethanac Rd, 8: Case Rd-Barnett Rd/Ethanac Rd, 9: I-215 SB Ramps/Ethanac Rd and 10: I-215 NB Ramps/Ethanac Rd. Improvements for the intersection are discussed in Section 6 Project Improvements and Fair Share.

Table 5.5: Opening Year Cumulative With Project AM and PM Peak Hour Level of Service (Scenario 1 – No Signal)

Intersection	Control Type	Jurisdiction	Opening Year				Opening Year Plus Project				Difference		Threshold of Significance	Significant?
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak	PM Peak		
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS				
1. Geary St/Ethanac Rd	TWSC	City of Menifee/Perris	16.80	C	13.80	B	18.50	C	14.80	B	1.70	1.00	D	No
2. Geary St/Project Dwy 1	TWSC	City of Menifee	-	-	-	-	8.40	A	8.40	A	-	-	D	No
3. Geary St/Project Dwy 2	TWSC	City of Menifee	-	-	-	-	8.4	A	8.4	A	-	-	D	No
4. Murrieta Rd/Ethanac Rd	Signal	City of Menifee/Perris	221.90	F	217.00	F	239.8	F	226.80	F	17.90	9.80	D	Yes
5. Murrieta Rd/Project Dwy 3	TWSC	City of Menifee	-	-	-	-	9.90	A	11.30	B	-	-	D	No
6. Murrieta Rd/Project Dwy 4	TWSC	City of Menifee	-	-	-	-	14.10	B	18.00	C	-	-	D	No
7. Murrieta Rd/Project Dwy 5	TWSC	City of Menifee	-	-	-	-	9.7	A	11.1	B	-	-	D	No
8. Case Rd-Barnett Rd/Ethanac Rd	Signal	City of Menifee/Perris	326.20	F	362	F	359.7	F	374.20	F	33.50	12.20	E	Yes
9. I-215 SB Ramps/Ethanac Rd	Signal	Caltrans/City of Perris	920.9	F	995.4	F	993.1	F	1072.40	F	72.20	77.00	E	Yes
10. I-215 NB Ramps/Ethanac Rd	Signal	Caltrans/City of Perris	634.1	F	600.1	F	642.20	F	608.40	F	8.10	8.30	E	Yes

TWSC = Two Way Stop Control

Delay Reported in Seconds per Vehicle

LOS = Level of Service

Unsatisfactory Level of Service

Table 5.6: Opening Year Cumulative With Project AM and PM Peak Hour Level of Service (Scenario 2 – With Signal)

Intersection	Control Type	Jurisdiction	Opening Year				Opening Year Plus Project				Difference		Threshold of Significance	Significant?
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak	PM Peak		
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS				
1. Geary St/Ethanac Rd	TWSC	City of Menifee/Perris	16.80	C	13.80	B	18.00	C	14.40	B	1.20	0.60	D	No
2. Geary St/Project Dwy 1	TWSC	City of Menifee	-	-	-	-	8.30	A	8.30	A	-	-	D	No
3. Geary St/Project Dwy 2	TWSC	City of Menifee	-	-	-	-	8.3	A	8.3	A	-	-	D	No
4. Murrieta Rd/Ethanac Rd	Signal	City of Menifee/Perris	221.90	F	217.00	F	239.7	F	227.20	F	17.80	10.20	D	Yes
5. Murrieta Rd/Project Dwy 3	TWSC	City of Menifee	-	-	-	-	14.10	B	17.80	C	-	-	D	No
6. Murrieta Rd/Project Dwy 4	TWSC	City of Menifee	-	-	-	-	13.90	B	17.50	C	-	-	D	No
7. Murrieta Rd/Project Dwy 5	TWSC	City of Menifee	-	-	-	-	9.7	A	11.1	B	-	-	D	No
8. Case Rd-Barnett Rd/Ethanac Rd	Signal	City of Menifee/Perris	336.20	F	362	F	370.8	F	374.20	F	34.60	12.20	E	Yes
9. I-215 SB Ramps/Ethanac Rd	Signal	Caltrans/City of Perris	920.9	F	995.4	F	993.1	F	1072.40	F	72.20	77.00	E	Yes
10. I-215 NB Ramps/Ethanac Rd	Signal	Caltrans/City of Perris	634.1	F	600.1	F	640.7	F	608.40	F	6.60	8.30	E	Yes

TWSC = Two Way Stop Control

Delay Reported in Seconds per Vehicle

LOS = Level of Service

Unsatisfactory Level of Service

Figure 5.5: Opening Year Cumulative With Project AM Peak Hour Volumes (Scenario 1 – No Signal)

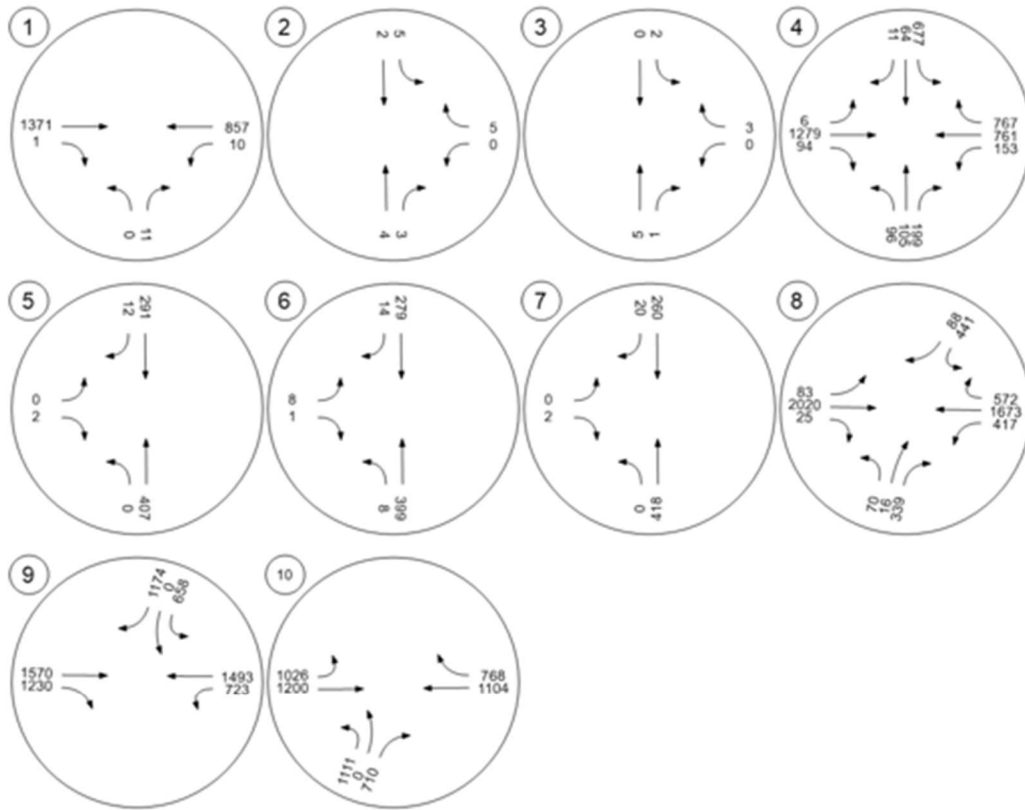


Figure 5.6: Opening Year Cumulative With Project AM Peak Hour Volumes (Scenario 2 – With Signal)

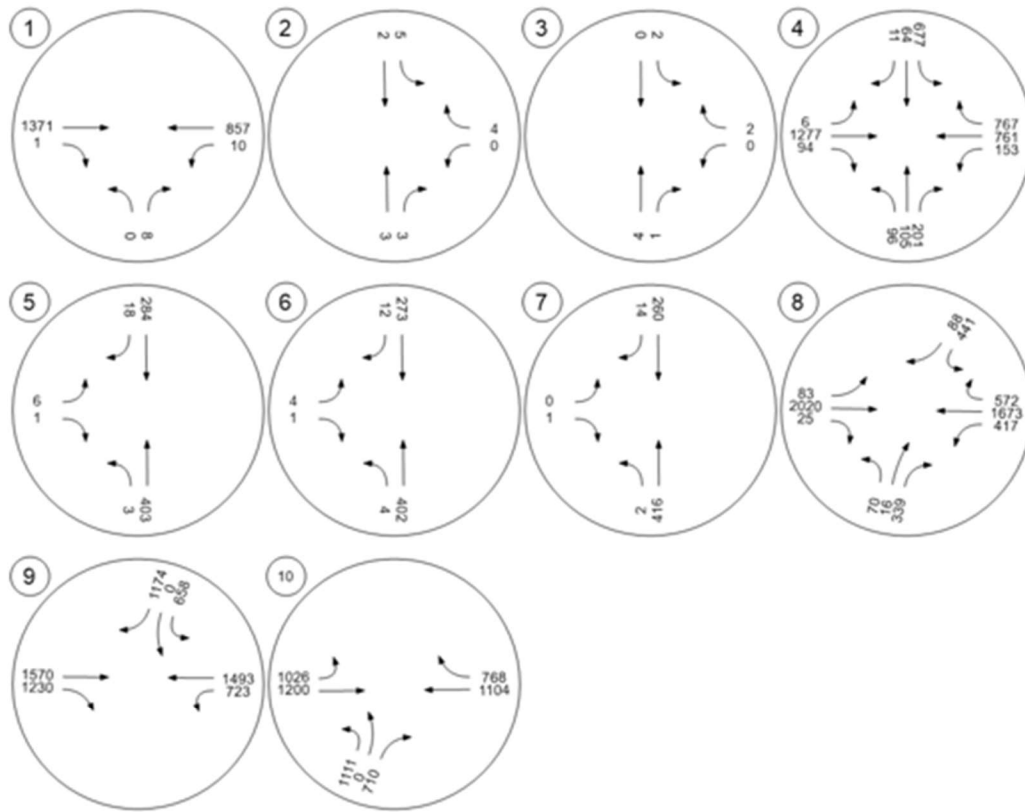


Figure 5.7: Opening Year Cumulative With Project PM Peak Hour Volumes (Scenario 1 – No Signal)

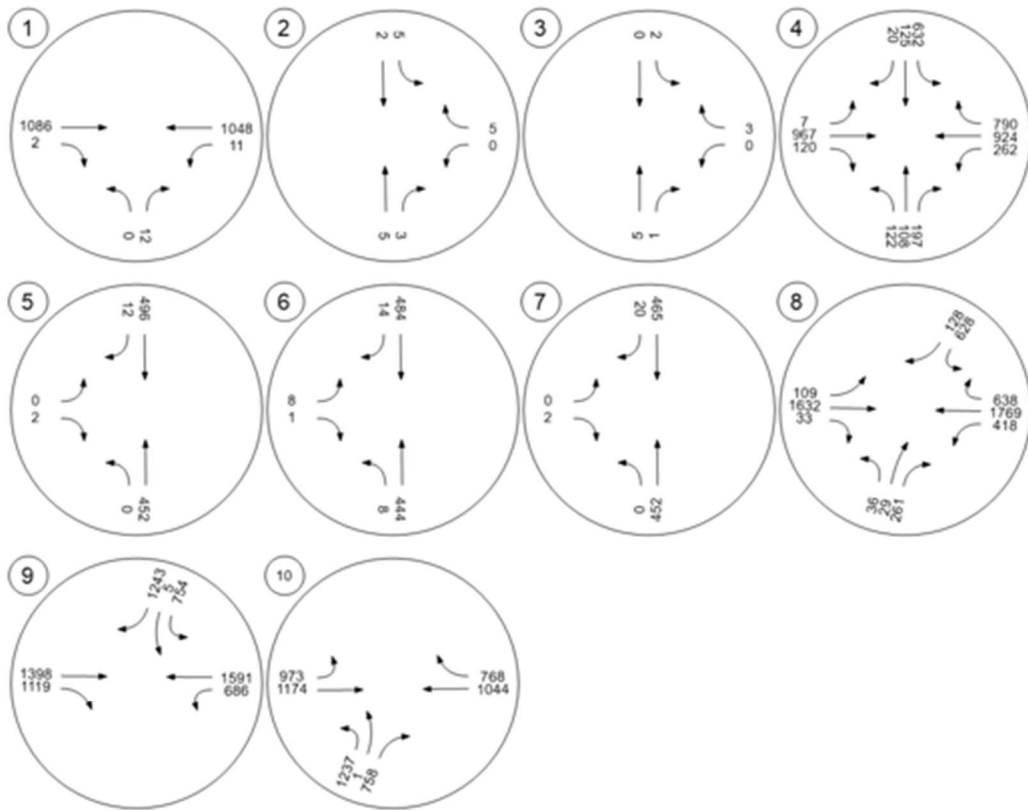
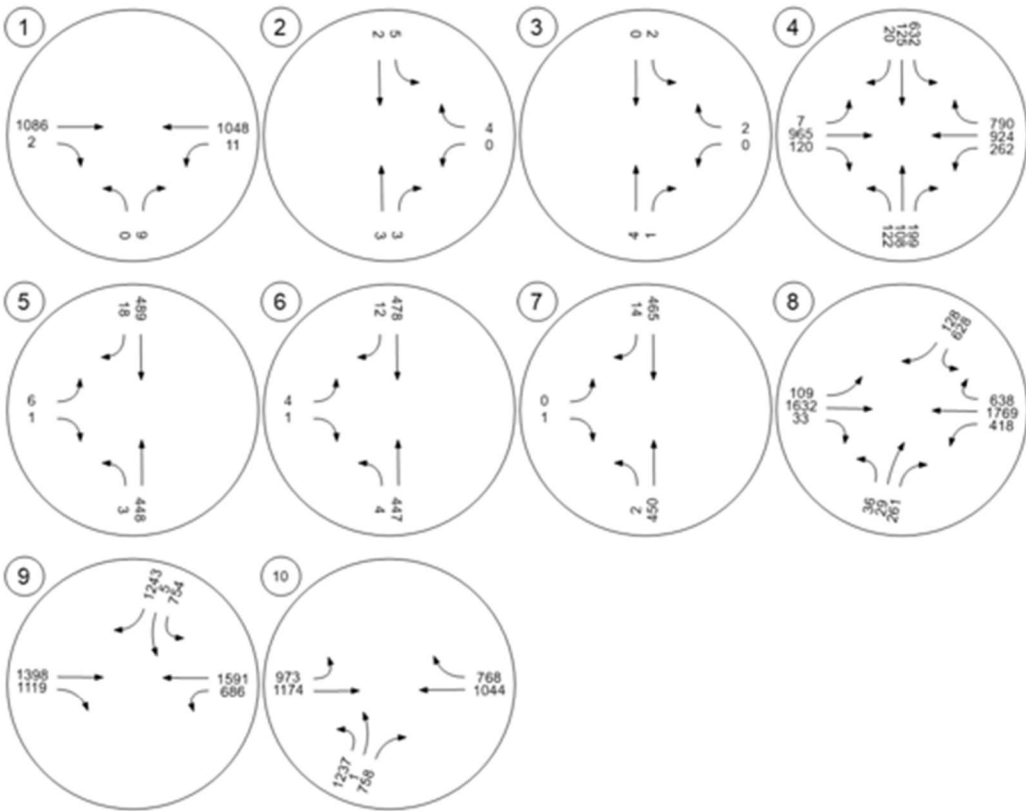


Figure 5.8: Opening Year Cumulative With Project PM Peak Hour Volumes (Scenario 2 – With Signal)



5.4 Opening Year Roadway Segment Capacity Analysis

As discussed in Section 3.1, Ethanac Road is designated as a six-lane divided expressway as per the City of Menifee General Plan. In the vicinity of the project, the existing Ethanac Road is a four-lane divided arterial. A two percent growth rate was applied to the existing Average Daily Traffic (ADT) to obtain opening year roadway segment volumes. Opening year roadway segment capacity analysis for scenarios 1 and 2 are shown in Tables 5.7 and 5.8. It is to be noted that the opening year roadway ADT includes cumulative projects.

Table 5.7: Opening Year Roadway Segment Capacity Analysis (Scenario 1 – No Signal)

Roadway Segment	Type of Roadway	Threshold of Significance	Threshold Capacity ¹	Opening Roadway ADT*	Project Volume on Roadway Segment	Opening Roadway ADT + Project Volume	Project Traffic Percentage	Over Capacity?
1. Ethanac Rd between Geary St and Murrieta Rd	4-Lane Arterial	LOS D	33,400	27,617	446	28,063	1.59%	No
2. Murrieta Rd and Barnett Rd	4-Lane Arterial	LOS D	33,400	46,083	1,209	47,292	2.56%	Yes
3. Murrieta Rd between Ethanac Rd and McLaughlin Rd	2-Lane Collector	LOS D	11,700	9,752	858	10,610	8.09%	No
4. Murrieta Rd between McLaughlin Rd and Rouse Rd	2-Lane Collector	LOS D	11,700	8,957	186	9,143	2.03%	No
5. Murrieta Rd between Ethanac Rd and Green Valley Pkwy	2-Lane Collector	LOS D	11,700	19,254	94	19,348	0.49%	Yes

* 2% Growth Rate applied to existing ADT - Cumulative Projects Included

¹ City of Menifee LOS Traffic Study Guidelines, October 2020

Table 5.8: Opening Year Roadway Segment Capacity Analysis (Scenario 2 – With Signal)

Roadway Segment	Type of Roadway	Threshold of Significance	Threshold Capacity ¹	Opening Roadway ADT*	Project Volume on Roadway Segment	Opening Roadway ADT + Project Volume	Project Traffic Percentage	Over Capacity?
1. Ethanac Rd between Geary St and Murrieta Rd	4-Lane Arterial	LOS D	33,400	27,617	339	27,956	1.21%	No
2. Murrieta Rd and Barnett Rd	4-Lane Arterial	LOS D	33,400	46,083	1,209	47,292	2.56%	Yes
3. Murrieta Rd between Ethanac Rd and McLaughlin Rd	2-Lane Collector	LOS D	11,700	9,752	966	10,718	9.01%	No
4. Murrieta Rd between McLaughlin Rd and Rouse Rd	2-Lane Collector	LOS D	11,700	8,957	186	9,143	2.03%	No
5. Murrieta Rd between Ethanac Rd and Green Valley Pkwy	2-Lane Collector	LOS D	11,700	19,254	94	19,348	0.49%	Yes

* 2% Growth Rate applied to existing ADT - Cumulative Projects Included

¹ City of Menifee LOS Traffic Study Guidelines, October 2020

6 PROJECT IMPROVEMENT AND FAIR SHARE

6.1 Recommended Improvements

The development of the proposed project would cause an increase in delay at the following intersections. It should be noted that these four intersections already operate with unsatisfactory LOS in the existing conditions:

4. Murrieta Road/Ethanac Road (LOS F at AM/PM peak hour)
8. Case Road-Barnett Road /Ethanac Road (LOS F at AM/PM peak hour)
9. I-215 SB Ramps/Ethanac Road (LOS F at AM/PM peak hour)
10. I-215 NB Ramps/Ethanac Road (LOS F at AM/PM peak hour)

The following improvements improve the intersection LOS to satisfactory LOS or better:

4. Murrieta Rd/Ethanac Rd (AM and PM peak hours):

Widen and restripe the NB shared left-thru-right lane to provide exclusive left-turn, thru, and left-turn lanes.

8. Barnett Road-Case Road/Ethanac Road (AM and PM peak hours):

Widen and restripe the northbound shared left-thru-right lane to provide an exclusive right-turn lane and a shared thru-left turn lane. To increase intersection safety, it is recommended that cat tracks pavement markers be installed for all the edges of the dual SBL instead of the single cat track currently installed in the middle of the SBL turns. It is also recommended that a “Keep Clear” pavement marking be installed approximately 85 feet beyond the stop line of the 50 feet left turn pocket at Barnett Road/Ethanac Road. This will ensure that the WBL traffic does not block traffic waiting to make a SBL given the staggered nature of this intersection.

9. I-215 SB Ramps/Ethanac Road (AM and PM peak hours):

Widen and restripe the southbound (SB) shared thru-left turn lane to provide an exclusive left-turn lane, to remove the SB thru movement and to add a second right-turn lane. Widen and restripe the eastbound (EB) approach to add two thru-lanes and a right-turn lane. Widen and restripe the westbound (WB) approach to add a second left-turn lane. In addition, add overlap right-turn phasing during the SB phase.

10. I-215 NB Ramps/Ethanac Road (AM and PM peak hours):

Widen and restripe the northbound (NB) shared thru-left turn lane to provide two left-turn lanes, to remove the NB thru movement and a right-turn lane. Widen and restripe the EB approach to add an exclusive left-turn lane and a thru-lane. Widen and restripe the WB approach to add three thru-lanes and an exclusive right-turn lane. In addition, add overlap right-turn phasing during the NB phase.

As seen in Table 6.1 and 6.2, all affected intersections in Scenarios 1 and 2 improve to a satisfactory LOS with the recommended improvements. All proposed improvement LOS calculations are provided in

Appendix E. It should be noted that the ultimate planned configuration of Ethanac Road is that of a six-lane roadway. The roadway expansion would help reduce the delay experienced at the intersections of I-215 SB Ramps/NB Ramps and Ethanac Road. To improve the LOS to satisfactory, it is only feasible to remove through movement on I-215 ramps and add overlap phasing with SB movement and NB movement on I-215 ramps. Removing through movement can also improve safety and through movements on freeway ramps are low volume movements.

Additionally, the project would add traffic to the already over-capacity segment of Ethanac Road between Case Road and I-215 SB Ramps and between Murrieta Road and Barnett Road. Widening Ethanac Road to its General Plan designation would result in satisfactory operations. Fair share for these improvements is discussed in the next section.

Table 6.1: Opening Year Cumulative With Project Improvement AM and PM Peak Hour Level of Service (Scenario 1 – No Signal)

Intersection	Opening Year				Opening Year Plus Project				Recommended Improvements	Opening Year Plus Project With IMP				Change from AM baseline Delay	Change from PM baseline Delay	Below without project conditions?
	AM Peak		PM Peak		AM Peak		PM Peak			AM Peak		PM Peak				
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²		Delay ¹	LOS ²	Delay ¹	LOS ²			
4. Murrieta Rd/Ethanac Rd <i>Jurisdiction:</i> City of Menifee/City of Perris <i>Traffic Control:</i> Signal	221.9	F	217.0	F	221.9	F	217.0	F	Widen and restripe the NB shared left-thru-right lane to provide exclusive left-turn, thru, and left-turn lanes.	163.7	F	159.8	F	-58.2	-57.2	Yes
8. Case Rd-Barnett Rd/Ethanac Rd <i>Jurisdiction:</i> City of Menifee/City of Perris <i>Traffic Control:</i> Signal	326.2	F	362.0	F	359.7	F	374.2	F	Widen and restripe the NB shared left-thru-right lane to provide an exclusive right-turn lane and a shared thru-left turn lane. To increase intersection safety, it is recommended that cat tracks pavement markers be installed for all the edges of the dual SBL instead of the single cat track currently installed in the middle of the SBL turns. It is also recommended that a "Keep Clear" pavement marking be installed approximately 85 feet beyond the stop line of the 50 feet left turn pocket at Barnett Road/Ethanac Road. This will ensure that the WBL traffic does not block traffic waiting to make a SBL given the staggered nature of this intersection. Restripe EB right turn with a thru-right turn lane. Restripe west leg to allow	232.2	F	259.1	F	-94.0	-102.9	Yes
9. I-215 SB Ramps/Ethanac Rd <i>Jurisdiction:</i> Caltrans/City of Perris <i>Traffic Control:</i> Signal	920.9	F	995.4	F	993.1	F	1072.4	F	Widen and restripe the SB shared thru-left turn lane to provide an exclusive left-turn lane, to remove the SB thru movement and to add a second right-turn lane. Widen and restripe the EB approach to add two thru-lanes and a right-turn lane. Widen and restripe the WB approach to add a second left-turn lane. In addition, add overlap right-turn phasing during the SB phase.	191.6	F	153.3	F	-729.3	-842.1	Yes
10. I-215 NB Ramps/Ethanac Rd <i>Jurisdiction:</i> Caltrans/City of Perris <i>Traffic Control:</i> Signal	634.1	F	600.1	F	642.2	F	608.4	F	Widen and restripe the NB shared thru-left turn lane to provide two left-turn lanes, to remove the NB thru movement and a right-turn lane. Widen and restripe the EB approach to add an exclusive left-turn lane and a thru-lane. Widen and restripe the WB approach to add three thru-lanes and an exclusive right-turn lane. In addition, add overlap right-turn phasing during the NB phase.	131.2	F	130.0	F	-503.0	-470.1	Yes

=Unsatisfactory Level of Service

¹Delay in Seconds

²Level of Service

NB= Northbound, SB=Southbound, EB=Eastbound, WB=Westbound

Table 6.2: Opening Year Cumulative With Project Improvement AM and PM Peak Hour Level of Service (Scenario 2 – With Signal)

Intersection	Opening Year				Opening Year Plus Project				Recommended Improvements	Opening Year Plus Project IMP				Change from AM baseline Delay	Change from PM baseline Delay	Below without project conditions?
	AM Peak		PM Peak		AM Peak		PM Peak			AM Peak		PM Peak				
	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²	Delay ¹	LOS ²		Delay ¹	LOS ²	Delay ¹	LOS ²			
4. Murrieta Rd/Ethanac Rd <u>Jurisdiction:</u> City of Menifee/City of Perris <u>Traffic Control:</u> Signal	221.9	F	217.0	F	239.7	F	227.2	F	Widen and restripe the NB shared left-thru-right lane to provide exclusive left-turn, thru, and left-turn lanes.	163.7	F	159.8	F	-58.2	-57.2	Yes
8. Case Rd-Barnett Rd/Ethanac Rd <u>Jurisdiction:</u> City of Menifee/City of Perris <u>Traffic Control:</u> Signal	336.2	F	362.0	F	370.8	F	374.2	F	Widen and restripe the NB shared left-thru-right lane to provide an exclusive right-turn lane and a shared thru-left turn lane. To increase intersection safety, it is recommended that cat tracks pavement markers be installed for all the edges of the dual SBL instead of the single cat track currently installed in the middle of the SBL turns. It is also recommended that a "Keep Clear" pavement marking be installed approximately 85 feet beyond the stop line of the 50 feet left turn pocket at Barnett Road/Ethanac Road. This will ensure that the WBL traffic does not block traffic waiting to make a SBL given the staggered nature of this intersection. Restripe EB right turn with a thru-right turn lane. Restripe west leg to allow	240.8	F	259.1	F	-95.5	-102.9	Yes
9. I-215 SB Ramps/Ethanac Rd <u>Jurisdiction:</u> Caltrans/City of Perris <u>Traffic Control:</u> Signal	920.9	F	995.4	F	993.1	F	1072.4	F	Widen and restripe the SB shared thru-left turn lane to provide an exclusive left-turn lane, to remove the SB thru movement and to add a second right-turn lane. Widen and restripe the EB approach to add two thru-lanes and a right-turn lane. Widen and restripe the WB approach to add a second left-turn lane. In addition, add overlap right-turn phasing during the SB phase.	191.6	F	153.3	F	-729.3	-842.1	Yes
10. I-215 NB Ramps/Ethanac Rd <u>Jurisdiction:</u> Caltrans/City of Perris <u>Traffic Control:</u> Signal	634.1	F	600.1	F	640.7	F	608.4	F	Widen and restripe the NB shared thru-left turn lane to provide two left-turn lanes, to remove the NB thru movement and a right-turn lane. Widen and restripe the EB approach to add an exclusive left-turn lane and a thru-lane. Widen and restripe the WB approach to add three thru-lanes and an exclusive right-turn lane. In addition, add overlap right-turn phasing during the NB phase.	131.2	F	130.0	F	-503.0	-470.1	Yes

=Unsatisfactory Level of Service

¹Delay in Seconds

²Level of Service

NB= Northbound, SB=Southbound, EB=Eastbound, WB=Westbound

6.2 Project Fair Share

Improvements at intersections 9 and 10 are part of the Transportation Uniform Mitigation Fee (TUMF) program. The project would be required to pay TUMF fees which would contribute towards the construction of the I-215 and Ethanac Road Interchange. For the LOS deficiency at Int#4 Murrieta Rd/Ethanac Rd and intersection 8 Case Road-Barnett Road/Ethanac Road which does not have any improvements as a part of the TUMF program, a project fair share percentage was calculated. The project's fair share percentage for the recommended improvements for scenarios 1 and 2 are identified in Tables 6.3 and 6.4 below.

Table 6.3: Project Fair Share for Intersection Improvement (Scenario 1 – No Signal)

Intersection	AM Peak				PM Peak			
	Project Trips	Existing Traffic Volume	Opening Year Cumulative with Project Volume	Fair Share ¹	Project Trips	Existing Traffic Volume	Opening Year Cumulative with Project Volume	Fair Share ¹
4. Murrieta Rd/Ethanac Rd	73	1938	4212	3.21%	95	1995	4274	4.17%
8. Case Rd-Barnett Rd/Ethanac Rd	68	2402	5744	2.03%	85	2476	5681	2.65%

¹Fair share contribution percentage for improvements where the project is not directly responsible is calculated by the formula: Fair Share Percentage = Project Trips/(Opening Year Cumulative with Project Volume - Existing Traffic Volume)

Table 6.4: Project Fair Share for Intersection Improvement (Scenario 2 – With Signal)

Intersection	AM Peak				PM Peak			
	Project Trips	Existing Traffic Volume	Opening Year Cumulative with Project Volume	Fair Share ¹	Project Trips	Existing Traffic Volume	Opening Year Cumulative with Project Volume	Fair Share ¹
4. Murrieta Rd/Ethanac Rd	73	1938	4212	3.21%	93	1995	4274	4.08%
8. Case Rd-Barnett Rd/Ethanac Rd	68	2402	5744	2.03%	85	2561	5681	2.72%

¹Fair share contribution percentage for improvements where the project is not directly responsible is calculated by the formula: Fair Share Percentage = Project Trips/(Opening Year Cumulative with Project Volume - Existing Traffic Volume)

As shown in Table 6.3, in Scenario 1 the Project would be responsible for 4.17% of the improvement cost at Int#4 and 2.65% of the improvement cost at Int#8. As shown in Table 6.4, in scenario 2 the project would be responsible for 4.08% of the improvement cost at Int#4 and 2.72% of the improvement cost at Int#8.

Table 6.5: Project Fair Share for Roadway Segment (Scenario 1 – No Signal)

	Roadway Segment	Project Trips	Existing Traffic	Opening Year Cumulative with Project	Fair Share¹
1.	Ethanac Rd between Geary St and Murrieta Rd	446	14,878	27,924	3.42%
2.	Ethanac Rd between Murrieta Rd and Barnett Rd	1,209	16,049	47,292	3.87%
3.	Murrieta Rd between Ethanac Rd and McLaughlin Rd	858	8,608	10,749	40.07%
4.	Murrieta Rd between McLaughlin Rd and Rouse Rd	186	7,843	9,143	14.31%
5.	Murrieta Rd between Ethanac Rd and Green Valley Pkwy	94	2,698	19,348	0.56%

¹Fair share contribution percentage for improvements where the project is not directly responsible is calculated by the formula: Fair Share Percentage = Project Trips/(Opening Year Cumulative with Project Volume - Existing Traffic Volume)

Table 6.6: Project Fair Share for Roadway Segment (Scenario 2 – With Signal)

	Roadway Segment	Project Trips	Existing Traffic	Opening Year Cumulative with Project	Fair Share¹
1.	Ethanac Rd between Geary St and Murrieta Rd	339	14,878	27,924	2.60%
2.	Ethanac Rd between Murrieta Rd and Barnett Rd	1,209	16,049	47,292	3.87%
3.	Murrieta Rd between Ethanac Rd and McLaughlin Rd	966	8,608	10,749	45.11%
4.	Murrieta Rd between McLaughlin Rd and Rouse Rd	186	7,843	9,143	14.31%
5.	Murrieta Rd between Ethanac Rd and Green Valley Pkwy	94	2,698	19,348	0.56%

¹Fair share contribution percentage for improvements where the project is not directly responsible is calculated by the formula: Fair Share Percentage = Project Trips/(Opening Year Cumulative with Project Volume - Existing Traffic Volume)

As discussed in Section 5.4, Ethanac Road at opening year is over the roadway segment capacity with cumulative traffic and project traffic. As shown at Table 6.5, in Scenario 1 the Project would be responsible for 3.42% for improvement at Ethanac Rd between Geary St and Murrieta Rd, 3.87% for improvement at Ethanac Rd between Murrieta Rd and Barnett Rd, 40.07% for improvement at Murrieta Rd between Ethanac Rd and McLaughlin Rd, 14.31% for improvement at Murrieta Rd between McLaughlin Rd and Rouse Rd, and 0.56% for improvement at Murrieta Rd between Ethanac Rd and Green Valley Pkwy.

As shown at Table 6.6, in Scenario 2 the Project would be responsible for 2.60% for improvement at Ethanac Rd between Geary St and Murrieta Rd, 3.87% for improvement at Ethanac Rd between Murrieta Rd and Barnett Rd, 45.11% for improvement at Murrieta Rd between Ethanac Rd and McLaughlin Rd, 14.31% for improvement at Murrieta Rd between McLaughlin Rd and Rouse Rd, and 0.56% for improvement at Murrieta Rd between Ethanac Rd and Green Valley Pkwy.

APPENDIX A – SCOPE OF WORK



**CITY OF MENIFEE
ENGINEERING DEPARTMENT**

FOR USE BY STAFF

Permit#: _____

Received Date: _____

TRAFFIC SCOPING/STUDY

APPLICATION

SUBMITTAL REQUIREMENTS

THIS FORM MUST BE SUBMITTED WITH FIRST PLAN CHECK:

Project No: DEV2022-017 Schedule: _____ (if applicable)

Project Description: To construct an approximately 533,252 SF warehouse building.

Name of Owner: IPT Menifee CC LLC

Signature: _____ Phone #: 626.786.2112

Mailing Address: 4675 MacArthur Court, Suite 625, FAX number: _____

Newport Beach, CA 92660 Email Address: _____

Name of Applicant: IPT Menifee CC LLC Contact: _____

Authorized Signature: _____ Phone #: 626.786.2112

Mailing Address: 4675 MacArthur Court, Suite 625, FAX number: _____

Newport Beach, CA 92660 Email Address: _____

Submittal Requirements

- 1. _____ 2 Sets Site Plan
- 2. _____ 2 Sets Traffic/Scoping Study
- 3. _____ 1 \$1,000.00 – Deposit

FIRST SUBMITTAL REQUIRMENTS

- A. The City reserves the right to reject the submitted plan package without performing any plan checks if any of the required plans or information items are missing.

I, the undersigned engineer, do verify that all the items necessary for this project and checked above are attached.

Signature

Date

Civil Engineer's Stamp

Printed Name

Firm Name

Address

Phone Number

Fax

Email Address

1/21/2014

ATTACHMENT A

SCOPING AGREEMENT FOR TRAFFIC STUDY

This letter acknowledges the City Menifee Engineering Department requirements for the traffic study of the following project. The analysis must follow the latest City Traffic Study Guidelines dated October 2020

Case No. - DEV2022-017 SP No. - GPA No. -
 Related Cases - PLN22-0179 EIR No. - CZ No. -

Project Name: Murrieta Road Warehouse Project

Project Location: The Project site is located in the northern portion of the City of Menifee, within Riverside County. The Project site is located south of Floyd Avenue, east of Geary Street, west of Murrieta Road, and north of McLaughlin Road.

Project Description: The applicant for the proposed Project would develop a new distribution warehouse facility on a 28.27-acre site within the City of Menifee. The Project includes development of approximately 517,720 square feet (SF) for a speculative warehouse building measuring a maximum of 55 feet in height for a FAR of 0.48. In order to provide a conservative analysis, a three percent buffer in building square footage would be included, which would equal 533,252 SF of building area and an FAR of 0.50.

The proposed speculative warehouse building would include a mezzanine, loading docks, and associated vehicle and truck trailer parking spaces. The warehouse building including the three percent buffer would include approximately 20,320 SF of ground floor office space, 7,000 SF of mezzanine office space, and 505,932 SF of warehouse space.

	<u>Consultant</u>	<u>Developer</u>
Name:	- EPD Solutions, Inc. 3333 Michelson Drive, Suite 500	<u>IPT Menifee CC LLC</u>
Address:	- Irvine, CA 92612	<u>4675 MacArthur Court, Suite 625,</u> <u>Newport Beach, CA 92660</u>
Telephone:	<u>(949) 794-1180</u>	<u>(626)786-2112</u>

A. Trip Generation Source: TUMF High-Cube Warehouse Trip Generation Study, WSP, January 29, 2019

	<u>Existing Land Use</u>		<u>Economic Development Corridor (EDC)</u>			<u>Proposed Land Use</u>		<u>Economic Development Corridor (EDC)</u>		
	<u>Existing Zoning</u>		<u>Economic Development Corridor - Northern Gateway (EDC-NG)</u>			<u>Proposed Zoning</u>		<u>Economic Development Corridor - Northern Gateway (EDC-NG)</u>		
Passenger Vehicles (PCE)	AM	In	Out	Total	PM	In	Out	Total		
	Trips	42	13	55	Trips	22	55	77		
Trucks (PCE)	AM	In	Out	Total	PM	In	Out	Total		
	Trips	22	7	29	Trips	9	21	30		

Internal Trip Allowance Yes No (% Trip Discount)

Pass-By Trip Allowance Yes No (% Trip Discount)

(Attach additional sheet if this is a multi-use site with a breakdown of trips generated)

B. Trip Geographic Distribution: Cars: N 40% S 50% E 10% W 0%

(See attached exhibit for detailed assignment)

Trucks: N 50% S 50% E 0% W 0%

C. Background Traffic

Project Completion Year: 2026 Annual Ambient Growth Rate: 2%

Other area projects to be included:

Please contact the Engineering Department or use the most recently provided data

Model/Forecast methodology if required _____

D. Horizon Year Analysis: Does this project require a Horizon Year Analysis?

Yes No

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

- 1. Geary St/Ethanac Rd
- 2. Geary St/Project Dwy 1
- 3. Geary St/Project Dwy 2
- 4. Murrieta Rd/Ethanac Rd
- 5. Murrieta Rd/Project Dwy 3

- 6. Murrieta Rd/Project Dwy 4
- 7. Murrieta Rd/Project Dwy 5
- 8. Case Rd-Barnett Rd / Ethanac Rd
- 9. I-215 SB Ramps/Ethanac Rd
- 10. I-215 NB Ramps/Ethanac Rd

F. Study Roadway Segments:

- 1. Ethanac Rd between Geary St and Murrieta Rd
- 2. Ethanac Rd between Murrieta Rd and Barnett Rd
- 3. Murrieta Rd between Ethanac Rd and McLaughlin Rd
- 4. Murrieta Rd between McLaughlin Rd and Rouse Rd

- 5. Murrieta Rd between Ethanac and Green Valley Pkwy
- 6. _____
- 7. _____
- 8. _____

G. Other Jurisdictional Impacts

Is this project within any other Agency's Sphere of Influence or one-mile radius of boundaries?

Y N

If so, name of Jurisdiction: City of Perris, Caltrans

H. Site Plan (please attach a legible 11'X17' copy)

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

EPD proposes analyzing the following two circulation scenarios for the project opening year:

Scenario 1. Assuming only right-in, right-out turn movements on all project driveways including driveways on Murrieta Road. This scenario also assumes left in and left out at the center driveway on Murrieta Road for Automobiles.

Scenario 2. Assuming full access on the northeastern driveway on Murrieta Road with signal installation, and only right-in, right-out turn movements on all other project driveways. This scenario also assumes left in and out at the center driveway on Murrieta Road for Automobiles.

Recommended by:

Abby Pal

Consultant's Representative

11-7-2023

Scoping Agreement Submitted on _____

9-15-2023

Scoping Agreement Resubmitted on _____

10-9-2023, 10-23-2023, 11-7-2023

Approved Scoping Agreement:

City of Menifee

Date

Table 1: Proposed Trip Generation (With 3% Buffer)

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour				
			In	Out	Total	In	Out	Total		
Trip Rates										
TUMF Fulfillment Center Rates ¹	TSF	2.129	0.094	0.028	0.122	0.046	0.119	0.165		
Passenger Vehicles	TSF	1.750	0.079	0.024	0.103	0.040	0.104	0.144		
2-4 Axle Trucks	TSF	0.162	0.006	0.002	0.008	0.003	0.008	0.011		
5-Axle Trucks	TSF	0.217	0.008	0.003	0.011	0.003	0.007	0.010		
Total Vehicle Trip Generation										
Project Warehouse		533.252	TSF	1,135	50	15	65	25	63	88
Vehicle Mix¹	% Daily	% AM	% PM							
Passenger Vehicles	82.20%	84.40%	87.30%	933	42	13	55	22	55	77
2-Axle Trucks	1.30%	1.100%	1.10%	15	1	0	1	0	0	1
3-Axle Trucks	2.50%	2.20%	2.20%	28	1	0	1	1	1	2
4-Axle Trucks	3.80%	3.30%	3.30%	43	2	0	2	1	2	3
5+-Axle Trucks	10.20%	9.00%	6.10%	116	5	1	6	2	4	5
	100.00%	100.00%	100.00%	1,135	50	15	65	25	63	88
PCE Trip Generation²										
			PCE Factor							
Passenger Vehicles			1.0	933	42	13	55	22	55	77
2-Axle Trucks			1.5	22	1	1	2	1	0	1
3-Axle Trucks			2.0	57	2	1	3	1	3	4
4-Axle Trucks			3.0	129	5	1	6	2	6	8
5+-Axle Trucks			3.0	347	14	4	18	5	12	17
Total PCE Trip Generation				1,489	64	20	84	31	75	106

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

¹ Trip rates and truck percentages from Exhibit 6 of the TUMF High-Cube Warehouse Trip Generation Study, January 29, 2019. 2, 3 and 4 axle trucks were split as follows: 50% 4-axle, 33.3% 3-axle, and 16.7% 2-axle.

² Passenger Car Equivalent (PCE) factors from County of Riverside Transportation Analysis Guidelines for Level of Service Vehicle Miles Traveled, dated December 2020.

Cumulative project List, 3 mile radius

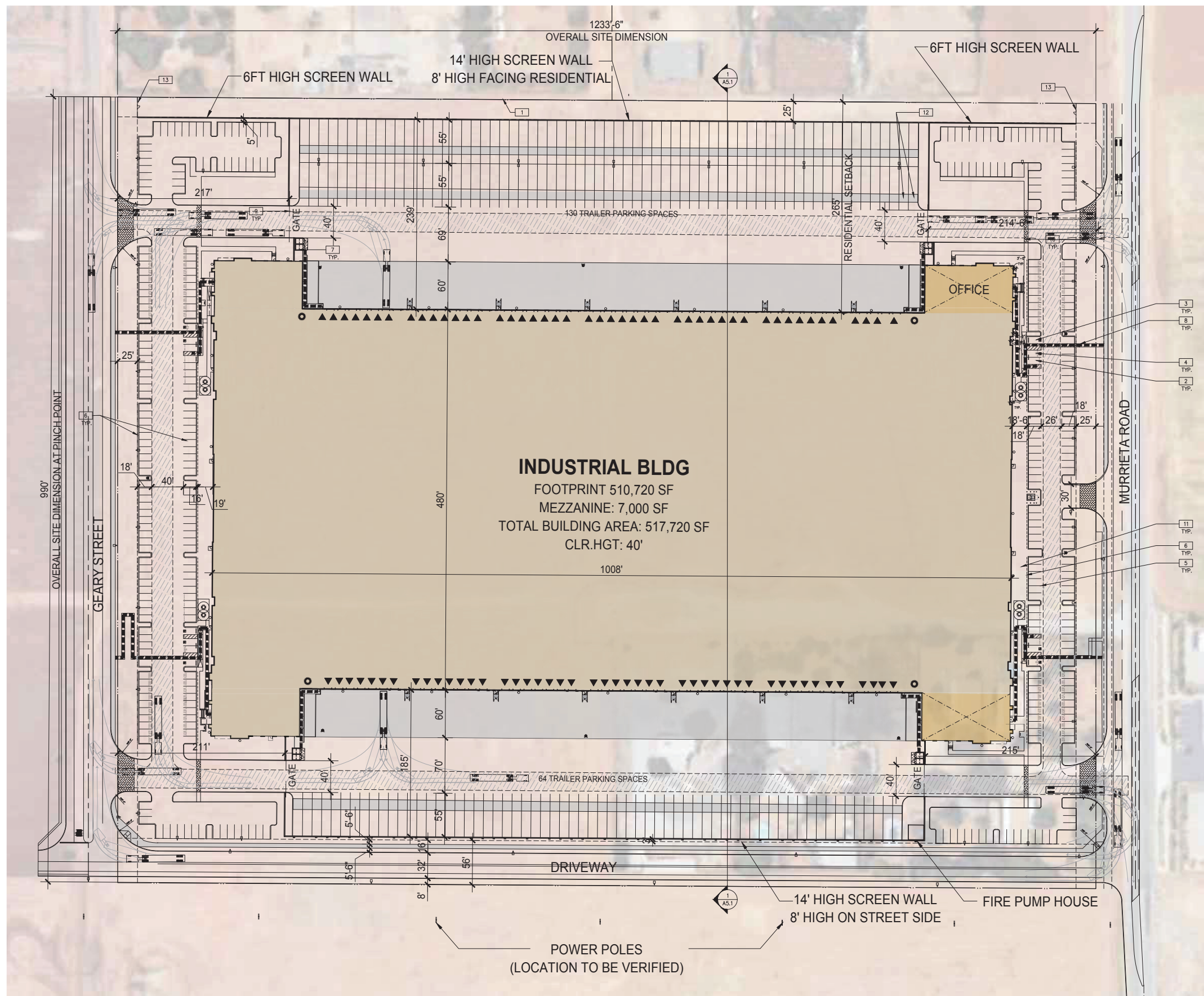
City of Perris

1. Marijuana Manufacturing and Cultivation
2. IDI Site 2
3. Marijuana Manufacturing 12 TSF
4. Walgreens
5. Green Valley Specific Plan
6. Motte Town Center
7. Mapes Commerce Center
35. Marijuana Manufacturing 50 TSF
36. IDI Site 1
52. Case Road Mixed Use (Richland)
53. Truck Stop
54. Hillwood Warehouse
55. South Perris Industrial Phase 3
56. Ellis Logistics Center

City of Menefee

8. Valley Blvd. Residential
9. Cimarron Ridge
10. TTM 38128
11. Corsica Business Park
12. Goetz & Ethanac Commercial
13. Capstone Industrial
14. Northern Gateway Commerce Center
15. Ethanac Square
16. Ethanac Business Park
17. McLaughlin Village
18. Motte Business Center
19. Menifee Commerce Center (Core 5)
20. Stonegate (Enclave)
21. Wheat Warehouse
22. Vista Ridge
23. Coronado Condos
24. TR/PP Di Capri
25. Ethanac and Evans Warehouse
26. Menifee Logistics
27. Ethanac and Barnett Warehouse
28. Paragon Framing
29. Legado
30. Trumble and Watson Warehouse
31. McCall-Encanto Gas Station
32. On-Deck
33. Mapes and Sherman Warehouse

34. United Carports Warehouse
37. Quail Hills
38. Woodside Homes (Skyview)
39. Kingdom Hall
40. McLaughlin San Jacinto Warehouses
41. Double Butte
42. Kensington Apartments
43. Villago Villas
44. McCall Plaza
45. Cypress and Sands Apartments
46. Beyond Menifee
47. Underwood (KB Homes)
48. Nova Battery Storage
49. MR-27 LLC (Rancon)
50. Motte Country Plaza
51. Menifee North Specific Plan (SP260) Amendment and TR 38132 and 38133



SITE PLAN NOTES

- SEE SHEET A0.2 FOR GENERAL NOTES
- 1 PROPERTY LINE, SEE CIVIL DRAWINGS (— — — —)
 - 2 ACCESSIBLE ELECTRIC VEHICLE CHARGING STATION.
 - 3 ACCESSIBLE PARKING STALL WITH SIGNAGE.
 - 4 VAN ACCESSIBLE PARKING STALL WITH SIGNAGE.
 - 5 PAINTED PARKING STRIPING PER CITY STANDARDS.
 - 6 2'-0" PARKING OVERHANG.
 - 7 TRASH ENCLOSURE WITH RECYCLE BIN.
 - 8 ACCESSIBLE PATH OF TRAVEL 1:20 MAX. SLOPE, 2% MAX. CROSS SLOPE, SEE CIVIL DRAWINGS. (— — — —)
 - 9 14' HIGH TUBULAR STEEL GATE. GATES SHALL BE AUTOMATIC MINIMUM 24 FEET IN WIDTH. GATE ACCESS SHALL BE EQUIPPED WITH A RAPID ENTRY SYSTEM TO INCLUDE OPTION AND KNOX ELECTRIC SWITCHES. PLAN SHALL BE SUBMITTED TO THE FIRE DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION. AUTOMATIC/MANUAL GATE PINS SHALL BE RATED WITH SHEAR PIN FORCE, NOT TO EXCEED 30 POUNDS. AUTOMATIC GATES SHALL BE EQUIPPED WITH EMERGENCY BACKUP POWER. GATES ACTIVATED BY THE RAPID ENTRY SYSTEM SHALL REMAIN OPEN UNTIL CLOSED BY THE RAPID ENTRY SYSTEM
 - 10 DECORATIVE PAVING
 - 11 BREAK AREA
 - 12 CONDUIT TO BE PROVIDED FOR FUTURE TRUCK CHARGING STATIONS
 - 13 FENCE W/ LOCKED GATED

SITE LEGEND

- POLE MOUNTED LIGHT FIXTURE
- WALLPACK LIGHT FIXTURE
- T TRANSFORMER WITH CONCRETE PAD (PROVIDE PROTECTION BOLLARDS PER LOCAL UTILITY OR PUBLIC WORK STANDARDS)
- ▨ FIRE LANE (HATCHED) - FIRE APPARATUS ACCESS ROADS SHALL BE DESIGNED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS (80,000 POUND LIVE LOAD (GROSS VEHICULAR WEIGHT) DISTRIBUTED OVER TWO AXLES) AND SHALL BE SURFACED SO AS TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES (REAR WHEEL DRIVE APPARATUS) FOR THE LENGTH AND GRADE(S) OF THE FIRE APPARATUS ACCESS ROAD.
- ▲ DOCK HIGH TRUCK DOOR
- GRADE LEVEL TRUCK DOOR
- FIRE HYDRANT (VERIFY LOCATION WITH CIVIL DRAWINGS)

architecture
planning
graphics

WARE MALCOMB

10 seldman
irvine, california 92618
p 949.666.9128 f 949.968.1181

irvine
los angeles
northern california
sacramento
san diego
denver
chicago
new jersey

ARES SPEC INDUSTRIAL

MURRIETA RD. & ETHANAC RD.

MENIFEE, CALIFORNIA

SITE PLAN		REMARKS
DATE	DATE	
2023-03-03	PLANNING SUBMITTAL #2	
2023-07-26	PLANNING SUBMITTAL #3	

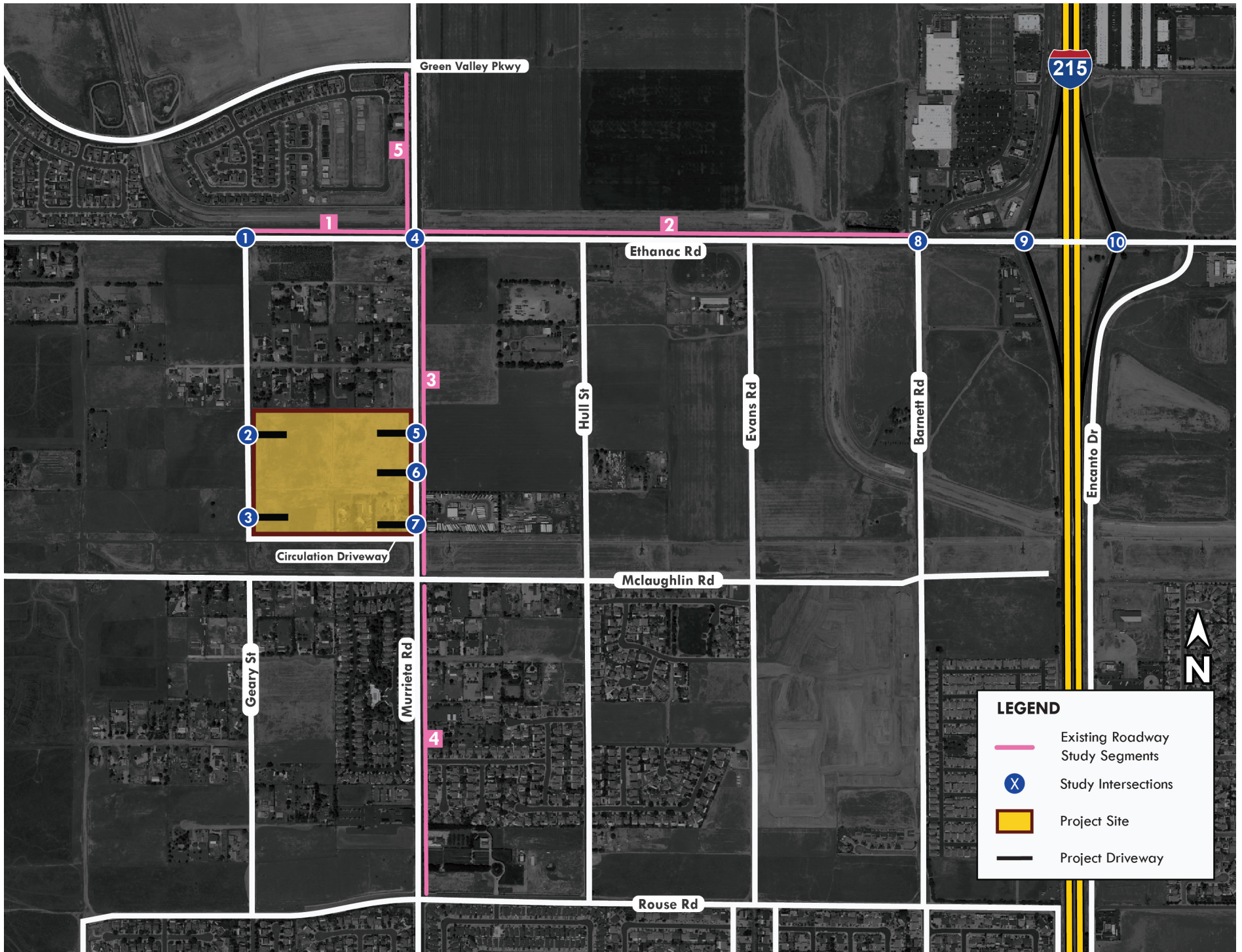
PA / PM:	E. NAMISNIAK
DRAWN BY:	T. REED
JOB NO.:	IRV22-0086-00

SHEET

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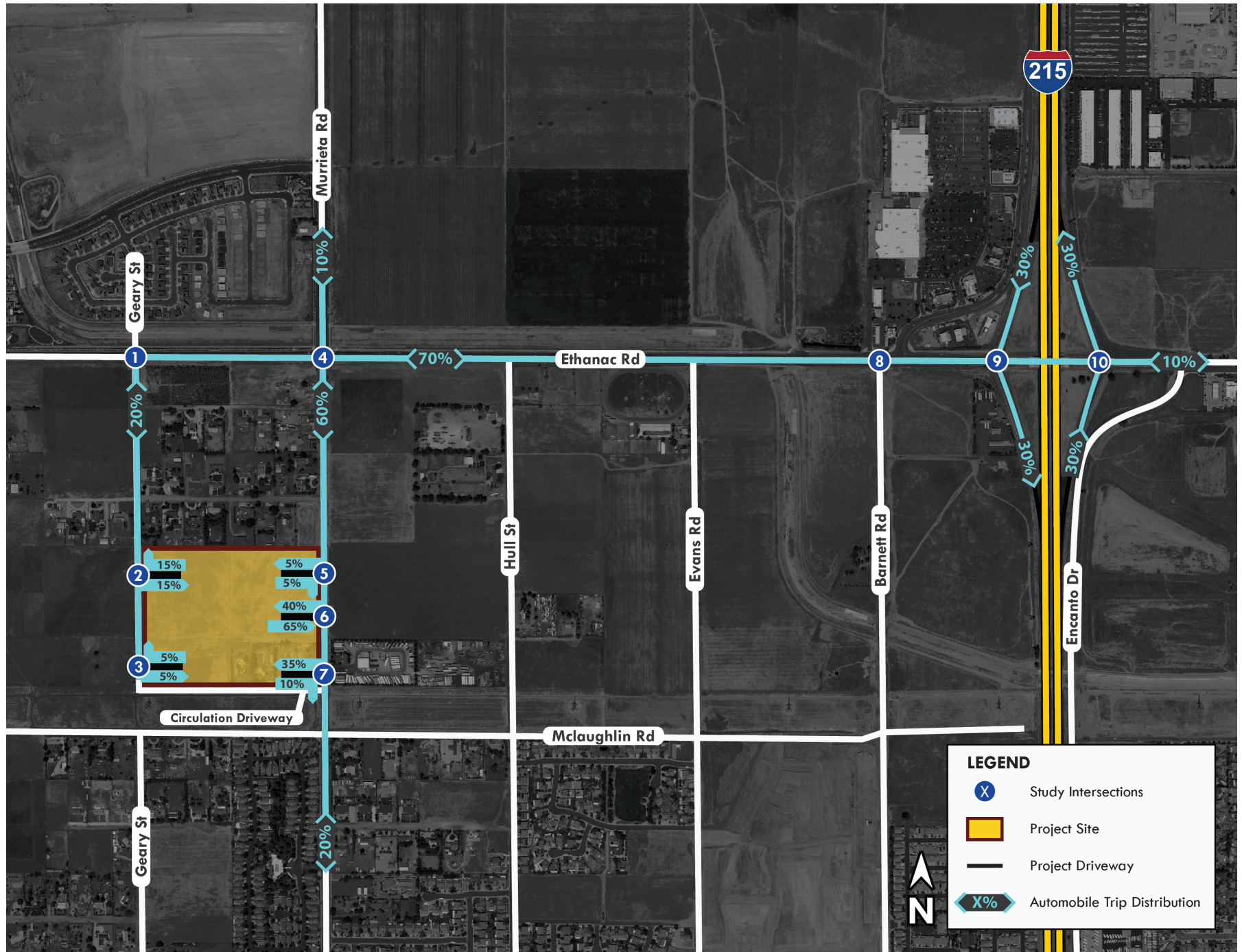
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Figure 2: Study Area



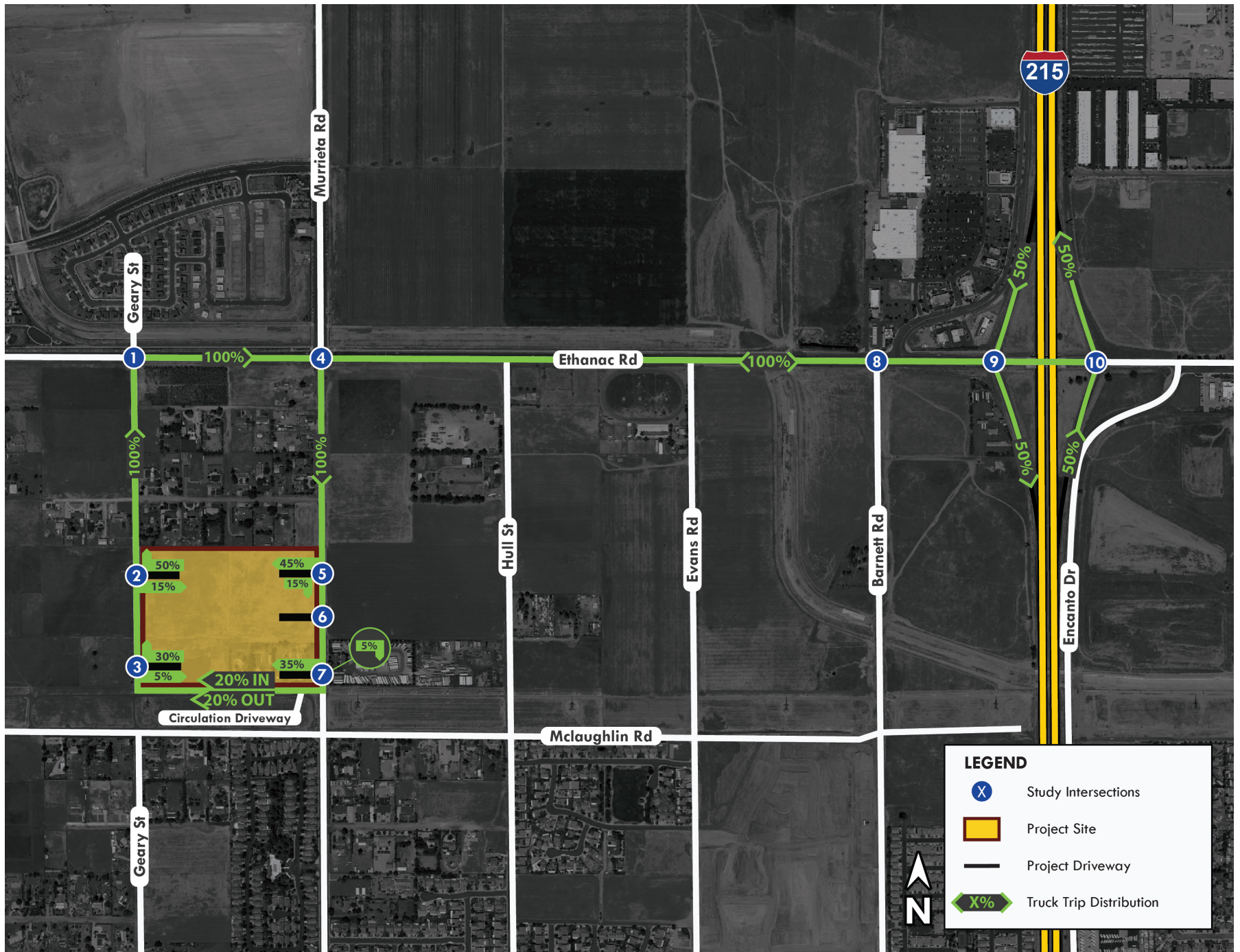
Scenario 1: No Signal

Figure 2: Proposed Passenger Vehicle Trip Distribution



Scenario 1: No Signal

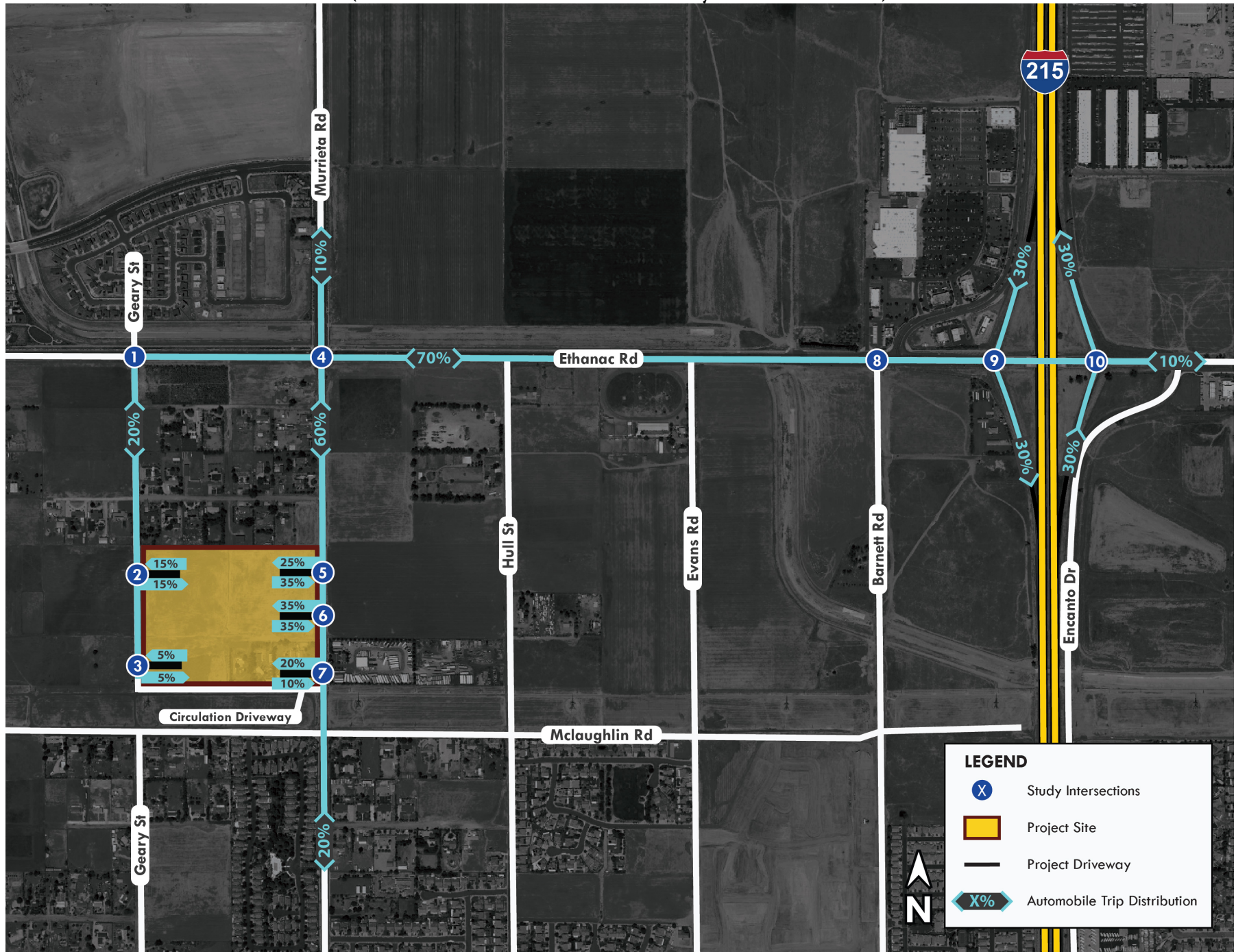
Figure 3: Proposed Truck Trip Distribution



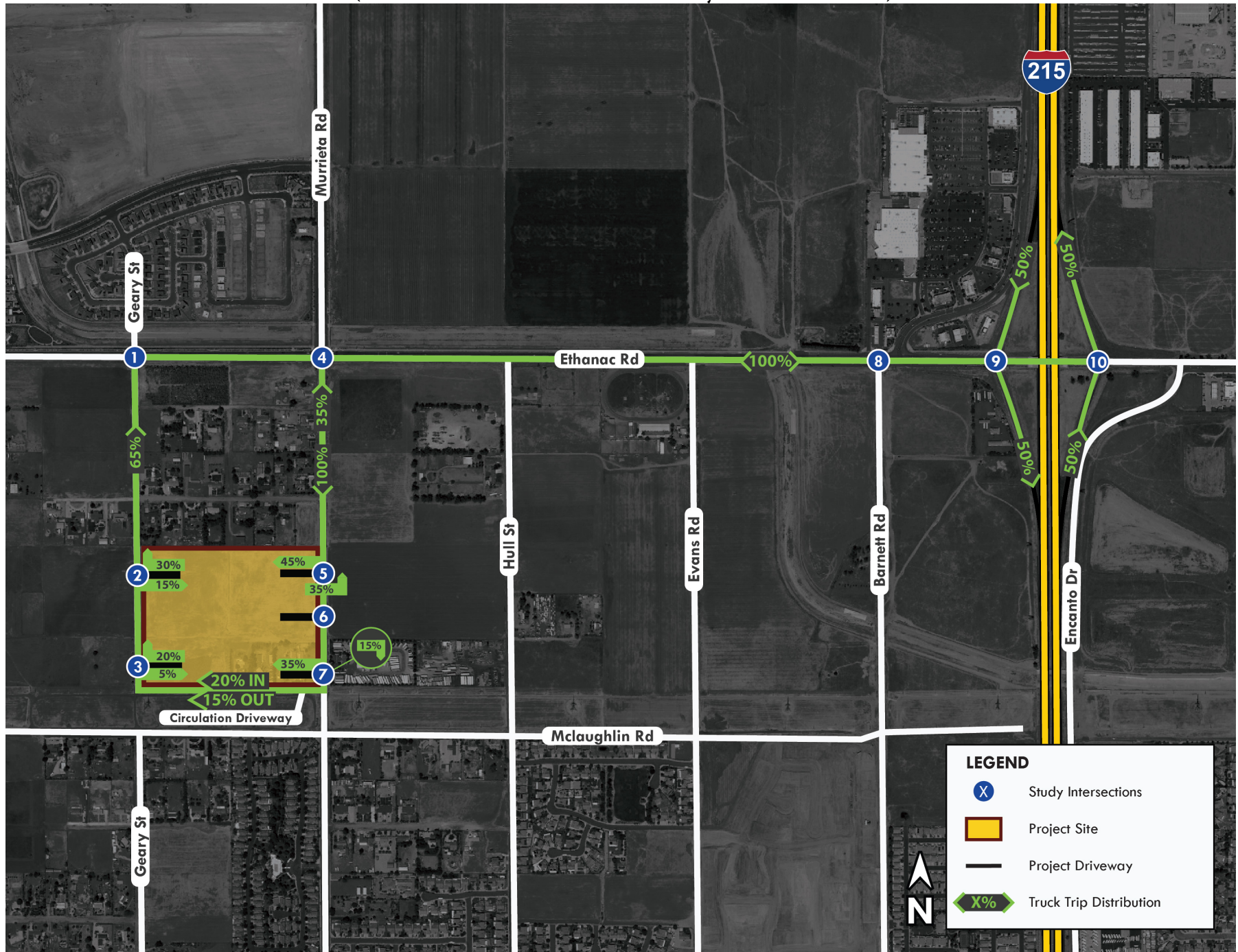
Project Driveway 3 right turn in is limited to 2-axle trucks ONLY.

Scenario 2: Signalized

**Figure 4: Proposed Passenger Vehicle Trip Distribution
(With full access northeastern driveway on Murrieta Road)**



Scenario 2: Signalized
 Figure 5: Proposed Truck Trip Distribution
 (With full access northeastern driveway on Murrieta Road)



Project Driveway 3 right turn in is limited to 2-axle trucks ONLY.

Figure 6: Cumulative Projects Trip Generation (3 Mile Radius)

Table 1. Cumulative Trip Generation

Land Use	Units	Daily	AM Peak Hour			PM Peak Hour			
			In	Out	Total	In	Out	Total	
Trip Rates									
ITE 154 High-Cube Transload and Short-Term Warehouse ¹	TSF	1.40	0.06	0.02	0.08	0.03	0.07	0.10	
ITE 140 Manufacturing ²	TSF	4.75	0.52	0.16	0.68	0.23	0.51	0.74	
ITE 880 Pharmacy/Drugstore without Drive-Through Window ³	TSF	90.08	1.91	1.03	2.94	4.17	4.34	8.51	
ITE 948 Automated Car Wash ⁴	TSF	-	-	-	-	7.10	7.10	14.20	
ITE 820 Shopping Center (>150k) ⁵	TSF	37.01	0.52	0.32	0.84	1.63	1.77	3.40	
ITE 210 Single Family Detached Housing ⁶	DU	9.43	0.18	0.52	0.70	0.59	0.35	0.94	
ITE 150 Warehouse ⁷	TSF	1.71	0.13	0.04	0.17	0.05	0.13	0.18	
ITE 945 Convenience Store/Gas Station (VFP 9-15) ⁸	TSF	700.43	28.26	28.26	56.52	27.26	27.26	54.52	
ITE 930 Fast Casual Restaurant ⁹	TSF	97.14	0.72	0.72	1.43	6.90	5.65	12.55	
ITE 220 Multifamily Housing (Low Rise) ¹⁰	DU	6.74	0.10	0.30	0.40	0.32	0.19	0.51	
ITE 110 General Light Industrial ¹¹	TSF	4.87	0.65	0.09	0.74	0.09	0.56	0.65	
ITE 310 Hotel ¹²	Rooms	7.99	0.26	0.20	0.46	0.30	0.29	0.59	
ITE 151 Mini-Warehouse ¹³	TSF	1.45	0.05	0.04	0.09	0.07	0.08	0.15	
ITE 822 Strip Retail Plaza (<40k) ¹⁴	TSF	54.45	1.42	0.94	2.36	3.30	3.30	6.59	
ITE 934 Fast-Food Resteraunt with Drive-Through Window ¹⁵	TSF	467.48	22.75	21.86	44.61	17.18	15.85	33.03	
ITE 130 Industrial Park ¹⁶	TSF	3.37	0.28	0.06	0.34	0.07	0.27	0.34	
ITE 950 Truck Stop ¹⁷	VFP	224.00	6.85	7.12	13.97	8.17	7.25	15.42	
ITE 770 Business Park ¹⁸	TSF	12.44	1.15	0.20	1.35	0.32	0.90	1.22	
ITE 155 High-Cube Fulfillment Center Warehouse - Non Sort ¹⁹	TSF	1.81	0.12	0.03	0.15	0.06	0.10	0.16	
ITE 560 Church ²⁰	TSF	7.60	0.20	0.12	0.32	0.22	0.27	0.49	
ITE 252 Senior Adult Housing - Multifamily ²¹	DU	3.24	0.07	0.13	0.20	0.14	0.11	0.25	
ITE 215 Single-Family Attached Housing ²²	DU	7.20	0.15	0.33	0.48	0.32	0.25	0.57	
ITE 710 General Office Building ²³	TSF	10.84	1.34	0.18	1.52	0.24	1.20	1.44	
ITE 945 Convenience Store/Gas Station VFP (16-24) ²⁴	TSF	1283.38	45.68	45.68	91.35	39.48	39.48	78.95	
ITE 110 General Light Industrial ²⁵	EMP	3.10	0.44	0.09	0.53	0.11	0.38	0.49	
ITE 821 Shopping Plaza (40-150k) ²⁶	TSF	94.49	2.19	1.34	3.53	4.33	4.70	9.03	
ITE 630 Clinic ²⁷	TSF	37.60	2.23	0.52	2.75	1.11	2.58	3.69	
ITE 932 High-Turnover (Sit-Down) Resteraunt ²⁸	TSF	107.20	5.26	4.31	9.57	5.52	3.53	9.05	
ITE 948 Automated Car Wash ²⁹	TUN	-	-	-	-	38.75	38.75	77.50	
TUMF Fulfillment Center Rates ^{TUMF}	TSF	2.13	0.09	0.03	0.12	0.05	0.1188	0.165	
Passenger Vehicles	TSF	1.75	0.08	0.02	0.10	0.04	0.10368	0.144	
2-4 Axle Trucks	TSF	0.16	0.01	0.00	0.01	0.00	0.00792	0.011	
5-Axle Trucks	TSF	0.22	0.01	0.00	0.01	0.00	0.0072	0.01	
City of Perris									
<u>1. Marijuana Manufacturing and Cultivation (PCE)</u> ²	30.000	TSF	208	23	7	30	10	22	32
<u>2. IDI Site 2 (PCE)</u> ¹	3,448.734	TSF	7064	311	93	404	141	363	505
<u>3. Marijuana Manufacturing 12 TSF</u> ²	12.000	TSF	83	9	3	12	4	9	13
<u>4. Walgreens</u> ³	16.000	TSF	1441	31	16	47	67	69	136
<u>5. Green Valley Specific Plan</u>									
Single family ⁶	623.000	DU	5875	113	323	436	369	217	586
Multi-family ¹⁰	842.000	DU	5675	81	256	337	271	159	429
<u>6. Matte Town Center</u> ⁵	484.300	TSF	17924	252	155	407	790	856	1647
<u>7. Mapes Commerce Center (PCE)*</u>	650.280	TSF	2592	208	36	244	69	190	259
<u>35. Marijuana Manufacturing 50 TSF (PCE)</u> ²	50.000	TSF	490	52	15	67	18	51	77
<u>36. IDI Site 1 (PCE)</u> ¹	784.000	TSF	1606	71	21	92	32	83	115
<u>52. Case Road Mixed Use (Richland)</u>									
Warehouse ^{TUMF} (PCE)	480.000	TSF	1341	58	18	76	28	68	95

Self Storage ¹³ (PCE)	194.000	TSF	401	16	10	25	20	23	42
Four Story Hotel ¹²	128.000	Rooms	1022	32	26	58	39	37	76
Commercial Retail ¹⁴	27.000	TSF	1470	38	26	64	89	89	178
Drive Throughs ¹⁵	5.600	TSF	2618	128	122	250	96	88	184
<u>53. Truck Stop¹⁷</u>	7.000	VFP	1568	48	50	98	57	51	108
<u>54. Hillwood Warehouse^{TUMF} (PCE)</u>	410.650	TSF	1147	50	15	65	24	58	82
<u>55. South Perris Industrial Phase 3¹⁶ (PCE)</u>	2840.838	TSF	13633	1114	262	1375	303	1073	1375
<u>56. Ellis Logistics Center¹¹ (PCE)</u>	643.419	TSF	4462	597	80	678	84	511	596
City of Menefee									
<u>8. Valley Blvd. Residential⁶</u>	68.000	DU	641	12	35	48	40	24	64
<u>9. Cimarron Ridge⁶</u>	756.000	DU	7129	138	392	529	448	263	711
<u>10. TTM 38128⁶</u>	96.000	DU	905	17	50	67	57	33	90
<u>11. Corsica Business Park (PCE)^{TUMF}</u>	276.682	TSF	589	26	8	34	13	33	46
<u>12. Goetz & Ethanac Commercial⁸</u>	4.000	TSF	2802	113	113	226	109	109	218
Gas Station Pass-By Trips (76% AM, 75% PM)				-68	-68	-136	-61	-61	-122
Car Wash Tunnel ²⁹	1.000	TUN					39	39	78
Drive Through ¹⁵	3.250	TSF	1520	73	71	144	56	52	108
Pass By AM (50%) PM (55%)				-37	-35	-72	-31	-29	-59
<u>13. Capstone Industrial (PCE)^{TUMF}</u>	700.037	TSF	1955	84	26	109	40	99	139
<u>14. Northern Gateway Commerce Center (PCE)⁷</u>	1286.607	TSF	2200	168	50	218	65	167	232
<u>15. Ethanac Square</u>									
Gas Station ⁸	3.800	TSF	2662	107	107	215	104	104	207
Gas Station Pass-By Trips (76% AM, 75% PM)				-81	-81	-163	-78	-78	-156
Car Wash ⁴	2.080	TSF					15	15	30
Large Truck Diesel Fuel Station (4 Pump) ¹⁷	4.000	VFP	896	27	29	56	33	29	62
<u>16. Ethanac Industrial^{TUMF}</u>	264.710	TSF	740	32	10	43	16	37	53
<u>17. McLaughlin Village¹⁰</u>	126.000	DU	849	12	38	50	40	24	64
<u>18. Motte Business Center (PCE)¹⁹</u>	1138.638	TSF	2060	138	32	170	71	111	182
<u>19. Menefee Commerce Center (Core 5) (PCE)^{TUMF}</u>	1640.130	TSF	4580	197	59	257	93	236	328
<u>20. Stonegate (Enclave)⁶</u>	177.000	DU	1670	32	92	124	105	61	166
<u>21. Wheat Warehouse⁷ (PCE)</u>	87.676	TSF	213	16	4	20	5	17	23
<u>22. Vista Ridge⁶</u>	30.000	DU	282	6	16	22	18	10	28
<u>23. Coronado Condos⁶</u>	73.000	DU	688	14	38	52	43	25	68
<u>24. TR/PP Di Capri⁶</u>	61.000	DU	576	11	31	42	37	21	58
<u>25. Ethanac and Evans Warehouse⁷ (PCE)</u>	137.896	TSF	336	25	8	34	10	24	34
<u>26. Menefee Logistics^{TUMF} (PCE)</u>	411.829	TSF	1150	50	16	65	24	58	82
<u>27. Ethanac and Barnett Warehouse^{TUMF} (PCE)</u>	250.000	TSF	699	30	10	40	15	35	50
<u>28. Paragon Framing</u>									
Office Building ²³	5.454	TSF	60	7	1	8	1	7	8
Workshop/Storage Building ¹³ (PCE)	5.000	TSF	12	0	0	0	0	0	0

<u>29. Legado</u> ⁶	1022.000	DU	9638	186	530	716	605	355	960
<u>30. Trumble and Watson Warehouse</u> ^{TUMF} (PCE)	327.631	TSF	915	40	13	52	19	46	65
<u>31. McCall-Encanto Gas Station</u>	11.340	TSF							
<u>Gas Station with convenience store, car wash</u> ²⁴	4.640	TSF	5954	212	212	424	183	183	366
Pass By AM (76%) PM (75%)				-161	-161	-322	-137	-137	-275
<u>Fast Food</u> ¹⁵	6.700	TSF	3132	152	146	298	115	107	222
Pass By AM (50%) PM (55%)				-76	-73	-149	-63	-59	-122
<u>32. On-Deck</u> ¹²	120.000	Rooms	958	31	25	56	36	34	70
<u>33. Mapes and Sherman Warehouse</u> ^{TUMF} (PCE)	277.578	TSF	776	34	11	45	16	39	55
<u>34. United Carports Warehouse</u> ⁷ (PCE)	58.643	TSF	143	12	2	14	4	10	14
<u>37. Quail Hills</u> ⁶	145.000	DU	1368	27	75	102	86	50	136
<u>38. Woodside Homes (Skyview)</u> ⁶	246.000	DU	2320	45	127	172	146	86	232
<u>39. Kingdom Hall</u> ²⁰	3.312	TSF	26	1	1	2	1	1	2
<u>40. McLaughlin San Jacinto Warehouses</u> ⁷ (PCE)	491.467	TSF	840	65	19	84	25	63	88
<u>41. Double Butte</u> ²⁵	6.000	EMP	18	3	1	4	0	2	2
<u>42. Kensington Apartments</u> ²¹	221.000	DU	716	15	29	44	31	25	56
<u>43. Villago Villas</u> ⁶	24.000	DU	226	4	12	16	14	8	22
<u>44. McCall Plaza</u>									
Gas Station ⁸	3.100	TSF	2172	88	88	176	85	85	170
Gas Station Pass-By Trips (76% AM, 75% PM)				-67	-67	-134	-64	-64	-128
Car Wash ⁴	2.080	TSF					15	15	30
Drive Through ¹⁵	3.200	TSF	1496	72	70	142	55	51	106
Drive Through Pass-By Trips (50% AM, 55% PM)				-36	-35	-71	-30	-28	-58
Restaurant ⁹	4.100	TSF	398	3	3	6	29	23	52
<u>45. Cypress and Sands Apartments</u> ¹⁰	136.000	DU	916	13	41	54	44	26	70
<u>46. Beyond Menifee</u> ⁶	240.000	DU	2264	44	124	168	142	84	226
<u>Phase 1</u>									
<u>Gas Station with convenience store</u> ⁸	7.460	TSF	5226	211	211	422	203	203	406
Gas Station Pass-By Trips (76% AM, 75% PM)				-160	-160	-321	-152	-152	-305
Car Wash	1.790	TSF					13	13	26
<u>Phase 2</u>									
<u>Fast Casual Restaurant 1</u> ⁹	2.065	TSF	200	1	1	2	14	12	26
<u>Fast Casual Restaurant 2</u> ⁹	2.309	TSF	224	2	2	4	15	13	28
<u>Restaurant 1</u> ²⁸	2.670	TSF	286	14	12	26	15	9	24
Pass-By Trips (43% PM)							-6	-4	-10
<u>Restaurant 2</u> ²⁸	2.670	TSF	286	14	12	26	15	9	24
Pass-By Trips (43% PM)							-6	-4	-10
<u>Restaurant 3</u> ²⁸	4.095	TSF	438	22	18	40	23	15	38
Pass-By Trips (43% PM)							-10	-6	-16
<u>Phase 3 Commercial</u>									
<u>Shopping Plaza</u> ²⁶	43.600	TSF	4120	95	59	154	189	205	394
Pass-By Trips (40% PM)							-76	-82	-158
<u>Medical Office</u> ²⁷	10.000	TSF	376	23	5	28	11	25	36
<u>Medical Office</u> ²⁷	3.500	TSF	132	8	2	10	4	8	12
<u>Restaurant 4</u> ²⁸	7.000	TSF	750	36	30	66	39	25	64
Pass-By Trips (43% PM)							-17	-11	-28

<u>Restaurant 5</u> ²⁸	7.000	TSF	750	36	30	66	39	25	64
Pass-By Trips (43% PM)							-17	-11	-28
<u>47. Underwood (KB Homes)</u> ⁶	543.000	DU	5120	99	281	380	321	189	510
<u>48. Nova Battery Storage</u> ²⁵	3.100	EMP	16	3	1	4	1	3	4
<u>49. MR-27 LLC (Rancon)</u>									
<u>Residential Lots</u> ⁶	85.000	DU	802	16	44	60	50	30	80
<u>Attached Condos</u> ²²	87.000	DU	626	13	29	42	29	21	50
<u>50. Motte Country Plaza</u>									
Gas Station ⁸	4.700	TSF	3292	133	133	266	128	128	256
Gas Station Pass-By Trips (76% AM, 75% PM)				-101	-101	-202	-96	-96	-192
Car Wash ⁴	1.050	TSF					7	7	14
Drive Through ¹⁵	3.838	TSF	1794	88	84	172	66	60	126
Drive Through Pass-By Trips (50% AM, 55% PM)				-44	-42	-86	-36	-33	-69
<u>51. Menifee North Specific Plan (SP260) Amendment and TR 38132 and 38133</u>									
PA9 - 31.2 acres ⁶	169	DU	1594	31	87	118	100	58	158
PA22 & 23A - 28.8 acres ⁶	145	DU	1368	27	75	102	86	50	136
Total Cumulative Trip Generation			167511	5656	4590	10246	6144	7196	13348

TSF = Thousand Square Feet

PCE = Passenger Car Equivalent

VFP = Vehicle Fueling Positions

EMP = Employees

DU = Dwelling Unit

TUN = Car Wash Tunnels

¹⁻²⁹ Trip rates from the Institute of transportation Engineers, *Trip Generation Manual*, 11th Edition, 2021

Passenger Car Equivalent (PCE) factors for ITE rates are from San Bernardino County CMP, Appendix B - Guidelines for CMP Traffic Impact Analysis Reports in San Bernardino County, 2016

Vehicle Mix for ITE rates are from the Warehouse Truck Trip Study Data Results and Usage, July 17, 2014. Without Cold Storage

⁸ Trip generation is based on *Mapes Commerce Center Traffic Impact Analysis* (EPD Solutions Inc, August 18, 2022)

^{10,11} Trip rates and truck percentages from Exhibit 6 of the TUMF High-Cube Warehouse Trip Generation Study, January 29, 2019. 2, 3 and 4 axle trucks were split as follows: 50% 4-axle, 33.3% 3-axle, and 16.7% 2-axle.

APPENDIX B – TRAFFIC COUNTS

A102423

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Wednesday, May 10, 2023

CITY: Menifee

JOB #: SC4353

LOCATION: CLASS1 Ethanac Rd between Murrieta Rd and Hull St

AM TIME	COMBINED							TOTAL	PM Time	COMBINED							TOTAL
	1	2	3	4	5	6	1			2	3	4	5	6			
0:00	22	3	0	0	0	0	0	25	12:00	159	52	5	3	0	0	3	222
0:15	23	5	0	0	0	0	0	28	12:15	175	49	5	1	0	0	2	232
0:30	21	5	0	0	0	0	0	26	12:30	202	61	3	4	0	0	1	271
0:45	23	2	1	0	0	0	0	26	12:45	161	60	10	3	0	0	1	235
1:00	14	7	0	1	0	0	0	22	13:00	214	75	9	3	0	0	2	303
1:15	10	5	0	0	0	0	0	15	13:15	237	54	8	0	0	0	3	302
1:30	13	4	0	0	0	0	0	17	13:30	191	65	9	4	0	0	2	271
1:45	11	6	0	0	0	0	0	17	13:45	158	62	4	4	0	0	2	230
2:00	13	1	0	0	0	0	0	14	14:00	171	75	6	2	0	0	3	257
2:15	8	6	0	0	0	0	0	14	14:15	165	75	6	2	0	0	0	248
2:30	10	3	0	0	0	0	0	13	14:30	144	65	9	0	0	0	1	219
2:45	12	7	0	0	0	0	0	19	14:45	172	66	11	5	0	0	1	255
3:00	11	7	0	0	0	0	0	18	15:00	179	66	1	3	0	0	1	250
3:15	19	7	0	0	0	0	0	26	15:15	187	81	3	2	0	0	0	273
3:30	23	4	0	0	0	0	0	27	15:30	216	95	3	0	0	0	1	315
3:45	24	5	0	3	0	0	1	33	15:45	204	68	5	2	0	0	1	280
4:00	57	21	0	1	0	0	0	79	16:00	242	98	4	4	0	0	7	355
4:15	34	17	2	1	0	0	0	54	16:15	180	78	4	1	0	0	4	267
4:30	62	13	0	1	0	0	0	76	16:30	172	71	2	2	0	0	3	250
4:45	51	28	0	2	0	0	0	81	16:45	237	74	3	1	0	0	0	315
5:00	53	37	2	1	0	0	0	93	17:00	248	90	1	1	0	0	1	341
5:15	61	32	4	1	0	0	0	98	17:15	227	78	4	0	0	0	1	310
5:30	96	39	12	2	0	0	0	149	17:30	215	56	2	0	0	0	2	275
5:45	96	54	6	1	0	0	0	157	17:45	221	72	1	1	0	0	1	296
6:00	77	41	2	1	0	0	4	125	18:00	226	62	6	1	0	0	0	295
6:15	96	62	4	1	0	0	2	165	18:15	167	60	2	1	0	0	1	231
6:30	131	47	10	2	0	0	1	191	18:30	180	52	3	0	0	0	0	235
6:45	120	75	9	4	0	0	3	211	18:45	185	50	5	1	0	0	0	241
7:00	155	67	4	0	0	0	0	226	19:00	201	36	5	1	0	0	0	243
7:15	201	75	5	0	0	0	1	282	19:15	147	42	2	1	0	0	0	192
7:30	245	104	5	5	0	0	4	363	19:30	134	36	0	1	0	0	1	172
7:45	96	85	7	0	0	0	1	189	19:45	147	23	0	0	0	0	1	171
8:00	217	68	5	0	0	0	4	294	20:00	145	32	1	0	0	0	1	179
8:15	215	66	2	1	0	0	1	285	20:15	120	34	0	1	0	0	0	155
8:30	168	59	5	2	0	0	1	235	20:30	94	27	0	1	0	0	2	124
8:45	151	56	5	5	0	0	1	218	20:45	107	20	0	1	0	0	0	128
9:00	124	45	2	0	0	0	0	171	21:00	109	22	1	0	0	0	1	133
9:15	121	47	2	0	0	0	2	172	21:15	95	14	0	1	0	0	2	112
9:30	109	42	3	1	0	0	1	156	21:30	85	6	0	0	0	0	0	91
9:45	138	45	5	2	0	0	0	190	21:45	64	18	0	0	0	0	0	82
10:00	137	42	5	2	0	0	2	188	22:00	83	13	0	0	0	0	0	96
10:15	121	52	1	3	0	0	1	178	22:15	60	9	0	0	0	0	0	69
10:30	137	50	3	5	0	0	0	195	22:30	63	9	0	0	0	0	0	72
10:45	130	43	6	2	0	0	1	182	22:45	49	5	0	0	0	0	0	54
11:00	146	50	3	4	0	0	0	203	23:00	45	2	0	0	0	0	0	47
11:15	136	55	6	5	0	0	2	204	23:15	32	6	0	0	0	0	0	38
11:30	169	57	6	2	0	0	1	235	23:30	30	6	0	0	0	0	0	36
11:45	193	62	7	6	0	0	3	271	23:45	19	6	0	0	0	0	0	25
TOTAL	4,300	1,713	139	67	0	37		6,256	TOTAL	7,264	2,276	143	58	0	52		9,793

AM PEAK HOUR 7:30 AM
AM PEAK VOLUME 1,131

AM PEAK HOUR 4:45 PM
AM PEAK VOLUME 1,241

CLASS	DESCRIPTION	TOTAL: AM+PM	11,564	3,989	282	125	0	89	16,049
CLASS 1	PASSENGER VEHICLES								
CLASS 2	2-AXLE TRUCKS								
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV								
CLASS 6	Buses								
		% OF TOTAL	72.1%	24.9%	1.8%	0.8%	0.0%	0.6%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

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

DATE: Wednesday, May 10, 2023

CITY# Menifee

JOB #: SC4023

CLASS1 Roadway Segment on Ethanac between Geary and Murrieta

AM TIME	EASTBOUND													TOTAL	PM Time	EASTBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	11	2	0	0	0	0	0	0	0	0	0	0	13	12:00	1	78	15	2	5	2	1	0	1	0	0	0	105	
0:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6	12:15	0	91	14	0	3	4	0	0	1	0	0	0	113	
0:30	0	11	1	0	0	0	0	0	0	0	0	0	0	12	12:30	0	75	19	0	7	2	0	0	3	0	0	0	106	
0:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6	12:45	0	68	22	0	3	5	0	1	2	0	0	0	101	
1:00	0	6	2	0	0	0	0	0	0	1	0	0	0	9	13:00	0	82	26	1	1	6	0	0	2	0	0	0	118	
1:15	0	1	0	0	0	0	0	0	0	0	0	0	0	1	13:15	1	104	21	0	5	5	0	0	0	0	0	0	136	
1:30	0	7	0	0	1	0	0	0	0	0	0	0	0	8	13:30	0	82	18	0	0	4	0	0	2	0	0	0	106	
1:45	0	4	1	0	1	0	0	0	0	0	0	0	0	6	13:45	0	64	21	2	4	1	1	0	1	0	0	0	94	
2:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:00	0	61	23	2	5	2	0	0	0	0	0	0	93	
2:15	0	3	2	0	0	0	0	0	0	0	0	0	0	5	14:15	1	73	33	0	4	5	0	0	1	0	0	0	117	
2:30	0	6	2	0	0	0	0	0	0	0	0	0	0	8	14:30	1	86	29	1	11	4	0	0	0	0	0	0	132	
2:45	0	3	3	0	0	0	0	0	0	0	0	0	0	6	14:45	0	86	25	0	5	6	0	0	1	0	0	0	123	
3:00	0	5	3	0	0	0	0	0	0	0	0	0	0	8	15:00	1	93	20	1	5	0	0	0	1	0	0	0	121	
3:15	0	12	4	0	0	0	0	0	0	0	0	0	0	16	15:15	0	97	27	1	10	1	0	0	0	0	0	0	136	
3:30	0	12	4	0	0	0	0	0	0	0	0	0	0	16	15:30	1	115	29	0	7	2	0	0	0	0	0	0	154	
3:45	0	14	2	1	1	0	0	0	1	0	0	0	0	19	15:45	0	76	24	0	1	0	0	0	1	0	0	0	102	
4:00	0	32	14	0	0	0	0	0	0	0	0	0	0	46	16:00	0	109	33	4	10	1	0	0	2	0	0	0	159	
4:15	0	27	12	0	1	2	0	0	0	0	0	0	0	42	16:15	0	97	23	0	5	1	0	0	0	0	1	0	127	
4:30	0	39	9	0	0	0	0	0	0	0	0	0	0	48	16:30	1	95	26	2	4	0	0	0	1	0	0	0	129	
4:45	0	25	14	0	1	0	0	0	0	0	0	0	0	40	16:45	1	99	26	0	2	0	0	0	0	0	0	0	128	
5:00	0	32	16	0	4	2	0	0	0	0	0	0	0	54	17:00	0	86	32	0	6	0	0	0	0	0	0	0	124	
5:15	0	31	16	0	2	4	0	0	0	1	0	0	0	54	17:15	1	101	35	0	3	1	0	0	0	0	0	0	141	
5:30	0	58	18	0	1	11	1	0	0	0	0	0	0	89	17:30	0	98	15	1	4	0	0	0	0	0	0	0	118	
5:45	2	50	16	0	5	4	0	0	0	0	0	0	0	77	17:45	0	109	25	0	5	0	0	0	1	0	0	0	140	
6:00	0	41	20	2	4	1	0	0	1	0	0	0	0	69	18:00	0	107	17	0	1	0	0	0	0	0	0	0	125	
6:15	0	55	34	2	3	3	0	0	1	0	0	0	0	98	18:15	0	69	21	0	4	0	1	0	0	0	0	0	95	
6:30	0	80	14	3	6	8	0	0	0	0	0	0	0	111	18:30	0	79	19	0	2	0	0	0	0	0	0	0	100	
6:45	0	63	30	0	7	5	0	0	1	0	0	0	0	106	18:45	0	78	17	0	4	0	0	0	0	0	0	0	99	
7:00	1	84	33	1	9	2	0	0	0	0	0	0	0	130	19:00	1	69	20	0	2	0	0	0	1	0	0	0	93	
7:15	0	146	28	0	15	2	0	0	0	0	0	0	0	191	19:15	0	62	12	0	4	0	0	0	1	0	0	0	79	
7:30	0	176	39	2	10	3	0	0	5	0	0	0	0	235	19:30	0	57	14	0	0	0	0	0	0	0	0	0	71	
7:45	0	151	35	2	9	5	0	0	0	0	0	0	0	202	19:45	0	50	7	0	1	0	0	0	0	0	0	0	58	
8:00	0	125	24	2	10	1	0	0	0	0	0	0	0	162	20:00	0	63	16	0	1	0	0	0	0	0	0	0	80	
8:15	0	100	25	0	4	1	0	0	1	0	0	0	0	131	20:15	0	48	13	0	1	0	0	0	1	0	0	0	63	
8:30	0	98	20	0	6	2	0	0	1	0	0	0	0	127	20:30	0	40	9	0	1	0	0	0	0	0	0	0	50	
8:45	0	79	20	0	2	2	0	0	2	0	0	0	0	105	20:45	0	37	5	0	4	0	0	0	0	0	1	0	47	
9:00	0	57	14	0	3	1	0	0	0	0	0	0	0	75	21:00	0	38	8	0	1	0	0	0	0	0	0	0	47	
9:15	0	67	13	1	3	1	0	0	0	0	0	0	0	85	21:15	0	39	4	0	1	0	0	0	1	0	0	0	45	
9:30	0	65	16	0	4	2	0	0	0	0	0	0	0	87	21:30	0	28	0	0	0	0	0	0	0	0	0	0	28	
9:45	0	60	13	0	1	2	0	0	0	1	0	0	0	77	21:45	0	16	5	0	0	0	0	0	0	0	0	0	21	
10:00	1	70	17	0	0	0	0	0	2	0	0	0	0	90	22:00	0	34	5	0	1	0	0	0	0	0	0	0	40	
10:15	0	56	29	0	3	0	1	0	1	0	0	0	0	90	22:15	0	17	4	0	1	0	0	0	0	0	0	0	22	
10:30	0	65	21	0	5	0	0	0	2	0	0	0	0	93	22:30	0	30	4	0	0	0	0	0	0	0	0	0	34	
10:45	0	70	11	0	1	2	0	0	2	0	0	0	0	86	22:45	0	17	0	0	0	0	0	0	0	0	0	0	17	
11:00	0	69	11	0	4	1	0	0	1	0	0	0	0	86	23:00	0	17	1	0	0	0	0	0	0	0	0	0	18	
11:15	0	75	23	1	5	3	0	1	1	0	0	0	0	109	23:15	0	9	2	0	0	0	0	0	0	0	0	0	11	
11:30	1	88	20	1	4	3	0	0	1	0	0	0	0	118	23:30	0	9	0	0	0	0	0	0	0	0	0	0	9	
11:45	1	90	21	2	1	5	0	0	2	0	0	0	0	122	23:45	0	6	1	0	0	0	0	0	0	0	0	0	7	
TOTAL	6	2,436	672	20	136	78	2	1	27	1	0	0	0	3,379	TOTAL	10	3,144	785	17	144	52	3	1	24	0	2	0	0	4,182

AM PEAK HOUR 7:15 AM
AM PEAK VOLUME 790

PM PEAK HOUR 3:15 PM
PM PEAK VOLUME 551

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	16	5,580	1,457	37	280	130	5	2	51	1	2	0	0	7,561
% OF TOTAL	0.2%	73.8%	19.3%	0.5%	3.7%	1.7%	0.1%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13
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TOTAL: ALL	32	10,885	2,927	72	570	275	9	5	97	1	3	0	2	14,878
% OF TOTAL	0.2%	73.2%	19.7%	0.5%	3.8%	1.8%	0.1%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

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

DATE: Thursday, December 07, 2023
 JOB #: SC4353

CITY: Menifee
 LOCATION: CLASS2 Murrieta Rd between Mantle Dr and Rouse Rd.

AM TIME	COMBINED													TOTAL	PM TIME	COMBINED													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	5	1	0	0	1	0	0	0	0	0	0	0	7	12:00	1	95	26	1	14	0	0	0	1	0	2	0	0	140
0:15	0	9	3	0	0	0	0	0	0	0	0	0	0	12	12:15	0	86	34	1	9	2	0	0	0	0	0	0	132	
0:30	0	9	0	0	0	0	0	0	0	0	0	0	0	9	12:30	0	94	21	0	9	1	0	0	0	0	0	0	125	
0:45	0	11	2	0	0	0	0	0	0	0	0	0	0	13	12:45	0	85	22	0	12	2	0	1	0	0	0	0	122	
1:00	0	8	4	0	0	0	0	0	0	0	0	0	0	12	13:00	0	84	22	0	12	1	0	1	0	0	2	0	122	
1:15	0	6	0	0	0	0	0	0	0	0	0	0	0	6	13:15	1	90	30	0	11	0	0	1	0	0	0	0	133	
1:30	0	3	1	0	0	0	0	0	0	0	0	0	0	4	13:30	1	101	22	1	17	0	0	0	0	0	0	0	142	
1:45	0	4	1	0	0	0	0	0	0	0	0	0	0	5	13:45	0	81	32	0	18	0	0	1	0	0	0	0	132	
2:00	0	5	1	0	0	0	0	0	0	0	0	0	0	6	14:00	0	81	26	0	22	0	0	1	0	0	0	0	130	
2:15	0	3	0	0	1	0	0	0	0	0	0	0	0	4	14:15	0	110	23	0	17	0	0	1	0	0	0	0	151	
2:30	0	5	2	0	0	0	0	0	0	0	0	0	0	7	14:30	0	109	25	1	15	2	0	1	0	0	0	0	153	
2:45	0	4	1	0	0	0	0	0	0	0	0	0	0	5	14:45	0	106	30	0	18	0	0	0	0	0	0	0	154	
3:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14	15:00	1	117	29	0	18	0	0	0	0	0	0	0	165	
3:15	0	4	0	0	0	0	0	0	0	0	0	0	0	4	15:15	0	97	29	0	17	0	0	0	0	0	0	0	143	
3:30	0	4	1	0	1	0	0	0	0	0	0	0	0	6	15:30	1	136	31	1	25	0	0	0	0	0	0	0	194	
3:45	0	19	1	0	2	0	0	0	0	0	0	0	0	22	15:45	0	109	38	1	20	0	0	0	0	0	0	0	168	
4:00	0	12	7	0	3	0	0	0	0	0	0	0	0	22	16:00	0	98	29	1	21	1	0	1	0	0	0	0	151	
4:15	0	17	5	0	2	0	0	0	0	0	0	0	0	24	16:15	2	116	30	0	17	0	0	0	0	0	0	0	165	
4:30	0	15	2	0	1	0	0	0	0	0	0	0	0	18	16:30	2	108	35	1	19	1	0	1	0	0	0	0	167	
4:45	0	25	5	1	3	0	0	0	0	0	0	0	0	34	16:45	0	112	33	0	21	0	0	0	0	0	0	0	166	
5:00	0	30	3	0	0	0	0	0	0	0	0	0	0	33	17:00	3	124	37	0	17	0	0	1	0	0	0	0	182	
5:15	0	22	4	0	4	0	0	0	0	0	0	0	0	30	17:15	1	120	23	0	23	0	0	0	0	0	0	0	167	
5:30	0	36	11	0	5	0	0	0	0	0	0	0	0	52	17:30	0	99	25	0	16	0	0	0	0	0	0	0	140	
5:45	0	36	13	0	2	0	0	0	0	0	0	0	0	51	17:45	1	109	18	0	12	2	0	0	0	0	0	0	142	
6:00	0	26	22	0	7	1	0	0	0	0	0	0	0	56	18:00	1	89	24	0	10	0	0	0	0	0	0	0	124	
6:15	0	52	12	0	15	0	0	0	0	0	0	0	0	79	18:15	1	77	11	0	15	0	0	0	0	0	0	0	104	
6:30	0	57	18	0	18	2	0	0	0	0	0	0	0	95	18:30	0	72	19	0	8	1	0	0	0	0	0	0	100	
6:45	0	66	17	0	20	1	0	2	0	0	0	0	0	106	18:45	0	62	15	0	7	0	0	0	0	0	0	0	84	
7:00	0	73	20	0	17	1	0	0	0	0	0	0	0	111	19:00	0	66	16	0	4	0	0	0	0	0	0	0	86	
7:15	0	78	12	0	13	1	0	1	0	0	0	0	0	105	19:15	0	47	17	0	7	0	0	0	0	0	0	0	71	
7:30	0	82	20	0	8	1	0	0	0	0	0	0	0	111	19:30	0	51	14	0	2	0	0	0	0	0	0	0	67	
7:45	0	87	24	0	22	1	0	0	0	0	1	0	0	135	19:45	0	43	7	0	8	0	0	0	0	0	0	0	58	
8:00	1	77	28	0	13	3	0	0	0	0	0	0	0	122	20:00	0	39	9	1	9	0	0	0	0	0	0	0	58	
8:15	0	72	20	1	12	2	0	1	0	0	0	0	0	108	20:15	0	28	13	0	16	0	0	0	0	0	0	0	57	
8:30	0	87	22	1	10	4	0	0	1	0	0	0	0	125	20:30	1	28	7	0	5	0	0	0	0	0	0	0	41	
8:45	0	81	19	0	14	1	0	0	0	0	2	0	0	117	20:45	0	24	17	0	5	0	0	0	0	0	0	0	46	
9:00	0	62	20	1	12	1	0	0	0	0	0	0	0	96	21:00	0	28	15	1	8	0	0	0	0	0	0	0	52	
9:15	0	77	18	1	10	1	0	1	0	0	0	0	0	108	21:15	0	23	7	0	2	0	0	0	0	0	0	0	32	
9:30	1	96	23	0	10	0	0	0	1	0	0	0	0	131	21:30	0	32	8	0	3	0	0	1	0	0	0	0	44	
9:45	1	71	22	1	13	2	0	1	0	0	0	0	0	111	21:45	0	22	7	0	4	0	0	0	0	0	0	0	33	
10:00	0	62	23	0	11	3	0	0	0	0	2	0	0	101	22:00	0	14	6	0	2	0	0	1	0	0	0	0	23	
10:15	0	81	12	0	16	1	0	0	0	0	0	0	0	110	22:15	0	19	5	0	0	0	0	0	0	0	0	0	24	
10:30	0	82	13	1	15	1	0	0	0	0	0	0	0	112	22:30	0	19	5	0	1	0	0	0	0	0	0	0	25	
10:45	0	80	23	0	9	0	0	1	0	0	0	0	0	113	22:45	0	12	1	0	2	0	0	0	0	0	0	0	15	
11:00	0	82	20	0	8	0	0	0	0	0	2	0	0	112	23:00	1	11	5	0	0	0	0	0	0	0	0	0	17	
11:15	1	90	32	2	13	0	0	0	0	0	0	0	0	138	23:15	0	14	1	0	2	0	0	0	0	0	0	0	17	
11:30	0	95	31	0	13	1	0	0	0	0	0	0	0	140	23:30	0	11	5	0	2	0	0	0	0	0	0	0	18	
11:45	1	77	18	0	15	1	0	0	0	0	0	0	0	112	23:45	0	4	2	0	1	0	0	0	0	0	0	0	7	
TOTAL	5	2,098	558	9	338	30	0	7	2	0	7	0	0	3,054	TOTAL	18	3,302	906	10	523	13	0	12	1	0	4	0	0	4,789

AM PEAK HOUR 10:45 AM
AM PEAK VOLUME 503

PM PEAK HOUR 4:30 PM
PM PEAK VOLUME 682

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	23	5,400	1,464	19	861	43	0	19	3	0	11	0	0	7,843
% OF TOTAL	0.3%	68.9%	18.7%	0.2%	11.0%	0.5%	0.0%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	100.0%

24-HOUR ROADWAY SEGMENT COUNTS (WITH FHWA CLASSIFICATION)

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

DATE: Wednesday, May 10, 2023

CITY# Menifee

JOB #: SC4023

CLASS2 Roadway Segment on Murrieta between Ethanac and Floyd

AM TIME	NORTHBOUND													TOTAL	PM Time	NORTHBOUND													TOTAL
	1	2	3	4	5	6	7	8	9	10	11	12	13			1	2	3	4	5	6	7	8	9	10	11	12	13	
0:00	0	2	2	0	0	0	0	0	0	0	0	0	0	4	12:00	0	44	18	0	4	0	0	0	0	0	0	66		
0:15	0	6	1	0	0	0	0	0	0	0	0	0	0	7	12:15	0	54	19	1	0	0	0	0	1	0	0	75		
0:30	0	4	2	0	0	0	0	0	0	0	0	0	0	6	12:30	0	60	13	0	2	3	0	0	0	0	0	78		
0:45	0	6	0	0	0	0	0	0	0	0	0	0	0	6	12:45	0	58	12	2	2	1	0	0	0	0	0	75		
1:00	0	3	2	0	0	0	0	0	0	0	0	0	0	5	13:00	0	78	18	1	3	1	0	0	0	0	0	101		
1:15	0	2	0	0	0	0	0	0	0	0	0	0	0	2	13:15	0	62	14	0	1	1	0	0	0	0	0	78		
1:30	0	5	1	0	0	0	0	0	0	0	0	0	0	6	13:30	0	58	15	1	5	2	0	0	0	0	0	81		
1:45	0	1	0	0	0	0	0	0	0	0	0	0	0	1	13:45	1	58	17	0	7	1	0	0	0	0	0	84		
2:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5	14:00	0	56	19	1	6	1	0	0	0	0	0	83		
2:15	0	3	0	0	0	0	0	0	0	0	0	0	0	3	14:15	0	57	15	0	1	0	0	0	0	0	0	73		
2:30	0	1	1	0	0	0	0	0	0	0	0	0	0	2	14:30	0	46	16	0	0	2	0	0	0	0	0	64		
2:45	0	6	1	0	0	0	0	0	0	0	0	0	0	7	14:45	0	50	25	1	2	0	0	0	0	0	0	78		
3:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4	15:00	0	51	14	0	3	0	0	0	0	0	0	68		
3:15	0	6	2	0	0	0	0	0	0	0	0	0	0	8	15:15	0	59	20	0	4	0	0	0	0	0	0	83		
3:30	0	9	1	0	0	0	0	0	0	0	0	0	0	10	15:30	0	52	24	1	2	0	0	0	0	0	0	79		
3:45	0	7	0	0	0	0	0	0	0	0	0	0	0	7	15:45	0	72	14	1	2	0	0	0	0	0	0	89		
4:00	1	9	3	0	1	0	0	0	0	0	0	0	0	14	16:00	0	49	12	0	4	0	0	0	0	0	0	65		
4:15	0	14	7	0	2	0	0	0	0	0	0	0	0	23	16:15	0	52	22	4	3	0	0	0	0	0	0	81		
4:30	0	12	5	0	0	0	0	0	1	0	0	0	0	18	16:30	2	63	16	1	4	1	0	0	0	0	0	87		
4:45	0	9	11	0	2	0	0	0	0	0	0	0	0	22	16:45	0	62	21	0	3	0	0	0	0	0	0	86		
5:00	1	17	11	0	2	0	0	0	0	0	0	0	0	31	17:00	0	64	18	1	3	0	0	0	0	0	0	86		
5:15	0	24	8	0	3	0	0	0	0	0	0	0	0	35	17:15	0	54	14	0	9	0	0	0	0	0	0	77		
5:30	0	25	12	0	0	0	0	0	1	0	0	0	0	38	17:30	0	60	12	0	1	0	0	0	0	0	0	73		
5:45	1	34	17	0	1	1	0	0	0	0	0	0	0	54	17:45	0	66	11	0	0	1	0	0	0	0	0	78		
6:00	0	26	8	1	2	0	0	0	0	0	0	0	0	37	18:00	0	56	21	0	0	0	0	0	0	0	0	77		
6:15	1	29	19	0	2	0	0	0	0	0	0	0	0	51	18:15	0	53	15	1	0	0	0	0	0	0	0	69		
6:30	0	42	12	0	2	0	0	0	0	0	0	0	0	56	18:30	0	51	15	0	2	0	0	0	0	0	0	68		
6:45	0	56	11	2	2	0	0	0	0	0	0	0	0	71	18:45	0	47	6	1	1	1	0	0	0	0	0	56		
7:00	0	47	18	0	7	0	0	0	0	0	0	0	0	72	19:00	1	42	5	0	0	0	0	0	0	0	0	48		
7:15	0	73	10	1	3	0	0	0	0	0	0	0	0	87	19:15	0	30	10	0	3	0	0	0	0	0	0	43		
7:30	1	56	15	2	5	0	0	0	0	0	0	0	0	79	19:30	0	30	8	1	0	0	0	0	0	0	0	39		
7:45	0	55	14	0	0	1	0	0	0	0	0	0	0	70	19:45	0	29	2	0	0	0	0	0	0	0	0	31		
8:00	0	47	13	0	2	2	0	0	0	0	0	0	0	64	20:00	1	27	4	0	0	0	0	0	0	0	0	32		
8:15	0	54	17	1	4	0	0	0	0	0	0	0	0	76	20:15	0	31	5	0	0	0	0	0	0	0	0	36		
8:30	0	37	8	1	1	1	0	0	0	0	0	0	0	48	20:30	0	23	6	0	3	0	0	0	0	0	0	32		
8:45	0	62	14	1	2	0	0	0	0	0	0	0	0	79	20:45	0	26	3	0	1	0	0	0	0	0	0	30		
9:00	1	40	20	2	3	0	0	0	0	0	0	0	0	66	21:00	0	24	4	0	0	0	0	0	0	0	0	28		
9:15	1	29	13	1	2	1	0	0	0	0	0	0	0	47	21:15	1	21	3	0	0	0	0	0	0	0	0	25		
9:30	0	43	8	0	2	1	0	0	0	0	0	0	0	54	21:30	0	18	4	0	0	0	0	0	0	0	0	22		
9:45	0	56	21	0	0	0	0	0	0	0	0	0	0	77	21:45	0	21	3	0	0	0	0	0	0	0	0	24		
10:00	0	53	9	1	1	2	0	0	0	0	0	0	0	66	22:00	0	18	2	0	0	0	0	0	0	0	0	20		
10:15	0	43	5	0	1	0	0	0	0	0	0	0	0	49	22:15	0	12	5	0	0	0	0	0	0	0	0	17		
10:30	0	39	9	0	2	0	0	0	0	0	0	0	0	50	22:30	0	11	1	0	0	0	0	0	0	0	0	12		
10:45	0	47	17	0	5	0	0	0	0	0	0	0	0	69	22:45	0	9	1	0	0	0	0	0	0	0	0	10		
11:00	0	52	15	0	3	1	0	0	0	0	0	0	0	71	23:00	0	7	1	0	0	0	0	0	0	0	0	0	8	
11:15	0	41	9	1	5	2	0	1	0	0	0	0	0	59	23:15	0	8	1	0	0	0	0	0	0	0	0	9		
11:30	1	61	10	0	6	1	0	0	0	0	0	0	0	79	23:30	0	2	4	0	0	0	0	0	0	0	0	6		
11:45	0	54	16	0	2	0	0	0	0	0	0	0	0	72	23:45	0	5	1	0	0	0	0	0	0	0	0	6		
TOTAL	8	1,355	399	14	75	13	0	1	2	0	0	0	0	1,867	TOTAL	6	1,986	529	18	81	15	0	0	1	0	0	0	2,636	

AM PEAK HOUR 6:45 AM
AM PEAK VOLUME 309

PM PEAK HOUR 1:00 PM
PM PEAK VOLUME 344

CLASS 1	Class 1 — Motorcycles	CLASS 8	3 to 4 Axles, Single Trailer
CLASS 2	Passenger Cars	CLASS 9	5 Axles, Single Trailer
CLASS 3	2 Axles, 4-Tire Single Units	CLASS 10	6 or More Axles, Single Trailer
CLASS 4	Buses	CLASS 11	5 or Less Axles, Multi-Trailers
CLASS 5	2 Axles, 6-Tire Single Units	CLASS 12	6 Axles, Multi-Trailers
CLASS 6	3 Axles, Single Unit	CLASS 13	7 or More Axles, Multi-Trailers
CLASS 7	4 or More Axles, Single Unit		

TOTAL: AM+PM	14	3,341	928	32	156	28	0	1	3	0	0	0	0	4,503
% OF TOTAL	0.3%	74.2%	20.6%	0.7%	3.5%	0.6%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

Class	1	2	3	4	5	6	7	8	9	10	11	12	13	
TOTAL: ALL	25	6,392	1,751	59	310	60	2	3	5	0	1	0	0	8,608
% OF TOTAL	0.3%	74.3%	20.3%	0.7%	3.6%	0.7%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	100.0%

A102423

24-HOUR ROADWAY SEGMENT COUNTS (WITH CLASSIFICATION)

Prepared by AimTD LLC tel. 714 253 7888 cs@aimtd.com

DATE: Wednesday, May 10, 2023

CITY: Menifee

JOB #: SC4353

LOCATION: CLASS3 Murrieta Rd between Green Valley Pkwy and Ethanac Rd

AM TIME	COMBINED						TOTAL	PM Time	COMBINED						TOTAL
	1	2	3	4	5	6			1	2	3	4	5	6	
0:00	6	0	0	0	0	0	6	12:00	25	15	0	0	0	0	40
0:15	5	0	0	0	0	0	5	12:15	31	10	0	1	0	1	43
0:30	3	0	0	0	0	0	3	12:30	31	9	1	0	0	0	41
0:45	0	0	0	0	0	0	0	12:45	31	10	1	0	0	0	42
1:00	0	1	0	0	0	0	1	13:00	34	10	1	0	0	0	45
1:15	1	1	0	0	0	0	2	13:15	36	13	0	0	0	0	49
1:30	3	0	0	0	0	0	3	13:30	41	11	0	0	0	2	54
1:45	2	0	0	0	0	0	2	13:45	29	9	0	0	0	0	38
2:00	2	0	0	0	0	0	2	14:00	33	17	1	0	0	0	51
2:15	4	0	0	0	0	0	4	14:15	42	6	0	0	0	0	48
2:30	0	0	0	0	0	0	0	14:30	30	16	0	0	0	0	46
2:45	1	1	0	0	0	0	2	14:45	29	13	0	0	0	3	45
3:00	0	0	0	0	0	0	0	15:00	31	11	0	0	0	1	43
3:15	2	0	0	0	0	0	2	15:15	51	19	0	0	0	1	71
3:30	4	0	0	0	0	0	4	15:30	48	21	0	0	0	0	69
3:45	4	0	0	0	0	0	4	15:45	45	18	0	0	0	0	63
4:00	5	2	0	0	0	0	7	16:00	43	19	1	0	0	0	63
4:15	14	4	1	0	0	0	19	16:15	74	21	0	0	0	3	98
4:30	8	1	0	0	0	0	9	16:30	81	10	0	0	0	1	92
4:45	5	2	0	0	0	0	7	16:45	40	15	0	0	0	0	55
5:00	10	2	0	0	0	0	12	17:00	49	15	0	0	0	0	64
5:15	9	1	0	0	0	0	10	17:15	38	16	0	0	0	0	54
5:30	12	6	0	0	0	0	18	17:30	32	10	0	0	0	0	42
5:45	16	5	0	0	0	0	21	17:45	55	9	0	0	0	0	64
6:00	6	3	0	0	0	0	9	18:00	34	9	0	0	0	0	43
6:15	18	8	0	0	0	1	27	18:15	30	5	0	0	0	0	35
6:30	19	11	0	0	0	2	32	18:30	37	15	0	0	0	0	52
6:45	26	6	1	0	0	3	36	18:45	28	4	0	0	0	0	32
7:00	26	8	0	0	0	0	34	19:00	22	4	0	0	0	0	26
7:15	33	8	0	0	0	1	42	19:15	17	6	0	0	0	0	23
7:30	20	10	1	0	0	1	32	19:30	17	5	0	0	0	0	22
7:45	96	7	2	0	0	0	105	19:45	16	3	0	0	0	0	19
8:00	28	10	1	0	0	0	39	20:00	16	6	0	0	0	0	22
8:15	23	9	0	0	0	3	35	20:15	11	3	0	0	0	0	14
8:30	17	9	1	0	0	0	27	20:30	14	3	0	0	0	0	17
8:45	32	2	2	0	0	1	37	20:45	5	1	0	0	0	0	6
9:00	20	10	1	0	0	2	33	21:00	16	1	0	0	0	0	17
9:15	23	5	0	0	0	2	30	21:15	13	2	0	0	0	0	15
9:30	22	7	0	0	0	0	29	21:30	12	0	0	0	0	0	12
9:45	25	7	0	0	0	0	32	21:45	10	1	0	0	0	0	11
10:00	17	4	2	0	0	0	23	22:00	6	0	0	0	0	0	6
10:15	25	6	0	0	0	0	31	22:15	9	3	0	0	0	0	12
10:30	26	9	1	0	0	0	36	22:30	7	0	0	0	0	0	7
10:45	20	10	0	0	0	0	30	22:45	2	0	0	0	0	0	2
11:00	22	9	2	0	0	0	33	23:00	5	0	0	0	0	0	5
11:15	19	7	0	0	0	0	26	23:15	2	0	0	0	0	0	2
11:30	27	13	1	0	0	0	41	23:30	1	0	0	0	0	0	1
11:45	24	9	0	0	0	0	33	23:45	2	0	0	0	0	0	2
TOTAL	730	213	16	0	0	16	975	TOTAL	1,311	394	5	1	0	12	1,723

AM PEAK HOUR
7:15 AM
AM PEAK VOLUME
218

AM PEAK HOUR
3:45 PM
AM PEAK VOLUME
316

CLASS 1	PASSENGER VEHICLES	TOTAL: AM+PM	2,041	607	21	1	0	28	2,698
CLASS 2	2-AXLE TRUCKS	% OF TOTAL	75.6%	22.5%	0.8%	0.0%	0.0%	1.0%	100.0%
CLASS 3	3-AXLE TRUCKS								
CLASS 4	4 OR MORE AXLE TRUCKS								
CLASS 5	RV								
CLASS 6	Buses								

INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
5/10/23
WEDNESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Menifee
Murrieta
Ethanac

PROJECT #: SC4023
LOCATION #: 2
CONTROL: SIGNAL

PCE Adjusted	NOTES:						AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
	Class	1	2	3	4	5			
	Factor	1	1.5	2	3	2	2		

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		NB	SB	EB	WB	TTL
	0.3	0.3	0.3	1	1	1	1	2	0	1	2	0						

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	U-TURNS					
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		NB	SB	EB	WB	TTL	
AM	7:00 AM	22	25	34	12	13	1	0	130	21	28	64	10	357					0
	7:15 AM	32	32	38	24	12	3	2	190	20	15	84	14	463					0
	7:30 AM	32	22	35	33	12	0	1	237	27	20	128	16	560					0
	7:45 AM	8	26	37	25	15	3	2	192	23	26	109	14	477					0
	8:00 AM	19	19	31	7	19	3	1	155	20	26	114	23	436					0
	8:15 AM	19	24	40	14	11	3	0	124	22	19	131	22	427					0
	8:30 AM	15	15	20	10	13	0	2	114	22	25	102	10	346					0
	8:45 AM	23	22	41	7	16	1	2	96	14	32	70	12	332					0
	VOLUMES	169	184	274	130	110	14	10	1,236	167	189	801	118	3,398	0	0	0	0	0
	APPROACH %	27%	29%	44%	51%	43%	5%	1%	88%	12%	17%	72%	11%						
	APP/DEPART	626	/	311	253	/	465	1,412	/	1,639	1,107	/	983	0					
	BEGIN PEAK HR	7:15 AM																	
	VOLUMES	91	98	140	88	58	9	6	773	89	86	435	65	1,936					
APPROACH %	28%	30%	43%	57%	37%	6%	1%	89%	10%	15%	74%	11%							
PEAK HR FACTOR	0.813			0.865			0.821			0.898			0.864						
APP/DEPART	329	/	169	154	/	232	868	/	1,001	586	/	534	0						
P.M	4:00 PM	20	25	26	16	32	5	4	143	30	52	176	23	548					0
	4:15 PM	36	34	28	11	30	6	2	110	26	53	141	27	501					0
	4:30 PM	36	16	44	9	31	2	1	110	28	41	133	21	469					0
	4:45 PM	24	27	41	10	23	5	0	115	30	43	140	17	473					0
	5:00 PM	14	31	44	16	23	7	1	102	26	41	169	20	492					0
	5:15 PM	28	30	29	21	27	1	2	119	22	36	144	24	480					0
	5:30 PM	23	20	30	24	20	3	1	98	26	41	119	17	421					0
	5:45 PM	28	28	27	22	27	7	5	115	25	41	122	24	468					0
	VOLUMES	208	208	267	128	211	35	16	911	211	346	1,142	171	3,850	0	0	0	0	0
	APPROACH %	30%	30%	39%	34%	56%	9%	1%	80%	19%	21%	69%	10%						
	APP/DEPART	683	/	395	373	/	767	1,137	/	1,305	1,658	/	1,384	0					
	BEGIN PEAK HR	4:00 PM																	
	VOLUMES	115	101	138	45	115	18	7	478	113	189	589	87	1,991					
APPROACH %	32%	29%	39%	25%	65%	10%	1%	80%	19%	22%	68%	10%							
PEAK HR FACTOR	0.904			0.862			0.843			0.864			0.908						
APP/DEPART	353	/	194	178	/	416	597	/	660	864	/	721	0						



INTERSECTION TURNING MOVEMENT COUNTS

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

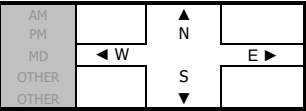
DATE:
5/10/23
WEDNESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Menifee
Murrieta
McLaughlin

PROJECT #: SC4023
LOCATION #: 3
CONTROL: STOP W

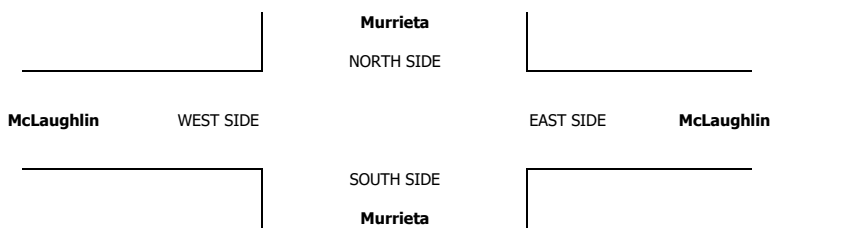
		NOTES:													
PCE	Class	1	2	3	4	5	6								
Adjusted	Factor	1	1.5	2	3	2	2								



LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Murrieta			Murrieta			McLaughlin			McLaughlin			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	1	0	1	1	0	0	1	0	0	0	1	0

U-TURNS				
NB	SB	EB	WB	TTL

	AM												
	7:00 AM	7:15 AM	7:30 AM	7:45 AM	8:00 AM	8:15 AM	8:30 AM	8:45 AM	VOLUMES	APPROACH %	APP/DEPART	TOTAL	
	1	80	1	1	60	1	1	0	0	4	0	5	153
	0	95	0	2	42	2	0	2	1	2	1	6	152
	1	86	2	1	52	1	0	0	1	6	2	2	154
	1	67	1	1	62	0	0	0	0	1	0	3	136
	0	69	2	0	57	3	0	0	0	1	0	2	134
	1	80	1	3	48	1	1	1	1	0	2	4	142
	1	65	2	1	56	0	0	0	0	1	1	2	128
	0	85	1	1	51	0	0	3	0	0	2	0	142
	5	625	10	9	426	8	2	6	3	15	8	23	1,139
	1%	98%	2%	2%	96%	2%	18%	55%	27%	33%	16%	51%	
	640	/	650	443	/	444	11	/	25	46	/	21	0
	7:00 AM												
	3	328	4	5	215	4	1	2	2	13	3	16	594
	1%	98%	1%	2%	96%	2%	20%	40%	40%	41%	8%	51%	
	0.880			0.892			0.417			0.829			0.967
	335	/	345	223	/	230	5	/	11	32	/	10	0
	P.M.												
	4:00 PM	0	56	7	8	83	5	0	0	0	0	5	163
	4:15 PM	1	98	0	1	109	0	0	0	0	3	4	215
	4:30 PM	4	96	0	4	99	2	1	0	2	1	0	208
	4:45 PM	2	85	3	4	83	2	1	1	2	0	1	184
	5:00 PM	0	91	0	4	83	2	0	0	2	2	1	185
	5:15 PM	0	85	3	5	86	2	0	0	0	0	3	185
	5:30 PM	2	68	3	4	71	1	0	0	0	1	3	152
	5:45 PM	1	87	3	4	72	0	2	0	0	0	2	171
	10	663	19	33	685	14	4	1	6	6	2	19	1,460
	1%	96%	3%	5%	94%	2%	36%	9%	55%	21%	8%	71%	
	692	/	686	731	/	696	11	/	53	26	/	26	0
	4:15 PM												
	7	369	3	13	374	6	2	1	6	6	0	6	791
	2%	97%	1%	3%	95%	2%	22%	11%	67%	48%	0%	52%	
	0.951			0.891			0.563			0.442			0.920
	379	/	377	392	/	385	9	/	17	12	/	13	0



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
5/10/23
WEDNESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Menifee
Hull
Ethanac

PROJECT #: SC4023
LOCATION #: 4
CONTROL: STOP N

PCE Adjusted	NOTES:										AM PM MD OTHER OTHER	▲ N S ▼		
	Class													
	Factor													

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	U-TURNS				
	Hull			Hull			Ethanac			Ethanac				NB	SB	EB	WB	TTL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR						
LANES:	0	X	0	X	X	X	X	2	0	1	2	X						

													TOTAL					
	7:00 AM	0	0	0	0	0	0	0	175	0	0	101						
AM	7:15 AM	0	0	0	0	0	0	0	252	0	0	117	0	368				
	7:30 AM	6	0	6	0	0	0	0	300	0	0	157	0	469				
	7:45 AM	0	0	3	0	0	0	0	253	0	5	148	0	408				
	8:00 AM	0	0	0	0	0	0	0	193	0	0	162	0	355				
	8:15 AM	0	0	0	0	0	0	0	177	0	1	174	0	352				
	8:30 AM	0	0	0	0	0	0	0	144	0	0	137	0	280				
	8:45 AM	0	0	0	0	0	0	0	143	0	1	113	0	257				
	VOLUMES	6	0	9	0	0	0	0	1,635	0	7	1,107	0	2,763				
	APPROACH %	41%	0%	59%	0%	0%	0%	0%	100%	0%	1%	99%	0%					
	APP/DEPART	15	/	0	0	/	7	1,635	/	1,644	1,114	/	1,113	0				
	BEGIN PEAK HR	7:15 AM																
	VOLUMES	6	0	9	0	0	0	0	997	0	5	584	0	1,600				
	APPROACH %	41%	0%	59%	0%	0%	0%	0%	100%	0%	1%	99%	0%					
	PEAK HR FACTOR	0.302			0.000			0.831			0.907			0.853				
	APP/DEPART	15	/	0	0	/	5	997	/	1,006	588	/	590	0				
	PM	4:00 PM	0	0	1	0	0	0	0	177	2	1	250	0	431			
		4:15 PM	0	0	4	0	0	0	0	150	0	0	220	0	373			
		4:30 PM	0	0	1	0	0	0	0	162	0	1	194	0	358			
4:45 PM		0	0	3	0	0	0	0	166	0	0	200	0	368				
5:00 PM		0	0	0	0	0	0	0	159	1	0	228	0	388				
5:15 PM		0	0	0	0	0	0	0	168	0	0	203	0	371				
5:30 PM		0	0	0	0	0	0	0	154	0	1	183	0	337				
5:45 PM		0	0	0	0	0	0	0	166	0	0	186	0	352				
VOLUMES		0	0	9	0	0	0	0	1,300	3	3	1,663	0	2,977				
APPROACH %		0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	100%	0%					
APP/DEPART		9	/	0	0	/	6	1,303	/	1,309	1,666	/	1,663	0				
BEGIN PEAK HR		4:00 PM																
VOLUMES		0	0	9	0	0	0	0	654	2	2	864	0	1,530				
APPROACH %		0%	0%	100%	0%	0%	0%	0%	100%	0%	0%	100%	0%					
PEAK HR FACTOR		0.607			0.000			0.916			0.862			0.887				
APP/DEPART		9	/	0	0	/	4	656	/	663	866	/	864	0				



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE: 5/10/23 WEDNESDAY

LOCATION: NORTH & SOUTH: EAST & WEST:

Menifee Evans Ethanac

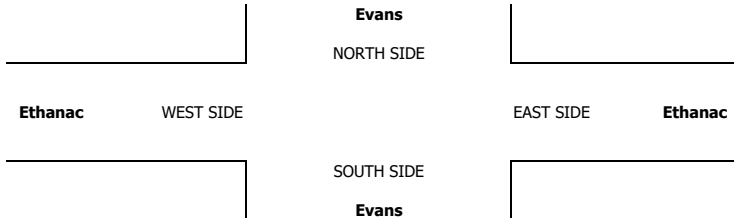
PROJECT #: SC4023 LOCATION #: 6 CONTROL: STOP N

Table with 16 columns and 5 rows containing PCE Adjusted, Class, Factor, and directional arrows for AM, PM, MD, and OTHER.

Summary table with 14 columns for Northbound, Southbound, Eastbound, Westbound lanes, and U-turns (NB, SB, EB, WB, TTL).

Main data table with columns for AM and PM time periods, lane types (NL, NT, NR, SL, ST, SR, EL, ET, ER, WL, WT, WR), and various performance metrics like VOLUMES, APPROACH %, and PEAK HR FACTOR.

U-turn data table with 5 columns (NB, SB, EB, WB, TTL) and 16 rows of time periods.



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
5/10/23
WEDNESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

Menifee
Evans
McLaughlin

PROJECT #: SC4023
LOCATION #: 7
CONTROL: STOP N/E

PCE Adjusted	NOTES:												AM PM MD OTHER OTHER	▲ N S ▼	◀ W E ▶
	Class	1	2	3	4	5	6								
	Factor	1	1.5	2	3	2	2								

LANES:	NORTHBOUND Evans			SOUTHBOUND Evans			EASTBOUND McLaughlin			WESTBOUND McLaughlin			TOTAL	U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		NB	SB	EB	WB	TTL
	0	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0

AM	7:00 AM	0	0	6	0	2	0	0	24	0	1	1	0	34					0
	7:15 AM	1	0	6	0	0	0	0	25	1	1	5	0	39					0
	7:30 AM	0	0	10	0	2	0	1	16	0	1	3	0	32					0
	7:45 AM	0	0	0	0	1	0	0	9	0	3	2	0	15					0
	8:00 AM	0	0	7	0	0	0	0	4	0	3	4	0	18					0
	8:15 AM	0	0	8	0	0	0	0	3	0	4	4	0	19					0
	8:30 AM	1	0	4	0	0	0	0	6	0	2	1	0	14					0
	8:45 AM	1	0	4	0	0	0	0	4	0	1	1	0	11					0
	VOLUMES	3	0	44	0	4	0	1	90	1	16	21	0	179	0	0	0	0	0
	APPROACH %	6%	0%	94%	0%	100%	0%	1%	98%	1%	44%	56%	0%						
	APP/DEPART	47	/	1	4	/	21	92	/	134	37	/	24	0					
	BEGIN PEAK HR	7:00 AM																	
	VOLUMES	1	0	22	0	4	0	1	73	1	6	11	0	118					
	APPROACH %	4%	0%	96%	0%	100%	0%	1%	97%	1%	36%	64%	0%						
PEAK HR FACTOR	0.592			0.667			0.735			0.688			0.766						
APP/DEPART	23	/	1	4	/	11	75	/	95	17	/	12	0						
PM	4:00 PM	0	0	1	0	0	0	0	6	1	8	10	0	26					0
	4:15 PM	0	0	3	0	0	0	0	2	1	4	6	0	16					0
	4:30 PM	0	0	2	1	1	0	0	4	2	7	14	0	30					0
	4:45 PM	0	0	3	0	0	0	0	4	1	2	2	0	12					0
	5:00 PM	2	0	0	0	0	0	0	4	0	6	3	0	15					0
	5:15 PM	0	0	4	0	0	0	0	4	2	6	7	0	23					0
	5:30 PM	1	0	4	0	0	0	0	6	0	7	5	0	23					0
	5:45 PM	0	0	5	0	0	0	0	5	0	10	1	0	21					0
	VOLUMES	3	0	22	1	1	0	0	35	7	50	47	0	165	0	0	0	0	0
	APPROACH %	12%	0%	88%	50%	50%	0%	0%	83%	17%	52%	48%	0%						
	APP/DEPART	25	/	0	2	/	58	42	/	58	96	/	50	0					
	BEGIN PEAK HR	5:00 PM																	
	VOLUMES	3	0	13	0	0	0	0	19	2	29	16	0	82					
	APPROACH %	19%	0%	81%	0%	0%	0%	0%	90%	10%	64%	36%	0%						
PEAK HR FACTOR	0.800			0.000			0.875			0.890			0.886						
APP/DEPART	16	/	0	0	/	31	21	/	32	45	/	19	0						



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
5/10/23
WEDNESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

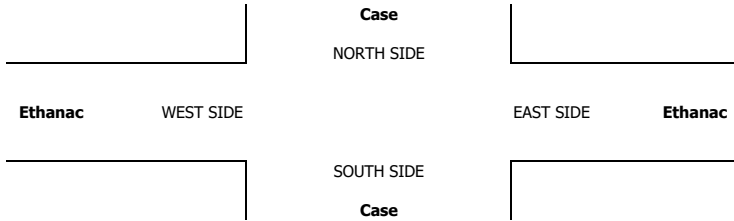
Menifee
Case
Ethanac

PROJECT #: SC4023
LOCATION #: 8
CONTROL: SIGNAL

PCE Adjusted	NOTES:						AM	PM	MD	OTHER	OTHER	▲ N	◀ W	E ▶	▼ S
	Class	1	2	3	4	5									
	Factor	1	1.5	2	3	2	2								

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		NB	SB	EB	WB	TTL
1	1	1	1	2	0	2	1	2	1	1	2	1						

AM	7:00 AM	7:15 AM	7:30 AM	7:45 AM	8:00 AM	8:15 AM	8:30 AM	8:45 AM	VOLUMES			4,688									
		6	14	21	8	24	14	14	5	104	50		348	595	44	158	145	1,398	66	218	954
	6	9	3	0	6	6	8	12	21%	10%	69%	75%	5%	20%	9%	87%	4%	12%	54%	34%	
	63	64	42	38	32	41	42	28	502	/	806	796	/	327	1,609	/	2,341	1,782	/	1,215	
	67	95	79	42	62	69	93	29	7:30 AM												
	12	17	10	22	20	8	18	3	66	15	152	252	31	83	78	873	24	103	578	311	
	16	22	22	28	12	8	14	6	28%	6%	65%	69%	8%	23%	8%	90%	2%	10%	58%	31%	
	135	191	269	245	191	170	95	105	0.894			0.841									
	11	18	0	9	8	7	8	6	233	/	404	365	/	157	975	/	1,277	991	/	726	
	45	24	24	37	26	16	28	19	4:00 PM												
	101	96	114	148	170	147	111	70	54	53	153	752	125	257	202	1,022	52	205	1,265	727	
	64	66	72	65	97	77	98	73	21%	20%	59%	66%	11%	23%	16%	80%	4%	9%	58%	33%	
	523	619	664	640	658	602	529	454	259	/	982	1,133	/	382	1,276	/	1,926	2,197	/	1,575	
	0	0	0	0	0	0	0	0	4:00 PM												
	0	0	0	0	0	0	0	0	34	27	78	428	61	121	103	507	31	104	669	374	
	0	0	0	0	0	0	0	0	24%	19%	56%	70%	10%	20%	16%	79%	5%	9%	58%	33%	
	0	0	0	0	0	0	0	0	0.827			0.863									
	0	0	0	0	0	0	0	0	139	/	504	610	/	196	641	/	1,013	1,147	/	824	
	0	0	0	0	0	0	0	0	4:00 PM												
	0	0	0	0	0	0	0	0	APPROACH %												
	0	0	0	0	0	0	0	0	APP/DEPART												
	0	0	0	0	0	0	0	0	BEGIN PEAK HR												
	0	0	0	0	0	0	0	0	VOLUMES												
	0	0	0	0	0	0	0	0	APPROACH %												
	0	0	0	0	0	0	0	0	APP/DEPART												
	0	0	0	0	0	0	0	0	BEGIN PEAK HR												
	0	0	0	0	0	0	0	0	VOLUMES												
	0	0	0	0	0	0	0	0	APPROACH %												
	0	0	0	0	0	0	0	0	APP/DEPART												
	0	0	0	0	0	0	0	0	BEGIN PEAK HR												
	0	0	0	0	0	0	0	0	VOLUMES												
	0	0	0	0	0	0	0	0	APPROACH %												
	0	0	0	0	0	0	0	0	APP/DEPART												
	0	0	0	0	0	0	0	0	BEGIN PEAK HR												
	0	0	0	0	0	0	0	0	VOLUMES												
	0	0	0	0	0	0	0	0	APPROACH %												
	0	0	0	0	0	0	0	0	APP/DEPART												



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
5/10/23
WEDNESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

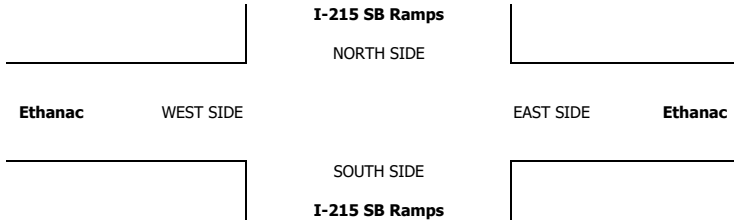
Menifee
I-215 SB Ramps
Ethanac

PROJECT #: SC4023
LOCATION #: 9
CONTROL: SIGNAL

PCE Adjusted	NOTES:						AM	PM	MD	OTHER	OTHER	▲ N ▼	◀ W E ▶
	Class	1	2	3	4	5							
	Factor	1	1.5	2	3	2	2						

LANES:	NORTHBOUND <small>I-215 SB Ramps</small>			SOUTHBOUND <small>I-215 SB Ramps</small>			EASTBOUND <small>Ethanac</small>			WESTBOUND <small>Ethanac</small>			TOTAL	U-TURNS				
	NL X	NT X	NR X	SL 0.5	ST 0.5	SR 1	EL X	ET 1	ER 1	WL 1	WT 2	WR X		NB	SB	EB	WB	TTL

AM	7:00 AM	7:15 AM	7:30 AM	7:45 AM	8:00 AM	8:15 AM	8:30 AM	8:45 AM	VOLUMES	APPROACH %	APP/DEPART	BEGIN PEAK HR	VOLUMES	APPROACH %	PEAK HR FACTOR	APP/DEPART	P.M.	4:00 PM	4:15 PM	4:30 PM	4:45 PM	5:00 PM	5:15 PM	5:30 PM	5:45 PM	VOLUMES	APPROACH %	APP/DEPART	BEGIN PEAK HR	VOLUMES	APPROACH %	PEAK HR FACTOR	APP/DEPART	
		0	0	0	0	0	0	0	0	241	0%	0	7:30 AM	0	0%	0.000		0		0	0	0	0	0	0	0	0	0	374	0%	0	4:00 PM	0	0%
	37	35	36	32	24	30	30	19	0	27%	887	7:30 AM	122	26%	0.920	471		63	54	45	51	47	38	45	34	7	32%	1,153	4:00 PM	212	34%	0.819	631	
	99	72	90	92	104	65	61	66	646	73%	1,192	7:30 AM	350	74%		610		127	110	100	78	110	86	79	84	772	67%	873	4:00 PM	415	66%		476	
	0	0	0	0	0	0	0	0	0	0%	2,335	7:30 AM	0	0%	0.812	1,276		0	0	0	0	0	0	0	0	0	0%	1,923	4:00 PM	0	0%	0.967	1,010	
	156	188	225	201	200	174	129	126	1,397	60%	1,638	7:30 AM	799	63%	0.812	921		161	166	145	165	151	140	160	136	700	64%	1,597	4:00 PM	637	37%		848	
	105	154	169	120	85	105	96	107	938	40%	1,638	7:30 AM	477	37%		921		99	96	88	92	83	89	79	76	700	36%	1,597	4:00 PM	374	37%		848	
	25	26	38	38	26	32	22	50	255	18%	1,396	7:30 AM	133	17%	0.885	779		26	23	25	25	29	16	15	9	1,432	10%	1,598	4:00 PM	98	12%	0.924	838	
	104	121	121	158	195	174	175	96	1,141	82%	1,787	7:30 AM	647	83%		996		200	154	202	184	190	180	167	157	0	90%	2,204	4:00 PM	740	88%		1,154	
	0	0	0	0	0	0	0	0	0	0%	0	7:30 AM	0	0%	0.933	0		0	0	0	0	0	0	0	0	0	0%	0	4:00 PM	0	0%		0	
	525	593	677	640	632	578	511	462	4,617		0	7:30 AM	2,526		0.933	0		679	602	603	595	609	548	545	494	4,673		0	4:00 PM	2,478		0.913	0	
	0	0	0	0	0	0	0	0	0		0	7:30 AM	2,526		0.933	0		0	0	0	0	0	0	0	0	4,673		0	4:00 PM	2,478		0.913	0	
	0	0	0	0	0	0	0	0	0		0	7:30 AM	2,526		0.933	0		0	0	0	0	0	0	0	0	4,673		0	4:00 PM	2,478		0.913	0	



INTERSECTION TURNING MOVEMENT COUNTS

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

DATE:
5/10/23
WEDNESDAY

LOCATION:
NORTH & SOUTH:
EAST & WEST:

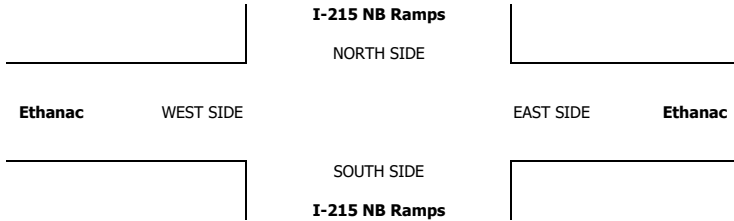
Menifee
I-215 NB Ramps
Ethanac

PROJECT #: SC4023
LOCATION #: 11
CONTROL: SIGNAL

PCE Adjusted	NOTES:						AM	PM	MD	OTHER	OTHER	N	S	W	E
	Class	1	2	3	4	5									
	Factor	1	1.5	2	3	2	2								

LANES:	NORTHBOUND <small>I-215 NB Ramps</small>			SOUTHBOUND <small>I-215 NB Ramps</small>			EASTBOUND <small>Ethanac</small>			WESTBOUND <small>Ethanac</small>			TOTAL	U-TURNS				
	NL 0.5	NT 0.5	NR 1	SL X	ST X	SR X	EL 1	ET 1	ER X	WL X	WT 1	WR 0		NB	SB	EB	WB	TTL

AM	7:00 AM	54	0	41	0	0	0	88	105	0	0	75	45	407						0
	7:15 AM	51	0	47	0	0	0	74	150	0	0	95	43	459						0
	7:30 AM	62	0	38	0	0	0	77	183	0	0	97	38	493						0
	7:45 AM	84	0	43	0	0	0	67	164	0	0	113	54	524						0
	8:00 AM	80	0	40	0	0	0	65	160	0	0	140	36	521						0
	8:15 AM	66	0	50	0	0	0	78	126	0	0	140	48	507						0
	8:30 AM	90	1	38	0	0	0	58	100	0	0	107	29	422						0
	8:45 AM	58	0	37	0	0	0	64	79	0	0	91	36	364						0
	VOLUMES	544	1	332	0	0	0	570	1,065	0	0	856	327	3,694	0	0	0	0	0	0
	APPROACH %	62%	0%	38%	0%	0%	0%	35%	65%	0%	0%	72%	28%							
APP/DEPART	876	/	898	0	/	0	1,635	/	1,397	1,183	/	1,400	0							
BEGIN PEAK HR	7:30 AM																			
VOLUMES	291	0	171	0	0	0	287	632	0	0	489	175	2,044							
APPROACH %	63%	0%	37%	0%	0%	0%	31%	69%	0%	0%	74%	26%								
PEAK HR FACTOR	0.912			0.000						0.885			0.885			0.975				
APP/DEPART	462	/	462	0	/	0	919	/	803	664	/	780	0							
PM	4:00 PM	111	0	63	0	0	0	53	168	0	0	116	47	557						0
	4:15 PM	87	1	47	0	0	0	67	153	0	0	93	37	483						0
	4:30 PM	99	0	51	0	0	0	61	129	0	0	128	33	500						0
	4:45 PM	114	0	55	0	0	0	56	160	0	0	95	59	538						0
	5:00 PM	106	1	51	0	0	0	54	144	0	0	113	59	527						0
	5:15 PM	99	0	64	0	0	0	61	118	0	0	97	43	480						0
	5:30 PM	83	1	43	0	0	0	60	143	0	0	98	51	479						0
	5:45 PM	92	0	41	0	0	0	66	103	0	0	77	28	406						0
	VOLUMES	788	3	414	0	0	0	477	1,115	0	0	816	356	3,968	0	0	0	0	0	0
	APPROACH %	65%	0%	34%	0%	0%	0%	30%	70%	0%	0%	70%	30%							
APP/DEPART	1,205	/	836	0	/	0	1,592	/	1,529	1,172	/	1,604	0							
BEGIN PEAK HR	4:00 PM																			
VOLUMES	409	1	216	0	0	0	237	608	0	0	432	175	2,077							
APPROACH %	65%	0%	34%	0%	0%	0%	28%	72%	0%	0%	71%	29%								
PEAK HR FACTOR	0.901			0.000						0.958			0.933			0.933				
APP/DEPART	626	/	413	0	/	0	845	/	824	607	/	841	0							



APPENDIX C – BARNETT ROAD-CASE ROAD/ETHANAC ROAD TIMING SHEET

INTERSECTION: ETHANAC ROAD AND BARNETT ROAD/CASE ROAD

QuicNet
System
Parameters

Group Assignment:
Field Master Assignment:
System Reference Number:
Communications Channel:
Drop Address:
Area Number:
Area Address:

N/S Street Name: **BARNETT RD./CASE RD.**
E/W Street Name: **ETHANAC RD.**

Last QuicNet Database Change:

Notes:

Field Change Record					
Change	By	Date	Change	By	Date

Excl Ped Assignment	_____	Note: Set the Exclusive Ped Outputs on the "Outputs / General" page				
Exclusive Walk	0					
Exclusive FDW	0					
All Red Clear	0.0					
Exclusive Ped Phase		<table border="1"> <tr><td>Walk Output</td><td> </td></tr> <tr><td>Don't Walk Output</td><td> </td></tr> </table>	Walk Output		Don't Walk Output	
Walk Output						
Don't Walk Output						

Basic Phase Timing	Phase							
	1	2	3	4	5	6	7	8
	WL	ET	SB	NB	EL	WT		
Min Green	6	6	6	6	6	6		
Extension	3.5	3.5	3.5	3.5	3.5	3.5		
Max	15	40	20	25	25	40		
Max 2								
Cond Serve Check								

Alternate Timing - Bank 1	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk								
Alternate Ped Clear								
Alternate Minimum								
Alternate Extension								

Clear	Phase							
	1	2	3	4	5	6	7	8
Yellow Change	3.0	5.2	5.0	4.0	3.0	5.2		
Red Clear	1.0	0.8	1.0	1.0	1.0	0.8		

Red Lock		Red Rest	
Yellow Lock		Dual Entry	2_6_
Simultaneous Gap	2_6_	Sequential Timing	
Rest In Walk		Inhibit Ped Reservice	
Advance Walk		Semi-Actuated	
Flashing Walk		Guaranteed Passage	
Max Extension		Conditional Service	

Pedestrian Timing	Phase								
	1	2	3	4	5	6	7	8	
	Walk		7		7		7		
	Ped Clear - FDW		23		38		32		
	Adv / Delay Walk								
PE Min Ped FDW									

Phase Functions - Page 1

Volume Density	Phase								
	1	2	3	4	5	6	7	8	
	Type 3 Disconnect								
	Added per Vehicle		1.2		1.2		1.2		
	Max Added Initial		20.0		20.0		20.0		
	Min Gap	1.0	1.0	1.0	1.0	1.0	1.0		
Max Gap	0.5	0.5	0.5	0.5	0.5	0.5			
Reduce Every	1.0	1.0	1.0	1.0	1.0	1.0			

Minimum Recall	2_6_	Soft Recall	
Ped Recall		External Recall	
Maximum Recall		Manual Control Calls	
Green Flash		Fast Green Flash	
Overlap Green Flash		Fast Overlap G. Flash	

Phase Functions - Page 2

Phase Timing - Bank 1

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green								
	Extension								
	Max								
	Max 2								
	Cond Serve Check								
Clear	Yellow Change								
	Red Clear								
Pedestrian Timing	Walk								
	Ped Clear - FDW								
	Adv / Delay Walk								
	PE Min Ped FDW								
Volume Density	Type 3 Disconnect								
	Added per Vehicle								
	Max Added Initial								
	Min Gap								
	Max Gap								
	Reduce Every								
Phase Timing - Bank 2									

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green								
	Extension								
	Max								
	Max 2								
	Cond Serve Check								
Clear	Yellow Change								
	Red Clear								
Pedestrian Timing	Walk								
	Ped Clear - FDW								
	Adv / Delay Walk								
	PE Min Ped FDW								
Volume Density	Type 3 Disconnect								
	Added per Vehicle								
	Max Added Initial								
	Min Gap								
	Max Gap								
	Reduce Every								
Phase Timing - Bank 3									

		Phase							
		1	2	3	4	5	6	7	8
Alternate Walk									
Alternate Ped Clear									
Alternate Minimum									
Alternate Extension									
Alternate Timing - Bank 2									

		Phase							
		1	2	3	4	5	6	7	8
Alternate Walk									
Alternate Ped Clear									
Alternate Minimum									
Alternate Extension									
Alternate Timing - Bank 3									

Note: Set the Limited Service Interval on the "Utilities / Misc" page

Clear Phases	
Delay	
Clear Time	
Railroad - 1	

Clear Phases	
Limited Service Phases	
Delay	
Clear Time	
Railroad - 2	

Railroad Preempt Parameters

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Special Event Sequence - 1

	Delay	Clear	Clear Phases
EV - A	0	10	2_5
EV - B	0	10	4
EV - C	0	10	1_6
EV - D	0	10	3

Emergency Vehicle Preempt

SE - 1	1
SE - 2	1
EV - A	1
EV - B	1
EV - C	1
EV - D	1

Preempt Priority

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Special Event Sequence - 2

Note:
The Ring-Barrier Sum of these Minimums will be the Minimum Cycle Length During Transition

Transition Type	
Coord Extra Functions	
Phase 1 - Minimum	
Phase 2 - Minimum	
Phase 3 - Minimum	
Phase 4 - Minimum	
Phase 5 - Minimum	
Phase 6 - Minimum	
Phase 7 - Minimum	
Phase 8 - Minimum	

Coordination - General

Transition Type
 0.X = Shortway
 1.X = Lengthen
 2.X = Shorten
 X.1 thru X.4 = Number of Cycles to get "In Step"

Coord Extra
 1 = Programmed Walk Time for Sync Phases
 2 = Always Terminate Sync Phase Peds

Coordination Plan									
	1	2	3	4	5	6	7	8	9
Cycle									
Offset - 1									
Offset - 2									
Offset - 3									
Zone Offset									
Ring Offset									
Hold Release									
Ped Adjust									
Force Off - 1									
Force Off - 2									
Force Off - 3									
Force Off - 4									
Force Off - 5									
Force Off - 6									
Force Off - 7									
Force Off - 8									

Coordination - Cycle, Offsets, & Force Offs

Coordination Plan									
	1	2	3	4	5	6	7	8	9
Perm 1 - Begin									
Perm 1 - End									
Perm 1 - Veh Phases									
Perm 1 - Ped Phases									
Perm 2 - Begin									
Perm 2 - End									
Perm 2 - Veh Phases									
Perm 2 - Ped Phases									
Perm 3 - Begin									
Perm 3 - End									
Perm 3 - Veh Phases									
Perm 3 - Ped Phases									
Max Inhibit Phases									
Max Recall Phases									
Sync Phases									
Lag Phases									
Pre-Timed Phases									

Coordination - Permissives & Phase Sequence

	Overlap Number							
	1 (A)	2 (B)	3 (C)	4 (D)	5	6	7	8
Load Switch Number	0	1	2	3				
Vehicle Set 1	<u>2_4</u>	<u>3_6</u>	<u>1_3</u>	<u>4_5</u>				
Vehicle Set 2								
Vehicle Set 3								
Negative Vehicle	<u>3</u>	<u>2_4</u>	<u>2_4</u>	<u>3</u>				
Negative Ped	<u>2_4</u>	<u>4_6</u>	<u>4_6</u>	<u>2_4</u>				
Green Omit								
Green Clear Omit								
Green Clearance								
Yellow Change	5.2	5.2	3.0	3.0				
Red Clearance	0.8	0.8	1.0	1.0				

Overlaps

	AND 1	AND 2	AND 3	AND 4
Input - A				
Input - B				
Output				

AND Gates

	NAND 1	NAND 2	NAND 3	NAND 4
Input - A				
Input - B				
Output				

NAND Gates

	OR 1	OR 2	OR 3	OR 4	OR 5	OR 6
Input - A						
Input - B						
Output						

2 Input - OR Gates

	OR 7	OR 8
Input - A		
Input - B		
Input - C		
Input - D		
Output		

4 Input - OR Gates

	NOT 1	NOT 2	NOT 3	NOT 4
Input				
Output				

NOT Gates (Inverters)

	DELAY 1	DELAY 2	DELAY 3	DELAY 4	DELAY 5	DELAY 6
Input						
Delay Time						
Output						

DELAY Gates

Det. #	C-1 Pin #	Delay	Carry-over	Phase Assignmnrnts	Detector Attributes	Detector Set Assignments
1	39	0.0	0.0	123__8	__45_7_	_2_____
2	40	0.0	0.0	123__8	__45_7_	_____6_
3	41	0.0	0.0	123__8	__45_7_	_____4_____
4	42	0.0	0.0	123__8	__45_7_	_____4_____8
5	43	0.0	0.0	123__8	__45_7_	_____2_____
6	44	0.0	0.0	123__8	__45_7_	_____6_____
7	45	0.0	0.0	123__8	__45_7_	_____4_____
8	46	0.0	0.0	123__8	__45_7_	_____8_____
9	47	0.0	0.0	123__8	_____67_	_____2_____
10	48	0.0	0.0	123__8	_____67_	_____6_____
11	49	0.0	0.0	123__8	_____67_	_____4_____
12	50	0.0	0.0	123__8	_____67_	_____8_____
13	55	0.0	0.0	123__8	__45_7_	_____5_____
14	56	0.0	0.0	123__8	__45_7_	_____1_____
15	57	0.0	0.0	123__8	__45_7_	_____7_____
16	58	0.0	0.0	123__8	__45_7_	_____3_____
17	59	0.0	0.0	123__8	__45_7_	_____2_____
18	60	0.0	0.0	123__8	__45_7_	_____6_____
19	61	0.0	0.0	123__8	__45_7_	_____4_____
20	62	0.0	0.0	123__8	__45_7_	_____8_____
21	63	0.0	0.0	123__8	__45_7_	_____2_____
22	64	0.0	0.0	123__8	__45_7_	_____6_____
23	65	0.0	0.0	123__8	__45_7_	_____4_____
24	66	0.0	0.0	123__8	__45_7_	_____8_____
25	67	0.0	0.0	123__8	__2_____	_____2_____
26	68	0.0	0.0	123__8	__2_____	_____6_____
27	69	0.0	0.0	123__8	__2_____	_____4_____
28	70	0.0	0.0	123__8	__2_____	_____8_____
29	76	0.0	0.0	123__8	__45_7_	_____5_____
30	77	0.0	0.0	123__8	__45_7_	_____1_____
31	78	0.0	0.0	123__8	__45_7_	_____7_____
32	79	0.0	0.0	123__8	__45_7_	_____3_____

Detector Assignments

Detector Attributes

- 1 = Full Time Delay
- 2 = Ped Call
- 3 =
- 4 = Count
- 5 = Extension
- 6 = Type 3
- 7 = Calling
- 8 = Alternate

Detector Assignments

- 1 = Detector Set 1
- 2 = Detector Set 2
- 3 = Detector Set 3
- 4 =
- 5 =
- 6 = Failure - Min Recall
- 7 = Failure - Max Recall
- 8 = Report on Failure

	C-1 Pin #
Flash Sense	81
External Permit - 1	
External Permit - 2	
Exclusive Ped Omit	
Max. Term Inhibit	
Max. 2	
External Lag Phases	
External Max. Recall	
Stop Time	82
Manual Control Enable	
Manual Cont. Advance	
External Min. Recall	

General Inputs

	C-1 Pin #
Plan 1	
Plan 2	
Plan 3	
Plan 4	
Plan 5	
Plan 6	
Plan 7	
Plan 8	
Plan 9	
Free	
Flash	

Coordination Plan Inputs

	C-1 Pin #
Railroad - 1	51
Railroad - 2	52
Special Event - 1	
Special Event - 2	
Gate Down	
EV - A	71
EV - B	72
EV - C	73
EV - D	74

Preempt Inputs

	C-1 Pin #
Phase Bank - 2	
Phase Bank - 3	
Detector Set - 2	
Detector Set - 3	
Overlap Vehicle Set - 2	
Overlap Vehicle Set - 3	
Interval Signal Plan - 2	
Interval Signal Plan - 3	
Interval Signal Plan - 4	

Bank, Set, & Plan Inputs

	C-1 Pin #
Door Ajar	
UPS Battery	
UPS Power	
Cabinet Temperature	

Alarm Inputs

	C-1 Pin #
Alarm - 1	
Alarm - 2	
Alarm - 3	
Alarm - 4	

	C-1 Pin #
Advance Warning - 1	
Advance Warning - 2	
Detector Failure	
Flasher - Alternating 1	
Flasher - Alternating 2	
Fast Flasher	
On Line	
Exclusive - Walk	
Exclusive - Don't Walk	

General Outputs

	C-1 Pin #
Output - 1	
Output - 2	
Output - 3	
Output - 4	
Output - 5	
Output - 6	
Output - 7	
Output - 8	

Time of Day Outputs

	C-1 Pin #
Plan - 1	
Plan - 2	
Plan - 3	
Plan - 4	
Plan - 5	
Plan - 6	
Plan - 7	
Plan - 8	
Plan - 9	
Free	
Flash	

Coordination Plan Out

	Ped Phase
Ped 2-P Loadswitch	<u> 2 </u>
Ped 4-P Loadswitch	<u> 4 </u>
Ped 6-P Loadswitch	<u> 6 </u>
Ped 8-P Loadswitch	<u> 8 </u>

Ped Loadswitch Assignment

	C-1 Pin #
Dial - 2	
Dial - 3	
Offset - 1	
Offset - 2	
Offset - 3	
Free	
Flash	

Seven Wire Outputs

	C-1 Pin #	
	On	Flash
Railroad - 1		
Railroad - 2		
Special Event - 1		
Special Event - 2		
Preempt Failure		
EV - A		
EV - B		
EV - C		
EV - D		
Any Preempt		

Preemption Outputs

	C-1 Pin #
Output - 1	
Output - 2	
Output - 3	
Output - 4	
Output - 5	
Output - 6	
Output - 7	
Output - 8	

Special Event Outputs

	C-1 Pin #
Output - 1	
Output - 2	
Output - 3	
Output - 4	
Output - 5	
Output - 6	
Output - 7	
Output - 8	

Special Function Output

	Phase Number							
	1	2	3	4	5	6	7	8
Red								
Yellow								
Green								
Walk								
Don't Walk								

Phase Output Redirection

	Overlap Number							
	1	2	3	4	5	6	7	8
Red								
Yellow								
Green								

Overlap Output Redirection

Event	Day of Week	Season	Hour	Minute	Plan	Offset
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

Time Base Coordination Events

Event	Day of Week	Season	Hour	Minute	Funct.	Phase / Bits
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

Time of Day Function Events

TOD Functions

- 0 = Permitted Phases
- 1 = Red Lock
- 2 = Yellow Lock
- 3 = Vehicle Min Recall
- 4 = Ped Recall
- 5 =
- 6 = Rest In Walk
- 7 = Red Rest
- 8 = Double Entry
- 9 = Vehicle Max Recall
- 10 = Soft Recall
- 11 = Max Extension 2
- 12 = Conditional Service
- 13 = Lag Free Phases
- 14, Bit 1 = Local Override
- 14, Bit 4 = Disable Det Off Monitoring
- 15 = TOD Outputs

#	Holiday Type	Day	Month	Year
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

Holiday Dates

Event	Holiday Type	Hour	Minute	Plan	Offset
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

Holiday Time Base Coordination Events

Event	Holiday Type	Hour	Minute	Funct.	Phase / Bits
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

Holiday Time of Day Function Events

Season #	Start Month	Start Day	End Month	End Day
1				
2				
3				
4				
5				
6				
7				
8				

Season Definitions

Red Start Time	5.0
Yellow Start Phases	4
First Green Phases	2 6
Startup Vehicle Calls	123456
Startup Ped Calls	2 4 6
Startup	

Max ON Time	7
Max OFF Time	20
Chatter	45
Detector Check	

	Sign 1	Sign 2
Phase Number		
Time Before Yellow		
Advance Warning Signs		

Flash Entry Phases	
Flash Phases Yellow	
Flash Overlaps Yellow	
Flash Type	0
Flash Setup	

Exclusive Phases	
Protect / Permissive	
Disable Yellow Range	
Extra One	1
Lag Phases - Free	
Configuration	

Permitted Phases	123456
Restricted Phases	
Disable Overlap Range	
Extra Two	
Configuration	

Keyboard Beep	Y
Backlight Timeout	5
Spec Evnt 1 - Ltd Serv Interval	
Spec Evnt 2 - Ltd Serv Interval	
Red Revert	5.0
Miscellaneous	

Spring Month (Begin)	3
Spring Week (Begin)	2
Fall Month (End)	11
Fall Week (End)	1
Daylight Savings Time	

Manual Plan	14
Manual Offset	
Manual	

Manual Plan
 1 thru 9 = Coordination Plan 1 thru 9
 14 = Free
 15 = Flash

Extra One
 1 = TBC Type 1
 2 = NEMA Ext. Coord
 3 = Auto Daylight Savings
 4 = Solid FDW on EV
 5 = Extended Status
 6 = International Ped
 7 = Flash - Clear Outputs
 8 = Split Ring

Extra Two
 1 = AWB During Initial
 2 = LMU Installed
 3 = Disable Min Walk
 4 = QuicNet/4 System
 5 = Ignore P/P on EV
 6 =
 7 = Reserved
 8 =

Flash Type
 0 = All On - Off (12345678 - 0)
 1 = Main - Side (1256 - 3478)
 2 = Ping Pong (1234 - 5678)
 3 = Ring Pairs (1638 - 5247)

Address	
Area Number	
Area Address	
IP Port	
IP Address	
Subnet Mask	
Gateway	
Ethernet Port Address	

	Port 1	Port 2	Port 3	Port 4
Address				
Area Number				
Area Address				
Comm Time Out				
CTS Delay				
RTS Hold				
Baud Rate				
Data Format				
Communications Parameters				

APPENDIX D – ROADWAY SEGMENT CAPACITY THRESHOLDS

ROADWAY SEGMENT CAPACITY THRESHOLDS				
Roadway Classification	Number of Lanes	Maximum Two-Way Average Daily Traffic (ADT) Volume		
		LOS C	LOS D	LOS E
Collector	2	10,400	11,700	13,000
Secondary	4	20,700	23,300	25,900
Major	4	27,300	30,700	34,100
Arterial	4	29,600	33,400	37,000
Mountain Arterial	2	12,900	14,500	16,100
Mountain Arterial	4	25,500	28,700	31,900
Urban Arterial	6	45,000	50,600	56,300
Urban Arterial	8	69,000	78,000	87,000
Expressway	4	53,000	58,000	64,000
Expressway	6	79,000	87,000	95,000
Expressway	8	106,000	119,000	132,000
Freeway	4	80,000	91,000	100,000
Freeway	6	102,000	123,000	132,000
Freeway	8	136,000	164,000	176,000
Freeway	10	169,000	205,000	220,000
Ramp ⁽¹⁾	1	16,000	18,000	20,000

Footnotes:

1. Ramp Capacity is given as a one-way traffic volume.

Source: Riverside County Transportation Department

APPENDIX E – LEVEL OF SERVICE CALCULATIONS

Vistro File: C:\...\22-148 Ares Warehouse Vistro NO SIGNAL
AM cumulative.vistro

Scenario 5 Opening Year Cumulative AM

Report File: C:\...\Cu AM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.013	16.8	C
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition		0.000	0.0	
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition		0.000	0.0	
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	SB Left	1.234	221.9	F
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	NB Thru	0.004	0.0	A
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	NB Thru	0.004	0.0	A
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	NB Thru	0.004	0.0	A
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	1.377	326.2	F
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	2.153	920.9	F
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Left	2.497	634.1	F

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type:	Two-way stop	Delay (sec / veh):	16.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	1	868	1	3	531
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	451	0	0	294
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	1371	1	3	857
Peak Hour Factor	0.2500	0.2500	0.8190	0.8190	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	418	0	1	249
Total Analysis Volume [veh/h]	0	4	1674	1	3	997
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.02	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	97.33	16.78	0.00	0.00	14.58	0.00
Movement LOS	F	C	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.02	0.00
95th-Percentile Queue Length [ft/ln]	0.98	0.98	0.00	0.00	0.60	0.00
d_A, Approach Delay [s/veh]	16.78		0.00		0.04	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.04					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	221.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.234

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			↵↶			↵↷			↵↷		
Lane Configuration	+			↵↶			↵↷			↵↷		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	91	98	140	88	58	9	6	773	89	86	435	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	44	584	0	0	0	451	0	16	294	698
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	2	0	0	19	0	0	14
Total Hourly Volume [veh/h]	96	104	166	677	61	8	6	1270	75	107	755	753
Peak Hour Factor	0.8130	0.8130	0.8130	0.8650	0.8650	0.8650	0.8210	0.8210	0.8210	0.8980	0.8980	0.8980
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	32	51	196	18	2	2	387	23	30	210	210
Total Analysis Volume [veh/h]	118	128	204	783	71	9	7	1547	91	119	841	839
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	22	0	0	35	0	5	41	0	6	42	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	26	0	0	39	0	9	45	0	10	46	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	35	35	35	5	41	41	6	42	42
g / C, Green / Cycle	0.18	0.29	0.29	0.29	0.04	0.34	0.34	0.05	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.26	0.44	0.04	0.01	0.00	0.44	0.44	0.07	0.45	0.53
s, saturation flow rate [veh/h]	1711	1781	1870	1589	1781	1870	1834	1781	1870	1589
c, Capacity [veh/h]	314	519	545	464	74	639	627	89	654	556
d1, Uniform Delay [s]	49.00	42.50	31.29	30.28	55.32	39.50	39.50	57.00	39.00	39.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	213.06	238.20	0.49	0.08	2.51	141.36	146.66	209.42	139.62	237.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.43	1.51	0.13	0.02	0.09	1.29	1.30	1.34	1.28	1.51
d, Delay for Lane Group [s/veh]	262.06	280.70	31.79	30.35	57.83	180.86	186.16	266.42	178.62	276.89
Lane Group LOS	F	F	C	C	E	F	F	F	F	F
Critical Lane Group	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	27.82	49.24	1.57	0.19	0.25	42.92	43.02	7.81	43.61	52.25
50th-Percentile Queue Length [ft/ln]	695.54	1230.90	39.27	4.83	6.28	1073.10	1075.44	195.35	1090.27	1306.36
95th-Percentile Queue Length [veh/ln]	42.71	74.87	2.83	0.35	0.45	62.59	62.98	13.36	63.49	80.04
95th-Percentile Queue Length [ft/ln]	1067.75	1871.65	70.69	8.70	11.30	1564.70	1574.60	334.01	1587.34	2001.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	262.06	262.06	262.06	280.70	31.79	30.35	57.83	183.34	186.16	266.42	178.62	276.89
Movement LOS	F	F	F	F	C	C	E	F	F	F	F	F
d_A, Approach Delay [s/veh]	262.06			257.61			182.96			230.26		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	221.87											
Intersection LOS	F											
Intersection V/C	1.234											

Emissions

Vehicle Miles Traveled [mph]	101.99	67.32	6.10	0.77	1.76	207.54	205.42	29.58	209.06	208.56
Stops [stops/h]	834.64	1477.08	47.13	5.80	7.54	1287.72	1290.52	234.42	1308.32	1567.63
Fuel consumption [US gal/h]	34.16	61.64	1.14	0.14	0.24	53.42	53.95	10.38	54.00	73.90
CO [g/h]	2387.64	4308.53	79.75	9.81	16.54	3733.79	3771.00	725.49	3774.42	5165.94
NOx [g/h]	464.55	838.28	15.52	1.91	3.22	726.46	733.70	141.15	734.36	1005.11
VOC [g/h]	553.36	998.54	18.48	2.27	3.83	865.34	873.97	168.14	874.76	1197.26

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.751	0.000	0.000
Crosswalk LOS	F	C	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	583	683	700
d_b, Bicycle Delay [s]	40.02	30.10	26.00	25.35
I_b,int, Bicycle LOS Score for Intersection	2.345	2.987	2.932	3.055
Bicycle LOS	B	C	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	↰		↳		↱	
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	399	253	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	100	63	0	0	0
Total Analysis Volume [veh/h]	0	399	253	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.74	0.00	0.00	0.00	13.32	9.58
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.45	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	↰		↳		↱	
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	399	253	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	100	63	0	0	0
Total Analysis Volume [veh/h]	0	399	253	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.74	0.00	0.00	0.00	13.32	9.58
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.45	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5**

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	345	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	410	253	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	103	63	0	0	0
Total Analysis Volume [veh/h]	0	410	253	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.74	0.00	0.00	0.00	13.45	9.58
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.51	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	326.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.377

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+			+			+		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	66	15	152	252	0	83	78	873	24	103	578	311
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	178	174	0	0	0	1079	0	308	1008	242
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	13	0	0	6	0	0	2	0	0	78
Total Hourly Volume [veh/h]	70	16	326	441	0	82	83	2004	23	417	1621	494
Peak Hour Factor	0.8940	0.8940	0.8940	0.8410	1.0000	0.8410	0.8400	0.8400	0.8400	0.8470	0.8470	0.8470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	4	91	131	0	24	25	596	7	123	478	146
Total Analysis Volume [veh/h]	78	18	365	524	0	98	99	2386	27	492	1914	583
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0			0			0			
v_di, Inbound Pedestrian Volume crossing m	0		0			0			0			
v_co, Outbound Pedestrian Volume crossing	0		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			0			0			
v_ab, Corner Pedestrian Volume [ped/h]	0		0			0			0			
Bicycle Volume [bicycles/h]	0		0			0			0			

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	34	34	0	25	51	0	15	78	0
Amber [s]	3.0	5.0	0.0	4.0	4.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	3.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	28	14	0	37	37	0	11	55	0	28	83	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	19	21	21	21	7	35	35	24	52	52
g / C, Green / Cycle	0.16	0.17	0.17	0.17	0.06	0.29	0.29	0.20	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.28	0.15	0.15	0.03	0.06	0.67	0.02	0.28	0.54	0.37
s, saturation flow rate [veh/h]	1629	1781	1781	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	257	311	311	492	105	1046	467	354	1545	690
d1, Uniform Delay [s]	50.63	47.98	47.98	42.40	56.39	42.46	30.51	48.15	34.03	30.42
k, delay calibration	0.50	0.13	0.13	0.13	0.13	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	372.79	7.25	7.25	0.24	33.05	579.93	0.24	191.15	113.25	12.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.79	0.84	0.84	0.20	0.95	2.28	0.06	1.39	1.24	0.85
d, Delay for Lane Group [s/veh]	423.42	55.23	55.23	42.64	89.44	622.39	30.75	239.30	147.28	42.57
Lane Group LOS	F	E	E	D	F	F	C	F	F	D
Critical Lane Group	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	34.15	8.06	8.06	1.25	3.88	99.03	0.58	29.07	45.19	16.42
50th-Percentile Queue Length [ft/ln]	853.72	201.61	201.61	31.13	97.01	2475.78	14.51	726.63	1129.78	410.58
95th-Percentile Queue Length [veh/ln]	53.72	12.72	12.72	2.24	6.98	156.55	1.04	44.13	65.02	23.07
95th-Percentile Queue Length [ft/ln]	1343.06	318.05	318.05	56.04	174.62	3913.81	26.12	1103.32	1625.60	576.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	423.42	423.42	423.42	55.23	55.23	42.64	89.44	622.39	30.75	239.30	147.28	42.57
Movement LOS	F	F	F	E	E	D	F	F	C	F	F	D
d_A, Approach Delay [s/veh]	423.42			53.25			595.03			142.00		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	326.16											
Intersection LOS	F											
Intersection V/C	1.377											

Emissions

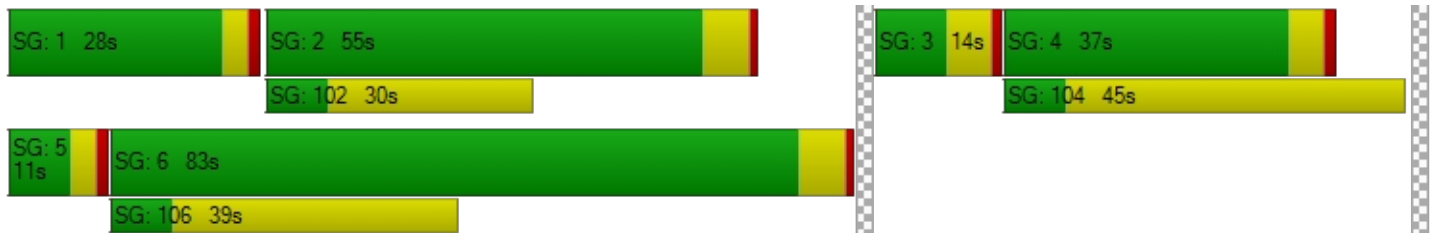
Vehicle Miles Traveled [mph]	46.81	29.81	29.81	11.15	25.72	619.95	7.02	72.91	283.63	86.39
Stops [stops/h]	1023.50	241.71	241.71	74.65	116.31	5936.28	17.40	871.13	2708.92	492.23
Fuel consumption [US gal/h]	51.44	6.39	6.39	1.98	4.13	397.19	0.63	37.28	100.76	14.13
CO [g/h]	3595.99	446.43	446.43	138.61	288.65	27763.3	43.73	2606.20	7042.92	987.76
NOx [g/h]	699.65	86.86	86.86	26.97	56.16	5401.75	8.51	507.07	1370.30	192.18
VOC [g/h]	833.41	103.46	103.46	32.13	66.90	6434.43	10.14	604.01	1632.26	228.92

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.56	49.56	49.56	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.394	2.780	3.593	0.000
Crosswalk LOS	B	C	D	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	533	816	1282
d_b, Bicycle Delay [s]	52.32	32.32	21.05	7.74
I_b,int, Bicycle LOS Score for Intersection	2.342	2.596	3.634	4.090
Bicycle LOS	B	B	D	D

Sequence

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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	920.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.153

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	122	0	350	477	799	477	133	647	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	529	0	779	0	715	716	582	779	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	178	0	0	71	0	0	0
Total Hourly Volume [veh/h]	0	0	0	658	0	972	477	1562	1151	723	1465	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.8120	0.8120	0.8850	0.8850	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	179	0	264	119	481	354	204	414	0
Total Analysis Volume [veh/h]	0	0	0	715	0	1057	477	1924	1417	817	1655	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	34	0	0	51	0	15	78	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	37	0	0	55	0	28	83	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		51	51	24	24	24	48
g / C, Green / Cycle		0.42	0.42	0.20	0.20	0.20	0.40
(v / s)_i Volume / Saturation Flow Rate		0.40	0.66	1.03	0.89	0.46	0.46
s, saturation flow rate [veh/h]		1781	1589	1870	1589	1781	3560
c, Capacity [veh/h]		754	673	377	320	356	1429
d1, Uniform Delay [s]		33.32	34.60	47.92	47.92	48.02	35.93
k, delay calibration		0.42	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		19.81	263.75	1853.09	1547.62	591.56	79.45
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.95	1.57	5.10	4.42	2.29	1.16
d, Delay for Lane Group [s/veh]		53.14	298.34	1901.01	1595.54	639.58	115.37
Lane Group LOS		D	F	F	F	F	F
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		23.09	67.84	204.90	146.98	68.78	35.36
50th-Percentile Queue Length [ft/ln]		577.36	1695.88	5122.52	3674.55	1719.48	883.91
95th-Percentile Queue Length [veh/ln]		30.98	104.84	309.86	225.27	107.65	49.90
95th-Percentile Queue Length [ft/ln]		774.39	2620.94	7746.47	5631.71	2691.25	1247.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	53.14	53.14	298.34	0.00	1901.01	1595.54	639.58	115.37	0.00
Movement LOS				D	D	F		F	F	F	F	
d_A, Approach Delay [s/veh]	0.00			199.40			1771.45			288.62		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	920.93											
Intersection LOS	F											
Intersection V/C	2.153											

Emissions

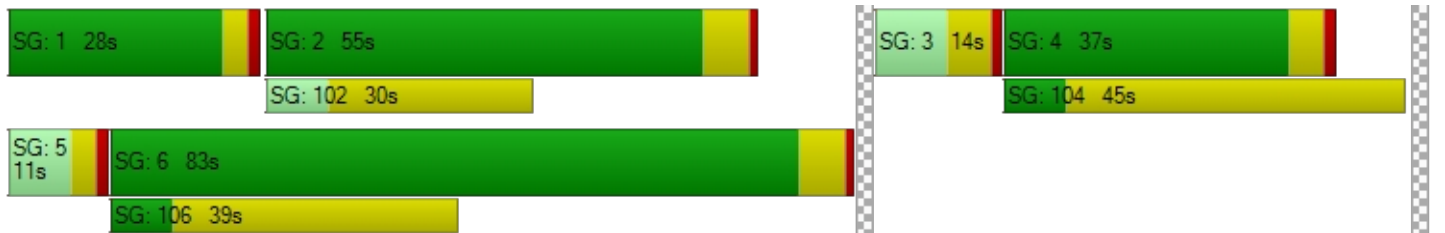
Vehicle Miles Traveled [mph]		46.11	68.16	285.11	209.98	113.90	230.72
Stops [stops/h]		692.75	2034.82	6146.30	4408.94	2063.13	2121.14
Fuel consumption [US gal/h]		16.19	86.59	830.30	521.98	135.87	73.13
CO [g/h]		1131.52	6052.69	58038.19	36486.60	9497.03	5111.95
NOx [g/h]		220.15	1177.63	11292.12	7098.97	1847.78	994.60
VOC [g/h]		262.24	1402.77	13450.91	8456.12	2201.03	1184.74

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.51	0.00	49.51
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.249	0.000	4.014
Crosswalk LOS	F	C	F	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	533	817	1283
d_b, Bicycle Delay [s]	60.01	32.27	21.01	7.71
I_b,int, Bicycle LOS Score for Intersection	4.132	4.777	7.189	3.599
Bicycle LOS	D	E	F	D

Sequence

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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	634.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.497

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	291	0	171	0	0	0	287	632	0	0	489	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0000	1.0000	1.0000	1.0600	1.0600	1.0000	1.0000	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	779	0	529	0	0	0	715	529	0	0	582	582
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	68	0	0	0	0	0	0	0	0	41
Total Hourly Volume [veh/h]	1087	0	642	0	0	0	1019	1199	0	0	1100	727
Peak Hour Factor	0.9120	0.9120	0.9120	1.0000	1.0000	1.0000	0.8850	0.8850	1.0000	1.0000	0.8850	0.8850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	298	0	176	0	0	0	288	339	0	0	311	205
Total Analysis Volume [veh/h]	1192	0	704	0	0	0	1151	1355	0	0	1243	821
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	29	0	0	0	0	28	83	0	0	51	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	33	0	0	0	0	33	87	0	0	54	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29		28	83	51
g / C, Green / Cycle	0.24	0.24		0.23	0.69	0.43
(v / s)_i Volume / Saturation Flow Rate	0.67	0.44		0.65	0.72	1.18
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1747
c, Capacity [veh/h]	430	384		416	1293	743
d1, Uniform Delay [s]	45.50	45.50		46.00	18.50	34.50
k, delay calibration	0.50	0.50		0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	802.80	384.78		803.14	38.48	804.49
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	2.77	1.83		2.77	1.05	2.78
d, Delay for Lane Group [s/veh]	848.30	430.28		849.14	56.98	838.99
Lane Group LOS	F	F		F	F	F
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	108.43	52.17		104.75	42.94	186.10
50th-Percentile Queue Length [ft/ln]	2710.73	1304.24		2618.74	1073.44	4652.50
95th-Percentile Queue Length [veh/ln]	170.02	81.90		164.05	56.02	300.58
95th-Percentile Queue Length [ft/ln]	4250.58	2047.57		4101.15	1400.44	7514.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	848.30	848.30	430.28	0.00	0.00	0.00	849.14	56.98	0.00	0.00	838.99	838.99
Movement LOS	F	F	F				F	F			F	F
d_A, Approach Delay [s/veh]	693.08			0.00			420.82			838.99		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	634.14											
Intersection LOS	F											
Intersection V/C	2.497											

Emissions

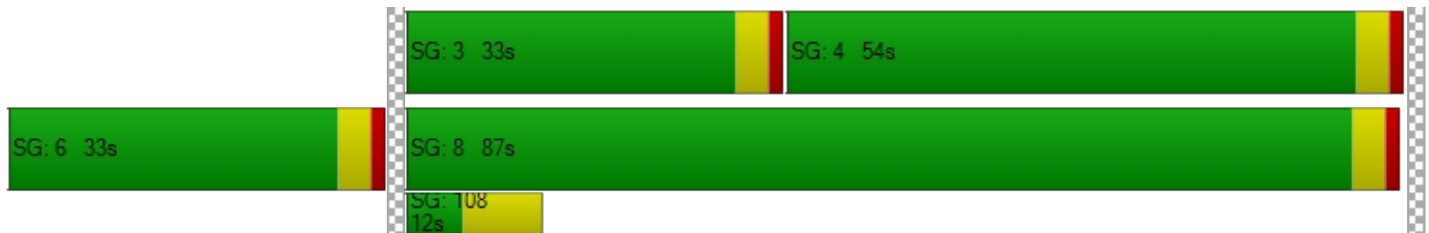
Vehicle Miles Traveled [mph]	89.29	52.74		160.46	188.90	144.27
Stops [stops/h]	3252.88	1565.09		3142.49	1288.13	5583.00
Fuel consumption [US gal/h]	240.87	78.89		235.46	35.13	426.67
CO [g/h]	16837.14	5514.58		16458.70	2455.63	29824.03
NOx [g/h]	3275.90	1072.94		3202.27	477.78	5802.67
VOC [g/h]	3902.17	1278.06		3814.46	569.12	6912.01

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	3.103		0.000		0.000		0.000
Crosswalk LOS	C		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	483		0		1383		833
d_b, Bicycle Delay [s]	34.50		60.00		5.70		20.42
I_b,int, Bicycle LOS Score for Intersection	4.800		4.132		5.695		5.033
Bicycle LOS	E		D		F		F

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro NO SIGNAL
PM cumulative.vistro

Scenario 5 Opening Year Cumulative PM

Report File: C:\...\Cu PM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.019	13.8	B
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition		0.000	0.0	
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition		0.000	0.0	
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	WB Right	1.284	217.0	F
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	SB Thru	0.005	0.0	A
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	SB Thru	0.005	0.0	A
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	SB Thru	0.005	0.0	A
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	1.210	362.0	F
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	1.977	995.4	F
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	WB Thru	2.414	600.1	F

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 13.8
 Level Of Service: B
 Volume to Capacity (v/c): 0.019

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	2	599	2	4	711
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	451	0	0	294
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	1086	2	4	1048
Peak Hour Factor	0.2500	0.2500	0.8480	0.8480	0.9160	0.9160
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	320	1	1	286
Total Analysis Volume [veh/h]	0	8	1281	2	4	1144
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	61.31	13.80	0.00	0.00	11.76	0.00
Movement LOS	F	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.02	0.00
95th-Percentile Queue Length [ft/ln]	1.46	1.46	0.00	0.00	0.56	0.00
d_A, Approach Delay [s/veh]	13.80		0.00		0.04	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

**Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	217.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.284

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			← →			← →			← →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	115	101	138	45	115	18	7	478	113	189	589	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	44	584	0	0	0	451	0	16	294	698
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	5	0	0	9	0	0	20
Total Hourly Volume [veh/h]	122	107	176	632	122	14	7	958	111	216	918	770
Peak Hour Factor	0.9040	0.9040	0.9040	0.8620	0.8620	0.8620	0.8430	0.8430	0.8430	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	30	49	183	35	4	2	284	33	63	266	223
Total Analysis Volume [veh/h]	135	118	195	733	142	16	8	1136	132	250	1063	891
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	21	0	0	32	0	5	39	0	12	46	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	0	0	36	0	9	43	0	16	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	32	32	32	5	39	39	12	46	46
g / C, Green / Cycle	0.18	0.27	0.27	0.27	0.04	0.33	0.33	0.10	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.26	0.41	0.08	0.01	0.00	0.34	0.35	0.14	0.52	0.61
s, saturation flow rate [veh/h]	1713	1781	1870	1589	1781	1870	1803	1781	1870	1611
c, Capacity [veh/h]	300	475	499	424	74	608	586	178	717	617
d1, Uniform Delay [s]	49.50	44.00	34.92	32.59	55.35	40.50	40.50	54.00	37.00	37.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	239.52	254.87	1.43	0.17	2.91	53.60	55.44	211.83	172.27	269.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.49	1.54	0.28	0.04	0.11	1.06	1.06	1.40	1.36	1.58
d, Delay for Lane Group [s/veh]	289.02	298.87	36.35	32.76	58.26	94.10	95.94	265.83	209.27	306.73
Lane Group LOS	F	F	D	C	E	F	F	F	F	F
Critical Lane Group	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	28.80	47.29	3.44	0.36	0.29	26.10	25.46	15.71	54.05	63.28
50th-Percentile Queue Length [ft/ln]	720.02	1182.30	86.04	9.02	7.20	652.42	636.42	392.76	1351.30	1581.88
95th-Percentile Queue Length [veh/ln]	44.48	72.26	6.19	0.65	0.52	35.86	35.16	24.96	79.85	97.75
95th-Percentile Queue Length [ft/ln]	1112.00	1806.51	154.87	16.23	12.96	896.54	879.05	624.03	1996.13	2443.85

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	289.02	289.02	289.02	298.87	36.35	32.76	58.26	94.90	95.94	265.83	217.15	306.73
Movement LOS	F	F	F	F	D	C	E	F	F	F	F	F
d_A, Approach Delay [s/veh]	289.02			252.26			94.77			258.89		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	217.01											
Intersection LOS	F											
Intersection V/C	1.284											

Emissions

Vehicle Miles Traveled [mph]	101.53	63.03	12.21	1.38	2.02	162.49	157.19	62.14	242.86	242.86
Stops [stops/h]	864.02	1418.76	103.25	10.82	8.64	782.90	763.70	471.31	1621.56	1898.26
Fuel consumption [US gal/h]	36.71	60.77	2.50	0.26	0.27	27.64	27.05	21.51	70.08	92.90
CO [g/h]	2566.15	4247.60	174.89	18.33	18.97	1932.34	1891.12	1503.66	4898.93	6493.55
NOx [g/h]	499.28	826.43	34.03	3.57	3.69	375.96	367.94	292.56	953.15	1263.41
VOC [g/h]	594.73	984.42	40.53	4.25	4.40	447.84	438.29	348.49	1135.38	1504.94

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.782	0.000	0.000
Crosswalk LOS	F	C	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	350	533	650	767
d_b, Bicycle Delay [s]	40.84	32.27	27.34	22.82
I_b,int, Bicycle LOS Score for Intersection	2.322	3.038	2.620	3.394
Bicycle LOS	B	C	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	444	458	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	111	115	0	0	0
Total Analysis Volume [veh/h]	0	444	458	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.26	0.00	0.00	0.00	16.68	10.97
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		13.83	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	444	458	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	111	115	0	0	0
Total Analysis Volume [veh/h]	0	444	458	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.26	0.00	0.00	0.00	16.68	10.97
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		13.83	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	444	458	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	111	115	0	0	0
Total Analysis Volume [veh/h]	0	444	458	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.26	0.00	0.00	0.00	16.68	10.97
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		13.83	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	362.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.210

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			T T T			T T T			T T T		
Lane Configuration	+			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	34	27	78	428	0	121	103	507	31	104	669	374
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	178	174	0	0	0	1079	0	308	1008	242
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	14	0	0	7	0	0	121
Total Hourly Volume [veh/h]	36	29	247	628	0	114	109	1616	26	418	1717	517
Peak Hour Factor	0.8270	0.8270	0.8270	0.8630	1.0000	0.8630	0.9080	0.9080	0.9080	0.8770	0.8770	0.8770
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	9	75	182	0	33	30	445	7	119	489	147
Total Analysis Volume [veh/h]	44	35	299	728	0	132	120	1780	29	477	1958	590
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	43	0	0	25	42	0	15	69	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	0.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	20	14	0	47	0	0	11	46	0	20	73	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	26	29	29	7	28	28	16	37	37
g / C, Green / Cycle	0.22	0.24	0.24	0.06	0.23	0.23	0.13	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.23	0.21	0.05	0.07	0.50	0.02	0.27	0.55	0.37
s, saturation flow rate [veh/h]	1633	3459	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	351	846	689	104	826	369	237	1093	488
d1, Uniform Delay [s]	47.11	43.36	35.92	56.51	46.09	36.06	52.01	41.60	41.60
k, delay calibration	0.45	0.13	0.13	0.13	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	67.36	3.24	0.16	94.16	523.96	0.42	468.81	360.17	112.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.08	0.86	0.19	1.15	2.16	0.08	2.01	1.79	1.21
d, Delay for Lane Group [s/veh]	114.47	46.60	36.08	150.67	570.06	36.48	520.83	401.77	153.85
Lane Group LOS	F	D	D	F	F	D	F	F	F
Critical Lane Group	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	16.77	10.45	1.53	5.79	71.96	0.69	37.85	70.07	28.97
50th-Percentile Queue Length [ft/ln]	419.21	261.34	38.21	144.83	1798.96	17.36	946.31	1751.72	724.32
95th-Percentile Queue Length [veh/ln]	24.46	15.76	2.75	10.15	112.89	1.25	59.35	109.26	42.34
95th-Percentile Queue Length [ft/ln]	611.38	393.90	68.78	253.67	2822.15	31.24	1483.70	2731.58	1058.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	114.47	114.47	114.47	46.60	0.00	36.08	150.67	570.06	36.48	520.83	401.77	153.85
Movement LOS	F	F	F	D		D	F	F	D	F	F	F
d_A, Approach Delay [s/veh]	114.47			44.99			535.95			372.19		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	362.03											
Intersection LOS	F											
Intersection V/C	1.210											

Emissions

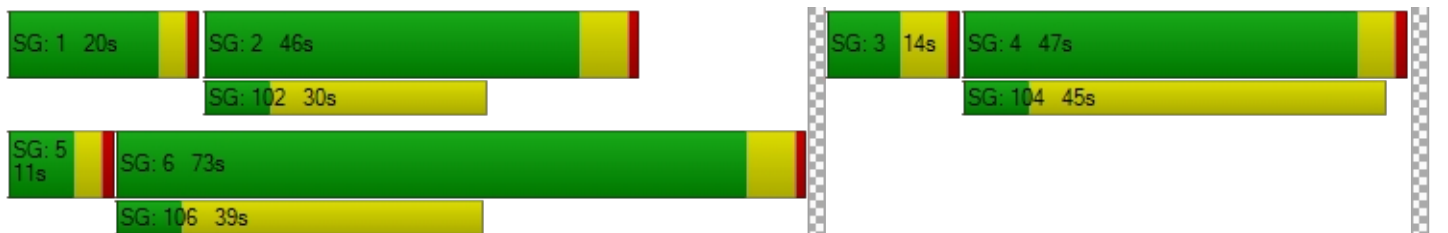
Vehicle Miles Traveled [mph]	38.38	82.83	15.02	31.18	462.49	7.53	70.69	290.15	87.43
Stops [stops/h]	502.99	627.14	91.69	173.78	4317.00	20.83	1135.44	4203.62	869.08
Fuel consumption [US gal/h]	15.12	16.03	2.41	6.91	275.97	0.73	67.09	222.26	32.27
CO [g/h]	1056.87	1120.56	168.30	482.87	19290.3	51.20	4689.25	15535.9	2255.74
NOx [g/h]	205.63	218.02	32.75	93.95	3753.21	9.96	912.36	3022.73	438.89
VOC [g/h]	244.94	259.70	39.01	111.91	4470.73	11.87	1086.78	3600.61	522.79

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.51	49.51	49.51	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.337	2.864	3.472	0.000
Crosswalk LOS	B	C	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	700	667	1117
d_b, Bicycle Delay [s]	52.27	25.36	26.67	11.71
I_b,int, Bicycle LOS Score for Intersection	2.206	1.560	3.157	4.155
Bicycle LOS	B	A	C	D

Sequence

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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	995.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.977

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	212	5	415	477	637	373	98	740	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	529	0	779	0	715	716	582	779	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	189	0	0	136	0	0	0
Total Hourly Volume [veh/h]	0	0	0	754	5	1030	477	1390	975	686	1563	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8190	0.8190	0.8190	1.0000	0.9670	0.9670	0.9240	0.9240	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	230	2	314	119	359	252	186	423	0
Total Analysis Volume [veh/h]	0	0	0	921	6	1258	477	1437	1008	742	1692	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	43	0	0	42	0	15	69	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	47	0	0	46	0	20	73	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		68	68	15	15	16	31
g / C, Green / Cycle		0.57	0.57	0.13	0.13	0.13	0.26
(v / s)_i Volume / Saturation Flow Rate		0.52	0.79	0.77	0.63	0.42	0.48
s, saturation flow rate [veh/h]		1781	1589	1870	1589	1781	3560
c, Capacity [veh/h]		1007	898	236	201	237	924
d1, Uniform Delay [s]		23.65	26.09	52.43	52.43	52.01	44.43
k, delay calibration		0.41	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		12.60	186.83	2294.79	1818.76	967.54	378.01
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.92	1.40	6.08	5.02	3.13	1.83
d, Delay for Lane Group [s/veh]		36.25	212.92	2347.22	1871.19	1019.56	422.44
Lane Group LOS		D	F	F	F	F	F
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		25.04	69.64	157.60	107.39	70.74	61.72
50th-Percentile Queue Length [ft/ln]		626.02	1740.91	3939.89	2684.73	1768.50	1543.01
95th-Percentile Queue Length [veh/ln]		33.25	104.80	231.90	160.97	108.76	96.23
95th-Percentile Queue Length [ft/ln]		831.18	2619.97	5797.40	4024.36	2719.09	2405.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	36.25	36.25	212.92	0.00	2347.22	1871.19	1019.56	422.44	0.00
Movement LOS				D	D	F		F	F	F	F	
d_A, Approach Delay [s/veh]	0.00			137.96			2150.97			604.47		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	995.45											
Intersection LOS	F											
Intersection V/C	1.977											

Emissions

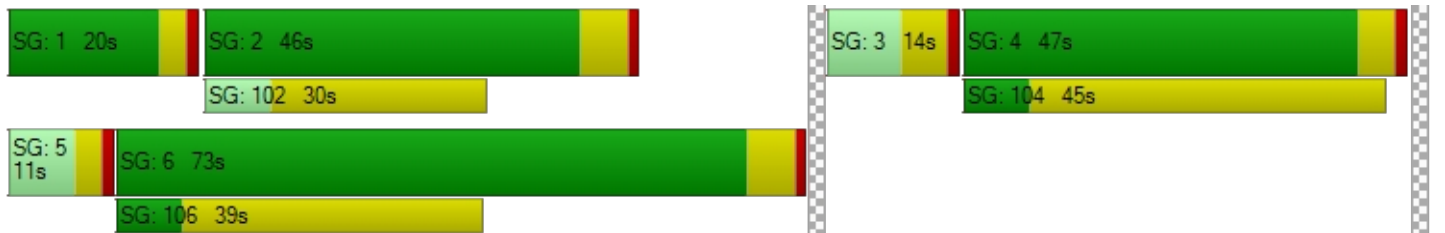
Vehicle Miles Traveled [mph]		59.78	81.13	212.94	149.37	103.44	235.88
Stops [stops/h]		751.13	2088.85	4727.32	3221.29	2121.95	3702.78
Fuel consumption [US gal/h]		16.36	77.92	752.29	428.90	183.84	199.55
CO [g/h]		1143.38	5446.82	52584.81	29980.34	12850.38	13948.35
NOx [g/h]		222.46	1059.75	10231.09	5833.08	2500.22	2713.84
VOC [g/h]		264.99	1262.35	12187.04	6948.23	2978.20	3232.66

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.51	0.00	49.51
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.541	0.000	3.897
Crosswalk LOS	F	D	F	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	700	667	1117
d_b, Bicycle Delay [s]	60.01	25.36	26.67	11.71
I_b,int, Bicycle LOS Score for Intersection	4.132	5.477	5.818	3.568
Bicycle LOS	D	F	F	D

Sequence




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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	600.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.414

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	409	1	216	0	0	0	237	608	0	0	432	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0000	1.0000	1.0000	1.0600	1.0600	1.0000	1.0000	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	779	0	529	0	0	0	715	529	0	0	582	582
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	91	0	0	0	0	0	0	0	0	33
Total Hourly Volume [veh/h]	1213	1	667	0	0	0	966	1173	0	0	1040	735
Peak Hour Factor	0.9010	0.9010	0.9010	1.0000	1.0000	1.0000	0.9580	0.9580	1.0000	1.0000	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	337	0	185	0	0	0	252	306	0	0	279	197
Total Analysis Volume [veh/h]	1346	1	740	0	0	0	1008	1224	0	0	1115	788
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	34	0	0	0	0	26	78	0	0	48	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	38	0	0	0	0	29	82	0	0	53	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34		26	78	48
g / C, Green / Cycle	0.28	0.28		0.22	0.65	0.40
(v / s)_i Volume / Saturation Flow Rate	0.76	0.47		0.57	0.65	1.09
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1743
c, Capacity [veh/h]	505	450		386	1215	697
d1, Uniform Delay [s]	43.00	43.00		47.00	21.00	36.00
k, delay calibration	0.50	0.50		0.50	0.49	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	756.87	299.29		733.01	27.16	782.58
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	2.67	1.64		2.61	1.01	2.73
d, Delay for Lane Group [s/veh]	799.87	342.29		780.01	48.16	818.58
Lane Group LOS	F	F		F	F	F
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	120.56	50.36		89.79	38.09	170.62
50th-Percentile Queue Length [ft/ln]	3014.05	1258.89		2244.66	952.36	4265.53
95th-Percentile Queue Length [veh/ln]	190.39	78.23		140.49	48.53	274.56
95th-Percentile Queue Length [ft/ln]	4759.72	1955.83		3512.28	1213.18	6864.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	799.87	799.87	342.29	0.00	0.00	0.00	780.01	48.16	0.00	0.00	818.58	818.58
Movement LOS	F	F	F				F	F			F	F
d_A, Approach Delay [s/veh]	637.63			0.00			378.67			818.58		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	600.08											
Intersection LOS	F											
Intersection V/C	2.414											

Emissions

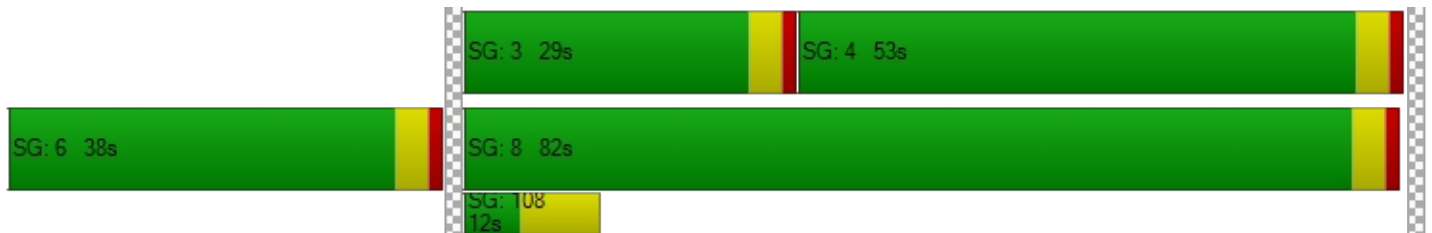
Vehicle Miles Traveled [mph]	100.90	55.43		140.52	170.63	133.02
Stops [stops/h]	3616.86	1510.66		2693.59	1142.83	5118.64
Fuel consumption [US gal/h]	258.35	68.36		191.46	29.33	385.13
CO [g/h]	18058.42	4778.38		13382.79	2050.40	26920.29
NOx [g/h]	3513.51	929.70		2603.80	398.93	5237.71
VOC [g/h]	4185.21	1107.44		3101.59	475.20	6239.04

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	3.275		0.000		0.000		0.000
Crosswalk LOS	C		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	567		0		1300		817
d_b, Bicycle Delay [s]	30.82		60.00		7.35		21.00
I_b,int, Bicycle LOS Score for Intersection	5.153		4.132		5.242		4.754
Bicycle LOS	F		D		F		E

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro NO SIGNAL
AM cumulative.vistro

Scenario 7 Opening Year Cumul. With Proj AM

Report File: C:\...\CuPP AM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.142	18.5	C
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition	WB Right	0.005	8.4	A
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition	WB Right	0.003	8.4	A
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	SB Left	1.252	239.8	F
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	EB Right	0.003	9.9	A
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	EB Left	0.020	14.1	B
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	EB Right	0.003	9.7	A
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	1.382	359.7	F
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	2.174	993.1	F
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	NB Left	2.518	642.2	F

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 18.5
 Level Of Service: C
 Volume to Capacity (v/c): 0.142

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↔		↔		↔	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	1	868	1	3	531
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	451	0	7	294
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	11	1371	1	10	857
Peak Hour Factor	0.2500	0.2500	0.8190	0.8190	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	418	0	3	249
Total Analysis Volume [veh/h]	0	44	1674	1	12	997
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.14	0.02	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	104.06	18.54	0.00	0.00	14.81	0.00
Movement LOS	F	C	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.49	0.49	0.00	0.00	0.10	0.00
95th-Percentile Queue Length [ft/ln]	12.24	12.24	0.00	0.00	2.45	0.00
d_A, Approach Delay [s/veh]	18.54		0.00		0.18	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.36					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	3	5	2	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	3	5	2	0	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	0	1
Total Analysis Volume [veh/h]	4	3	5	2	0	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.24	0.00	8.63	8.36
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.21	0.21	0.35	0.35
d_A, Approach Delay [s/veh]	0.00		5.17		8.36	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	1	2	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	2	0	0	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	0	0	1
Total Analysis Volume [veh/h]	5	1	2	0	0	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.58	8.35
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.09	0.09	0.21	0.21
d_A, Approach Delay [s/veh]	0.00		7.23		8.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.59					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	239.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.252

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			← →			← →			← →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	91	98	140	88	58	9	6	773	89	86	435	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	51	584	3	1	0	460	0	62	300	698
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	2	0	0	19	0	0	14
Total Hourly Volume [veh/h]	96	105	173	677	64	9	6	1279	75	153	761	753
Peak Hour Factor	0.8130	0.8130	0.8130	0.8650	0.8650	0.8650	0.8210	0.8210	0.8210	0.8980	0.8980	0.8980
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	32	53	196	18	3	2	389	23	43	212	210
Total Analysis Volume [veh/h]	118	129	213	783	74	10	7	1558	91	170	847	839
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	22	0	0	35	0	5	38	0	9	42	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	26	0	0	39	0	9	42	0	13	46	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	35	35	35	5	38	38	9	42	42
g / C, Green / Cycle	0.18	0.29	0.29	0.29	0.04	0.32	0.32	0.08	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.27	0.44	0.04	0.01	0.00	0.44	0.45	0.10	0.45	0.53
s, saturation flow rate [veh/h]	1708	1781	1870	1589	1781	1870	1834	1781	1870	1589
c, Capacity [veh/h]	313	519	545	464	74	592	581	134	654	556
d1, Uniform Delay [s]	49.00	42.50	31.34	30.29	55.32	41.00	41.00	55.50	39.00	39.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	227.57	238.20	0.52	0.09	2.51	189.74	195.74	168.53	143.52	237.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.47	1.51	0.14	0.02	0.09	1.40	1.41	1.27	1.29	1.51
d, Delay for Lane Group [s/veh]	276.57	280.70	31.86	30.38	57.83	230.74	236.74	224.03	182.52	276.89
Lane Group LOS	F	F	C	C	E	F	F	F	F	F
Critical Lane Group	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	29.05	49.24	1.64	0.22	0.25	47.86	47.91	10.19	44.32	52.25
50th-Percentile Queue Length [ft/ln]	726.18	1230.90	41.01	5.38	6.28	1196.50	1197.70	254.76	1107.97	1306.36
95th-Percentile Queue Length [veh/ln]	44.71	74.87	2.95	0.39	0.45	71.37	71.70	16.66	64.65	80.04
95th-Percentile Queue Length [ft/ln]	1117.66	1871.65	73.82	9.68	11.30	1784.35	1792.57	416.43	1616.35	2001.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	276.57	276.57	276.57	280.70	31.86	30.38	57.83	233.55	236.74	224.03	182.52	276.89
Movement LOS	F	F	F	F	C	C	E	F	F	F	F	F
d_A, Approach Delay [s/veh]	276.57			256.57			232.98			228.98		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	239.82											
Intersection LOS	F											
Intersection V/C	1.252											

Emissions

Vehicle Miles Traveled [mph]	104.25	67.32	6.36	0.86	1.76	208.90	206.84	42.26	210.55	208.56
Stops [stops/h]	871.42	1477.08	49.21	6.45	7.54	1435.80	1437.24	305.71	1329.57	1567.63
Fuel consumption [US gal/h]	36.41	61.64	1.19	0.16	0.24	63.91	64.48	13.00	55.20	73.90
CO [g/h]	2545.18	4308.53	83.26	10.90	16.54	4467.40	4506.90	908.59	3858.62	5165.94
NOx [g/h]	495.20	838.28	16.20	2.12	3.22	869.19	876.88	176.78	750.75	1005.11
VOC [g/h]	589.87	998.54	19.30	2.53	3.83	1035.36	1044.52	210.57	894.27	1197.26

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.753	0.000	0.000
Crosswalk LOS	F	C	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	583	633	700
d_b, Bicycle Delay [s]	40.02	30.10	28.02	25.35
I_b,int, Bicycle LOS Score for Intersection	2.362	2.993	2.941	3.102
Bicycle LOS	B	C	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	52	54	12	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	407	291	12	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	102	73	3	0	1
Total Analysis Volume [veh/h]	0	407	291	12	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.86	0.00	0.00	0.00	13.94	9.86
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.20	0.20
d_A, Approach Delay [s/veh]	0.00		0.00		9.86	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	44	42	14	8	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	399	279	14	8	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	100	70	4	2	0
Total Analysis Volume [veh/h]	8	399	279	14	8	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	7.85	0.00	0.00	0.00	14.15	9.97
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.33	0.33	0.00	0.00	1.63	1.63
d_A, Approach Delay [s/veh]	0.15		0.00		13.68	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	345	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	52	23	20	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	418	260	20	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	105	65	5	0	1
Total Analysis Volume [veh/h]	0	418	260	20	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.81	0.00	0.00	0.00	13.75	9.70
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.20	0.20
d_A, Approach Delay [s/veh]	0.00		0.00		9.70	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	359.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.382

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	+			+ + +			+ + +			+ + +		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	66	15	152	252	0	83	78	873	24	103	578	311
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	178	174	0	0	0	1095	0	308	1060	242
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	13	0	0	6	0	0	2	0	0	78
Total Hourly Volume [veh/h]	70	16	326	441	0	82	83	2020	23	417	1673	494
Peak Hour Factor	0.8940	0.8940	0.8940	0.8410	1.0000	0.8410	0.8400	0.8400	0.8400	0.8470	0.8470	0.8470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	4	91	131	0	24	25	601	7	123	494	146
Total Analysis Volume [veh/h]	78	18	365	524	0	98	99	2405	27	492	1975	583
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	34	34	0	25	51	0	15	78	0
Amber [s]	3.0	5.0	0.0	4.0	4.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	3.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	20	14	0	38	38	0	11	55	0	20	82	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	26	21	21	21	7	36	36	16	45	45
g / C, Green / Cycle	0.22	0.17	0.17	0.17	0.06	0.30	0.30	0.13	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.28	0.15	0.15	0.03	0.06	0.68	0.02	0.28	0.55	0.37
s, saturation flow rate [veh/h]	1629	1781	1781	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	351	310	310	490	104	1075	480	237	1341	599
d1, Uniform Delay [s]	47.08	47.97	47.97	42.39	56.34	41.90	29.76	52.01	37.40	36.81
k, delay calibration	0.50	0.13	0.13	0.13	0.13	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	159.82	7.40	7.40	0.24	34.48	559.95	0.22	496.86	216.62	30.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.31	0.84	0.84	0.20	0.95	2.24	0.06	2.07	1.47	0.97
d, Delay for Lane Group [s/veh]	206.90	55.38	55.38	42.63	90.82	601.85	29.98	548.87	254.02	67.62
Lane Group LOS	F	E	E	D	F	F	C	F	F	E
Critical Lane Group	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	25.79	8.07	8.07	1.24	3.91	98.77	0.57	39.70	58.90	20.98
50th-Percentile Queue Length [ft/ln]	644.73	201.76	201.76	31.11	97.83	2469.25	14.29	992.54	1472.43	524.59
95th-Percentile Queue Length [veh/ln]	39.01	12.73	12.73	2.24	7.04	156.21	1.03	62.22	89.10	28.50
95th-Percentile Queue Length [ft/ln]	975.20	318.24	318.24	56.01	176.09	3905.31	25.72	1555.39	2227.47	712.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	206.90	206.90	206.90	55.38	55.38	42.63	90.82	601.85	29.98	548.87	254.02	67.62
Movement LOS	F	F	F	E	E	D	F	F	C	F	F	E
d_A, Approach Delay [s/veh]	206.90			53.37			575.76			265.95		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	359.69											
Intersection LOS	F											
Intersection V/C	1.382											

Emissions

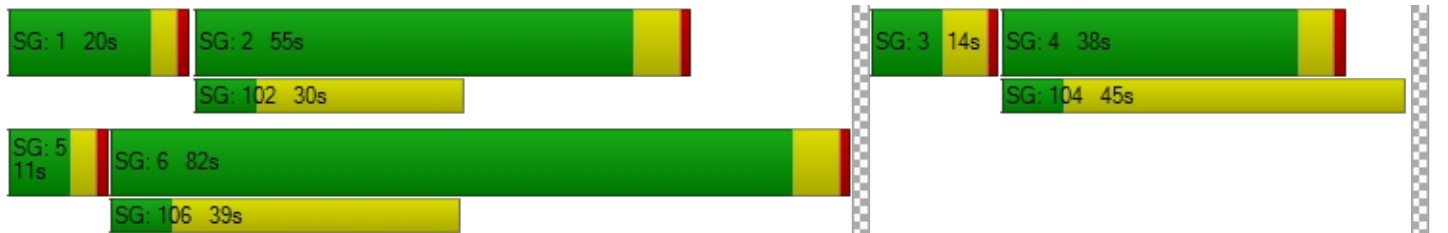
Vehicle Miles Traveled [mph]	46.81	29.81	29.81	11.15	25.72	624.88	7.02	72.91	292.67	86.39
Stops [stops/h]	773.59	242.09	242.09	74.66	117.38	5925.50	17.14	1190.91	3533.41	629.43
Fuel consumption [US gal/h]	28.68	6.40	6.40	1.98	4.17	389.58	0.62	72.25	156.04	18.81
CO [g/h]	2004.88	447.23	447.23	138.61	291.53	27231.6	43.22	5050.09	10906.9	1314.75
NOx [g/h]	390.08	87.02	87.02	26.97	56.72	5298.29	8.41	982.56	2122.10	255.80
VOC [g/h]	464.65	103.65	103.65	32.12	67.56	6311.20	10.02	1170.41	2527.80	304.71

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.51	49.51	49.51	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.394	2.780	3.613	0.000
Crosswalk LOS	B	C	D	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	550	817	1267
d_b, Bicycle Delay [s]	52.27	31.54	21.01	8.07
l_b,int, Bicycle LOS Score for Intersection	2.342	2.596	3.649	4.140
Bicycle LOS	B	B	D	D

Sequence




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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	993.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.174

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	122	0	350	477	799	477	133	647	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	529	0	803	0	723	724	582	807	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	178	0	0	71	0	0	0
Total Hourly Volume [veh/h]	0	0	0	658	0	996	477	1570	1159	723	1493	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.8120	0.8120	0.8850	0.8850	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	179	0	271	119	483	357	204	422	0
Total Analysis Volume [veh/h]	0	0	0	715	0	1083	477	1933	1427	817	1687	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	34	0	0	51	0	15	78	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	38	0	0	55	0	20	82	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		59	59	24	24	16	40
g / C, Green / Cycle		0.49	0.49	0.20	0.20	0.13	0.33
(v / s)_i Volume / Saturation Flow Rate		0.40	0.68	1.03	0.90	0.46	0.47
s, saturation flow rate [veh/h]		1781	1589	1870	1589	1781	3560
c, Capacity [veh/h]		874	780	376	319	237	1190
d1, Uniform Delay [s]		26.01	30.56	47.95	47.95	52.01	39.95
k, delay calibration		0.34	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		5.80	182.73	1870.63	1567.56	1109.07	192.95
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.82	1.39	5.14	4.47	3.44	1.42
d, Delay for Lane Group [s/veh]		31.81	213.29	1918.58	1615.51	1161.07	232.90
Lane Group LOS		C	F	F	F	F	F
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		17.68	60.45	206.13	148.32	80.08	48.55
50th-Percentile Queue Length [ft/ln]		442.12	1511.36	5153.18	3707.93	2002.07	1213.76
95th-Percentile Queue Length [veh/ln]		24.58	90.66	311.60	227.20	122.38	72.91
95th-Percentile Queue Length [ft/ln]		614.54	2266.43	7790.05	5679.97	3059.39	1822.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	31.81	31.81	213.29	0.00	1918.58	1615.51	1161.07	232.90	0.00
Movement LOS				C	C	F		F	F	F	F	
d_A, Approach Delay [s/veh]	0.00			141.12			1789.86			535.74		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	993.11											
Intersection LOS	F											
Intersection V/C	2.174											

Emissions

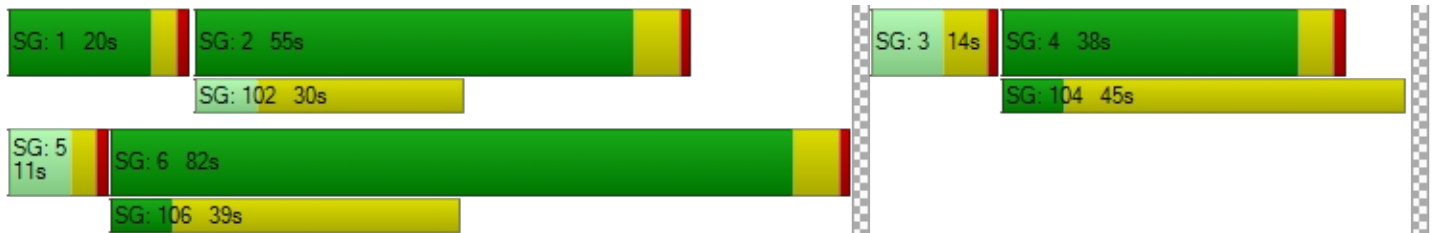
Vehicle Miles Traveled [mph]		46.11	69.84	286.45	211.46	113.90	235.18
Stops [stops/h]		530.51	1813.53	6183.45	4449.25	2402.34	2912.86
Fuel consumption [US gal/h]		11.49	67.31	841.20	531.58	226.76	124.22
CO [g/h]		803.25	4705.28	58799.87	37157.34	15850.75	8682.76
NOx [g/h]		156.28	915.48	11440.32	7229.47	3083.98	1689.35
VOC [g/h]		186.16	1090.49	13627.44	8611.57	3673.56	2012.31

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.51	0.00	49.51
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.266	0.000	4.029
Crosswalk LOS	F	C	F	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	550	817	1267
d_b, Bicycle Delay [s]	60.00	31.54	21.01	8.07
I_b,int, Bicycle LOS Score for Intersection	4.132	4.820	7.221	3.625
Bicycle LOS	D	E	F	D

Sequence

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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	642.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.518

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	291	0	171	0	0	0	287	632	0	0	489	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0000	1.0000	1.0000	1.0600	1.0600	1.0000	1.0000	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	803	0	529	0	0	0	722	530	0	0	586	582
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	68	0	0	0	0	0	0	0	0	41
Total Hourly Volume [veh/h]	1111	0	642	0	0	0	1026	1200	0	0	1104	727
Peak Hour Factor	0.9120	0.9120	0.9120	1.0000	1.0000	1.0000	0.8850	0.8850	1.0000	1.0000	0.8850	0.8850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	305	0	176	0	0	0	290	339	0	0	312	205
Total Analysis Volume [veh/h]	1218	0	704	0	0	0	1159	1356	0	0	1247	821
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	29	0	0	0	0	28	83	0	0	51	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	56	0	0	0	0	31	64	0	0	33	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29		28	83	51
g / C, Green / Cycle	0.24	0.24		0.23	0.69	0.42
(v / s)_i Volume / Saturation Flow Rate	0.68	0.44		0.65	0.73	1.18
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1748
c, Capacity [veh/h]	433	387		416	1291	740
d1, Uniform Delay [s]	45.41	45.41		46.00	18.59	34.59
k, delay calibration	0.50	0.50		0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	821.87	379.59		811.78	39.52	811.29
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	2.81	1.82		2.79	1.05	2.79
d, Delay for Lane Group [s/veh]	867.27	425.00		857.78	58.11	845.88
Lane Group LOS	F	F		F	F	F
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	111.42	51.95		105.75	43.18	186.83
50th-Percentile Queue Length [ft/ln]	2785.54	1298.82		2643.67	1079.40	4670.75
95th-Percentile Queue Length [veh/ln]	174.64	81.51		165.58	56.44	301.74
95th-Percentile Queue Length [ft/ln]	4365.94	2037.72		4139.40	1411.08	7543.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	867.27	867.27	425.00	0.00	0.00	0.00	857.78	58.11	0.00	0.00	845.88	845.88
Movement LOS	F	F	F				F	F			F	F
d_A, Approach Delay [s/veh]	705.27			0.00			426.62			845.88		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	642.24											
Intersection LOS	F											
Intersection V/C	2.518											

Emissions

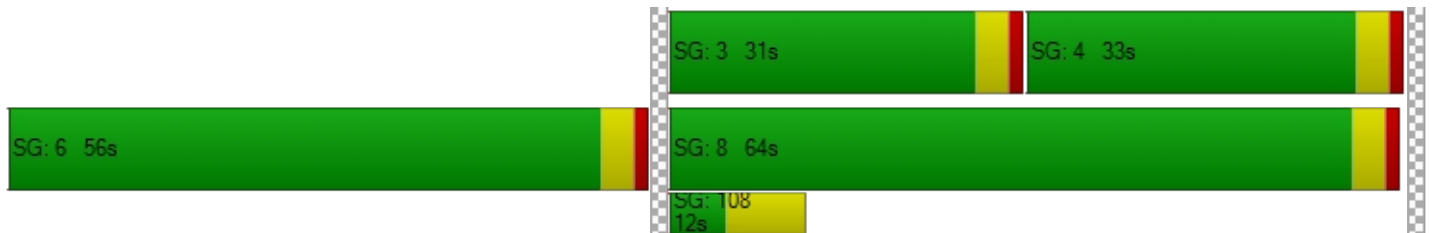
Vehicle Miles Traveled [mph]	91.24	52.74		161.57	189.04	144.55
Stops [stops/h]	3342.65	1558.59		3172.40	1295.28	5604.90
Fuel consumption [US gal/h]	251.02	78.07		239.21	35.53	430.53
CO [g/h]	17545.99	5457.28		16721.01	2483.44	30094.14
NOx [g/h]	3413.81	1061.79		3253.30	483.19	5855.23
VOC [g/h]	4066.45	1264.78		3875.25	575.56	6974.61

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	3.120		0.000		0.000		0.000
Crosswalk LOS	C		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	867		0		1000		483
d_b, Bicycle Delay [s]	19.27		60.00		15.00		34.50
I_b,int, Bicycle LOS Score for Intersection	4.843		4.132		5.709		5.039
Bicycle LOS	E		D		F		F

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro NO SIGNAL
PM cumulative.vistro

Scenario 7 Opening Year Cumul. With Proj PM

Report File: C:\...\CuPP PM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.115	14.8	B
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition	WB Right	0.005	8.4	A
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition	WB Right	0.003	8.4	A
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	WB Right	1.291	226.8	F
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	EB Right	0.004	11.3	B
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	EB Left	0.028	18.0	C
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	EB Right	0.003	11.1	B
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	1.215	374.2	F
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	2.000	1,072.4	F
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	WB Thru	2.436	608.4	F

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.8
 Level Of Service: B
 Volume to Capacity (v/c): 0.115

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	2	599	2	4	711
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	451	0	7	294
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	12	1086	2	11	1048
Peak Hour Factor	0.2500	0.2500	0.8480	0.8480	0.9160	0.9160
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	12	320	1	3	286
Total Analysis Volume [veh/h]	0	48	1281	2	12	1144
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.12	0.01	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	64.55	14.75	0.00	0.00	11.86	0.00
Movement LOS	F	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.39	0.39	0.00	0.00	0.07	0.00
95th-Percentile Queue Length [ft/ln]	9.67	9.67	0.00	0.00	1.71	0.00
d_A, Approach Delay [s/veh]	14.75		0.00		0.12	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.34					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	3	5	2	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	3	5	2	0	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	0	1
Total Analysis Volume [veh/h]	5	3	5	2	0	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.24	0.00	8.63	8.36
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.21	0.21	0.35	0.35
d_A, Approach Delay [s/veh]	0.00		5.17		8.36	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.90					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2**

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 8.4
 Level Of Service: A
 Volume to Capacity (v/c): 0.003

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	1	2	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	2	0	0	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	0	0	1
Total Analysis Volume [veh/h]	5	1	2	0	0	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.58	8.35
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.09	0.09	0.21	0.21
d_A, Approach Delay [s/veh]	0.00		7.23		8.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.59					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	226.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.291

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			← →			← →			← →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	115	101	138	45	115	18	7	478	113	189	589	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	51	584	3	1	0	460	0	62	300	698
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	5	0	0	9	0	0	20
Total Hourly Volume [veh/h]	122	108	183	632	125	15	7	967	111	262	924	770
Peak Hour Factor	0.9040	0.9040	0.9040	0.8620	0.8620	0.8620	0.8430	0.8430	0.8430	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	30	51	183	36	4	2	287	33	76	267	223
Total Analysis Volume [veh/h]	135	119	202	733	145	17	8	1147	132	303	1069	891
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	21	0	0	32	0	5	37	0	14	46	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	0	0	36	0	9	41	0	18	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	32	32	32	5	37	37	14	46	46
g / C, Green / Cycle	0.18	0.27	0.27	0.27	0.04	0.31	0.31	0.12	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.27	0.41	0.08	0.01	0.00	0.35	0.35	0.17	0.52	0.61
s, saturation flow rate [veh/h]	1711	1781	1870	1589	1781	1870	1803	1781	1870	1611
c, Capacity [veh/h]	299	475	499	424	74	577	556	208	717	618
d1, Uniform Delay [s]	49.50	44.00	34.98	32.62	55.35	41.50	41.50	53.00	37.00	37.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	251.72	254.87	1.47	0.18	2.91	77.65	79.80	230.86	174.09	271.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.52	1.54	0.29	0.04	0.11	1.13	1.13	1.46	1.37	1.59
d, Delay for Lane Group [s/veh]	301.22	298.87	36.45	32.79	58.26	119.15	121.30	283.86	211.09	308.58
Lane Group LOS	F	F	D	C	E	F	F	F	F	F
Critical Lane Group	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	29.79	47.29	3.52	0.38	0.29	28.68	27.99	19.41	54.41	63.62
50th-Percentile Queue Length [ft/ln]	744.67	1182.30	88.04	9.59	7.20	717.08	699.80	485.29	1360.35	1590.48
95th-Percentile Queue Length [veh/ln]	46.08	72.26	6.34	0.69	0.52	40.42	39.63	30.51	80.45	98.33
95th-Percentile Queue Length [ft/ln]	1152.04	1806.51	158.48	17.26	12.96	1010.49	990.85	762.77	2011.18	2458.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	301.22	301.22	301.22	298.87	36.45	32.79	58.26	120.08	121.30	283.86	219.20	308.58
Movement LOS	F	F	F	F	D	C	E	F	F	F	F	F
d_A, Approach Delay [s/veh]	301.22			251.30			119.82			263.05		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	226.84											
Intersection LOS	F											
Intersection V/C	1.291											

Emissions

Vehicle Miles Traveled [mph]	103.35	63.03	12.47	1.46	2.02	163.86	158.60	75.32	243.61	243.61
Stops [stops/h]	893.60	1418.76	105.65	11.51	8.64	860.50	839.76	582.35	1632.41	1908.58
Fuel consumption [US gal/h]	38.61	60.77	2.56	0.28	0.27	32.07	31.40	27.32	70.74	93.61
CO [g/h]	2698.53	4247.60	178.95	19.49	18.97	2241.81	2195.09	1909.79	4944.41	6543.15
NOx [g/h]	525.04	826.43	34.82	3.79	3.69	436.17	427.09	371.58	962.00	1273.06
VOC [g/h]	625.41	984.42	41.47	4.52	4.40	519.56	508.73	442.61	1145.91	1516.44

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.783	0.000	0.000
Crosswalk LOS	F	C	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	350	533	617	767
d_b, Bicycle Delay [s]	40.84	32.27	28.70	22.82
I_b,int, Bicycle LOS Score for Intersection	2.335	3.045	2.629	3.443
Bicycle LOS	B	C	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	11.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	52	54	12	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	452	496	12	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	113	124	3	0	1
Total Analysis Volume [veh/h]	0	452	496	12	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.41	0.00	0.00	0.00	17.56	11.35
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.26	0.26
d_A, Approach Delay [s/veh]	0.00		0.00		11.35	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	18.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	44	42	14	8	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	444	484	14	8	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	111	121	4	2	0
Total Analysis Volume [veh/h]	8	444	484	14	8	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	8.39	0.00	0.00	0.00	17.98	11.60
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.33	0.33	0.00	0.00	2.30	2.30
d_A, Approach Delay [s/veh]	0.15		0.00		17.27	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.23					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	52	23	20	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	452	465	20	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	113	116	5	0	1
Total Analysis Volume [veh/h]	0	452	465	20	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.34	0.00	0.00	0.00	17.11	11.13
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.26	0.26
d_A, Approach Delay [s/veh]	0.00		0.00		11.13	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.02					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	374.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.215

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			T T T T			T T T			T T T		
Lane Configuration	+			T T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	34	27	78	428	0	121	103	507	31	104	669	374
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	178	174	0	0	0	1095	0	308	1060	242
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	14	0	0	7	0	0	121
Total Hourly Volume [veh/h]	36	29	247	628	0	114	109	1632	26	418	1769	517
Peak Hour Factor	0.8270	0.8270	0.8270	0.8630	1.0000	0.8630	0.9080	0.9080	0.9080	0.8770	0.8770	0.8770
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	9	75	182	0	33	30	449	7	119	504	147
Total Analysis Volume [veh/h]	44	35	299	728	0	132	120	1797	29	477	2017	590
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	43	0	0	25	42	0	15	69	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	0.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	20	14	0	48	0	0	11	45	0	20	72	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	26	29	29	7	28	28	16	37	37
g / C, Green / Cycle	0.22	0.24	0.24	0.06	0.23	0.23	0.13	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.23	0.21	0.05	0.07	0.50	0.02	0.27	0.57	0.37
s, saturation flow rate [veh/h]	1633	3459	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	351	848	690	104	825	368	237	1091	487
d1, Uniform Delay [s]	47.11	43.32	35.88	56.51	46.12	36.09	52.01	41.62	41.62
k, delay calibration	0.45	0.13	0.13	0.13	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	67.36	3.21	0.16	94.16	534.74	0.42	468.81	385.33	112.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.08	0.86	0.19	1.15	2.18	0.08	2.01	1.85	1.21
d, Delay for Lane Group [s/veh]	114.47	46.52	36.04	150.67	580.85	36.51	520.83	426.95	154.46
Lane Group LOS	F	D	D	F	F	D	F	F	F
Critical Lane Group	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	16.77	10.44	1.53	5.79	73.08	0.69	37.85	73.80	29.02
50th-Percentile Queue Length [ft/ln]	419.21	261.10	38.19	144.83	1827.01	17.37	946.31	1845.02	725.52
95th-Percentile Queue Length [veh/ln]	24.46	15.74	2.75	10.15	114.66	1.25	59.35	115.44	42.42
95th-Percentile Queue Length [ft/ln]	611.38	393.61	68.74	253.67	2866.59	31.26	1483.70	2885.92	1060.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	114.47	114.47	114.47	46.52	0.00	36.04	150.67	580.85	36.51	520.83	426.95	154.46
Movement LOS	F	F	F	D		D	F	F	D	F	F	F
d_A, Approach Delay [s/veh]	114.47			44.91			546.21			389.34		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	374.21											
Intersection LOS	F											
Intersection V/C	1.215											

Emissions

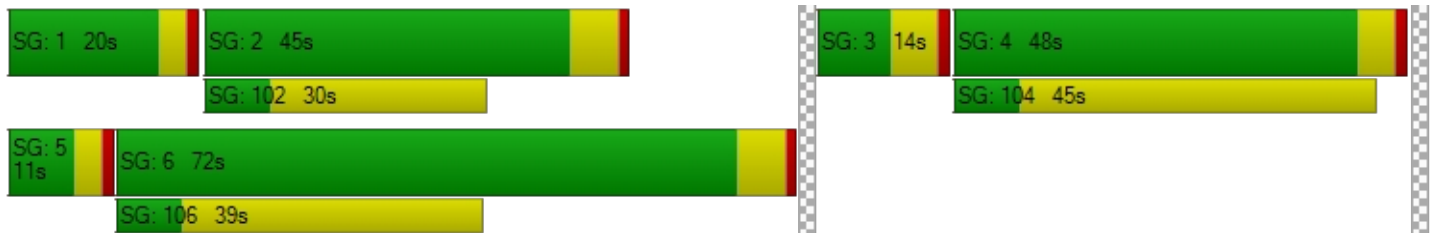
Vehicle Miles Traveled [mph]	38.38	82.83	15.02	31.18	466.91	7.53	70.69	298.89	87.43
Stops [stops/h]	502.99	626.58	91.64	173.78	4384.30	20.84	1135.44	4427.51	870.52
Fuel consumption [US gal/h]	15.12	16.01	2.41	6.91	282.88	0.73	67.09	240.50	32.36
CO [g/h]	1056.87	1119.37	168.20	482.87	19773.1	51.23	4689.25	16810.8	2262.16
NOx [g/h]	205.63	217.79	32.73	93.95	3847.13	9.97	912.36	3270.79	440.13
VOC [g/h]	244.94	259.42	38.98	111.91	4582.61	11.87	1086.78	3896.09	524.28

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.51	49.51	49.51	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.337	2.864	3.491	0.000
Crosswalk LOS	B	C	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	717	650	1100
d_b, Bicycle Delay [s]	52.27	24.71	27.34	12.15
I_b,int, Bicycle LOS Score for Intersection	2.206	1.560	3.171	4.204
Bicycle LOS	B	A	C	D

Sequence

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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	1,072.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.000

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↑↑			↑↑			↑↑↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	212	5	415	477	637	373	98	740	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	529	0	803	0	723	724	582	807	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	189	0	0	136	0	0	0
Total Hourly Volume [veh/h]	0	0	0	754	5	1054	477	1398	983	686	1591	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8190	0.8190	0.8190	1.0000	0.9670	0.9670	0.9240	0.9240	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	230	2	322	119	361	254	186	430	0
Total Analysis Volume [veh/h]	0	0	0	921	6	1287	477	1446	1017	742	1722	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	43	0	0	42	0	15	69	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	48	0	0	45	0	20	72	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		69	69	14	14	16	30
g / C, Green / Cycle		0.57	0.57	0.12	0.12	0.13	0.25
(v / s)_i Volume / Saturation Flow Rate		0.52	0.81	0.77	0.64	0.42	0.48
s, saturation flow rate [veh/h]		1781	1589	1870	1589	1781	3560
c, Capacity [veh/h]		1022	912	221	188	237	895
d1, Uniform Delay [s]		22.75	25.59	52.93	52.93	52.01	44.93
k, delay calibration		0.40	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		10.97	191.77	2506.84	2000.35	967.54	420.34
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.91	1.41	6.55	5.42	3.13	1.92
d, Delay for Lane Group [s/veh]		33.72	217.36	2559.77	2053.28	1019.56	465.27
Lane Group LOS		C	F	F	F	F	F
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		24.09	71.78	160.21	109.78	70.74	65.02
50th-Percentile Queue Length [ft/ln]		602.33	1794.42	4005.34	2744.47	1768.50	1625.53
95th-Percentile Queue Length [veh/ln]		32.14	108.33	234.36	163.54	108.76	101.70
95th-Percentile Queue Length [ft/ln]		803.58	2708.14	5858.88	4088.39	2719.09	2542.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	33.72	33.72	217.36	0.00	2559.77	2053.28	1019.56	465.27	0.00
Movement LOS				C	C	F		F	F	F	F	
d_A, Approach Delay [s/veh]	0.00			140.47			2350.64			632.19		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	1072.44											
Intersection LOS	F											
Intersection V/C	2.000											

Emissions

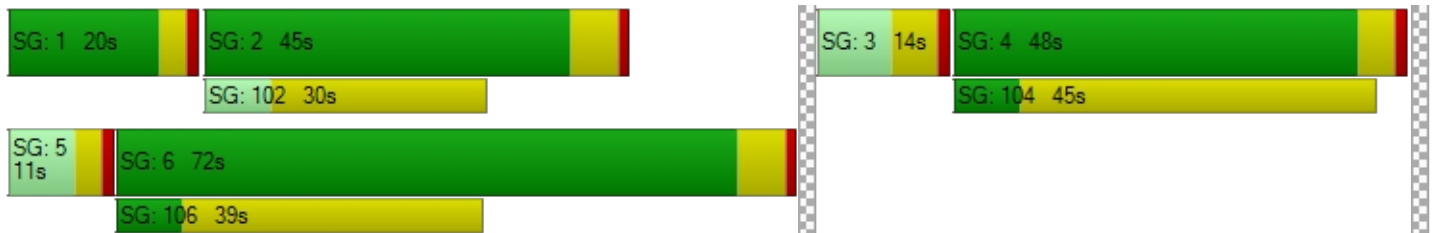
Vehicle Miles Traveled [mph]		59.78	83.00	214.28	150.71	103.44	240.06
Stops [stops/h]		722.71	2153.05	4805.84	3292.98	2121.95	3900.81
Fuel consumption [US gal/h]		15.60	81.04	820.13	470.94	183.84	219.74
CO [g/h]		1090.54	5664.62	57327.32	32918.78	12850.38	15359.52
NOx [g/h]		212.18	1102.13	11153.81	6404.80	2500.22	2988.40
VOC [g/h]		252.74	1312.83	13286.16	7629.25	2978.20	3559.72

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.51	0.00	49.51
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.559	0.000	3.911
Crosswalk LOS	F	D	F	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	717	650	1100
d_b, Bicycle Delay [s]	60.01	24.71	27.34	12.15
I_b,int, Bicycle LOS Score for Intersection	4.132	5.525	5.848	3.592
Bicycle LOS	D	F	F	D

Sequence

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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	608.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.436

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	409	1	216	0	0	0	237	608	0	0	432	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0000	1.0000	1.0000	1.0600	1.0600	1.0000	1.0000	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	803	0	529	0	0	0	722	530	0	0	586	582
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	91	0	0	0	0	0	0	0	0	33
Total Hourly Volume [veh/h]	1237	1	667	0	0	0	973	1174	0	0	1044	735
Peak Hour Factor	0.9010	0.9010	0.9010	1.0000	1.0000	1.0000	0.9580	0.9580	1.0000	1.0000	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	343	0	185	0	0	0	254	306	0	0	280	197
Total Analysis Volume [veh/h]	1373	1	740	0	0	0	1016	1225	0	0	1119	788
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	34	0	0	0	0	26	78	0	0	48	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	45	0	0	0	0	13	75	0	0	62	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34		26	78	48
g / C, Green / Cycle	0.28	0.28		0.22	0.65	0.40
(v / s)_i Volume / Saturation Flow Rate	0.77	0.47		0.57	0.66	1.09
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1743
c, Capacity [veh/h]	507	452		383	1213	698
d1, Uniform Delay [s]	42.92	42.92		47.10	21.08	35.98
k, delay calibration	0.50	0.50		0.50	0.49	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	775.24	295.91		751.29	27.93	784.00
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	2.71	1.64		2.65	1.01	2.73
d, Delay for Lane Group [s/veh]	818.16	338.83		798.38	49.01	819.99
Lane Group LOS	F	F		F	F	F
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	123.72	50.17		91.05	38.24	171.06
50th-Percentile Queue Length [ft/ln]	3092.92	1254.33		2276.18	956.11	4276.53
95th-Percentile Queue Length [veh/ln]	195.33	77.89		142.43	48.82	275.27
95th-Percentile Queue Length [ft/ln]	4883.20	1947.23		3560.63	1220.60	6881.79

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	818.16	818.16	338.83	0.00	0.00	0.00	798.38	49.01	0.00	0.00	819.99	819.99
Movement LOS	F	F	F				F	F			F	F
d_A, Approach Delay [s/veh]	650.37			0.00			388.75			819.99		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	608.40											
Intersection LOS	F											
Intersection V/C	2.436											

Emissions

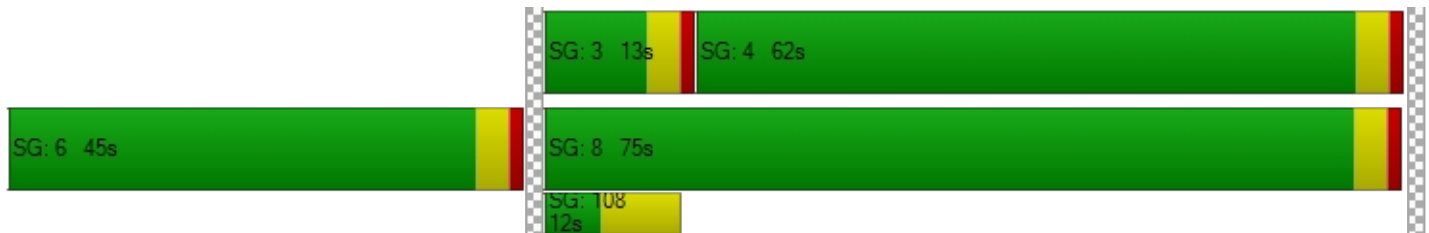
Vehicle Miles Traveled [mph]	102.92	55.43		141.64	170.77	133.30
Stops [stops/h]	3711.50	1505.20		2731.41	1147.33	5131.84
Fuel consumption [US gal/h]	268.85	67.79		196.94	29.60	386.51
CO [g/h]	18792.94	4738.23		13765.77	2069.28	27017.15
NOx [g/h]	3656.42	921.89		2678.32	402.61	5256.55
VOC [g/h]	4355.44	1098.13		3190.35	479.58	6261.48

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	3.293		0.000		0.000		0.000
Crosswalk LOS	C		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	683		0		1183		967
d_b, Bicycle Delay [s]	26.00		60.00		10.00		16.02
I_b,int, Bicycle LOS Score for Intersection	5.198		4.132		5.257		4.761
Bicycle LOS	F		D		F		E

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro NO SIGNAL
AM cumulative.vistro

Scenario 1 Existing Conditions AM

Report File: C:\...\Ex AM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.008	11.8	B
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition		0.000	0.0	
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition		0.000	0.0	
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	SB Left	0.605	46.6	D
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	NB Thru	0.003	0.0	A
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	NB Thru	0.003	0.0	A
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	NB Thru	0.003	0.0	A
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	NB Right	0.576	61.9	E
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	WB Left	0.728	28.3	C
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Left	0.716	38.6	D

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	1	790	1	3	447
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	790	1	3	447
Peak Hour Factor	0.2500	0.2500	0.8190	0.8190	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	241	0	1	130
Total Analysis Volume [veh/h]	0	4	965	1	3	520
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	26.38	11.85	0.00	0.00	10.10	0.00
Movement LOS	D	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.01	0.00
95th-Percentile Queue Length [ft/ln]	0.57	0.57	0.00	0.00	0.32	0.00
d_A, Approach Delay [s/veh]	11.85		0.00		0.06	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.05					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

**Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	46.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.605

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			← →			← →			← →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	91	98	140	88	58	9	6	773	89	86	435	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	2	0	0	19	0	0	14
Total Hourly Volume [veh/h]	91	98	114	88	58	7	6	773	70	86	435	51
Peak Hour Factor	0.8130	0.8130	0.8130	0.8650	0.8650	0.8650	0.8210	0.8210	0.8210	0.8980	0.8980	0.8980
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	30	35	25	17	2	2	235	21	24	121	14
Total Analysis Volume [veh/h]	112	121	140	102	67	8	7	942	85	96	484	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	33	0	0	16	0	9	39	0	16	46	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	20	0	13	43	0	20	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	16	16	16	9	39	39	16	46	46
g / C, Green / Cycle	0.28	0.13	0.13	0.13	0.08	0.33	0.33	0.13	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.22	0.06	0.04	0.01	0.00	0.28	0.28	0.05	0.15	0.15
s, saturation flow rate [veh/h]	1729	1781	1870	1589	1781	1870	1816	1781	1870	1802
c, Capacity [veh/h]	476	237	249	212	134	608	590	237	717	691
d1, Uniform Delay [s]	40.21	47.80	46.74	45.29	51.54	37.89	37.90	47.63	26.75	26.77
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.22	5.59	2.63	0.33	0.74	14.51	14.88	5.05	1.55	1.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.43	0.27	0.04	0.05	0.86	0.86	0.40	0.38	0.39
d, Delay for Lane Group [s/veh]	52.43	53.39	49.37	45.63	52.28	52.40	52.77	52.68	28.30	28.39
Lane Group LOS	D	D	D	D	D	D	D	D	C	C
Critical Lane Group	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	11.63	3.13	1.96	0.23	0.22	16.12	15.72	2.90	5.79	5.62
50th-Percentile Queue Length [ft/ln]	290.70	78.33	48.95	5.63	5.48	403.08	393.04	72.57	144.64	140.38
95th-Percentile Queue Length [veh/ln]	17.22	5.64	3.52	0.41	0.39	22.71	22.22	5.22	9.73	9.50
95th-Percentile Queue Length [ft/ln]	430.51	140.99	88.10	10.13	9.87	567.71	555.61	130.62	243.26	237.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.43	52.43	52.43	53.39	49.37	45.63	52.28	52.57	52.77	52.68	28.34	28.39
Movement LOS	D	D	D	D	D	D	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	52.43			51.52			52.58			32.01		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	46.57											
Intersection LOS	D											
Intersection V/C	0.605											

Emissions

Vehicle Miles Traveled [mph]	84.54	8.77	5.76	0.69	1.76	131.34	127.58	23.86	68.34	66.14
Stops [stops/h]	348.84	93.99	58.73	6.75	6.58	483.69	471.65	87.08	173.57	168.46
Fuel consumption [US gal/h]	9.83	2.35	1.46	0.17	0.22	16.07	15.67	2.93	6.08	5.90
CO [g/h]	686.78	163.96	101.81	11.55	15.15	1123.37	1095.42	204.79	425.28	412.34
NOx [g/h]	133.62	31.90	19.81	2.25	2.95	218.57	213.13	39.85	82.74	80.23
VOC [g/h]	159.17	38.00	23.59	2.68	3.51	260.35	253.87	47.46	98.56	95.56

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.272	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	267	650	767
d_b, Bicycle Delay [s]	31.54	45.07	27.34	22.82
I_b,int, Bicycle LOS Score for Intersection	2.218	1.855	2.428	2.097
Bicycle LOS	B	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	335	224	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	84	56	0	0	0
Total Analysis Volume [veh/h]	0	335	224	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.68	0.00	0.00	0.00	12.35	9.41
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.88	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	335	224	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	84	56	0	0	0
Total Analysis Volume [veh/h]	0	335	224	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.68	0.00	0.00	0.00	12.35	9.41
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.88	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5**

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	345	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	345	224	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	86	56	0	0	0
Total Analysis Volume [veh/h]	0	345	224	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.68	0.00	0.00	0.00	12.44	9.41
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	61.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			T T T T			T T T			T T T		
Lane Configuration	+			T T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	36	15	152	252	0	67	78	873	16	103	526	284
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	13	0	0	6	0	0	2	0	0	78
Total Hourly Volume [veh/h]	36	15	139	252	0	61	78	873	14	103	526	206
Peak Hour Factor	0.8940	0.8940	0.8940	0.8410	1.0000	0.8410	0.8400	0.8400	0.8400	0.8470	0.8470	0.8470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	4	39	75	0	18	23	260	4	30	155	61
Total Analysis Volume [veh/h]	40	17	155	300	0	73	93	1039	17	122	621	243
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	26	26	0	25	40	0	15	40	0
Amber [s]	3.0	5.0	0.0	4.0	4.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	3.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	20	14	0	50	50	0	11	36	0	20	45	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	8	14	14	7	67	67	10	70	70
g / C, Green / Cycle	0.07	0.11	0.11	0.06	0.56	0.56	0.08	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.13	0.09	0.03	0.05	0.29	0.01	0.07	0.17	0.15
s, saturation flow rate [veh/h]	1643	3459	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	110	390	317	105	1999	892	150	2088	932
d1, Uniform Delay [s]	56.00	51.74	48.51	56.09	16.31	11.67	54.07	12.44	12.12
k, delay calibration	0.24	0.13	0.13	0.13	0.50	0.50	0.13	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	432.07	3.87	0.44	23.85	0.97	0.04	12.15	0.36	0.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.93	0.77	0.23	0.89	0.52	0.02	0.82	0.30	0.26
d, Delay for Lane Group [s/veh]	488.07	55.61	48.95	79.94	17.28	11.71	66.22	12.80	12.80
Lane Group LOS	F	E	D	E	B	B	E	B	B
Critical Lane Group	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	16.49	4.52	1.00	3.42	8.37	0.20	4.04	3.94	3.10
50th-Percentile Queue Length [ft/ln]	412.30	113.02	25.08	85.62	209.31	4.99	100.95	98.59	77.58
95th-Percentile Queue Length [veh/ln]	27.00	8.01	1.81	6.16	13.12	0.36	7.27	7.10	5.59
95th-Percentile Queue Length [ft/ln]	674.97	200.20	45.14	154.12	327.94	8.98	181.71	177.47	139.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	488.07	488.07	488.07	55.61	0.00	48.95	79.94	17.28	11.71	66.22	12.80	12.80
Movement LOS	F	F	F	E		D	E	B	B	E	B	B
d_A, Approach Delay [s/veh]	488.07			54.31			22.27			19.41		
Approach LOS	F			D			C			B		
d_I, Intersection Delay [s/veh]	61.93											
Intersection LOS	E											
Intersection V/C	0.576											

Emissions

Vehicle Miles Traveled [mph]	21.53	34.13	8.31	24.16	269.96	4.42	18.08	92.02	36.01
Stops [stops/h]	494.67	271.21	60.17	102.73	502.25	5.98	121.12	236.58	93.08
Fuel consumption [US gal/h]	26.68	7.28	1.62	3.62	19.15	0.27	3.77	7.71	3.02
CO [g/h]	1865.07	508.99	112.94	252.92	1338.71	18.62	263.48	539.19	211.42
NOx [g/h]	362.87	99.03	21.97	49.21	260.46	3.62	51.26	104.91	41.14
VOC [g/h]	432.25	117.96	26.18	58.62	310.26	4.31	61.06	124.96	49.00

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.52	49.52	49.52	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.985	2.651	2.930	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	750	500	650
d_b, Bicycle Delay [s]	52.28	23.45	33.76	27.35
I_b,int, Bicycle LOS Score for Intersection	1.931	1.560	2.509	2.437
Bicycle LOS	A	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	28.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.728

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↑↓			↑↓			↑↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	122	0	350	477	799	477	133	647	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	178	0	0	71	0	0	0
Total Hourly Volume [veh/h]	0	0	0	122	0	172	477	799	406	133	647	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.8120	0.8120	0.8850	0.8850	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	33	0	47	119	246	125	38	183	0
Total Analysis Volume [veh/h]	0	0	0	133	0	187	477	984	500	150	731	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	26	0	0	40	0	15	40	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	50	0	0	36	0	20	45	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		17	17	70	70	12	82
g / C, Green / Cycle		0.14	0.14	0.58	0.58	0.10	0.68
(v / s)_i Volume / Saturation Flow Rate		0.07	0.12	0.53	0.31	0.08	0.21
s, saturation flow rate [veh/h]		1781	1589	1870	1589	1781	3560
c, Capacity [veh/h]		250	224	1091	928	178	2432
d1, Uniform Delay [s]		47.91	50.24	21.96	15.18	53.08	7.59
k, delay calibration		0.13	0.13	0.50	0.50	0.18	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		2.10	9.52	11.90	2.24	15.49	0.32
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.53	0.84	0.90	0.54	0.84	0.30
d, Delay for Lane Group [s/veh]		50.01	59.76	33.86	17.42	68.57	7.91
Lane Group LOS		D	E	C	B	E	A
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		3.79	5.96	25.00	8.09	5.10	3.32
50th-Percentile Queue Length [ft/ln]		94.63	148.92	624.90	202.26	127.45	82.91
95th-Percentile Queue Length [veh/ln]		6.81	9.96	33.20	12.76	8.80	5.97
95th-Percentile Queue Length [ft/ln]		170.34	248.99	829.89	318.88	220.02	149.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	50.01	50.01	59.76	0.00	33.86	17.42	68.57	7.91	0.00
Movement LOS				D	D	E		C	B	E	A	
d_A, Approach Delay [s/veh]	0.00			55.71			28.32			18.24		
Approach LOS	A			E			C			B		
d_I, Intersection Delay [s/veh]	28.28											
Intersection LOS	C											
Intersection V/C	0.728											

Emissions

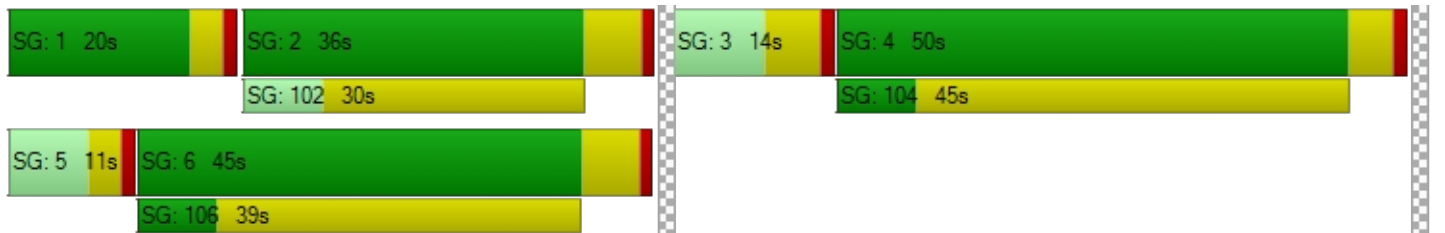
Vehicle Miles Traveled [mph]		8.58	12.06	145.82	74.09	20.91	101.91
Stops [stops/h]		113.53	178.67	749.74	242.66	152.91	198.94
Fuel consumption [US gal/h]		2.78	4.46	21.10	7.33	4.71	7.14
CO [g/h]		194.04	311.82	1474.89	512.33	329.28	499.32
NOx [g/h]		37.75	60.67	286.96	99.68	64.07	97.15
VOC [g/h]		44.97	72.27	341.82	118.74	76.31	115.72

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.52	0.00	49.52
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.306	0.000	2.875
Crosswalk LOS	F	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	750	500	650
d_b, Bicycle Delay [s]	60.01	23.45	33.76	27.35
I_b,int, Bicycle LOS Score for Intersection	4.132	2.381	4.125	2.286
Bicycle LOS	D	B	D	B

Sequence

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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	38.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.716

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	291	0	140	0	0	0	231	632	0	0	489	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	68	0	0	0	0	0	0	0	0	41
Total Hourly Volume [veh/h]	291	0	72	0	0	0	231	632	0	0	489	134
Peak Hour Factor	0.9120	0.9120	0.9120	1.0000	1.0000	1.0000	0.8850	0.8850	1.0000	1.0000	0.8850	0.8850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	0	20	0	0	0	65	179	0	0	138	38
Total Analysis Volume [veh/h]	319	0	79	0	0	0	261	714	0	0	553	151
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	10	0	0	0	0	46	102	0	0	52	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	0	0	0	0	27	78	0	0	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	39	39		20	73	49
g / C, Green / Cycle	0.33	0.33		0.17	0.60	0.41
(v / s)_i Volume / Saturation Flow Rate	0.18	0.05		0.15	0.38	0.39
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1802
c, Capacity [veh/h]	584	522		296	1132	731
d1, Uniform Delay [s]	32.99	28.50		48.88	15.13	34.79
k, delay calibration	0.50	0.50		0.11	0.11	0.40
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	3.64	0.61		8.45	0.59	21.99
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.15		0.88	0.63	0.96
d, Delay for Lane Group [s/veh]	36.63	29.11		57.33	15.72	56.78
Lane Group LOS	D	C		E	B	E
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	7.99	1.67		8.18	11.56	23.24
50th-Percentile Queue Length [ft/ln]	199.65	41.78		204.55	289.00	580.95
95th-Percentile Queue Length [veh/ln]	12.62	3.01		12.87	17.14	31.14
95th-Percentile Queue Length [ft/ln]	315.51	75.20		321.82	428.40	778.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.63	36.63	29.11	0.00	0.00	0.00	57.33	15.72	0.00	0.00	56.78	56.78
Movement LOS	D	D	C				E	B			E	E
d_A, Approach Delay [s/veh]	35.14			0.00			26.86			56.78		
Approach LOS	D			A			C			E		
d_I, Intersection Delay [s/veh]	38.59											
Intersection LOS	D											
Intersection V/C	0.716											

Emissions

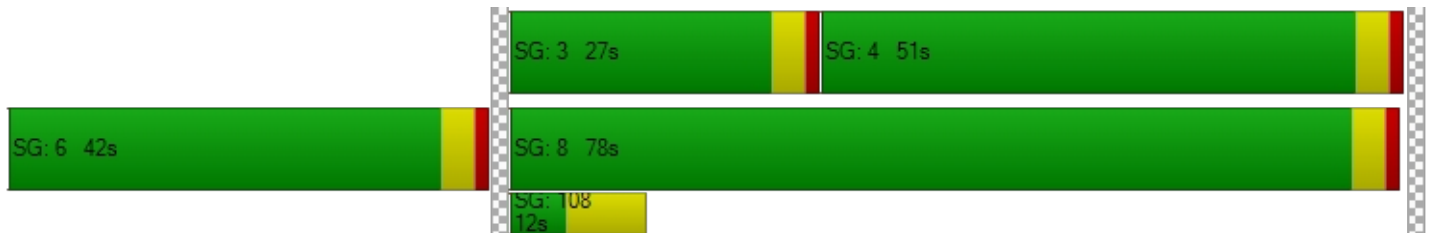
Vehicle Miles Traveled [mph]	23.90	5.92		36.39	99.54	49.21
Stops [stops/h]	239.58	50.14		245.46	346.80	697.14
Fuel consumption [US gal/h]	5.59	1.17		6.76	9.26	18.49
CO [g/h]	390.53	81.96		472.47	646.99	1292.33
NOx [g/h]	75.98	15.95		91.93	125.88	251.44
VOC [g/h]	90.51	18.99		109.50	149.95	299.51

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.130		0.000		0.000		0.000
Crosswalk LOS	B		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	633		0		1233		783
d_b, Bicycle Delay [s]	28.02		60.00		8.82		22.20
I_b,int, Bicycle LOS Score for Intersection	2.329		4.132		3.168		2.789
Bicycle LOS	B		D		C		C

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro NO SIGNAL
PM cumulative.vistro

Scenario 1 Existing Conditions PM

Report File: C:\...\Ex PM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.012	10.7	B
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition		0.000	0.0	
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition		0.000	0.0	
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	WB Left	0.602	46.0	D
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	SB Thru	0.004	0.0	A
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	SB Thru	0.004	0.0	A
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	SB Thru	0.004	0.0	A
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	NB Right	0.510	53.4	D
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	WB Left	0.586	26.8	C
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Left	0.720	38.6	D

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 10.7
 Level Of Service: B
 Volume to Capacity (v/c): 0.012

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↔		↔		↔	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	2	599	2	4	642
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	599	2	4	642
Peak Hour Factor	0.2500	0.2500	0.8480	0.8480	0.9160	0.9160
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	177	1	1	175
Total Analysis Volume [veh/h]	0	8	706	2	4	701
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	21.70	10.68	0.00	0.00	9.08	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.01	0.00
95th-Percentile Queue Length [ft/ln]	0.95	0.95	0.00	0.00	0.34	0.00
d_A, Approach Delay [s/veh]	10.68		0.00		0.05	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↪		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

**Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	46.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			← →			← →			← →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	115	101	138	45	115	18	7	478	113	189	589	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	5	0	0	9	0	0	20
Total Hourly Volume [veh/h]	115	101	124	45	115	13	7	478	104	189	589	67
Peak Hour Factor	0.9040	0.9040	0.9040	0.8620	0.8620	0.8620	0.8430	0.8430	0.8430	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	28	34	13	33	4	2	142	31	55	170	19
Total Analysis Volume [veh/h]	127	112	137	52	133	15	8	567	123	219	682	78
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	33	0	0	18	0	8	30	0	23	45	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	22	0	12	34	0	27	49	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	18	18	18	8	30	30	23	45	45
g / C, Green / Cycle	0.28	0.15	0.15	0.15	0.07	0.25	0.25	0.19	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.22	0.03	0.07	0.01	0.00	0.19	0.19	0.12	0.21	0.21
s, saturation flow rate [veh/h]	1730	1781	1870	1589	1781	1870	1756	1781	1870	1803
c, Capacity [veh/h]	476	267	280	238	119	467	439	341	701	676
d1, Uniform Delay [s]	40.30	44.65	46.67	43.76	52.50	41.66	41.71	44.70	29.55	29.55
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.60	1.62	5.65	0.51	1.09	11.03	11.88	8.94	3.11	3.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.19	0.47	0.06	0.07	0.76	0.76	0.64	0.55	0.55
d, Delay for Lane Group [s/veh]	52.90	46.28	52.32	44.27	53.59	52.68	53.58	53.64	32.66	32.78
Lane Group LOS	D	D	D	D	D	D	D	D	C	C
Critical Lane Group	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	11.78	1.46	4.02	0.41	0.26	10.82	10.32	6.69	9.03	8.73
50th-Percentile Queue Length [ft/ln]	294.52	36.48	100.48	10.30	6.43	270.60	258.06	167.15	225.74	218.24
95th-Percentile Queue Length [veh/ln]	17.41	2.63	7.23	0.74	0.46	16.22	15.59	10.93	13.96	13.58
95th-Percentile Queue Length [ft/ln]	435.24	65.66	180.87	18.54	11.58	405.48	389.79	273.16	348.94	339.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.90	52.90	52.90	46.28	52.32	44.27	53.59	53.02	53.58	53.64	32.71	32.78
Movement LOS	D	D	D	D	D	D	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	52.90			50.15			53.13			37.40		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	45.99											
Intersection LOS	D											
Intersection V/C	0.602											

Emissions

Vehicle Miles Traveled [mph]	85.22	4.47	11.44	1.29	2.02	89.50	84.46	54.44	96.17	92.75
Stops [stops/h]	353.42	43.78	120.58	12.36	7.72	324.72	309.67	200.58	270.89	261.89
Fuel consumption [US gal/h]	9.95	1.08	3.01	0.30	0.25	10.91	10.40	6.75	9.24	8.92
CO [g/h]	695.73	75.48	210.41	21.16	17.64	762.65	726.84	471.86	645.59	623.78
NOx [g/h]	135.36	14.69	40.94	4.12	3.43	148.38	141.42	91.81	125.61	121.36
VOC [g/h]	161.24	17.49	48.76	4.90	4.09	176.75	168.45	109.36	149.62	144.57

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.291	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	300	500	750
d_b, Bicycle Delay [s]	31.54	43.35	33.75	23.44
I_b,int, Bicycle LOS Score for Intersection	2.203	1.898	2.143	2.384
Bicycle LOS	B	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	377	417	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	94	104	0	0	0
Total Analysis Volume [veh/h]	0	377	417	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.15	0.00	0.00	0.00	15.08	10.66
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.87	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	377	417	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	94	104	0	0	0
Total Analysis Volume [veh/h]	0	377	417	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.15	0.00	0.00	0.00	15.08	10.66
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.87	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5**

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	377	417	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	94	104	0	0	0
Total Analysis Volume [veh/h]	0	377	417	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.15	0.00	0.00	0.00	15.08	10.66
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.87	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	53.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.510

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			T T T			T T T			T T T		
Lane Configuration	+			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	34	27	78	428	0	121	103	507	31	104	669	374
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	14	0	0	7	0	0	121
Total Hourly Volume [veh/h]	34	27	64	428	0	107	103	507	24	104	669	253
Peak Hour Factor	0.8270	0.8270	0.8270	0.8630	1.0000	0.8630	0.9080	0.9080	0.9080	0.8770	0.8770	0.8770
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	8	19	124	0	31	28	140	7	30	191	72
Total Analysis Volume [veh/h]	41	33	77	496	0	124	113	558	26	119	763	288
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	3	0	4	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	20	0	25	25	0	25	40	0	15	40	0
Amber [s]	0.0	5.0	0.0	4.0	4.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	1.0	0.0	1.0	1.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	4.0	0.0	3.0	3.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	12	0	50	50	0	13	46	0	12	45	0
Lead / Lag	-	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	6	0	6	6	0	6	6	0	6	6	0
Vehicle Extension [s]	0.0	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	6	21	21	9	64	64	8	63	63
g / C, Green / Cycle	0.05	0.17	0.17	0.08	0.53	0.53	0.07	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.09	0.14	0.04	0.06	0.16	0.02	0.07	0.21	0.18
s, saturation flow rate [veh/h]	1694	3459	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	85	604	492	134	1898	847	119	1867	833
d1, Uniform Delay [s]	56.99	47.72	42.76	54.78	15.52	13.31	56.00	17.28	16.58
k, delay calibration	0.13	0.13	0.13	0.13	0.50	0.50	0.13	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	357.28	3.41	0.32	15.18	0.39	0.07	41.93	0.66	1.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.77	0.82	0.25	0.84	0.29	0.03	1.00	0.41	0.35
d, Delay for Lane Group [s/veh]	414.27	51.13	43.08	69.96	15.92	13.38	97.93	17.95	17.72
Lane Group LOS	F	D	D	E	B	B	F	B	B
Critical Lane Group	Yes	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	11.03	7.29	1.59	3.86	4.07	0.33	4.90	6.13	4.58
50th-Percentile Queue Length [ft/ln]	275.79	182.16	39.75	96.42	101.79	8.32	122.50	153.31	114.51
95th-Percentile Queue Length [veh/ln]	18.66	11.71	2.86	6.94	7.33	0.60	8.53	10.19	8.09
95th-Percentile Queue Length [ft/ln]	466.42	292.83	71.55	173.56	183.23	14.98	213.26	254.84	202.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	414.27	414.27	414.27	51.13	0.00	43.08	69.96	15.92	13.38	97.93	17.95	17.72
Movement LOS	F	F	F	D		D	E	B	B	F	B	B
d_A, Approach Delay [s/veh]	414.27			49.52			24.58			26.03		
Approach LOS	F			D			C			C		
d_I, Intersection Delay [s/veh]	53.39											
Intersection LOS	D											
Intersection V/C	0.510											

Emissions

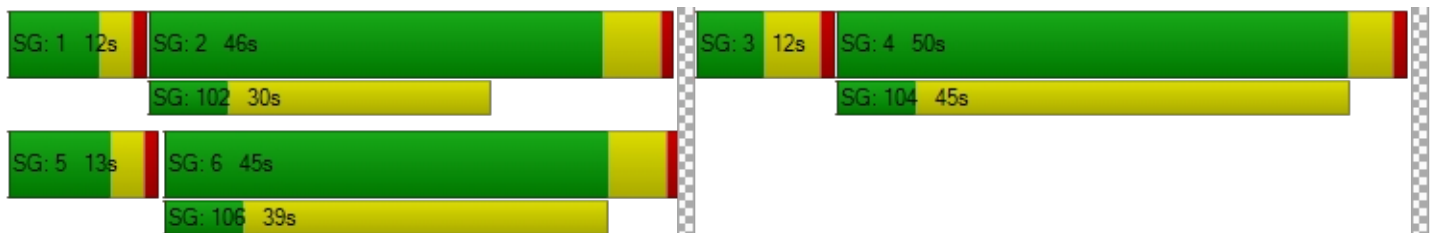
Vehicle Miles Traveled [mph]	15.33	56.43	14.11	29.36	144.98	6.76	17.63	113.07	42.68
Stops [stops/h]	330.89	437.09	95.39	115.68	244.26	9.98	146.97	367.88	137.39
Fuel consumption [US gal/h]	16.53	11.48	2.53	4.05	9.81	0.43	4.80	11.24	4.21
CO [g/h]	1155.21	802.14	176.81	283.33	686.01	29.81	335.74	785.42	294.25
NOx [g/h]	224.76	156.07	34.40	55.13	133.47	5.80	65.32	152.81	57.25
VOC [g/h]	267.73	185.90	40.98	65.66	158.99	6.91	77.81	182.03	68.20

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.51	49.51	49.51	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.955	2.744	2.878	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	100	750	667	650
d_b, Bicycle Delay [s]	54.16	23.45	26.68	27.35
I_b,int, Bicycle LOS Score for Intersection	1.832	1.560	2.140	2.625
Bicycle LOS	A	A	B	B

Sequence




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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	26.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	212	5	415	477	637	373	98	740	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	189	0	0	136	0	0	0
Total Hourly Volume [veh/h]	0	0	0	212	5	226	477	637	237	98	740	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8190	0.8190	0.8190	1.0000	0.9670	0.9670	0.9240	0.9240	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	65	2	69	119	165	61	27	200	0
Total Analysis Volume [veh/h]	0	0	0	259	6	276	477	659	245	106	801	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	25	0	0	40	0	15	40	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	50	0	0	46	0	12	45	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		24	24	67	67	8	75
g / C, Green / Cycle		0.20	0.20	0.56	0.56	0.07	0.62
(v / s)_i Volume / Saturation Flow Rate		0.15	0.17	0.35	0.15	0.06	0.22
s, saturation flow rate [veh/h]		1783	1589	1870	1589	1781	3560
c, Capacity [veh/h]		358	319	1041	885	119	2218
d1, Uniform Delay [s]		45.05	46.41	18.20	13.93	55.57	11.01
k, delay calibration		0.13	0.13	0.50	0.50	0.13	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		3.64	8.32	2.93	0.78	22.07	0.46
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.74	0.87	0.63	0.28	0.89	0.36
d, Delay for Lane Group [s/veh]		48.68	54.73	21.13	14.71	77.64	11.47
Lane Group LOS		D	D	C	B	E	B
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		7.62	8.52	12.24	3.43	3.84	4.78
50th-Percentile Queue Length [ft/ln]		190.46	213.10	305.90	85.82	95.88	119.54
95th-Percentile Queue Length [veh/ln]		12.15	13.31	17.97	6.18	6.90	8.37
95th-Percentile Queue Length [ft/ln]		303.63	332.80	449.32	154.47	172.58	209.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	48.68	48.68	54.73	0.00	21.13	14.71	77.64	11.47	0.00
Movement LOS				D	D	D		C	B	E	B	
d_A, Approach Delay [s/veh]	0.00			51.77			19.39			19.20		
Approach LOS	A			D			B			B		
d_I, Intersection Delay [s/veh]	26.76											
Intersection LOS	C											
Intersection V/C	0.586											

Emissions

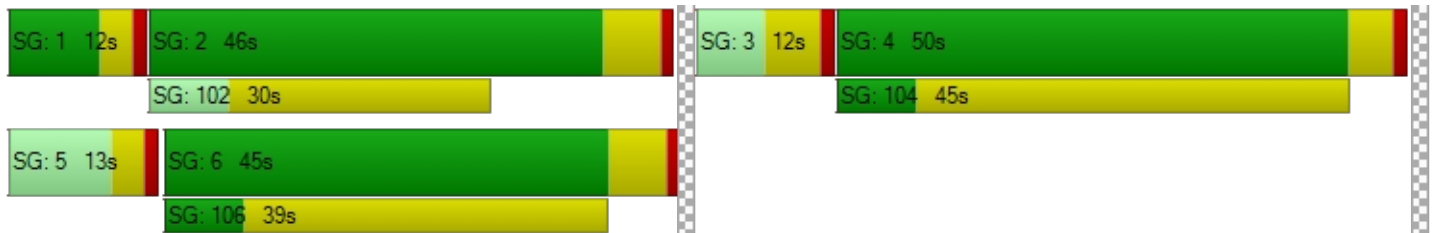
Vehicle Miles Traveled [mph]		17.09	17.80	97.66	36.31	14.78	111.67
Stops [stops/h]		228.51	255.68	367.02	102.96	115.03	286.83
Fuel consumption [US gal/h]		5.48	6.22	10.74	3.26	3.61	9.26
CO [g/h]		383.20	434.97	750.99	227.74	252.43	647.51
NOx [g/h]		74.56	84.63	146.12	44.31	49.11	125.98
VOC [g/h]		88.81	100.81	174.05	52.78	58.50	150.07

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.51	0.00	49.51
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.472	0.000	2.812
Crosswalk LOS	F	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	750	667	650
d_b, Bicycle Delay [s]	60.01	23.45	26.68	27.35
I_b,int, Bicycle LOS Score for Intersection	4.132	2.764	3.276	2.308
Bicycle LOS	D	C	C	B

Sequence




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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	38.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.720

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	409	1	199	0	0	0	237	608	0	0	401	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	91	0	0	0	0	0	0	0	0	33
Total Hourly Volume [veh/h]	409	1	108	0	0	0	237	608	0	0	401	142
Peak Hour Factor	0.9010	0.9010	0.9010	1.0000	1.0000	1.0000	0.9580	0.9580	1.0000	1.0000	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	113	0	30	0	0	0	62	159	0	0	107	38
Total Analysis Volume [veh/h]	454	1	120	0	0	0	247	635	0	0	430	152
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	10	0	0	0	0	49	102	0	0	49	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	0	0	0	0	51	90	0	0	39	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	48	48		19	64	41
g / C, Green / Cycle	0.40	0.40		0.16	0.53	0.34
(v / s)_i Volume / Saturation Flow Rate	0.26	0.08		0.14	0.34	0.33
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1788
c, Capacity [veh/h]	710	633		282	1000	614
d1, Uniform Delay [s]	29.17	23.49		49.34	19.65	38.38
k, delay calibration	0.50	0.50		0.11	0.11	0.32
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.41	0.66		8.43	0.67	18.88
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.19		0.88	0.63	0.95
d, Delay for Lane Group [s/veh]	33.58	24.15		57.78	20.32	57.25
Lane Group LOS	C	C		E	C	E
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	11.07	2.28		7.76	11.91	19.03
50th-Percentile Queue Length [ft/ln]	276.71	57.07		193.91	297.73	475.85
95th-Percentile Queue Length [veh/ln]	16.52	4.11		12.32	17.57	26.19
95th-Percentile Queue Length [ft/ln]	413.11	102.73		308.10	439.23	654.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.58	33.58	24.15	0.00	0.00	0.00	57.78	20.32	0.00	0.00	57.25	57.25
Movement LOS	C	C	C				E	C			E	E
d_A, Approach Delay [s/veh]	31.61			0.00			30.81			57.25		
Approach LOS	C			A			C			E		
d_I, Intersection Delay [s/veh]	38.58											
Intersection LOS	D											
Intersection V/C	0.720											

Emissions

Vehicle Miles Traveled [mph]	34.08	8.99		34.43	88.52	40.68
Stops [stops/h]	332.05	68.49		232.69	357.28	571.02
Fuel consumption [US gal/h]	7.59	1.58		6.42	9.31	15.27
CO [g/h]	530.68	110.76		448.97	650.55	1067.69
NOx [g/h]	103.25	21.55		87.35	126.57	207.73
VOC [g/h]	122.99	25.67		104.05	150.77	247.45

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.292		0.000		0.000		0.000
Crosswalk LOS	B		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	433		0		1433		583
d_b, Bicycle Delay [s]	36.82		60.00		4.82		30.10
I_b,int, Bicycle LOS Score for Intersection	2.659		4.132		3.015		2.574
Bicycle LOS	B		D		C		B

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro NO SIGNAL
AM cumulative.vistro

Scenario 3 Existing Conditions Plus Project AM

Report File: C:\...\ExPP AM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.083	12.4	B
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition	WB Right	0.005	8.4	A
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition	WB Right	0.003	8.4	A
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	EB Right	0.643	48.6	D
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	EB Right	0.003	9.7	A
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	EB Left	0.018	13.0	B
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	EB Right	0.003	9.5	A
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	WB Left	0.327	63.8	E
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	WB Left	0.750	30.9	C
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Left	0.738	38.9	D

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.4
 Level Of Service: B
 Volume to Capacity (v/c): 0.083

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	1	790	1	3	447
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	10	0	0	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	11	790	1	10	447
Peak Hour Factor	0.2500	0.2500	0.8190	0.8190	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	11	241	0	3	130
Total Analysis Volume [veh/h]	0	44	965	1	12	520
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.08	0.01	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	27.82	12.41	0.00	0.00	10.17	0.00
Movement LOS	D	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.27	0.27	0.00	0.00	0.05	0.00
95th-Percentile Queue Length [ft/ln]	6.77	6.77	0.00	0.00	1.29	0.00
d_A, Approach Delay [s/veh]	12.41		0.00		0.23	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.43					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	3	5	2	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	3	5	2	0	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	0	1
Total Analysis Volume [veh/h]	4	3	5	2	0	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.24	0.00	8.63	8.36
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.21	0.21	0.35	0.35
d_A, Approach Delay [s/veh]	0.00		5.17		8.36	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.10					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	1	2	0	0	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	2	0	0	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	0	0	1
Total Analysis Volume [veh/h]	5	1	2	0	0	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.58	8.35
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.09	0.09	0.21	0.21
d_A, Approach Delay [s/veh]	0.00		7.23		8.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.59					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	48.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.643

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			↵↶			↵↷			↵↷		
Lane Configuration	+			↵↶			↵↷			↵↷		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	91	98	140	88	58	9	6	773	89	86	435	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	7	0	3	1	0	9	0	46	6	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	2	0	0	19	0	0	14
Total Hourly Volume [veh/h]	91	99	121	88	61	8	6	782	70	132	441	51
Peak Hour Factor	0.8130	0.8130	0.8130	0.8650	0.8650	0.8650	0.8210	0.8210	0.8210	0.8980	0.8980	0.8980
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	30	37	25	18	2	2	238	21	37	123	14
Total Analysis Volume [veh/h]	112	122	149	102	71	9	7	952	85	147	491	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	33	0	0	15	0	6	38	0	18	50	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	19	0	10	42	0	22	54	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	15	15	15	6	38	38	18	50	50
g / C, Green / Cycle	0.28	0.13	0.13	0.13	0.05	0.32	0.32	0.15	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.22	0.06	0.04	0.01	0.00	0.28	0.28	0.08	0.15	0.15
s, saturation flow rate [veh/h]	1726	1781	1870	1589	1781	1870	1817	1781	1870	1803
c, Capacity [veh/h]	475	223	234	199	89	592	575	267	779	751
d1, Uniform Delay [s]	40.53	48.73	47.75	46.20	54.36	38.98	38.98	47.25	23.99	24.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.68	6.66	3.32	0.43	1.72	17.83	18.26	7.93	1.28	1.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.46	0.30	0.05	0.08	0.89	0.89	0.55	0.36	0.36
d, Delay for Lane Group [s/veh]	54.21	55.38	51.07	46.63	56.08	56.81	57.24	55.18	25.27	25.34
Lane Group LOS	D	E	D	D	E	E	E	E	C	C
Critical Lane Group	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	12.17	3.21	2.12	0.26	0.24	16.99	16.58	4.56	5.48	5.31
50th-Percentile Queue Length [ft/ln]	304.20	80.16	53.05	6.44	6.00	424.81	414.48	113.93	136.90	132.69
95th-Percentile Queue Length [veh/ln]	17.89	5.77	3.82	0.46	0.43	23.75	23.26	8.06	9.31	9.09
95th-Percentile Queue Length [ft/ln]	447.22	144.28	95.49	11.59	10.80	593.82	581.42	201.46	232.84	227.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.21	54.21	54.21	55.38	51.07	46.63	56.08	57.00	57.24	55.18	25.30	25.34
Movement LOS	D	D	D	E	D	D	E	E	E	E	C	C
d_A, Approach Delay [s/veh]	54.21			53.27			57.02			31.62		
Approach LOS	D			D			E			C		
d_I, Intersection Delay [s/veh]	48.59											
Intersection LOS	D											
Intersection V/C	0.643											

Emissions

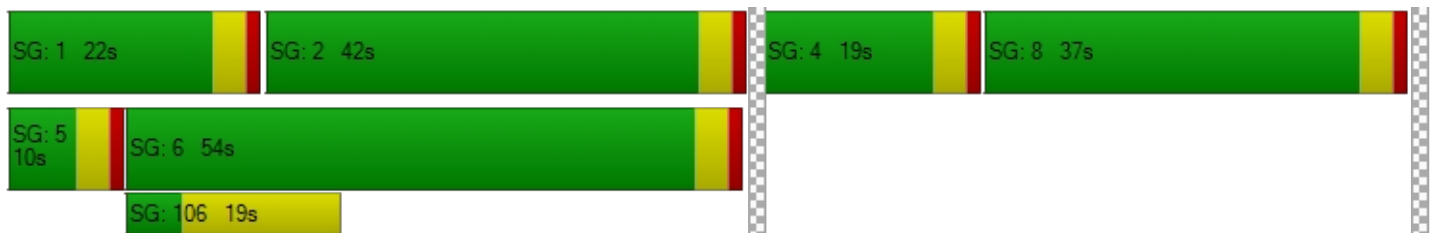
Vehicle Miles Traveled [mph]	86.80	8.77	6.10	0.77	1.76	132.60	128.84	36.54	69.26	66.96
Stops [stops/h]	365.04	96.19	63.66	7.72	7.20	509.78	497.38	136.72	164.28	159.22
Fuel consumption [US gal/h]	10.28	2.41	1.58	0.19	0.23	16.96	16.55	4.60	5.85	5.66
CO [g/h]	718.49	168.36	110.58	13.21	16.07	1185.76	1157.04	321.75	408.88	395.91
NOx [g/h]	139.79	32.76	21.51	2.57	3.13	230.71	225.12	62.60	79.55	77.03
VOC [g/h]	166.52	39.02	25.63	3.06	3.72	274.81	268.16	74.57	94.76	91.76

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.274	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	250	633	833
d_b, Bicycle Delay [s]	31.54	45.94	28.02	20.42
I_b,int, Bicycle LOS Score for Intersection	2.234	1.863	2.437	2.145
Bicycle LOS	B	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	38	12	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	343	262	12	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	86	66	3	0	1
Total Analysis Volume [veh/h]	0	343	262	12	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.79	0.00	0.00	0.00	12.89	9.68
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.20	0.20
d_A, Approach Delay [s/veh]	0.00		0.00		9.68	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	8	0	26	14	8	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	335	250	14	8	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	84	63	4	2	0
Total Analysis Volume [veh/h]	8	335	250	14	8	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	7.78	0.00	0.00	0.00	13.05	9.75
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.33	0.33	0.00	0.00	1.44	1.44
d_A, Approach Delay [s/veh]	0.18		0.00		12.68	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.29					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	345	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	8	7	20	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	353	231	20	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	88	58	5	0	1
Total Analysis Volume [veh/h]	0	353	231	20	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.74	0.00	0.00	0.00	12.71	9.52
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.19	0.19
d_A, Approach Delay [s/veh]	0.00		0.00		9.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	63.8
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.327

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			+ + +			+ + +			+ + +		
Lane Configuration	+			+ + +			+ + +			+ + +		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	36	15	152	252	0	67	78	873	16	103	526	284
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	16	0	0	52	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	13	0	0	6	0	0	2	0	0	78
Total Hourly Volume [veh/h]	36	15	139	252	0	61	78	889	14	103	578	206
Peak Hour Factor	0.8940	0.8940	0.8940	0.8410	1.0000	0.8410	0.8400	0.8400	0.8400	0.8470	0.8470	0.8470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	4	39	75	0	18	23	265	4	30	171	61
Total Analysis Volume [veh/h]	40	17	155	300	0	73	93	1058	17	122	682	243
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	0	0	4	0	5	2	0	1	6	6	0
Auxiliary Signal Groups												
Maximum Green [s]	20	0	0	25	0	25	40	0	15	40	40	0
Amber [s]	5.0	0.0	0.0	4.0	0.0	3.0	5.2	0.0	3.0	5.2	5.2	0.0
All red [s]	1.0	0.0	0.0	1.0	0.0	1.0	0.8	0.0	1.0	0.8	0.8	0.0
Walk [s]	5	0	0	7	0	0	7	0	0	7	7	0
Pedestrian Clearance [s]	10	0	0	38	0	0	23	0	0	32	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk											No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	4.0	0.0	0.0	3.0	0.0	2.0	4.0	0.0	2.0	4.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	14	0	0	50	0	11	36	0	20	45	45	0
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	6	0	0	6	0	6	6	0	6	6	6	0
Vehicle Extension [s]	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0	3.5	3.5	3.5	0.0
Minimum Recall							No			No	No	
Maximum Recall							No			No	No	
Pedestrian Recall							No			No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	L	L	R	L	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	4.00	6.00	4.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	2.00	0.00	2.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	4	13	6	79	3	76	76	76
g / C, Green / Cycle	0.04	0.11	0.05	0.66	0.02	0.63	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.02	0.09	0.03	0.18	0.01	0.07	0.19	0.15
s, saturation flow rate [veh/h]	1781	3459	2813	530	1589	1781	3560	1589
c, Capacity [veh/h]	67	383	130	387	35	60	2245	1002
d1, Uniform Delay [s]	56.90	51.96	56.05	11.34	58.02	8.47	10.13	9.67
k, delay calibration	0.13	0.13	0.13	0.50	0.13	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.07	4.23	4.51	1.46	11.97	518.32	0.35	0.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.78	0.56	0.24	0.48	2.03	0.30	0.24
d, Delay for Lane Group [s/veh]	66.97	56.19	60.56	12.80	70.00	526.80	10.48	10.24
Lane Group LOS	E	E	E	B	E	F	B	B
Critical Lane Group	Yes	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.36	4.55	1.15	0.93	0.62	9.18	3.79	2.66
50th-Percentile Queue Length [ft/ln]	34.08	113.67	28.71	23.37	15.39	229.43	94.75	66.58
95th-Percentile Queue Length [veh/ln]	2.45	8.04	2.07	1.68	1.11	16.52	6.82	4.79
95th-Percentile Queue Length [ft/ln]	61.34	201.09	51.67	42.06	27.71	412.98	170.54	119.84

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	66.97	0.00	0.00	56.19	0.00	60.56	12.80	0.00	70.00	526.80	10.48	10.24
Movement LOS	E			E		E	B		E	F	B	B
d_A, Approach Delay [s/veh]	66.97			57.04			21.64			70.59		
Approach LOS	E			E			C			E		
d_I, Intersection Delay [s/veh]	63.85											
Intersection LOS	E											
Intersection V/C	0.327											

Emissions

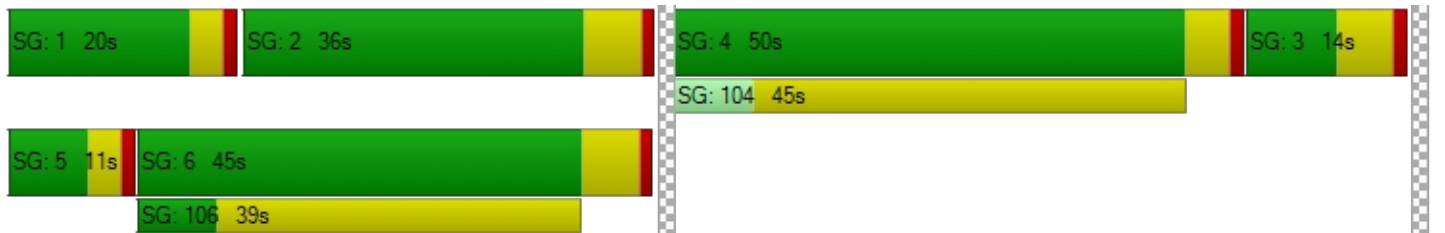
Vehicle Miles Traveled [mph]	4.06	34.13	8.31	24.16	4.42	18.08	101.06	36.01
Stops [stops/h]	40.89	272.75	68.88	28.04	18.47	275.27	227.35	79.88
Fuel consumption [US gal/h]	1.09	7.33	1.87	1.42	0.62	17.12	7.75	2.73
CO [g/h]	76.35	512.51	130.97	99.20	43.56	1196.55	541.41	191.10
NOx [g/h]	14.85	99.72	25.48	19.30	8.48	232.80	105.34	37.18
VOC [g/h]	17.69	118.78	30.35	22.99	10.10	277.31	125.48	44.29

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.51	49.51	60.01	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.846	2.733	2.700	0.000
Crosswalk LOS	A	B	B	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	750	0	650
d_b, Bicycle Delay [s]	52.28	23.45	60.01	27.35
I_b,int, Bicycle LOS Score for Intersection	1.560	1.560	1.560	2.488
Bicycle LOS	A	A	A	B

Sequence

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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	30.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.750

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↑↓			↑↓			↑↑↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	122	0	350	477	799	477	133	647	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	24	0	8	8	0	28	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	178	0	0	71	0	0	0
Total Hourly Volume [veh/h]	0	0	0	122	0	196	477	807	414	133	675	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.8120	0.8120	0.8850	0.8850	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	33	0	53	119	248	127	38	191	0
Total Analysis Volume [veh/h]	0	0	0	133	0	213	477	994	510	150	763	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	25	0	0	40	0	15	40	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	50	0	0	36	0	20	45	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		19	19	68	68	12	80
g / C, Green / Cycle		0.16	0.16	0.57	0.57	0.10	0.67
(v / s)_i Volume / Saturation Flow Rate		0.07	0.13	0.53	0.32	0.08	0.21
s, saturation flow rate [veh/h]		1781	1589	1870	1589	1781	3560
c, Capacity [veh/h]		280	250	1061	902	178	2373
d1, Uniform Delay [s]		46.09	49.25	23.99	16.55	53.08	8.49
k, delay calibration		0.13	0.13	0.50	0.50	0.18	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.51	9.55	16.10	2.57	15.50	0.36
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.48	0.85	0.94	0.57	0.84	0.32
d, Delay for Lane Group [s/veh]		47.60	58.80	40.10	19.12	68.58	8.85
Lane Group LOS		D	E	D	B	E	A
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		3.68	6.75	27.76	8.79	5.10	3.77
50th-Percentile Queue Length [ft/ln]		91.94	168.87	693.97	219.68	127.46	94.31
95th-Percentile Queue Length [veh/ln]		6.62	11.02	36.40	13.65	8.80	6.79
95th-Percentile Queue Length [ft/ln]		165.49	275.43	909.99	341.22	220.03	169.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	47.60	47.60	58.80	0.00	40.10	19.12	68.58	8.85	0.00
Movement LOS				D	D	E		D	B	E	A	
d_A, Approach Delay [s/veh]	0.00			54.50			32.98			18.67		
Approach LOS	A			D			C			B		
d_I, Intersection Delay [s/veh]	30.95											
Intersection LOS	C											
Intersection V/C	0.750											

Emissions

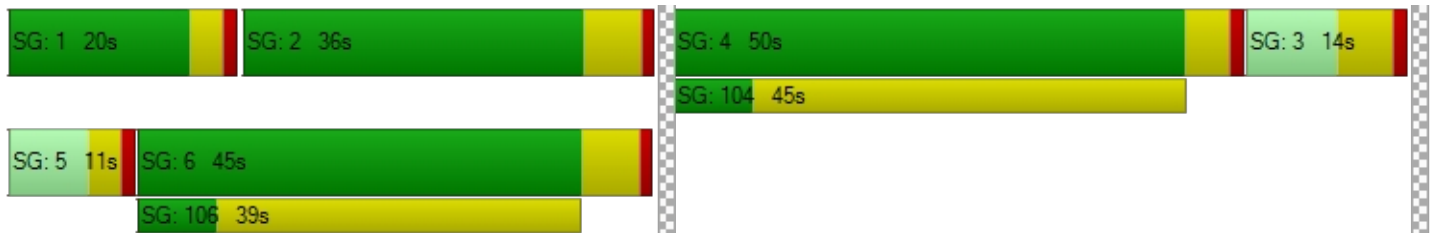
Vehicle Miles Traveled [mph]		8.58	13.74	147.30	75.58	20.91	106.37
Stops [stops/h]		110.31	202.61	832.62	263.57	152.92	226.29
Fuel consumption [US gal/h]		2.68	5.03	23.51	7.85	4.71	7.83
CO [g/h]		187.27	351.66	1643.45	548.82	329.31	547.62
NOx [g/h]		36.44	68.42	319.76	106.78	64.07	106.55
VOC [g/h]		43.40	81.50	380.89	127.19	76.32	126.92

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.51	0.00	49.51
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.322	0.000	2.891
Crosswalk LOS	F	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	750	500	650
d_b, Bicycle Delay [s]	60.01	23.45	33.76	27.35
I_b,int, Bicycle LOS Score for Intersection	4.132	2.424	4.158	2.313
Bicycle LOS	D	B	D	B

Sequence




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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	38.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.738

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	291	0	140	0	0	0	231	632	0	0	489	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	0	0	0	7	1	0	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	68	0	0	0	0	0	0	0	0	41
Total Hourly Volume [veh/h]	315	0	72	0	0	0	238	633	0	0	493	134
Peak Hour Factor	0.9120	0.9120	0.9120	1.0000	1.0000	1.0000	0.8850	0.8850	1.0000	1.0000	0.8850	0.8850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	86	0	20	0	0	0	67	179	0	0	139	38
Total Analysis Volume [veh/h]	345	0	79	0	0	0	269	715	0	0	557	151
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	10	0	0	0	0	46	102	0	0	52	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	0	0	0	0	27	78	0	0	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	39	39		20	73	49
g / C, Green / Cycle	0.32	0.32		0.17	0.61	0.41
(v / s)_i Volume / Saturation Flow Rate	0.19	0.05		0.15	0.38	0.39
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1802
c, Capacity [veh/h]	573	511		304	1144	734
d1, Uniform Delay [s]	34.23	29.04		48.61	14.66	34.69
k, delay calibration	0.50	0.50		0.11	0.11	0.40
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.63	0.64		8.46	0.57	22.18
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.15		0.89	0.63	0.96
d, Delay for Lane Group [s/veh]	38.86	29.68		57.07	15.22	56.87
Lane Group LOS	D	C		E	B	E
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	8.97	1.69		8.42	11.33	23.40
50th-Percentile Queue Length [ft/ln]	224.29	42.28		210.60	283.35	584.96
95th-Percentile Queue Length [veh/ln]	13.88	3.04		13.18	16.86	31.33
95th-Percentile Queue Length [ft/ln]	347.10	76.10		329.60	421.38	783.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.86	38.86	29.68	0.00	0.00	0.00	57.07	15.22	0.00	0.00	56.87	56.87
Movement LOS	D	D	C				E	B			E	E
d_A, Approach Delay [s/veh]	37.15			0.00			26.67			56.87		
Approach LOS	D			A			C			E		
d_I, Intersection Delay [s/veh]	38.87											
Intersection LOS	D											
Intersection V/C	0.738											

Emissions

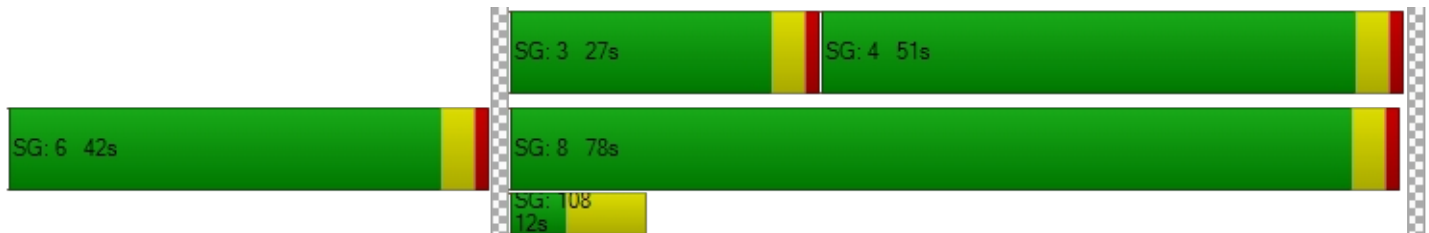
Vehicle Miles Traveled [mph]	25.84	5.92		37.50	99.68	49.49
Stops [stops/h]	269.15	50.73		252.72	340.02	701.95
Fuel consumption [US gal/h]	6.30	1.19		6.95	9.13	18.62
CO [g/h]	440.22	83.01		485.80	637.91	1301.36
NOx [g/h]	85.65	16.15		94.52	124.11	253.20
VOC [g/h]	102.02	19.24		112.59	147.84	301.60

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.147		0.000		0.000		0.000
Crosswalk LOS	B		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	633		0		1233		783
d_b, Bicycle Delay [s]	28.02		60.00		8.82		22.20
I_b,int, Bicycle LOS Score for Intersection	2.371		4.132		3.183		2.795
Bicycle LOS	B		D		C		C

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro NO SIGNAL
PM cumulative.vistro

Scenario 3 Existing Conditions Plus Project PM

Report File: C:\...\ExPP PM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.212	12.1	B
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition	WB Right	0.016	8.4	A
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition	WB Right	0.010	8.4	A
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	WB Left	0.651	47.5	D
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	EB Right	0.010	10.9	B
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	EB Left	0.097	16.7	C
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	EB Right	0.011	10.8	B
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	NB Right	0.518	54.0	D
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	WB Left	0.612	27.3	C
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Left	0.743	38.8	D

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.1
 Level Of Service: B
 Volume to Capacity (v/c): 0.212

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↔		↕↔		↔↕	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	2	599	2	4	642
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	32	0	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	34	599	2	8	642
Peak Hour Factor	0.2500	0.2500	0.8480	0.8480	0.9160	0.9160
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	34	177	1	2	175
Total Analysis Volume [veh/h]	0	136	706	2	9	701
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.21	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	23.48	12.10	0.00	0.00	9.10	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.80	0.80	0.00	0.00	0.03	0.00
95th-Percentile Queue Length [ft/ln]	19.90	19.90	0.00	0.00	0.77	0.00
d_A, Approach Delay [s/veh]	12.10		0.00		0.12	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.11					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 8.4
 Level Of Service: A
 Volume to Capacity (v/c): 0.016

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↪		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	15	2	3	1	0	17
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	15	2	3	1	0	17
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	1	1	0	0	4
Total Analysis Volume [veh/h]	15	2	3	1	0	17
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.02
d_M, Delay for Movement [s/veh]	0.00	0.00	7.25	0.00	8.69	8.44
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.13	0.13	1.22	1.22
d_A, Approach Delay [s/veh]	0.00		5.44		8.44	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.35					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 8.4
 Level Of Service: A
 Volume to Capacity (v/c): 0.010

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	6	1	1	0	0	11
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	1	1	0	0	11
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	0	0	0	0	3
Total Analysis Volume [veh/h]	6	1	1	0	0	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.59	8.38
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.05	0.05	0.77	0.77
d_A, Approach Delay [s/veh]	0.00		7.23		8.38	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.23					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	47.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.651

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			↵↶			↵↷			↵↷		
Lane Configuration	+			↵↶			↵↷			↵↷		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	115	101	138	45	115	18	7	478	113	189	589	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	29	0	2	0	2	31	0	23	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	5	0	0	9	0	0	20
Total Hourly Volume [veh/h]	115	106	153	45	117	13	9	509	104	212	592	67
Peak Hour Factor	0.9040	0.9040	0.9040	0.8620	0.8620	0.8620	0.8430	0.8430	0.8430	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	29	42	13	34	4	3	151	31	61	171	19
Total Analysis Volume [veh/h]	127	117	169	52	136	15	11	604	123	245	685	78
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	16	0	6	30	0	23	47	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	20	0	10	34	0	27	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	16	16	16	6	30	30	23	47	47
g / C, Green / Cycle	0.29	0.13	0.13	0.13	0.05	0.25	0.25	0.19	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.24	0.03	0.07	0.01	0.01	0.20	0.20	0.14	0.21	0.21
s, saturation flow rate [veh/h]	1719	1781	1870	1589	1781	1870	1762	1781	1870	1804
c, Capacity [veh/h]	501	237	249	212	89	467	440	341	732	706
d1, Uniform Delay [s]	39.62	46.42	48.60	45.50	54.49	42.18	42.22	45.46	28.02	28.02
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.21	2.11	8.32	0.65	2.83	13.37	14.28	12.23	2.74	2.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.22	0.55	0.07	0.12	0.80	0.80	0.72	0.53	0.53
d, Delay for Lane Group [s/veh]	53.83	48.53	56.93	46.14	57.32	55.55	56.49	57.69	30.76	30.86
Lane Group LOS	D	D	E	D	E	E	E	E	C	C
Critical Lane Group	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	13.12	1.51	4.32	0.42	0.38	11.75	11.22	7.80	8.75	8.46
50th-Percentile Queue Length [ft/ln]	328.07	37.70	108.10	10.62	9.53	293.68	280.47	195.03	218.74	211.48
95th-Percentile Queue Length [veh/ln]	19.06	2.71	7.73	0.76	0.69	17.37	16.71	12.38	13.60	13.23
95th-Percentile Queue Length [ft/ln]	476.59	67.86	193.36	19.12	17.15	434.20	417.79	309.55	340.01	330.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	53.83	53.83	53.83	48.53	56.93	46.14	57.32	55.91	56.49	57.69	30.81	30.86
Movement LOS	D	D	D	D	E	D	E	E	E	E	C	C
d_A, Approach Delay [s/veh]	53.83			53.98			56.03			37.35		
Approach LOS	D			D			E			D		
d_I, Intersection Delay [s/veh]	47.49											
Intersection LOS	D											
Intersection V/C	0.651											

Emissions

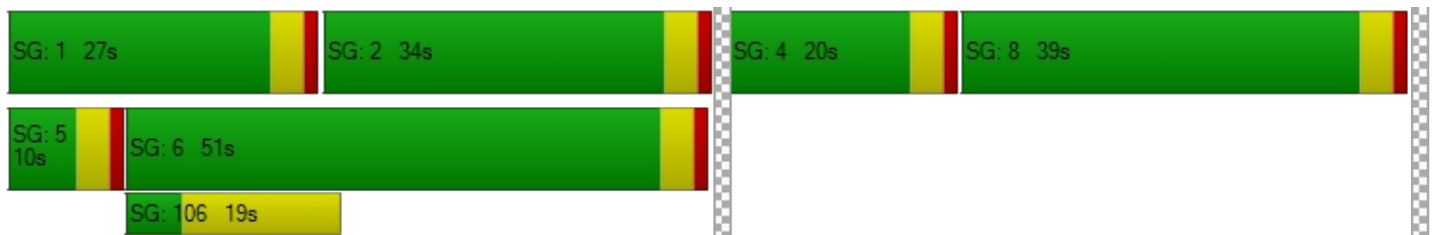
Vehicle Miles Traveled [mph]	93.60	4.47	11.69	1.29	2.77	94.22	89.07	60.90	96.54	93.12
Stops [stops/h]	393.68	45.24	129.72	12.75	11.43	352.41	336.56	234.04	262.48	253.78
Fuel consumption [US gal/h]	11.05	1.12	3.27	0.31	0.37	11.84	11.30	7.87	9.00	8.70
CO [g/h]	772.56	78.16	228.47	21.83	25.55	827.29	789.77	550.36	629.38	608.15
NOx [g/h]	150.31	15.21	44.45	4.25	4.97	160.96	153.66	107.08	122.45	118.32
VOC [g/h]	179.05	18.11	52.95	5.06	5.92	191.73	183.04	127.55	145.87	140.94

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.294	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	267	500	783
d_b, Bicycle Delay [s]	30.10	45.07	33.75	22.20
I_b,int, Bicycle LOS Score for Intersection	2.264	1.903	2.176	2.408
Bicycle LOS	B	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	10.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	33	19	5	0	6
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	410	436	5	0	6
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	103	109	1	0	2
Total Analysis Volume [veh/h]	0	410	436	5	0	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	8.22	0.00	0.00	0.00	15.92	10.88
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.73	0.73
d_A, Approach Delay [s/veh]	0.00		0.00		10.88	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	16.7
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.097

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	0	18	7	33	3
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	377	435	7	33	3
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	94	109	2	8	1
Total Analysis Volume [veh/h]	4	377	435	7	33	3
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.10	0.00
d_M, Delay for Movement [s/veh]	8.22	0.00	0.00	0.00	16.69	11.97
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.34	0.34
95th-Percentile Queue Length [ft/ln]	0.17	0.17	0.00	0.00	8.40	8.40
d_A, Approach Delay [s/veh]	0.09		0.00		16.29	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.72					
Intersection LOS	C					

**Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5**

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	11	10	0	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	381	428	10	0	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	95	107	3	0	2
Total Analysis Volume [veh/h]	0	381	428	10	0	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	8.21	0.00	0.00	0.00	15.43	10.85
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.85	0.85
d_A, Approach Delay [s/veh]	0.00		0.00		10.85	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	54.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			T T T			T T T			T T T		
Lane Configuration	+			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	34	27	78	428	0	121	103	507	31	104	669	374
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	59	0	0	26	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	14	0	0	7	0	0	121
Total Hourly Volume [veh/h]	34	27	64	428	0	107	103	566	24	104	695	253
Peak Hour Factor	0.8270	0.8270	0.8270	0.8630	1.0000	0.8630	0.9080	0.9080	0.9080	0.8770	0.8770	0.8770
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	8	19	124	0	31	28	156	7	30	198	72
Total Analysis Volume [veh/h]	41	33	77	496	0	124	113	623	26	119	792	288
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	25	0	0	25	40	0	15	40	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	0.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	12	12	0	50	0	0	11	46	0	12	45	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	6	21	21	7	64	64	8	65	65
g / C, Green / Cycle	0.05	0.17	0.17	0.06	0.53	0.53	0.07	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.09	0.14	0.04	0.06	0.17	0.02	0.07	0.22	0.18
s, saturation flow rate [veh/h]	1694	3459	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	85	604	492	105	1898	847	119	1926	860
d1, Uniform Delay [s]	56.99	47.72	42.76	56.49	15.87	13.31	56.00	16.27	15.45
k, delay calibration	0.13	0.13	0.13	0.13	0.50	0.50	0.13	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	357.28	3.41	0.32	67.11	0.46	0.07	41.93	0.65	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.77	0.82	0.25	1.08	0.33	0.03	1.00	0.41	0.33
d, Delay for Lane Group [s/veh]	414.27	51.13	43.08	123.59	16.33	13.38	97.93	16.92	16.50
Lane Group LOS	F	D	D	F	B	B	F	B	B
Critical Lane Group	Yes	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	11.03	7.29	1.59	5.06	4.65	0.33	4.90	6.14	4.37
50th-Percentile Queue Length [ft/ln]	275.79	182.16	39.75	126.40	116.25	8.32	122.50	153.58	109.33
95th-Percentile Queue Length [veh/ln]	18.66	11.71	2.86	8.94	8.19	0.60	8.53	10.21	7.80
95th-Percentile Queue Length [ft/ln]	466.42	292.83	71.55	223.39	204.66	14.98	213.26	255.20	195.08

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	414.27	414.27	414.27	51.13	0.00	43.08	123.59	16.33	13.38	97.93	16.92	16.50
Movement LOS	F	F	F	D		D	F	B	B	F	B	B
d_A, Approach Delay [s/veh]	414.27			49.52			32.14			24.86		
Approach LOS	F			D			C			C		
d_I, Intersection Delay [s/veh]	54.01											
Intersection LOS	D											
Intersection V/C	0.518											

Emissions

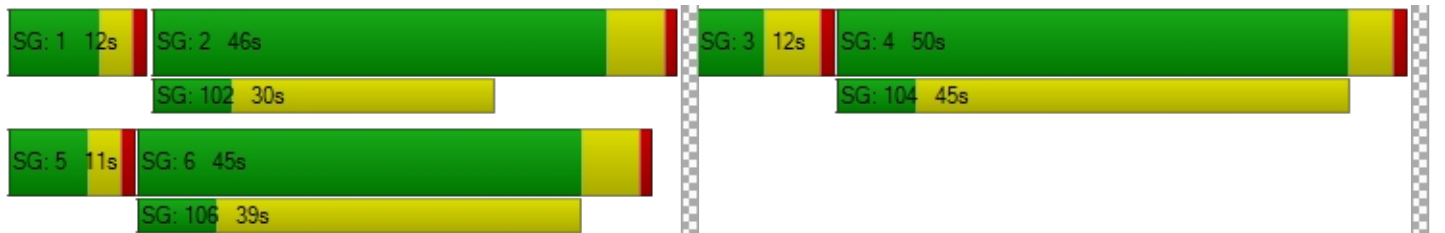
Vehicle Miles Traveled [mph]	15.33	56.43	14.11	29.36	161.87	6.76	17.63	117.36	42.68
Stops [stops/h]	330.89	437.09	95.39	151.66	278.94	9.98	146.97	368.53	131.18
Fuel consumption [US gal/h]	16.53	11.48	2.53	5.73	11.09	0.43	4.80	11.33	4.06
CO [g/h]	1155.21	802.14	176.81	400.78	774.99	29.81	335.74	792.08	283.84
NOx [g/h]	224.76	156.07	34.40	77.98	150.78	5.80	65.32	154.11	55.23
VOC [g/h]	267.73	185.90	40.98	92.89	179.61	6.91	77.81	183.57	65.78

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.51	49.51	49.51	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.955	2.744	2.901	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	100	750	667	650
d_b, Bicycle Delay [s]	54.16	23.45	26.68	27.35
I_b,int, Bicycle LOS Score for Intersection	1.832	1.560	2.194	2.649
Bicycle LOS	A	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	27.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.612

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	212	5	415	477	637	373	98	740	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	12	0	31	28	0	14	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	189	0	0	136	0	0	0
Total Hourly Volume [veh/h]	0	0	0	212	5	238	477	668	265	98	754	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8190	0.8190	0.8190	1.0000	0.9670	0.9670	0.9240	0.9240	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	65	2	73	119	173	69	27	204	0
Total Analysis Volume [veh/h]	0	0	0	259	6	291	477	691	274	106	816	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	25	0	0	40	0	15	40	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	50	0	0	46	0	12	45	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		25	25	66	66	8	74
g / C, Green / Cycle		0.21	0.21	0.55	0.55	0.07	0.61
(v / s)_i Volume / Saturation Flow Rate		0.15	0.18	0.37	0.17	0.06	0.23
s, saturation flow rate [veh/h]		1783	1589	1870	1589	1781	3560
c, Capacity [veh/h]		375	334	1024	870	119	2184
d1, Uniform Delay [s]		43.98	45.83	19.50	14.86	55.57	11.64
k, delay calibration		0.13	0.13	0.50	0.50	0.13	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		2.96	8.31	3.57	0.95	22.07	0.49
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.71	0.87	0.68	0.31	0.89	0.37
d, Delay for Lane Group [s/veh]		46.94	54.14	23.07	15.81	77.64	12.13
Lane Group LOS		D	D	C	B	E	B
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		7.47	8.96	13.63	4.04	3.84	5.07
50th-Percentile Queue Length [ft/ln]		186.66	224.07	340.72	100.99	95.88	126.75
95th-Percentile Queue Length [veh/ln]		11.95	13.87	19.68	7.27	6.90	8.76
95th-Percentile Queue Length [ft/ln]		298.69	346.81	492.08	181.79	172.58	219.07

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	46.94	46.94	54.14	0.00	23.07	15.81	77.64	12.13	0.00
Movement LOS				D	D	D		C	B	E	B	
d_A, Approach Delay [s/veh]	0.00			50.71			21.01			19.66		
Approach LOS	A			D			C			B		
d_I, Intersection Delay [s/veh]	27.26											
Intersection LOS	C											
Intersection V/C	0.612											

Emissions

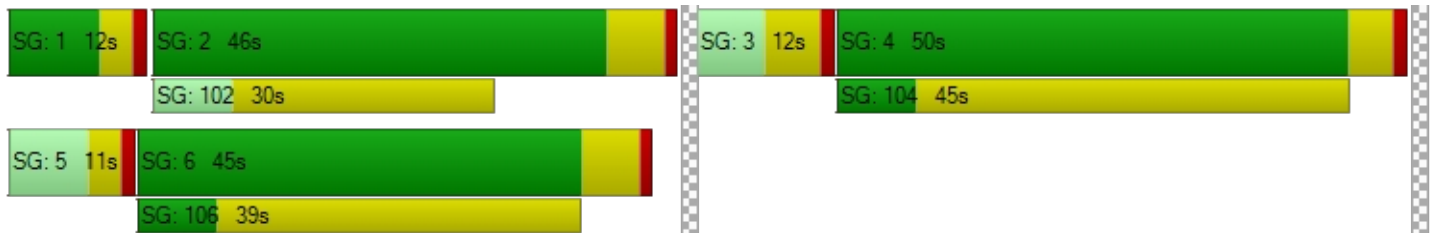
Vehicle Miles Traveled [mph]		17.09	18.77	102.40	40.60	14.78	113.76
Stops [stops/h]		223.95	268.83	408.79	121.17	115.03	304.14
Fuel consumption [US gal/h]		5.34	6.52	11.84	3.78	3.61	9.69
CO [g/h]		373.49	455.67	827.39	264.20	252.43	677.67
NOx [g/h]		72.67	88.66	160.98	51.40	49.11	131.85
VOC [g/h]		86.56	105.61	191.76	61.23	58.50	157.06

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.51	0.00	49.51
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.482	0.000	2.829
Crosswalk LOS	F	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	750	667	650
d_b, Bicycle Delay [s]	60.01	23.45	26.68	27.35
I_b,int, Bicycle LOS Score for Intersection	4.132	2.789	3.376	2.320
Bicycle LOS	D	C	C	B

Sequence




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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	38.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.743

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	409	1	199	0	0	0	237	608	0	0	401	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	0	0	0	25	6	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	91	0	0	0	0	0	0	0	0	33
Total Hourly Volume [veh/h]	421	1	108	0	0	0	262	614	0	0	403	142
Peak Hour Factor	0.9010	0.9010	0.9010	1.0000	1.0000	1.0000	0.9580	0.9580	1.0000	1.0000	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	117	0	30	0	0	0	68	160	0	0	108	38
Total Analysis Volume [veh/h]	467	1	120	0	0	0	273	641	0	0	432	152
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	10	0	0	0	0	48	102	0	0	50	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	0	0	0	0	27	70	0	0	43	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	46	46		21	66	41
g / C, Green / Cycle	0.38	0.38		0.17	0.55	0.34
(v / s)_i Volume / Saturation Flow Rate	0.26	0.08		0.15	0.34	0.33
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1788
c, Capacity [veh/h]	681	608		308	1030	616
d1, Uniform Delay [s]	31.05	24.76		48.46	18.41	38.28
k, delay calibration	0.50	0.50		0.11	0.11	0.31
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	5.58	0.73		8.42	0.62	18.32
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.20		0.89	0.62	0.95
d, Delay for Lane Group [s/veh]	36.63	25.48		56.88	19.03	56.60
Lane Group LOS	D	C		E	B	E
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	11.99	2.36		8.54	11.55	18.99
50th-Percentile Queue Length [ft/ln]	299.74	58.96		213.51	288.67	474.83
95th-Percentile Queue Length [veh/ln]	17.67	4.24		13.33	17.12	26.14
95th-Percentile Queue Length [ft/ln]	441.70	106.12		333.33	427.99	653.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.63	36.63	25.48	0.00	0.00	0.00	56.88	19.03	0.00	0.00	56.60	56.60
Movement LOS	D	D	C				E	B			E	E
d_A, Approach Delay [s/veh]	34.35			0.00			30.33			56.60		
Approach LOS	C			A			C			E		
d_I, Intersection Delay [s/veh]	38.82											
Intersection LOS	D											
Intersection V/C	0.743											

Emissions

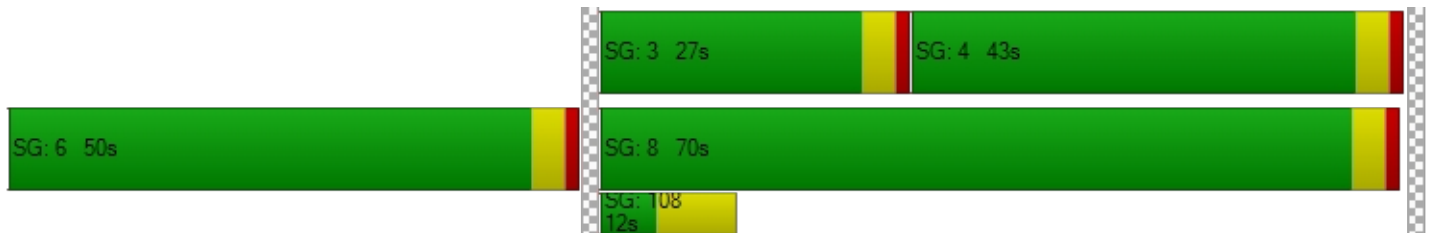
Vehicle Miles Traveled [mph]	35.06	8.99		38.06	89.36	40.82
Stops [stops/h]	359.69	70.75		256.21	346.40	569.79
Fuel consumption [US gal/h]	8.28	1.64		7.04	9.09	15.21
CO [g/h]	578.59	114.59		492.08	635.11	1063.17
NOx [g/h]	112.57	22.29		95.74	123.57	206.85
VOC [g/h]	134.09	26.56		114.04	147.19	246.40

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.301		0.000		0.000		0.000
Crosswalk LOS	B		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	767		0		1100		650
d_b, Bicycle Delay [s]	22.82		60.00		12.15		27.34
I_b,int, Bicycle LOS Score for Intersection	2.680		4.132		3.068		2.578
Bicycle LOS	B		D		C		B

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro With
SIGNAL AM cumulative.vistro

Scenario 5 Opening Year Cumulative AM

Report File: C:\...\Cu AM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.013	16.8	C
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition		0.000	0.0	
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition		0.000	0.0	
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	SB Left	1.234	221.9	F
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	NB Thru	0.004	0.0	A
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	NB Thru	0.004	0.0	A
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	NB Thru	0.004	0.0	A
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	1.381	336.2	F
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	2.153	920.9	F
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Left	2.497	634.1	F

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 16.8
 Level Of Service: C
 Volume to Capacity (v/c): 0.013

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	1	868	1	3	531
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	451	0	0	294
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	1371	1	3	857
Peak Hour Factor	0.2500	0.2500	0.8190	0.8190	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	418	0	1	249
Total Analysis Volume [veh/h]	0	4	1674	1	3	997
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.02	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	97.33	16.78	0.00	0.00	14.58	0.00
Movement LOS	F	C	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.02	0.00
95th-Percentile Queue Length [ft/ln]	0.98	0.98	0.00	0.00	0.60	0.00
d_A, Approach Delay [s/veh]	16.78		0.00		0.04	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.04					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	221.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.234

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			← →			← →			← →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	91	98	140	88	58	9	6	773	89	86	435	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	44	584	0	0	0	451	0	16	294	698
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	2	0	0	19	0	0	14
Total Hourly Volume [veh/h]	96	104	166	677	61	8	6	1270	75	107	755	753
Peak Hour Factor	0.8130	0.8130	0.8130	0.8650	0.8650	0.8650	0.8210	0.8210	0.8210	0.8980	0.8980	0.8980
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	32	51	196	18	2	2	387	23	30	210	210
Total Analysis Volume [veh/h]	118	128	204	783	71	9	7	1547	91	119	841	839
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	22	0	0	35	0	5	41	0	6	42	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	26	0	0	39	0	9	45	0	10	46	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	35	35	35	5	41	41	6	42	42
g / C, Green / Cycle	0.18	0.29	0.29	0.29	0.04	0.34	0.34	0.05	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.26	0.44	0.04	0.01	0.00	0.44	0.44	0.07	0.45	0.53
s, saturation flow rate [veh/h]	1711	1781	1870	1589	1781	1870	1834	1781	1870	1589
c, Capacity [veh/h]	314	519	545	464	74	639	627	89	654	556
d1, Uniform Delay [s]	49.00	42.50	31.29	30.28	55.32	39.50	39.50	57.00	39.00	39.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	213.06	238.20	0.49	0.08	2.51	141.36	146.66	209.42	139.62	237.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.43	1.51	0.13	0.02	0.09	1.29	1.30	1.34	1.28	1.51
d, Delay for Lane Group [s/veh]	262.06	280.70	31.79	30.35	57.83	180.86	186.16	266.42	178.62	276.89
Lane Group LOS	F	F	C	C	E	F	F	F	F	F
Critical Lane Group	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	27.82	49.24	1.57	0.19	0.25	42.92	43.02	7.81	43.61	52.25
50th-Percentile Queue Length [ft/ln]	695.54	1230.90	39.27	4.83	6.28	1073.10	1075.44	195.35	1090.27	1306.36
95th-Percentile Queue Length [veh/ln]	42.71	74.87	2.83	0.35	0.45	62.59	62.98	13.36	63.49	80.04
95th-Percentile Queue Length [ft/ln]	1067.75	1871.65	70.69	8.70	11.30	1564.70	1574.60	334.01	1587.34	2001.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	262.06	262.06	262.06	280.70	31.79	30.35	57.83	183.34	186.16	266.42	178.62	276.89
Movement LOS	F	F	F	F	C	C	E	F	F	F	F	F
d_A, Approach Delay [s/veh]	262.06			257.61			182.96			230.26		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	221.87											
Intersection LOS	F											
Intersection V/C	1.234											

Emissions

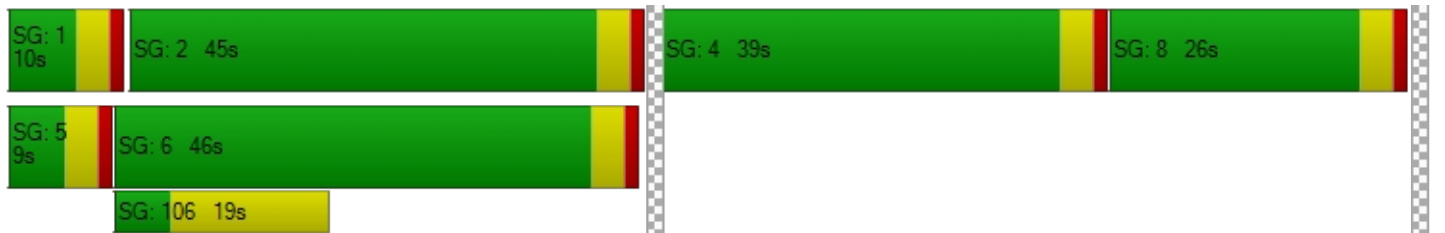
Vehicle Miles Traveled [mph]	101.99	67.32	6.10	0.77	1.76	207.54	205.42	29.58	209.06	208.56
Stops [stops/h]	834.64	1477.08	47.13	5.80	7.54	1287.72	1290.52	234.42	1308.32	1567.63
Fuel consumption [US gal/h]	34.16	61.64	1.14	0.14	0.24	53.42	53.95	10.38	54.00	73.90
CO [g/h]	2387.64	4308.53	79.75	9.81	16.54	3733.79	3771.00	725.49	3774.42	5165.94
NOx [g/h]	464.55	838.28	15.52	1.91	3.22	726.46	733.70	141.15	734.36	1005.11
VOC [g/h]	553.36	998.54	18.48	2.27	3.83	865.34	873.97	168.14	874.76	1197.26

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.751	0.000	0.000
Crosswalk LOS	F	C	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	583	683	700
d_b, Bicycle Delay [s]	40.02	30.10	26.00	25.35
I_b,int, Bicycle LOS Score for Intersection	2.345	2.987	2.932	3.055
Bicycle LOS	B	C	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	399	253	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	100	63	0	0	0
Total Analysis Volume [veh/h]	0	399	253	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.74	0.00	0.00	0.00	13.32	9.58
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.45	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	399	253	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	100	63	0	0	0
Total Analysis Volume [veh/h]	0	399	253	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.74	0.00	0.00	0.00	13.32	9.58
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.45	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5**

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	345	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	410	253	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	103	63	0	0	0
Total Analysis Volume [veh/h]	0	410	253	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.74	0.00	0.00	0.00	13.45	9.58
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		11.51	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	336.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.381

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			T T T T			T T T			T T T		
Lane Configuration	+			T T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	66	15	152	252	0	83	78	873	24	103	578	311
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	178	174	0	0	0	1079	0	308	1008	242
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	13	0	0	6	0	0	2	0	0	78
Total Hourly Volume [veh/h]	70	16	326	441	0	82	83	2004	23	417	1621	494
Peak Hour Factor	0.8940	0.8940	0.8940	0.8410	1.0000	0.8410	0.8400	0.8400	0.8400	0.8470	0.8470	0.8470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	4	91	131	0	24	25	596	7	123	478	146
Total Analysis Volume [veh/h]	78	18	365	524	0	98	99	2386	27	492	1914	583
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	34	0	0	25	51	0	15	78	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	0.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	28	14	0	37	0	0	11	55	0	28	83	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	19	22	22	7	35	35	24	51	51
g / C, Green / Cycle	0.16	0.18	0.18	0.06	0.29	0.29	0.20	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.28	0.15	0.03	0.06	0.67	0.02	0.28	0.54	0.37
s, saturation flow rate [veh/h]	1629	3459	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	257	626	509	105	1024	457	354	1524	680
d1, Uniform Delay [s]	50.63	47.53	41.79	56.39	42.82	31.03	48.15	34.39	31.07
k, delay calibration	0.50	0.13	0.13	0.13	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	372.79	3.68	0.22	33.05	601.36	0.25	191.15	120.86	13.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.79	0.84	0.19	0.95	2.33	0.06	1.39	1.26	0.86
d, Delay for Lane Group [s/veh]	423.42	51.22	42.01	89.44	644.19	31.28	239.30	155.25	44.25
Lane Group LOS	F	D	D	F	F	C	F	F	D
Critical Lane Group	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	34.15	7.73	1.23	3.88	100.08	0.59	29.07	46.23	16.77
50th-Percentile Queue Length [ft/ln]	853.72	193.36	30.86	97.01	2501.97	14.66	726.63	1155.67	419.27
95th-Percentile Queue Length [veh/ln]	53.72	12.30	2.22	6.98	158.15	1.06	44.13	66.85	23.49
95th-Percentile Queue Length [ft/ln]	1343.06	307.38	55.55	174.62	3953.80	26.40	1103.32	1671.13	587.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	423.42	423.42	423.42	51.22	0.00	42.01	89.44	644.19	31.28	239.30	155.25	44.25
Movement LOS	F	F	F	D		D	F	F	C	F	F	D
d_A, Approach Delay [s/veh]	423.42			49.77			615.73			147.43		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	336.20											
Intersection LOS	F											
Intersection V/C	1.381											

Emissions

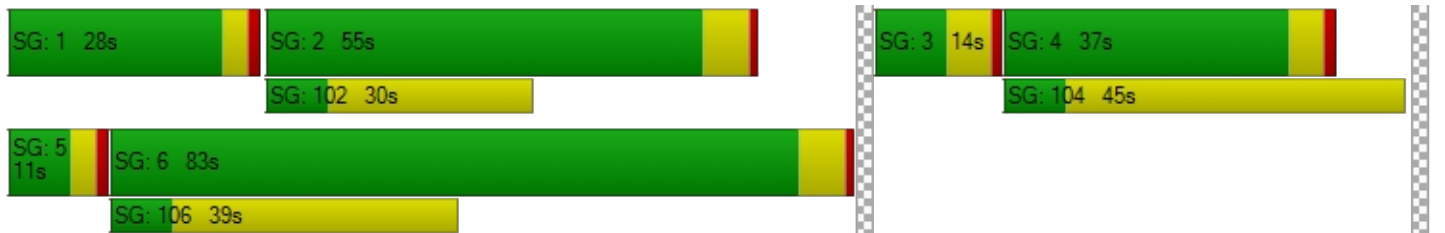
Vehicle Miles Traveled [mph]	46.81	59.62	11.15	25.72	619.95	7.02	72.91	283.63	86.39
Stops [stops/h]	1023.50	463.62	74.00	116.31	5999.06	17.58	871.13	2770.98	502.65
Fuel consumption [US gal/h]	51.44	12.15	1.96	4.13	408.55	0.63	37.28	104.63	14.46
CO [g/h]	3595.99	849.35	137.29	288.65	28557.5	44.10	2606.20	7313.78	1010.79
NOx [g/h]	699.65	165.25	26.71	56.16	5556.25	8.58	507.07	1423.00	196.66
VOC [g/h]	833.41	196.84	31.82	66.90	6618.48	10.22	604.01	1695.04	234.26

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.56	49.56	49.56	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.394	2.780	3.593	0.000
Crosswalk LOS	B	C	D	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	533	816	1282
d_b, Bicycle Delay [s]	52.32	32.32	21.05	7.74
I_b,int, Bicycle LOS Score for Intersection	2.342	1.560	3.634	4.090
Bicycle LOS	B	A	D	D

Sequence




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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	920.9
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.153

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	122	0	350	477	799	477	133	647	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	529	0	779	0	715	716	582	779	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	178	0	0	71	0	0	0
Total Hourly Volume [veh/h]	0	0	0	658	0	972	477	1562	1151	723	1465	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.8120	0.8120	0.8850	0.8850	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	179	0	264	119	481	354	204	414	0
Total Analysis Volume [veh/h]	0	0	0	715	0	1057	477	1924	1417	817	1655	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	34	0	0	51	0	15	78	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	37	0	0	55	0	28	83	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		51	51	24	24	24	48
g / C, Green / Cycle		0.42	0.42	0.20	0.20	0.20	0.40
(v / s)_i Volume / Saturation Flow Rate		0.40	0.66	1.03	0.89	0.46	0.46
s, saturation flow rate [veh/h]		1781	1589	1870	1589	1781	3560
c, Capacity [veh/h]		754	673	377	320	356	1429
d1, Uniform Delay [s]		33.32	34.60	47.92	47.92	48.02	35.93
k, delay calibration		0.42	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		19.81	263.75	1853.09	1547.62	591.56	79.45
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.95	1.57	5.10	4.42	2.29	1.16
d, Delay for Lane Group [s/veh]		53.14	298.34	1901.01	1595.54	639.58	115.37
Lane Group LOS		D	F	F	F	F	F
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		23.09	67.84	204.90	146.98	68.78	35.36
50th-Percentile Queue Length [ft/ln]		577.36	1695.88	5122.52	3674.55	1719.48	883.91
95th-Percentile Queue Length [veh/ln]		30.98	104.84	309.86	225.27	107.65	49.90
95th-Percentile Queue Length [ft/ln]		774.39	2620.94	7746.47	5631.71	2691.25	1247.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	53.14	53.14	298.34	0.00	1901.01	1595.54	639.58	115.37	0.00
Movement LOS				D	D	F		F	F	F	F	
d_A, Approach Delay [s/veh]	0.00			199.40			1771.45			288.62		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	920.93											
Intersection LOS	F											
Intersection V/C	2.153											

Emissions

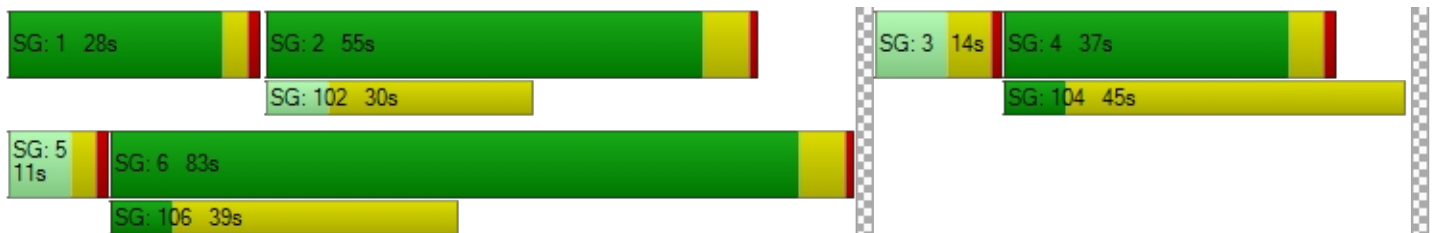
Vehicle Miles Traveled [mph]		46.11	68.16	285.11	209.98	113.90	230.72
Stops [stops/h]		692.75	2034.82	6146.30	4408.94	2063.13	2121.14
Fuel consumption [US gal/h]		16.19	86.59	830.30	521.98	135.87	73.13
CO [g/h]		1131.52	6052.69	58038.19	36486.60	9497.03	5111.95
NOx [g/h]		220.15	1177.63	11292.12	7098.97	1847.78	994.60
VOC [g/h]		262.24	1402.77	13450.91	8456.12	2201.03	1184.74

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.51	0.00	49.51
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.249	0.000	4.014
Crosswalk LOS	F	C	F	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	533	817	1283
d_b, Bicycle Delay [s]	60.01	32.27	21.01	7.71
I_b,int, Bicycle LOS Score for Intersection	4.132	4.777	7.189	3.599
Bicycle LOS	D	E	F	D

Sequence

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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	634.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.497

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	291	0	171	0	0	0	287	632	0	0	489	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0000	1.0000	1.0000	1.0600	1.0600	1.0000	1.0000	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	779	0	529	0	0	0	715	529	0	0	582	582
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	68	0	0	0	0	0	0	0	0	41
Total Hourly Volume [veh/h]	1087	0	642	0	0	0	1019	1199	0	0	1100	727
Peak Hour Factor	0.9120	0.9120	0.9120	1.0000	1.0000	1.0000	0.8850	0.8850	1.0000	1.0000	0.8850	0.8850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	298	0	176	0	0	0	288	339	0	0	311	205
Total Analysis Volume [veh/h]	1192	0	704	0	0	0	1151	1355	0	0	1243	821
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	29	0	0	0	0	28	83	0	0	51	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	33	0	0	0	0	33	87	0	0	54	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29		28	83	51
g / C, Green / Cycle	0.24	0.24		0.23	0.69	0.43
(v / s)_i Volume / Saturation Flow Rate	0.67	0.44		0.65	0.72	1.18
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1747
c, Capacity [veh/h]	430	384		416	1293	743
d1, Uniform Delay [s]	45.50	45.50		46.00	18.50	34.50
k, delay calibration	0.50	0.50		0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	802.80	384.78		803.14	38.48	804.49
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	2.77	1.83		2.77	1.05	2.78
d, Delay for Lane Group [s/veh]	848.30	430.28		849.14	56.98	838.99
Lane Group LOS	F	F		F	F	F
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	108.43	52.17		104.75	42.94	186.10
50th-Percentile Queue Length [ft/ln]	2710.73	1304.24		2618.74	1073.44	4652.50
95th-Percentile Queue Length [veh/ln]	170.02	81.90		164.05	56.02	300.58
95th-Percentile Queue Length [ft/ln]	4250.58	2047.57		4101.15	1400.44	7514.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	848.30	848.30	430.28	0.00	0.00	0.00	849.14	56.98	0.00	0.00	838.99	838.99
Movement LOS	F	F	F				F	F			F	F
d_A, Approach Delay [s/veh]	693.08			0.00			420.82			838.99		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	634.14											
Intersection LOS	F											
Intersection V/C	2.497											

Emissions

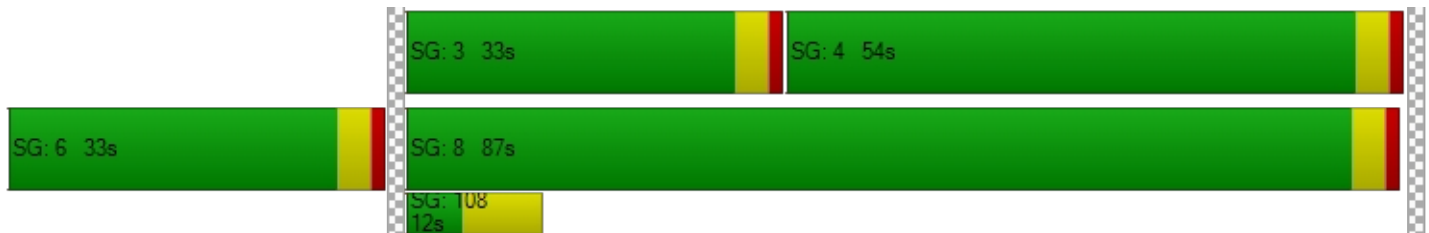
Vehicle Miles Traveled [mph]	89.29	52.74		160.46	188.90	144.27
Stops [stops/h]	3252.88	1565.09		3142.49	1288.13	5583.00
Fuel consumption [US gal/h]	240.87	78.89		235.46	35.13	426.67
CO [g/h]	16837.14	5514.58		16458.70	2455.63	29824.03
NOx [g/h]	3275.90	1072.94		3202.27	477.78	5802.67
VOC [g/h]	3902.17	1278.06		3814.46	569.12	6912.01

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	3.103		0.000		0.000		0.000
Crosswalk LOS	C		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	483		0		1383		833
d_b, Bicycle Delay [s]	34.50		60.00		5.70		20.42
I_b,int, Bicycle LOS Score for Intersection	4.800		4.132		5.695		5.033
Bicycle LOS	E		D		F		F

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro With
SIGNAL PM cumulative.vistro

Scenario 5 Opening Year Cumulative PM

Report File: C:\...\Cu PM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.019	13.8	B
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition		0.000	0.0	
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition		0.000	0.0	
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	WB Right	1.284	217.0	F
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	SB Thru	0.005	0.0	A
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	SB Thru	0.005	0.0	A
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	SB Thru	0.005	0.0	A
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	1.210	362.0	F
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	1.977	995.4	F
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	WB Thru	2.414	600.1	F

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 13.8
 Level Of Service: B
 Volume to Capacity (v/c): 0.019

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	2	599	2	4	711
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	451	0	0	294
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	1086	2	4	1048
Peak Hour Factor	0.2500	0.2500	0.8480	0.8480	0.9160	0.9160
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	320	1	1	286
Total Analysis Volume [veh/h]	0	8	1281	2	4	1144
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	61.31	13.80	0.00	0.00	11.76	0.00
Movement LOS	F	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.00	0.00	0.02	0.00
95th-Percentile Queue Length [ft/ln]	1.46	1.46	0.00	0.00	0.56	0.00
d_A, Approach Delay [s/veh]	13.80		0.00		0.04	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.06					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1**

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

**Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	217.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.284

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			← →			← →			← →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	115	101	138	45	115	18	7	478	113	189	589	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	44	584	0	0	0	451	0	16	294	698
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	5	0	0	9	0	0	20
Total Hourly Volume [veh/h]	122	107	176	632	122	14	7	958	111	216	918	770
Peak Hour Factor	0.9040	0.9040	0.9040	0.8620	0.8620	0.8620	0.8430	0.8430	0.8430	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	30	49	183	35	4	2	284	33	63	266	223
Total Analysis Volume [veh/h]	135	118	195	733	142	16	8	1136	132	250	1063	891
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	21	0	0	32	0	5	39	0	12	46	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	0	0	36	0	9	43	0	16	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	32	32	32	5	39	39	12	46	46
g / C, Green / Cycle	0.18	0.27	0.27	0.27	0.04	0.33	0.33	0.10	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.26	0.41	0.08	0.01	0.00	0.34	0.35	0.14	0.52	0.61
s, saturation flow rate [veh/h]	1713	1781	1870	1589	1781	1870	1803	1781	1870	1611
c, Capacity [veh/h]	300	475	499	424	74	608	586	178	717	617
d1, Uniform Delay [s]	49.50	44.00	34.92	32.59	55.35	40.50	40.50	54.00	37.00	37.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	239.52	254.87	1.43	0.17	2.91	53.60	55.44	211.83	172.27	269.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.49	1.54	0.28	0.04	0.11	1.06	1.06	1.40	1.36	1.58
d, Delay for Lane Group [s/veh]	289.02	298.87	36.35	32.76	58.26	94.10	95.94	265.83	209.27	306.73
Lane Group LOS	F	F	D	C	E	F	F	F	F	F
Critical Lane Group	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	28.80	47.29	3.44	0.36	0.29	26.10	25.46	15.71	54.05	63.28
50th-Percentile Queue Length [ft/ln]	720.02	1182.30	86.04	9.02	7.20	652.42	636.42	392.76	1351.30	1581.88
95th-Percentile Queue Length [veh/ln]	44.48	72.26	6.19	0.65	0.52	35.86	35.16	24.96	79.85	97.75
95th-Percentile Queue Length [ft/ln]	1112.00	1806.51	154.87	16.23	12.96	896.54	879.05	624.03	1996.13	2443.85

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	289.02	289.02	289.02	298.87	36.35	32.76	58.26	94.90	95.94	265.83	217.15	306.73
Movement LOS	F	F	F	F	D	C	E	F	F	F	F	F
d_A, Approach Delay [s/veh]	289.02			252.26			94.77			258.89		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	217.01											
Intersection LOS	F											
Intersection V/C	1.284											

Emissions

Vehicle Miles Traveled [mph]	101.53	63.03	12.21	1.38	2.02	162.49	157.19	62.14	242.86	242.86
Stops [stops/h]	864.02	1418.76	103.25	10.82	8.64	782.90	763.70	471.31	1621.56	1898.26
Fuel consumption [US gal/h]	36.71	60.77	2.50	0.26	0.27	27.64	27.05	21.51	70.08	92.90
CO [g/h]	2566.15	4247.60	174.89	18.33	18.97	1932.34	1891.12	1503.66	4898.93	6493.55
NOx [g/h]	499.28	826.43	34.03	3.57	3.69	375.96	367.94	292.56	953.15	1263.41
VOC [g/h]	594.73	984.42	40.53	4.25	4.40	447.84	438.29	348.49	1135.38	1504.94

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.782	0.000	0.000
Crosswalk LOS	F	C	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	350	533	650	767
d_b, Bicycle Delay [s]	40.84	32.27	27.34	22.82
I_b,int, Bicycle LOS Score for Intersection	2.322	3.038	2.620	3.394
Bicycle LOS	B	C	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	444	458	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	111	115	0	0	0
Total Analysis Volume [veh/h]	0	444	458	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.26	0.00	0.00	0.00	16.68	10.97
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		13.83	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	444	458	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	111	115	0	0	0
Total Analysis Volume [veh/h]	0	444	458	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.26	0.00	0.00	0.00	16.68	10.97
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		13.83	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	44	16	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	444	458	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	111	115	0	0	0
Total Analysis Volume [veh/h]	0	444	458	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.26	0.00	0.00	0.00	16.68	10.97
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		13.83	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	362.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.210

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			T T T T			T T T			T T T		
Lane Configuration	+			T T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	34	27	78	428	0	121	103	507	31	104	669	374
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	178	174	0	0	0	1079	0	308	1008	242
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	14	0	0	7	0	0	121
Total Hourly Volume [veh/h]	36	29	247	628	0	114	109	1616	26	418	1717	517
Peak Hour Factor	0.8270	0.8270	0.8270	0.8630	1.0000	0.8630	0.9080	0.9080	0.9080	0.8770	0.8770	0.8770
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	9	75	182	0	33	30	445	7	119	489	147
Total Analysis Volume [veh/h]	44	35	299	728	0	132	120	1780	29	477	1958	590
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	43	0	0	25	42	0	15	69	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	0.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	20	14	0	47	0	0	11	46	0	20	73	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	26	29	29	7	28	28	16	37	37
g / C, Green / Cycle	0.22	0.24	0.24	0.06	0.23	0.23	0.13	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.23	0.21	0.05	0.07	0.50	0.02	0.27	0.55	0.37
s, saturation flow rate [veh/h]	1633	3459	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	351	846	689	104	826	369	237	1093	488
d1, Uniform Delay [s]	47.11	43.36	35.92	56.51	46.09	36.06	52.01	41.60	41.60
k, delay calibration	0.45	0.13	0.13	0.13	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	67.36	3.24	0.16	94.16	523.96	0.42	468.81	360.17	112.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.08	0.86	0.19	1.15	2.16	0.08	2.01	1.79	1.21
d, Delay for Lane Group [s/veh]	114.47	46.60	36.08	150.67	570.06	36.48	520.83	401.77	153.85
Lane Group LOS	F	D	D	F	F	D	F	F	F
Critical Lane Group	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	16.77	10.45	1.53	5.79	71.96	0.69	37.85	70.07	28.97
50th-Percentile Queue Length [ft/ln]	419.21	261.34	38.21	144.83	1798.96	17.36	946.31	1751.72	724.32
95th-Percentile Queue Length [veh/ln]	24.46	15.76	2.75	10.15	112.89	1.25	59.35	109.26	42.34
95th-Percentile Queue Length [ft/ln]	611.38	393.90	68.78	253.67	2822.15	31.24	1483.70	2731.58	1058.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	114.47	114.47	114.47	46.60	0.00	36.08	150.67	570.06	36.48	520.83	401.77	153.85
Movement LOS	F	F	F	D		D	F	F	D	F	F	F
d_A, Approach Delay [s/veh]	114.47			44.99			535.95			372.19		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	362.03											
Intersection LOS	F											
Intersection V/C	1.210											

Emissions

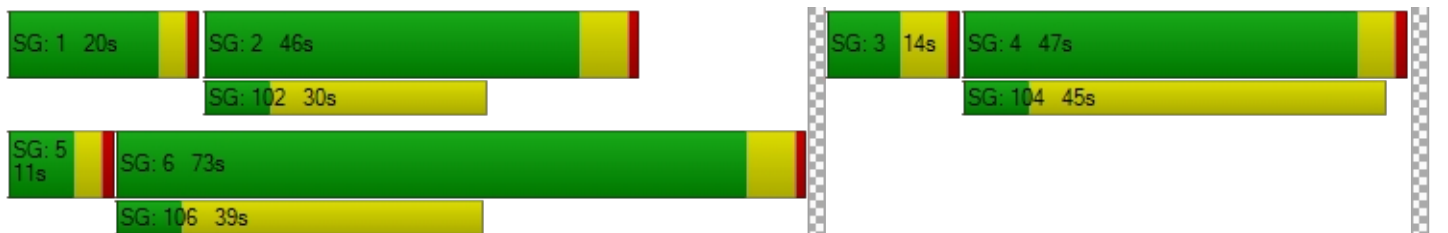
Vehicle Miles Traveled [mph]	38.38	82.83	15.02	31.18	462.49	7.53	70.69	290.15	87.43
Stops [stops/h]	502.99	627.14	91.69	173.78	4317.00	20.83	1135.44	4203.62	869.08
Fuel consumption [US gal/h]	15.12	16.03	2.41	6.91	275.97	0.73	67.09	222.26	32.27
CO [g/h]	1056.87	1120.56	168.30	482.87	19290.3	51.20	4689.25	15535.9	2255.74
NOx [g/h]	205.63	218.02	32.75	93.95	3753.21	9.96	912.36	3022.73	438.89
VOC [g/h]	244.94	259.70	39.01	111.91	4470.73	11.87	1086.78	3600.61	522.79

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.51	49.51	49.51	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.337	2.864	3.472	0.000
Crosswalk LOS	B	C	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	700	667	1117
d_b, Bicycle Delay [s]	52.27	25.36	26.67	11.71
I_b,int, Bicycle LOS Score for Intersection	2.206	1.560	3.157	4.155
Bicycle LOS	B	A	C	D

Sequence




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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	995.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.977

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	212	5	415	477	637	373	98	740	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	529	0	779	0	715	716	582	779	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	189	0	0	136	0	0	0
Total Hourly Volume [veh/h]	0	0	0	754	5	1030	477	1390	975	686	1563	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8190	0.8190	0.8190	1.0000	0.9670	0.9670	0.9240	0.9240	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	230	2	314	119	359	252	186	423	0
Total Analysis Volume [veh/h]	0	0	0	921	6	1258	477	1437	1008	742	1692	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	43	0	0	42	0	15	69	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	47	0	0	46	0	20	73	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		68	68	15	15	16	31
g / C, Green / Cycle		0.57	0.57	0.13	0.13	0.13	0.26
(v / s)_i Volume / Saturation Flow Rate		0.52	0.79	0.77	0.63	0.42	0.48
s, saturation flow rate [veh/h]		1781	1589	1870	1589	1781	3560
c, Capacity [veh/h]		1007	898	236	201	237	924
d1, Uniform Delay [s]		23.65	26.09	52.43	52.43	52.01	44.43
k, delay calibration		0.41	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		12.60	186.83	2294.79	1818.76	967.54	378.01
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.92	1.40	6.08	5.02	3.13	1.83
d, Delay for Lane Group [s/veh]		36.25	212.92	2347.22	1871.19	1019.56	422.44
Lane Group LOS		D	F	F	F	F	F
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		25.04	69.64	157.60	107.39	70.74	61.72
50th-Percentile Queue Length [ft/ln]		626.02	1740.91	3939.89	2684.73	1768.50	1543.01
95th-Percentile Queue Length [veh/ln]		33.25	104.80	231.90	160.97	108.76	96.23
95th-Percentile Queue Length [ft/ln]		831.18	2619.97	5797.40	4024.36	2719.09	2405.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	36.25	36.25	212.92	0.00	2347.22	1871.19	1019.56	422.44	0.00
Movement LOS				D	D	F		F	F	F	F	
d_A, Approach Delay [s/veh]	0.00			137.96			2150.97			604.47		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	995.45											
Intersection LOS	F											
Intersection V/C	1.977											

Emissions

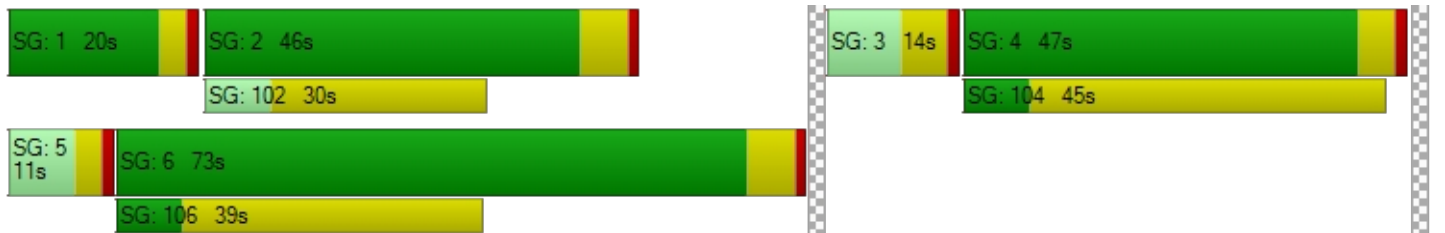
Vehicle Miles Traveled [mph]		59.78	81.13	212.94	149.37	103.44	235.88
Stops [stops/h]		751.13	2088.85	4727.32	3221.29	2121.95	3702.78
Fuel consumption [US gal/h]		16.36	77.92	752.29	428.90	183.84	199.55
CO [g/h]		1143.38	5446.82	52584.81	29980.34	12850.38	13948.35
NOx [g/h]		222.46	1059.75	10231.09	5833.08	2500.22	2713.84
VOC [g/h]		264.99	1262.35	12187.04	6948.23	2978.20	3232.66

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.51	0.00	49.51
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.541	0.000	3.897
Crosswalk LOS	F	D	F	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	700	667	1117
d_b, Bicycle Delay [s]	60.01	25.36	26.67	11.71
I_b,int, Bicycle LOS Score for Intersection	4.132	5.477	5.818	3.568
Bicycle LOS	D	F	F	D

Sequence




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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	600.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.414

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	409	1	216	0	0	0	237	608	0	0	432	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0000	1.0000	1.0000	1.0600	1.0600	1.0000	1.0000	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	779	0	529	0	0	0	715	529	0	0	582	582
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	91	0	0	0	0	0	0	0	0	33
Total Hourly Volume [veh/h]	1213	1	667	0	0	0	966	1173	0	0	1040	735
Peak Hour Factor	0.9010	0.9010	0.9010	1.0000	1.0000	1.0000	0.9580	0.9580	1.0000	1.0000	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	337	0	185	0	0	0	252	306	0	0	279	197
Total Analysis Volume [veh/h]	1346	1	740	0	0	0	1008	1224	0	0	1115	788
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	34	0	0	0	0	26	78	0	0	48	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	38	0	0	0	0	29	82	0	0	53	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34		26	78	48
g / C, Green / Cycle	0.28	0.28		0.22	0.65	0.40
(v / s)_i Volume / Saturation Flow Rate	0.76	0.47		0.57	0.65	1.09
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1743
c, Capacity [veh/h]	505	450		386	1215	697
d1, Uniform Delay [s]	43.00	43.00		47.00	21.00	36.00
k, delay calibration	0.50	0.50		0.50	0.49	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	756.87	299.29		733.01	27.16	782.58
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	2.67	1.64		2.61	1.01	2.73
d, Delay for Lane Group [s/veh]	799.87	342.29		780.01	48.16	818.58
Lane Group LOS	F	F		F	F	F
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	120.56	50.36		89.79	38.09	170.62
50th-Percentile Queue Length [ft/ln]	3014.05	1258.89		2244.66	952.36	4265.53
95th-Percentile Queue Length [veh/ln]	190.39	78.23		140.49	48.53	274.56
95th-Percentile Queue Length [ft/ln]	4759.72	1955.83		3512.28	1213.18	6864.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	799.87	799.87	342.29	0.00	0.00	0.00	780.01	48.16	0.00	0.00	818.58	818.58
Movement LOS	F	F	F				F	F			F	F
d_A, Approach Delay [s/veh]	637.63			0.00			378.67			818.58		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	600.08											
Intersection LOS	F											
Intersection V/C	2.414											

Emissions

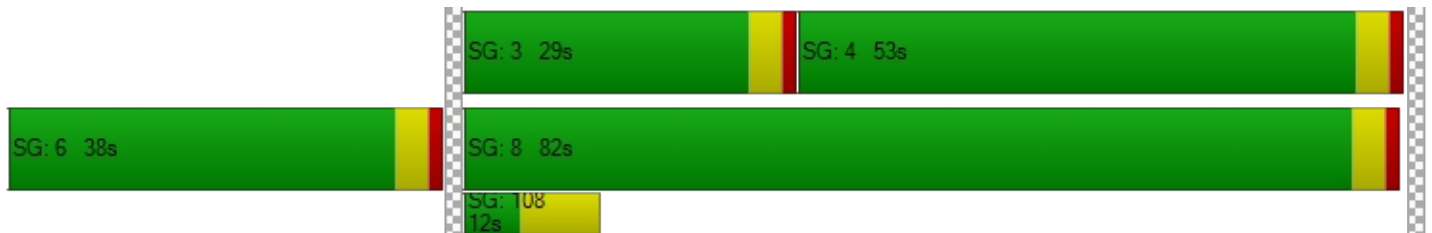
Vehicle Miles Traveled [mph]	100.90	55.43		140.52	170.63	133.02
Stops [stops/h]	3616.86	1510.66		2693.59	1142.83	5118.64
Fuel consumption [US gal/h]	258.35	68.36		191.46	29.33	385.13
CO [g/h]	18058.42	4778.38		13382.79	2050.40	26920.29
NOx [g/h]	3513.51	929.70		2603.80	398.93	5237.71
VOC [g/h]	4185.21	1107.44		3101.59	475.20	6239.04

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	3.275		0.000		0.000		0.000
Crosswalk LOS	C		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	567		0		1300		817
d_b, Bicycle Delay [s]	30.82		60.00		7.35		21.00
I_b,int, Bicycle LOS Score for Intersection	5.153		4.132		5.242		4.754
Bicycle LOS	F		D		F		E

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro With
SIGNAL AM cumulative.vistro

Scenario 7 Opening Year Cumul. With Proj AM

Report File: C:\...\Cu PP AM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.103	18.0	C
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition	WB Right	0.004	8.3	A
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition	WB Right	0.002	8.3	A
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	SB Left	1.252	239.7	F
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	EB Left	0.015	14.1	B
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	EB Left	0.010	13.9	B
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	EB Right	0.001	9.7	A
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	1.386	370.8	F
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	2.174	993.1	F
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	WB Thru	2.518	640.7	F

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 18.0
 Level Of Service: C
 Volume to Capacity (v/c): 0.103

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	1	868	1	3	531
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	451	0	7	294
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	8	1371	1	10	857
Peak Hour Factor	0.2500	0.2500	0.8190	0.8190	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	418	0	3	249
Total Analysis Volume [veh/h]	0	32	1674	1	12	997
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.10	0.02	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	103.48	17.96	0.00	0.00	14.81	0.00
Movement LOS	F	C	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.34	0.34	0.00	0.00	0.10	0.00
95th-Percentile Queue Length [ft/ln]	8.56	8.56	0.00	0.00	2.45	0.00
d_A, Approach Delay [s/veh]	17.96		0.00		0.18	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	0.28					
Intersection LOS	C					

**Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	3	5	2	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	3	5	2	0	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	0	1
Total Analysis Volume [veh/h]	3	3	5	2	0	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.62	8.35
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.21	0.21	0.28	0.28
d_A, Approach Delay [s/veh]	0.00		5.17		8.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.09					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	1	2	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	2	0	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	0	0	1
Total Analysis Volume [veh/h]	4	1	2	0	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.57	8.34
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.09	0.09	0.14	0.14
d_A, Approach Delay [s/veh]	0.00		7.23		8.34	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.46					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	239.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.252

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			← →			← →			← →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	91	98	140	88	58	9	6	773	89	86	435	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	53	584	3	1	0	458	0	62	300	698
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	2	0	0	19	0	0	14
Total Hourly Volume [veh/h]	96	105	175	677	64	9	6	1277	75	153	761	753
Peak Hour Factor	0.8130	0.8130	0.8130	0.8650	0.8650	0.8650	0.8210	0.8210	0.8210	0.8980	0.8980	0.8980
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	32	54	196	18	3	2	389	23	43	212	210
Total Analysis Volume [veh/h]	118	129	215	783	74	10	7	1555	91	170	847	839
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	22	0	0	35	0	5	38	0	9	42	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	26	0	0	39	0	9	42	0	13	46	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	35	35	35	5	38	38	9	42	42
g / C, Green / Cycle	0.18	0.29	0.29	0.29	0.04	0.32	0.32	0.08	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.27	0.44	0.04	0.01	0.00	0.44	0.45	0.10	0.45	0.53
s, saturation flow rate [veh/h]	1708	1781	1870	1589	1781	1870	1834	1781	1870	1589
c, Capacity [veh/h]	313	519	545	464	74	592	581	134	654	556
d1, Uniform Delay [s]	49.00	42.50	31.34	30.29	55.32	41.00	41.00	55.50	39.00	39.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	230.53	238.20	0.52	0.09	2.51	188.67	194.61	168.53	143.52	237.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.48	1.51	0.14	0.02	0.09	1.40	1.41	1.27	1.29	1.51
d, Delay for Lane Group [s/veh]	279.53	280.70	31.86	30.38	57.83	229.67	235.61	224.03	182.52	276.89
Lane Group LOS	F	F	C	C	E	F	F	F	F	F
Critical Lane Group	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	29.30	49.24	1.64	0.22	0.25	47.68	47.72	10.19	44.32	52.25
50th-Percentile Queue Length [ft/ln]	732.38	1230.90	41.01	5.38	6.28	1192.08	1193.11	254.76	1107.97	1306.36
95th-Percentile Queue Length [veh/ln]	45.11	74.87	2.95	0.39	0.45	71.08	71.40	16.66	64.65	80.04
95th-Percentile Queue Length [ft/ln]	1127.76	1871.65	73.82	9.68	11.30	1777.06	1784.99	416.43	1616.35	2001.00

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	279.53	279.53	279.53	280.70	31.86	30.38	57.83	232.45	235.61	224.03	182.52	276.89
Movement LOS	F	F	F	F	C	C	E	F	F	F	F	F
d_A, Approach Delay [s/veh]	279.53			256.57			231.88			228.98		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	239.74											
Intersection LOS	F											
Intersection V/C	1.252											

Emissions

Vehicle Miles Traveled [mph]	104.71	67.32	6.36	0.86	1.76	208.53	206.46	42.26	210.55	208.56
Stops [stops/h]	878.85	1477.08	49.21	6.45	7.54	1430.50	1431.73	305.71	1329.57	1567.63
Fuel consumption [US gal/h]	36.88	61.64	1.19	0.16	0.24	63.58	64.13	13.00	55.20	73.90
CO [g/h]	2577.59	4308.53	83.26	10.90	16.54	4444.46	4482.91	908.59	3858.62	5165.94
NOx [g/h]	501.51	838.28	16.20	2.12	3.22	864.73	872.21	176.78	750.75	1005.11
VOC [g/h]	597.38	998.54	19.30	2.53	3.83	1030.05	1038.96	210.57	894.27	1197.26

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.753	0.000	0.000
Crosswalk LOS	F	C	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	367	583	633	700
d_b, Bicycle Delay [s]	40.02	30.10	28.02	25.35
I_b,int, Bicycle LOS Score for Intersection	2.365	2.993	2.939	3.102
Bicycle LOS	B	C	C	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	14.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	48	47	18	6	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	403	284	18	6	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	101	71	5	2	0
Total Analysis Volume [veh/h]	3	403	284	18	6	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.86	0.00	0.00	0.00	14.07	9.96
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.13	0.13	0.00	0.00	1.24	1.24
d_A, Approach Delay [s/veh]	0.06		0.00		13.48	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	47	36	12	4	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	402	273	12	4	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	101	68	3	1	0
Total Analysis Volume [veh/h]	4	402	273	12	4	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.82	0.00	0.00	0.00	13.87	9.83
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.17	0.17	0.00	0.00	0.84	0.84
d_A, Approach Delay [s/veh]	0.08		0.00		13.06	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5**

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	345	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	50	23	14	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	416	260	14	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	104	65	4	0	0
Total Analysis Volume [veh/h]	2	416	260	14	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.79	0.00	0.00	0.00	13.75	9.67
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.00	0.00	0.10	0.10
d_A, Approach Delay [s/veh]	0.04		0.00		9.67	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.04					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	370.8
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.386

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			T T T T			T T T			T T T		
Lane Configuration	+			T T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	66	15	152	252	0	83	78	873	24	103	578	311
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	178	174	0	0	0	1095	0	308	1060	242
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	13	0	0	6	0	0	2	0	0	78
Total Hourly Volume [veh/h]	70	16	326	441	0	82	83	2020	23	417	1673	494
Peak Hour Factor	0.8940	0.8940	0.8940	0.8410	1.0000	0.8410	0.8400	0.8400	0.8400	0.8470	0.8470	0.8470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	20	4	91	131	0	24	25	601	7	123	494	146
Total Analysis Volume [veh/h]	78	18	365	524	0	98	99	2405	27	492	1975	583
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	34	0	0	25	51	0	15	78	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	0.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	20	14	0	38	0	0	11	55	0	20	82	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	26	22	22	7	35	35	16	44	44
g / C, Green / Cycle	0.22	0.18	0.18	0.06	0.30	0.30	0.13	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.28	0.15	0.03	0.06	0.68	0.02	0.28	0.55	0.37
s, saturation flow rate [veh/h]	1629	3459	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	351	624	508	104	1053	470	237	1320	589
d1, Uniform Delay [s]	47.08	47.51	41.76	56.34	42.27	30.28	52.01	37.77	37.54
k, delay calibration	0.50	0.13	0.13	0.13	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	159.82	3.74	0.22	34.48	580.92	0.23	496.86	227.55	34.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.31	0.84	0.19	0.95	2.28	0.06	2.07	1.50	0.99
d, Delay for Lane Group [s/veh]	206.90	51.25	41.98	90.82	623.19	30.52	548.87	265.32	72.18
Lane Group LOS	F	D	D	F	F	C	F	F	E
Critical Lane Group	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	25.79	7.73	1.23	3.91	99.85	0.58	39.70	59.97	21.71
50th-Percentile Queue Length [ft/ln]	644.73	193.30	30.84	97.83	2496.13	14.44	992.54	1499.37	542.85
95th-Percentile Queue Length [veh/ln]	39.01	12.29	2.22	7.04	157.88	1.04	62.22	91.06	29.36
95th-Percentile Queue Length [ft/ln]	975.20	307.31	55.51	176.09	3947.02	26.00	1555.39	2276.46	733.90

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	206.90	206.90	206.90	51.25	0.00	41.98	90.82	623.19	30.52	548.87	265.32	72.18
Movement LOS	F	F	F	D		D	F	F	C	F	F	E
d_A, Approach Delay [s/veh]	206.90			49.79			596.04			274.14		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	370.81											
Intersection LOS	F											
Intersection V/C	1.386											

Emissions

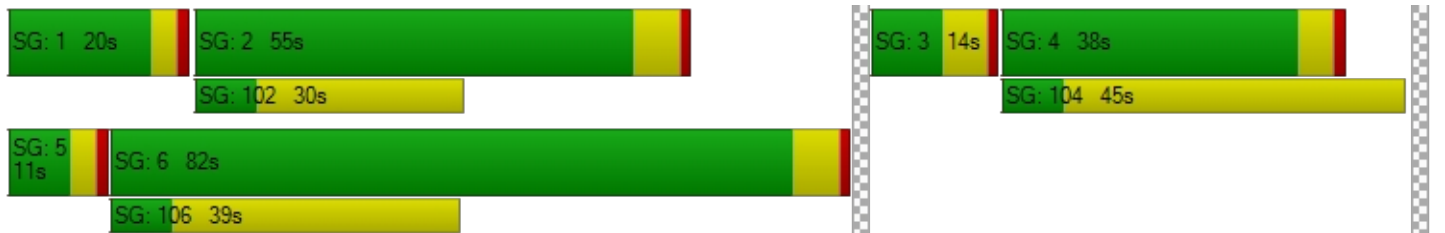
Vehicle Miles Traveled [mph]	46.81	59.62	11.15	25.72	624.88	7.02	72.91	292.67	86.39
Stops [stops/h]	773.59	463.87	74.00	117.38	5990.01	17.33	1190.91	3598.07	651.34
Fuel consumption [US gal/h]	28.68	12.16	1.96	4.17	400.82	0.62	72.25	161.38	19.62
CO [g/h]	2004.88	849.76	137.25	291.53	28017.3	43.59	5050.09	11280.6	1371.57
NOx [g/h]	390.08	165.33	26.70	56.72	5451.17	8.48	982.56	2194.80	266.86
VOC [g/h]	464.65	196.94	31.81	67.56	6493.30	10.10	1170.41	2614.39	317.87

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.51	49.51	49.51	0.00
l_p,int, Pedestrian LOS Score for Intersectio	2.394	2.780	3.613	0.000
Crosswalk LOS	B	C	D	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	550	817	1267
d_b, Bicycle Delay [s]	52.27	31.54	21.01	8.07
l_b,int, Bicycle LOS Score for Intersection	2.342	1.560	3.649	4.140
Bicycle LOS	B	A	D	D

Sequence

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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	993.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.174

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↑↓			↓↑			↑↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	122	0	350	477	799	477	133	647	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	529	0	803	0	723	724	582	807	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	178	0	0	71	0	0	0
Total Hourly Volume [veh/h]	0	0	0	658	0	996	477	1570	1159	723	1493	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.8120	0.8120	0.8850	0.8850	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	179	0	271	119	483	357	204	422	0
Total Analysis Volume [veh/h]	0	0	0	715	0	1083	477	1933	1427	817	1687	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	34	0	0	51	0	15	78	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	38	0	0	55	0	20	82	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		59	59	24	24	16	40
g / C, Green / Cycle		0.49	0.49	0.20	0.20	0.13	0.33
(v / s)_i Volume / Saturation Flow Rate		0.40	0.68	1.03	0.90	0.46	0.47
s, saturation flow rate [veh/h]		1781	1589	1870	1589	1781	3560
c, Capacity [veh/h]		874	780	376	319	237	1190
d1, Uniform Delay [s]		26.01	30.56	47.95	47.95	52.01	39.95
k, delay calibration		0.34	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		5.80	182.73	1870.63	1567.56	1109.07	192.95
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.82	1.39	5.14	4.47	3.44	1.42
d, Delay for Lane Group [s/veh]		31.81	213.29	1918.58	1615.51	1161.07	232.90
Lane Group LOS		C	F	F	F	F	F
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		17.68	60.45	206.13	148.32	80.08	48.55
50th-Percentile Queue Length [ft/ln]		442.12	1511.36	5153.18	3707.93	2002.07	1213.76
95th-Percentile Queue Length [veh/ln]		24.58	90.66	311.60	227.20	122.38	72.91
95th-Percentile Queue Length [ft/ln]		614.54	2266.43	7790.05	5679.97	3059.39	1822.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	31.81	31.81	213.29	0.00	1918.58	1615.51	1161.07	232.90	0.00
Movement LOS				C	C	F		F	F	F	F	
d_A, Approach Delay [s/veh]	0.00			141.12			1789.86			535.74		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	993.11											
Intersection LOS	F											
Intersection V/C	2.174											

Emissions

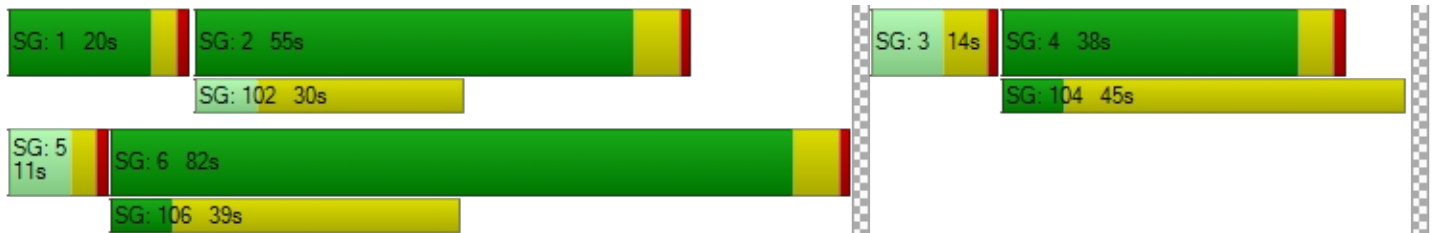
Vehicle Miles Traveled [mph]		46.11	69.84	286.45	211.46	113.90	235.18
Stops [stops/h]		530.51	1813.53	6183.45	4449.25	2402.34	2912.86
Fuel consumption [US gal/h]		11.49	67.31	841.20	531.58	226.76	124.22
CO [g/h]		803.25	4705.28	58799.87	37157.34	15850.75	8682.76
NOx [g/h]		156.28	915.48	11440.32	7229.47	3083.98	1689.35
VOC [g/h]		186.16	1090.49	13627.44	8611.57	3673.56	2012.31

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.51	0.00	49.51
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.266	0.000	4.029
Crosswalk LOS	F	C	F	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	550	817	1267
d_b, Bicycle Delay [s]	60.00	31.54	21.01	8.07
I_b,int, Bicycle LOS Score for Intersection	4.132	4.820	7.221	3.625
Bicycle LOS	D	E	F	D

Sequence

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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	640.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.518

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↔						↔			↔		
Lane Configuration	↔						↔			↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	291	0	171	0	0	0	287	632	0	0	489	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0000	1.0000	1.0000	1.0600	1.0600	1.0000	1.0000	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	803	0	529	0	0	0	722	530	0	0	586	582
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	68	0	0	0	0	0	0	0	0	41
Total Hourly Volume [veh/h]	1111	0	642	0	0	0	1026	1200	0	0	1104	727
Peak Hour Factor	0.9120	0.9120	0.9120	1.0000	1.0000	1.0000	0.8850	0.8850	1.0000	1.0000	0.8850	0.8850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	305	0	176	0	0	0	290	339	0	0	312	205
Total Analysis Volume [veh/h]	1218	0	704	0	0	0	1159	1356	0	0	1247	821
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	30	0	0	0	0	28	82	0	0	50	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	34	0	0	0	0	28	86	0	0	58	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	30	30		28	82	50
g / C, Green / Cycle	0.25	0.25		0.23	0.68	0.42
(v / s)_i Volume / Saturation Flow Rate	0.68	0.44		0.65	0.73	1.18
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1748
c, Capacity [veh/h]	445	397		414	1278	730
d1, Uniform Delay [s]	45.00	45.00		46.06	19.00	34.94
k, delay calibration	0.50	0.50		0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	787.36	357.35		817.34	43.13	828.69
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	2.74	1.77		2.80	1.06	2.83
d, Delay for Lane Group [s/veh]	832.36	402.35		863.40	62.13	863.63
Lane Group LOS	F	F		F	F	F
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	110.24	50.92		105.91	44.43	187.91
50th-Percentile Queue Length [ft/ln]	2755.93	1273.04		2647.84	1110.85	4697.76
95th-Percentile Queue Length [veh/ln]	173.13	79.75		165.82	58.42	303.10
95th-Percentile Queue Length [ft/ln]	4328.21	1993.64		4145.58	1460.39	7577.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	832.36	832.36	402.35	0.00	0.00	0.00	863.40	62.13	0.00	0.00	863.63	863.63
Movement LOS	F	F	F				F	F			F	F
d_A, Approach Delay [s/veh]	674.85			0.00			431.38			863.63		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	640.74											
Intersection LOS	F											
Intersection V/C	2.518											

Emissions

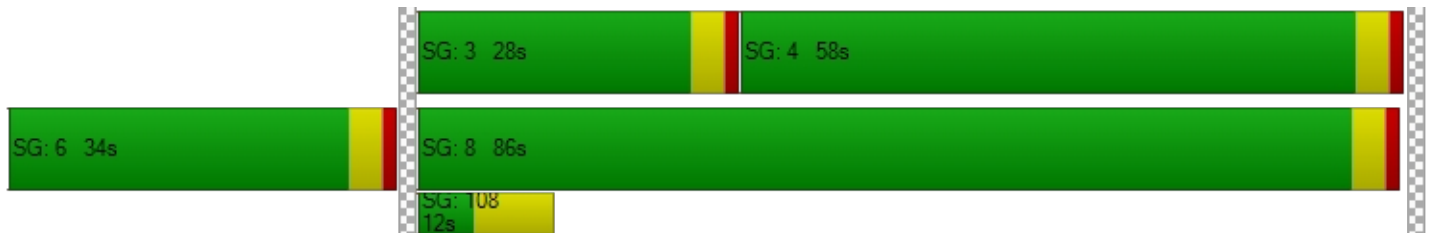
Vehicle Miles Traveled [mph]	91.24	52.74		161.57	189.04	144.55
Stops [stops/h]	3307.12	1527.64		3177.41	1333.03	5637.31
Fuel consumption [US gal/h]	242.02	74.52		240.59	37.01	438.40
CO [g/h]	16916.88	5209.26		16817.18	2586.91	30644.38
NOx [g/h]	3291.41	1013.53		3272.01	503.32	5962.28
VOC [g/h]	3920.65	1207.30		3897.54	599.54	7102.13

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	3.120		0.000		0.000		0.000
Crosswalk LOS	C		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	500		0		1367		900
d_b, Bicycle Delay [s]	33.75		60.00		6.02		18.15
I_b,int, Bicycle LOS Score for Intersection	4.843		4.132		5.709		5.039
Bicycle LOS	E		D		F		F

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro With
SIGNAL PM cumulative.vistro

Scenario 7 Opening Year Cumul. With Proj PM

Report File: C:\...\Cu PP PM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.086	14.4	B
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition	WB Right	0.004	8.3	A
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition	WB Right	0.002	8.3	A
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	WB Right	1.293	227.2	F
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	EB Left	0.021	17.8	C
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	EB Left	0.014	17.5	C
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	EB Right	0.002	11.1	B
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	1.215	374.2	F
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Thru	2.000	1,072.4	F
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	WB Thru	2.436	608.4	F

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.4
 Level Of Service: B
 Volume to Capacity (v/c): 0.086

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	2	599	2	4	711
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	451	0	7	294
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	9	1086	2	11	1048
Peak Hour Factor	0.2500	0.2500	0.8480	0.8480	0.9160	0.9160
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	9	320	1	3	286
Total Analysis Volume [veh/h]	0	36	1281	2	12	1144
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.09	0.01	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	64.25	14.44	0.00	0.00	11.86	0.00
Movement LOS	F	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.28	0.28	0.00	0.00	0.07	0.00
95th-Percentile Queue Length [ft/ln]	7.04	7.04	0.00	0.00	1.71	0.00
d_A, Approach Delay [s/veh]	14.44		0.00		0.12	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.27					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1**

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↪		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	3	5	2	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	3	5	2	0	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	0	1
Total Analysis Volume [veh/h]	3	3	5	2	0	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.62	8.35
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.21	0.21	0.28	0.28
d_A, Approach Delay [s/veh]	0.00		5.17		8.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.09					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	1	2	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	2	0	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	0	0	1
Total Analysis Volume [veh/h]	4	1	2	0	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.57	8.34
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.09	0.09	0.14	0.14
d_A, Approach Delay [s/veh]	0.00		7.23		8.34	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.46					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	227.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.293

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			← →			← →			← →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	115	101	138	45	115	18	7	478	113	189	589	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	53	584	3	1	0	458	0	62	300	698
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	5	0	0	9	0	0	20
Total Hourly Volume [veh/h]	122	108	185	632	125	15	7	965	111	262	924	770
Peak Hour Factor	0.9040	0.9040	0.9040	0.8620	0.8620	0.8620	0.8430	0.8430	0.8430	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	30	51	183	36	4	2	286	33	76	267	223
Total Analysis Volume [veh/h]	135	119	205	733	145	17	8	1145	132	303	1069	891
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	21	0	0	32	0	5	37	0	14	46	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	25	0	0	36	0	9	41	0	18	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	32	32	32	5	37	37	14	46	46
g / C, Green / Cycle	0.18	0.27	0.27	0.27	0.04	0.31	0.31	0.12	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.27	0.41	0.08	0.01	0.00	0.35	0.35	0.17	0.52	0.61
s, saturation flow rate [veh/h]	1710	1781	1870	1589	1781	1870	1803	1781	1870	1611
c, Capacity [veh/h]	299	475	499	424	74	577	556	208	717	618
d1, Uniform Delay [s]	49.50	44.00	34.98	32.62	55.35	41.50	41.50	53.00	37.00	37.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	256.40	254.87	1.47	0.18	2.91	77.01	79.15	230.86	174.09	271.58
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.53	1.54	0.29	0.04	0.11	1.13	1.13	1.46	1.37	1.59
d, Delay for Lane Group [s/veh]	305.90	298.87	36.45	32.79	58.26	118.51	120.65	283.86	211.09	308.58
Lane Group LOS	F	F	D	C	E	F	F	F	F	F
Critical Lane Group	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	30.16	47.29	3.52	0.38	0.29	28.58	27.89	19.41	54.41	63.62
50th-Percentile Queue Length [ft/ln]	754.01	1182.30	88.04	9.59	7.20	714.55	697.24	485.29	1360.35	1590.48
95th-Percentile Queue Length [veh/ln]	46.69	72.26	6.34	0.69	0.52	40.26	39.47	30.51	80.45	98.33
95th-Percentile Queue Length [ft/ln]	1167.24	1806.51	158.48	17.26	12.96	1006.44	986.75	762.77	2011.18	2458.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	305.90	305.90	305.90	298.87	36.45	32.79	58.26	119.44	120.65	283.86	219.20	308.58
Movement LOS	F	F	F	F	D	C	E	F	F	F	F	F
d_A, Approach Delay [s/veh]	305.90			251.30			119.18			263.05		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	227.20											
Intersection LOS	F											
Intersection V/C	1.293											

Emissions

Vehicle Miles Traveled [mph]	104.03	63.03	12.47	1.46	2.02	163.61	158.34	75.32	243.61	243.61
Stops [stops/h]	904.81	1418.76	105.65	11.51	8.64	857.46	836.68	582.35	1632.41	1908.58
Fuel consumption [US gal/h]	39.34	60.77	2.56	0.28	0.27	31.92	31.25	27.32	70.74	93.61
CO [g/h]	2749.62	4247.60	178.95	19.49	18.97	2231.07	2184.22	1909.79	4944.41	6543.15
NOx [g/h]	534.98	826.43	34.82	3.79	3.69	434.09	424.97	371.58	962.00	1273.06
VOC [g/h]	637.25	984.42	41.47	4.52	4.40	517.07	506.21	442.61	1145.91	1516.44

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.783	0.000	0.000
Crosswalk LOS	F	C	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	350	533	617	767
d_b, Bicycle Delay [s]	40.84	32.27	28.70	22.82
I_b,int, Bicycle LOS Score for Intersection	2.340	3.045	2.627	3.443
Bicycle LOS	B	C	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	17.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	48	47	18	6	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	448	489	18	6	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	112	122	5	2	0
Total Analysis Volume [veh/h]	3	448	489	18	6	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	8.41	0.00	0.00	0.00	17.82	11.56
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.13	0.13	0.00	0.00	1.74	1.74
d_A, Approach Delay [s/veh]	0.06		0.00		16.93	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	17.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	47	36	12	4	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	447	478	12	4	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	112	120	3	1	0
Total Analysis Volume [veh/h]	4	447	478	12	4	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	8.36	0.00	0.00	0.00	17.52	11.35
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.17	0.17	0.00	0.00	1.17	1.17
d_A, Approach Delay [s/veh]	0.07		0.00		16.29	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.12					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	50	23	14	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	450	465	14	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	113	116	4	0	0
Total Analysis Volume [veh/h]	2	450	465	14	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.33	0.00	0.00	0.00	17.11	11.09
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.00	0.00	0.13	0.13
d_A, Approach Delay [s/veh]	0.04		0.00		11.09	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.03					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	374.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.215

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			T T T T			T T T			T T T		
Lane Configuration	+			T T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	34	27	78	428	0	121	103	507	31	104	669	374
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	178	174	0	0	0	1095	0	308	1060	242
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	14	0	0	7	0	0	121
Total Hourly Volume [veh/h]	36	29	247	628	0	114	109	1632	26	418	1769	517
Peak Hour Factor	0.8270	0.8270	0.8270	0.8630	1.0000	0.8630	0.9080	0.9080	0.9080	0.8770	0.8770	0.8770
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	9	75	182	0	33	30	449	7	119	504	147
Total Analysis Volume [veh/h]	44	35	299	728	0	132	120	1797	29	477	2017	590
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	43	0	0	25	42	0	15	69	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	0.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	20	14	0	48	0	0	11	45	0	20	72	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	26	29	29	7	28	28	16	37	37
g / C, Green / Cycle	0.22	0.24	0.24	0.06	0.23	0.23	0.13	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.23	0.21	0.05	0.07	0.50	0.02	0.27	0.57	0.37
s, saturation flow rate [veh/h]	1633	3459	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	351	848	690	104	825	368	237	1091	487
d1, Uniform Delay [s]	47.11	43.32	35.88	56.51	46.12	36.09	52.01	41.62	41.62
k, delay calibration	0.45	0.13	0.13	0.13	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	67.36	3.21	0.16	94.16	534.74	0.42	468.81	385.33	112.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.08	0.86	0.19	1.15	2.18	0.08	2.01	1.85	1.21
d, Delay for Lane Group [s/veh]	114.47	46.52	36.04	150.67	580.85	36.51	520.83	426.95	154.46
Lane Group LOS	F	D	D	F	F	D	F	F	F
Critical Lane Group	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	16.77	10.44	1.53	5.79	73.08	0.69	37.85	73.80	29.02
50th-Percentile Queue Length [ft/ln]	419.21	261.10	38.19	144.83	1827.01	17.37	946.31	1845.02	725.52
95th-Percentile Queue Length [veh/ln]	24.46	15.74	2.75	10.15	114.66	1.25	59.35	115.44	42.42
95th-Percentile Queue Length [ft/ln]	611.38	393.61	68.74	253.67	2866.59	31.26	1483.70	2885.92	1060.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	114.47	114.47	114.47	46.52	0.00	36.04	150.67	580.85	36.51	520.83	426.95	154.46
Movement LOS	F	F	F	D		D	F	F	D	F	F	F
d_A, Approach Delay [s/veh]	114.47			44.91			546.21			389.34		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	374.21											
Intersection LOS	F											
Intersection V/C	1.215											

Emissions

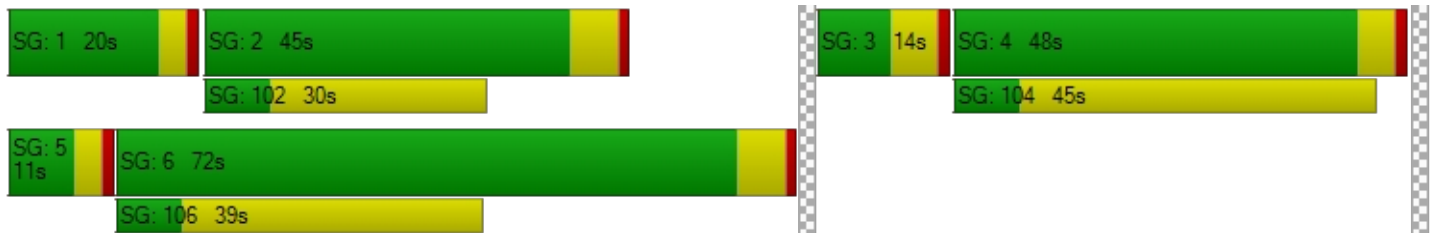
Vehicle Miles Traveled [mph]	38.38	82.83	15.02	31.18	466.91	7.53	70.69	298.89	87.43
Stops [stops/h]	502.99	626.58	91.64	173.78	4384.30	20.84	1135.44	4427.51	870.52
Fuel consumption [US gal/h]	15.12	16.01	2.41	6.91	282.88	0.73	67.09	240.50	32.36
CO [g/h]	1056.87	1119.37	168.20	482.87	19773.1	51.23	4689.25	16810.8	2262.16
NOx [g/h]	205.63	217.79	32.73	93.95	3847.13	9.97	912.36	3270.79	440.13
VOC [g/h]	244.94	259.42	38.98	111.91	4582.61	11.87	1086.78	3896.09	524.28

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.51	49.51	49.51	0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.337	2.864	3.491	0.000
Crosswalk LOS	B	C	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	717	650	1100
d_b, Bicycle Delay [s]	52.27	24.71	27.34	12.15
I_b,int, Bicycle LOS Score for Intersection	2.206	1.560	3.171	4.204
Bicycle LOS	B	A	C	D

Sequence




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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	1,072.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.000

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	212	5	415	477	637	373	98	740	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0600	1.0600	1.0600	1.0000	1.0600	1.0600	1.0600	1.0600	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	529	0	803	0	723	724	582	807	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	189	0	0	136	0	0	0
Total Hourly Volume [veh/h]	0	0	0	754	5	1054	477	1398	983	686	1591	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8190	0.8190	0.8190	1.0000	0.9670	0.9670	0.9240	0.9240	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	230	2	322	119	361	254	186	430	0
Total Analysis Volume [veh/h]	0	0	0	921	6	1287	477	1446	1017	742	1722	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	43	0	0	42	0	15	69	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	48	0	0	45	0	20	72	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		69	69	14	14	16	30
g / C, Green / Cycle		0.57	0.57	0.12	0.12	0.13	0.25
(v / s)_i Volume / Saturation Flow Rate		0.52	0.81	0.77	0.64	0.42	0.48
s, saturation flow rate [veh/h]		1781	1589	1870	1589	1781	3560
c, Capacity [veh/h]		1022	912	221	188	237	895
d1, Uniform Delay [s]		22.75	25.59	52.93	52.93	52.01	44.93
k, delay calibration		0.40	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		10.97	191.77	2506.84	2000.35	967.54	420.34
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.91	1.41	6.55	5.42	3.13	1.92
d, Delay for Lane Group [s/veh]		33.72	217.36	2559.77	2053.28	1019.56	465.27
Lane Group LOS		C	F	F	F	F	F
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		24.09	71.78	160.21	109.78	70.74	65.02
50th-Percentile Queue Length [ft/ln]		602.33	1794.42	4005.34	2744.47	1768.50	1625.53
95th-Percentile Queue Length [veh/ln]		32.14	108.33	234.36	163.54	108.76	101.70
95th-Percentile Queue Length [ft/ln]		803.58	2708.14	5858.88	4088.39	2719.09	2542.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	33.72	33.72	217.36	0.00	2559.77	2053.28	1019.56	465.27	0.00
Movement LOS				C	C	F		F	F	F	F	
d_A, Approach Delay [s/veh]	0.00			140.47			2350.64			632.19		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	1072.44											
Intersection LOS	F											
Intersection V/C	2.000											

Emissions

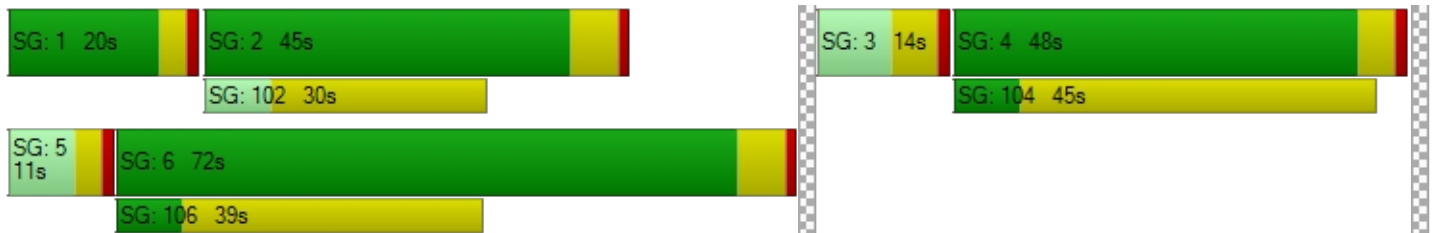
Vehicle Miles Traveled [mph]		59.78	83.00	214.28	150.71	103.44	240.06
Stops [stops/h]		722.71	2153.05	4805.84	3292.98	2121.95	3900.81
Fuel consumption [US gal/h]		15.60	81.04	820.13	470.94	183.84	219.74
CO [g/h]		1090.54	5664.62	57327.32	32918.78	12850.38	15359.52
NOx [g/h]		212.18	1102.13	11153.81	6404.80	2500.22	2988.40
VOC [g/h]		252.74	1312.83	13286.16	7629.25	2978.20	3559.72

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.51	0.00	49.51
I_p,int, Pedestrian LOS Score for Intersectio	0.000	3.559	0.000	3.911
Crosswalk LOS	F	D	F	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	717	650	1100
d_b, Bicycle Delay [s]	60.01	24.71	27.34	12.15
I_b,int, Bicycle LOS Score for Intersection	4.132	5.525	5.848	3.592
Bicycle LOS	D	F	F	D

Sequence




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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	608.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.436

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	409	1	216	0	0	0	237	608	0	0	432	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0600	1.0600	1.0600	1.0000	1.0000	1.0000	1.0600	1.0600	1.0000	1.0000	1.0600	1.0600
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	803	0	529	0	0	0	722	530	0	0	586	582
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	91	0	0	0	0	0	0	0	0	33
Total Hourly Volume [veh/h]	1237	1	667	0	0	0	973	1174	0	0	1044	735
Peak Hour Factor	0.9010	0.9010	0.9010	1.0000	1.0000	1.0000	0.9580	0.9580	1.0000	1.0000	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	343	0	185	0	0	0	254	306	0	0	280	197
Total Analysis Volume [veh/h]	1373	1	740	0	0	0	1016	1225	0	0	1119	788
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	34	0	0	0	0	26	78	0	0	48	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	45	0	0	0	0	13	75	0	0	62	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34		26	78	48
g / C, Green / Cycle	0.28	0.28		0.22	0.65	0.40
(v / s)_i Volume / Saturation Flow Rate	0.77	0.47		0.57	0.66	1.09
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1743
c, Capacity [veh/h]	507	452		383	1213	698
d1, Uniform Delay [s]	42.92	42.92		47.10	21.08	35.98
k, delay calibration	0.50	0.50		0.50	0.49	0.50
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	775.24	295.91		751.29	27.93	784.00
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	2.71	1.64		2.65	1.01	2.73
d, Delay for Lane Group [s/veh]	818.16	338.83		798.38	49.01	819.99
Lane Group LOS	F	F		F	F	F
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	123.72	50.17		91.05	38.24	171.06
50th-Percentile Queue Length [ft/ln]	3092.92	1254.33		2276.18	956.11	4276.53
95th-Percentile Queue Length [veh/ln]	195.33	77.89		142.43	48.82	275.27
95th-Percentile Queue Length [ft/ln]	4883.20	1947.23		3560.63	1220.60	6881.79

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	818.16	818.16	338.83	0.00	0.00	0.00	798.38	49.01	0.00	0.00	819.99	819.99
Movement LOS	F	F	F				F	F			F	F
d_A, Approach Delay [s/veh]	650.37			0.00			388.75			819.99		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	608.40											
Intersection LOS	F											
Intersection V/C	2.436											

Emissions

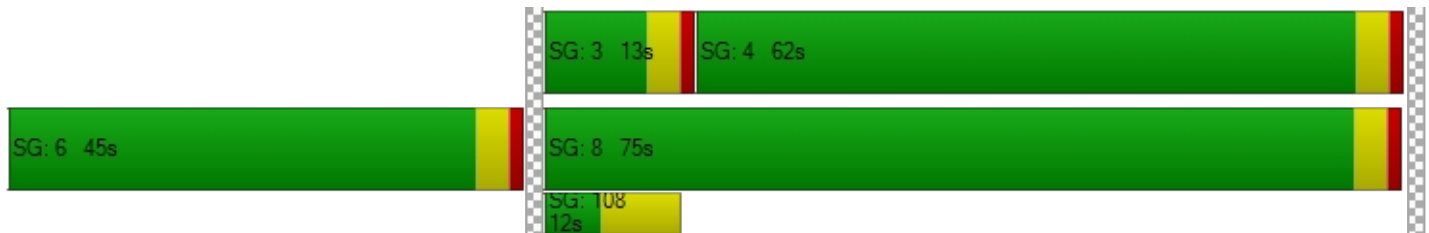
Vehicle Miles Traveled [mph]	102.92	55.43		141.64	170.77	133.30
Stops [stops/h]	3711.50	1505.20		2731.41	1147.33	5131.84
Fuel consumption [US gal/h]	268.85	67.79		196.94	29.60	386.51
CO [g/h]	18792.94	4738.23		13765.77	2069.28	27017.15
NOx [g/h]	3656.42	921.89		2678.32	402.61	5256.55
VOC [g/h]	4355.44	1098.13		3190.35	479.58	6261.48

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	3.293		0.000		0.000		0.000
Crosswalk LOS	C		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	683		0		1183		967
d_b, Bicycle Delay [s]	26.00		60.00		10.00		16.02
I_b,int, Bicycle LOS Score for Intersection	5.198		4.132		5.257		4.761
Bicycle LOS	F		D		F		E

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro With
SIGNAL AM cumulative.vistro

Scenario 1 Existing Conditions AM

Report File: C:\...\Ex AM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.008	11.8	B
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition		0.000	0.0	
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition		0.000	0.0	
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	SB Left	0.605	46.6	D
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	NB Thru	0.003	0.0	A
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	NB Thru	0.003	0.0	A
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	NB Thru	0.003	0.0	A
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	EB Left	0.576	33.2	C
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	WB Left	0.728	28.3	C
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Left	0.716	38.6	D

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.8
 Level Of Service: B
 Volume to Capacity (v/c): 0.008

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	1	790	1	3	447
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	790	1	3	447
Peak Hour Factor	0.2500	0.2500	0.8190	0.8190	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	241	0	1	130
Total Analysis Volume [veh/h]	0	4	965	1	3	520
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	26.38	11.85	0.00	0.00	10.10	0.00
Movement LOS	D	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.00	0.00	0.01	0.00
95th-Percentile Queue Length [ft/ln]	0.57	0.57	0.00	0.00	0.32	0.00
d_A, Approach Delay [s/veh]	11.85		0.00		0.06	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.05					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↪		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↩		↩	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	46.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.605

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			↵↶			↵↷			↵↷		
Lane Configuration	+			↵↶			↵↷			↵↷		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	91	98	140	88	58	9	6	773	89	86	435	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	2	0	0	19	0	0	14
Total Hourly Volume [veh/h]	91	98	114	88	58	7	6	773	70	86	435	51
Peak Hour Factor	0.8130	0.8130	0.8130	0.8650	0.8650	0.8650	0.8210	0.8210	0.8210	0.8980	0.8980	0.8980
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	30	35	25	17	2	2	235	21	24	121	14
Total Analysis Volume [veh/h]	112	121	140	102	67	8	7	942	85	96	484	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	33	0	0	16	0	9	39	0	16	46	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	20	0	13	43	0	20	50	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	16	16	16	9	39	39	16	46	46
g / C, Green / Cycle	0.28	0.13	0.13	0.13	0.08	0.33	0.33	0.13	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.22	0.06	0.04	0.01	0.00	0.28	0.28	0.05	0.15	0.15
s, saturation flow rate [veh/h]	1729	1781	1870	1589	1781	1870	1816	1781	1870	1802
c, Capacity [veh/h]	476	237	249	212	134	608	590	237	717	691
d1, Uniform Delay [s]	40.21	47.80	46.74	45.29	51.54	37.89	37.90	47.63	26.75	26.77
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.22	5.59	2.63	0.33	0.74	14.51	14.88	5.05	1.55	1.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.43	0.27	0.04	0.05	0.86	0.86	0.40	0.38	0.39
d, Delay for Lane Group [s/veh]	52.43	53.39	49.37	45.63	52.28	52.40	52.77	52.68	28.30	28.39
Lane Group LOS	D	D	D	D	D	D	D	D	C	C
Critical Lane Group	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	11.63	3.13	1.96	0.23	0.22	16.12	15.72	2.90	5.79	5.62
50th-Percentile Queue Length [ft/ln]	290.70	78.33	48.95	5.63	5.48	403.08	393.04	72.57	144.64	140.38
95th-Percentile Queue Length [veh/ln]	17.22	5.64	3.52	0.41	0.39	22.71	22.22	5.22	9.73	9.50
95th-Percentile Queue Length [ft/ln]	430.51	140.99	88.10	10.13	9.87	567.71	555.61	130.62	243.26	237.54

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.43	52.43	52.43	53.39	49.37	45.63	52.28	52.57	52.77	52.68	28.34	28.39
Movement LOS	D	D	D	D	D	D	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	52.43			51.52			52.58			32.01		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	46.57											
Intersection LOS	D											
Intersection V/C	0.605											

Emissions

Vehicle Miles Traveled [mph]	84.54	8.77	5.76	0.69	1.76	131.34	127.58	23.86	68.34	66.14
Stops [stops/h]	348.84	93.99	58.73	6.75	6.58	483.69	471.65	87.08	173.57	168.46
Fuel consumption [US gal/h]	9.83	2.35	1.46	0.17	0.22	16.07	15.67	2.93	6.08	5.90
CO [g/h]	686.78	163.96	101.81	11.55	15.15	1123.37	1095.42	204.79	425.28	412.34
NOx [g/h]	133.62	31.90	19.81	2.25	2.95	218.57	213.13	39.85	82.74	80.23
VOC [g/h]	159.17	38.00	23.59	2.68	3.51	260.35	253.87	47.46	98.56	95.56

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.272	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	267	650	767
d_b, Bicycle Delay [s]	31.54	45.07	27.34	22.82
I_b,int, Bicycle LOS Score for Intersection	2.218	1.855	2.428	2.097
Bicycle LOS	B	A	B	B

Sequence

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



**Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3**

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	335	224	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	84	56	0	0	0
Total Analysis Volume [veh/h]	0	335	224	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.68	0.00	0.00	0.00	12.35	9.41
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.88	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	335	224	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	84	56	0	0	0
Total Analysis Volume [veh/h]	0	335	224	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.68	0.00	0.00	0.00	12.35	9.41
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.88	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.003

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	345	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	345	224	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	86	56	0	0	0
Total Analysis Volume [veh/h]	0	345	224	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.68	0.00	0.00	0.00	12.44	9.41
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	33.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			⌋⌋⌋⌋			⌋⌋⌋			⌋⌋⌋		
Lane Configuration	+			⌋⌋⌋⌋			⌋⌋⌋			⌋⌋⌋		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	36	15	152	252	0	67	78	873	16	103	526	284
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	13	0	0	6	0	0	2	0	0	78
Total Hourly Volume [veh/h]	36	15	139	252	0	61	78	873	14	103	526	206
Peak Hour Factor	0.8940	0.8940	0.8940	0.8410	1.0000	0.8410	0.8400	0.8400	0.8400	0.8470	0.8470	0.8470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	4	39	75	0	18	23	260	4	30	155	61
Total Analysis Volume [veh/h]	40	17	155	300	0	73	93	1039	17	122	621	243
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	44	20	0	32	0	0	25	32	0	44	80	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	0.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	65	14	0	41	0	0	14	14	0	65	79	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	18	14	14	8	58	58	10	60	60
g / C, Green / Cycle	0.15	0.11	0.11	0.07	0.48	0.48	0.09	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.13	0.09	0.03	0.05	0.29	0.01	0.07	0.17	0.15
s, saturation flow rate [veh/h]	1643	3459	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	241	391	318	117	1707	762	153	1780	794
d1, Uniform Delay [s]	50.22	51.75	48.52	55.29	22.97	16.45	53.84	18.20	17.74
k, delay calibration	0.17	0.13	0.13	0.13	0.50	0.50	0.13	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.72	3.84	0.44	13.39	1.62	0.05	10.64	0.54	1.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.77	0.23	0.79	0.61	0.02	0.80	0.35	0.31
d, Delay for Lane Group [s/veh]	64.95	55.59	48.96	68.68	24.60	16.50	64.48	18.74	18.73
Lane Group LOS	E	E	D	E	C	B	E	B	B
Critical Lane Group	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.10	4.52	1.00	3.14	10.49	0.25	3.98	5.06	3.98
50th-Percentile Queue Length [ft/ln]	177.54	113.02	25.08	78.60	262.15	6.20	99.49	126.47	99.40
95th-Percentile Queue Length [veh/ln]	11.47	8.01	1.81	5.66	15.80	0.45	7.16	8.75	7.16
95th-Percentile Queue Length [ft/ln]	286.80	200.19	45.15	141.48	394.91	11.16	179.07	218.68	178.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	64.95	64.95	64.95	55.59	0.00	48.96	68.68	24.60	16.50	64.48	18.74	18.73
Movement LOS	E	E	E	E		D	E	C	B	E	B	B
d_A, Approach Delay [s/veh]	64.95			54.29			28.05			24.40		
Approach LOS	E			D			C			C		
d_I, Intersection Delay [s/veh]	33.20											
Intersection LOS	C											
Intersection V/C	0.576											

Emissions

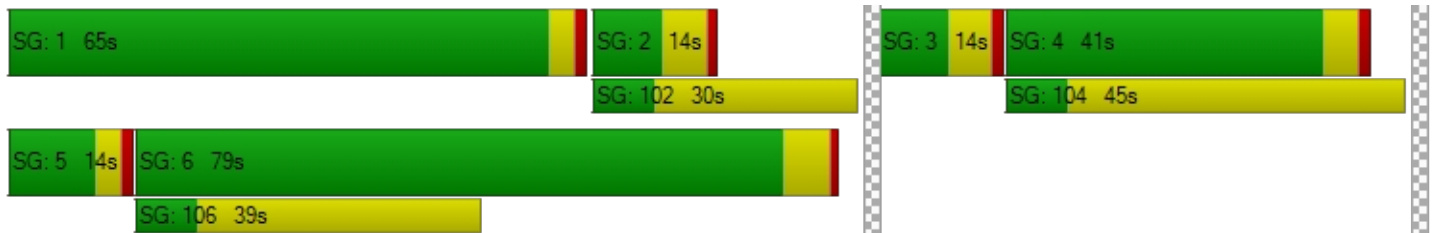
Vehicle Miles Traveled [mph]	21.53	34.13	8.31	24.16	269.96	4.42	18.08	92.02	36.01
Stops [stops/h]	212.94	271.11	60.17	94.28	628.85	7.44	119.33	303.38	119.22
Fuel consumption [US gal/h]	5.66	7.28	1.62	3.30	22.27	0.30	3.70	9.29	3.64
CO [g/h]	395.95	508.83	112.94	230.68	1556.90	21.04	258.91	649.71	254.64
NOx [g/h]	77.04	99.00	21.97	44.88	302.92	4.09	50.37	126.41	49.54
VOC [g/h]	91.76	117.93	26.18	53.46	360.83	4.88	60.01	150.58	59.02

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.53	49.53	49.53	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.985	2.651	2.930	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	600	133	1216
d_b, Bicycle Delay [s]	52.29	29.43	52.29	9.22
I_b,int, Bicycle LOS Score for Intersection	1.931	1.560	2.509	2.437
Bicycle LOS	A	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	28.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.728

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↑↓			↑↓			↑↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	122	0	350	477	799	477	133	647	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	178	0	0	71	0	0	0
Total Hourly Volume [veh/h]	0	0	0	122	0	172	477	799	406	133	647	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.8120	0.8120	0.8850	0.8850	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	33	0	47	119	246	125	38	183	0
Total Analysis Volume [veh/h]	0	0	0	133	0	187	477	984	500	150	731	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	32	0	0	32	0	44	80	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	41	0	0	14	0	65	79	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		17	17	70	70	12	82
g / C, Green / Cycle		0.14	0.14	0.58	0.58	0.10	0.68
(v / s)_i Volume / Saturation Flow Rate		0.07	0.12	0.53	0.31	0.08	0.21
s, saturation flow rate [veh/h]		1781	1589	1870	1589	1781	3560
c, Capacity [veh/h]		251	224	1086	923	183	2433
d1, Uniform Delay [s]		47.89	50.22	22.28	15.40	52.77	7.58
k, delay calibration		0.13	0.13	0.50	0.50	0.13	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		2.08	9.36	12.36	2.28	10.21	0.32
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.53	0.83	0.91	0.54	0.82	0.30
d, Delay for Lane Group [s/veh]		49.97	59.58	34.64	17.68	62.97	7.89
Lane Group LOS		D	E	C	B	E	A
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		3.78	5.95	25.31	8.17	4.84	3.31
50th-Percentile Queue Length [ft/ln]		94.61	148.71	632.82	204.13	120.94	82.87
95th-Percentile Queue Length [veh/ln]		6.81	9.95	33.56	12.85	8.44	5.97
95th-Percentile Queue Length [ft/ln]		170.29	248.71	839.10	321.28	211.12	149.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	49.97	49.97	59.58	0.00	34.64	17.68	62.97	7.89	0.00
Movement LOS				D	D	E		C	B	E	A	
d_A, Approach Delay [s/veh]	0.00			55.59			28.92			17.27		
Approach LOS	A			E			C			B		
d_I, Intersection Delay [s/veh]	28.28											
Intersection LOS	C											
Intersection V/C	0.728											

Emissions

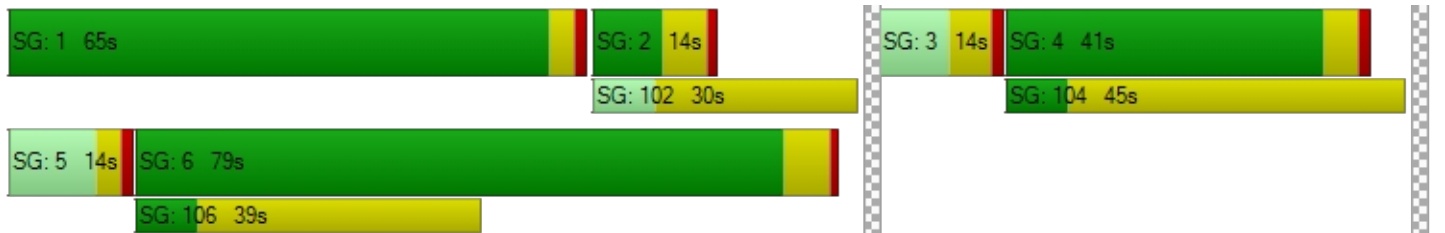
Vehicle Miles Traveled [mph]		8.58	12.06	145.82	74.09	20.91	101.91
Stops [stops/h]		113.48	178.37	759.02	244.84	145.06	198.80
Fuel consumption [US gal/h]		2.77	4.45	21.37	7.38	4.44	7.14
CO [g/h]		193.92	311.15	1493.85	516.04	310.52	499.02
NOx [g/h]		37.73	60.54	290.65	100.40	60.42	97.09
VOC [g/h]		44.94	72.11	346.21	119.60	71.97	115.65

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.53	0.00	49.53
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.306	0.000	2.875
Crosswalk LOS	F	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	600	133	1216
d_b, Bicycle Delay [s]	60.03	29.43	52.29	9.22
I_b,int, Bicycle LOS Score for Intersection	4.132	2.381	4.125	2.286
Bicycle LOS	D	B	D	B

Sequence

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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	38.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.716

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	↔						↔			↔		
Lane Configuration	↔						↔			↔		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	291	0	140	0	0	0	231	632	0	0	489	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	68	0	0	0	0	0	0	0	0	41
Total Hourly Volume [veh/h]	291	0	72	0	0	0	231	632	0	0	489	134
Peak Hour Factor	0.9120	0.9120	0.9120	1.0000	1.0000	1.0000	0.8850	0.8850	1.0000	1.0000	0.8850	0.8850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	0	20	0	0	0	65	179	0	0	138	38
Total Analysis Volume [veh/h]	319	0	79	0	0	0	261	714	0	0	553	151
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	10	0	0	0	0	46	102	0	0	52	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	0	0	0	0	27	78	0	0	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	39	39		20	73	49
g / C, Green / Cycle	0.33	0.33		0.17	0.60	0.41
(v / s)_i Volume / Saturation Flow Rate	0.18	0.05		0.15	0.38	0.39
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1802
c, Capacity [veh/h]	584	522		296	1132	731
d1, Uniform Delay [s]	32.99	28.50		48.88	15.13	34.79
k, delay calibration	0.50	0.50		0.11	0.11	0.40
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	3.64	0.61		8.45	0.59	21.99
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.15		0.88	0.63	0.96
d, Delay for Lane Group [s/veh]	36.63	29.11		57.33	15.72	56.78
Lane Group LOS	D	C		E	B	E
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	7.99	1.67		8.18	11.56	23.24
50th-Percentile Queue Length [ft/ln]	199.65	41.78		204.55	289.00	580.95
95th-Percentile Queue Length [veh/ln]	12.62	3.01		12.87	17.14	31.14
95th-Percentile Queue Length [ft/ln]	315.51	75.20		321.82	428.40	778.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.63	36.63	29.11	0.00	0.00	0.00	57.33	15.72	0.00	0.00	56.78	56.78
Movement LOS	D	D	C				E	B			E	E
d_A, Approach Delay [s/veh]	35.14			0.00			26.86			56.78		
Approach LOS	D			A			C			E		
d_I, Intersection Delay [s/veh]	38.59											
Intersection LOS	D											
Intersection V/C	0.716											

Emissions

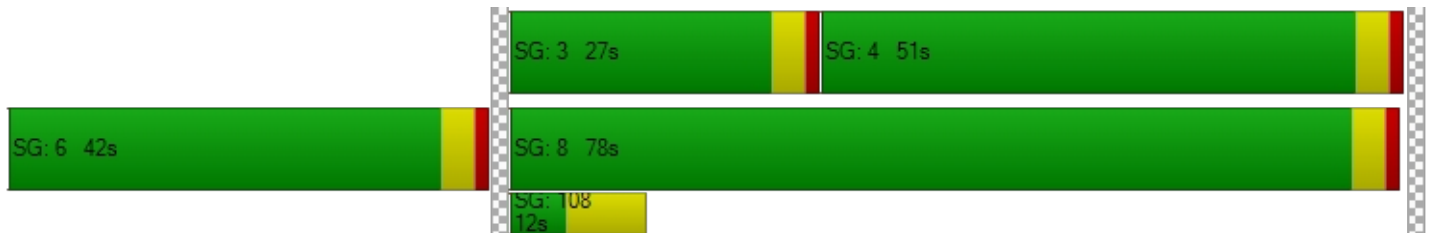
Vehicle Miles Traveled [mph]	23.90	5.92		36.39	99.54	49.21
Stops [stops/h]	239.58	50.14		245.46	346.80	697.14
Fuel consumption [US gal/h]	5.59	1.17		6.76	9.26	18.49
CO [g/h]	390.53	81.96		472.47	646.99	1292.33
NOx [g/h]	75.98	15.95		91.93	125.88	251.44
VOC [g/h]	90.51	18.99		109.50	149.95	299.51

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.130		0.000		0.000		0.000
Crosswalk LOS	B		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	633		0		1233		783
d_b, Bicycle Delay [s]	28.02		60.00		8.82		22.20
I_b,int, Bicycle LOS Score for Intersection	2.329		4.132		3.168		2.789
Bicycle LOS	B		D		C		C

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro With SIGNAL PM cumulative.vistro

Scenario 1 Existing Conditions PM

Report File: C:\...\Ex PM.pdf

1/11/2024

Intersection Analysis Summary




ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.012	10.7	B
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition		0.000	0.0	
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition		0.000	0.0	
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	WB Left	0.602	46.0	D
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	SB Thru	0.004	0.0	A
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	SB Thru	0.004	0.0	A
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	SB Thru	0.004	0.0	A
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	EB Left	0.510	34.8	C
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	WB Left	0.586	26.5	C
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Left	0.720	38.6	D

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	2	599	2	4	642
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	2	599	2	4	642
Peak Hour Factor	0.2500	0.2500	0.8480	0.8480	0.9160	0.9160
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	177	1	1	175
Total Analysis Volume [veh/h]	0	8	706	2	4	701
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	21.70	10.68	0.00	0.00	9.08	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.04	0.04	0.00	0.00	0.01	0.00
95th-Percentile Queue Length [ft/ln]	0.95	0.95	0.00	0.00	0.34	0.00
d_A, Approach Delay [s/veh]	10.68		0.00		0.05	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name						
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	0	0
Total Analysis Volume [veh/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.22	0.00	8.52	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		3.61		8.42	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.01					
Intersection LOS						

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	46.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.602

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			← →			← →			← →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	115	101	138	45	115	18	7	478	113	189	589	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	5	0	0	9	0	0	20
Total Hourly Volume [veh/h]	115	101	124	45	115	13	7	478	104	189	589	67
Peak Hour Factor	0.9040	0.9040	0.9040	0.8620	0.8620	0.8620	0.8430	0.8430	0.8430	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	28	34	13	33	4	2	142	31	55	170	19
Total Analysis Volume [veh/h]	127	112	137	52	133	15	8	567	123	219	682	78
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	33	0	0	18	0	8	30	0	23	45	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	22	0	12	34	0	27	49	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	18	18	18	8	30	30	23	45	45
g / C, Green / Cycle	0.28	0.15	0.15	0.15	0.07	0.25	0.25	0.19	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.22	0.03	0.07	0.01	0.00	0.19	0.19	0.12	0.21	0.21
s, saturation flow rate [veh/h]	1730	1781	1870	1589	1781	1870	1756	1781	1870	1803
c, Capacity [veh/h]	476	267	280	238	119	467	439	341	701	676
d1, Uniform Delay [s]	40.30	44.65	46.67	43.76	52.50	41.66	41.71	44.70	29.55	29.55
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.60	1.62	5.65	0.51	1.09	11.03	11.88	8.94	3.11	3.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.19	0.47	0.06	0.07	0.76	0.76	0.64	0.55	0.55
d, Delay for Lane Group [s/veh]	52.90	46.28	52.32	44.27	53.59	52.68	53.58	53.64	32.66	32.78
Lane Group LOS	D	D	D	D	D	D	D	D	C	C
Critical Lane Group	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	11.78	1.46	4.02	0.41	0.26	10.82	10.32	6.69	9.03	8.73
50th-Percentile Queue Length [ft/ln]	294.52	36.48	100.48	10.30	6.43	270.60	258.06	167.15	225.74	218.24
95th-Percentile Queue Length [veh/ln]	17.41	2.63	7.23	0.74	0.46	16.22	15.59	10.93	13.96	13.58
95th-Percentile Queue Length [ft/ln]	435.24	65.66	180.87	18.54	11.58	405.48	389.79	273.16	348.94	339.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.90	52.90	52.90	46.28	52.32	44.27	53.59	53.02	53.58	53.64	32.71	32.78
Movement LOS	D	D	D	D	D	D	D	D	D	D	C	C
d_A, Approach Delay [s/veh]	52.90			50.15			53.13			37.40		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	45.99											
Intersection LOS	D											
Intersection V/C	0.602											

Emissions

Vehicle Miles Traveled [mph]	85.22	4.47	11.44	1.29	2.02	89.50	84.46	54.44	96.17	92.75
Stops [stops/h]	353.42	43.78	120.58	12.36	7.72	324.72	309.67	200.58	270.89	261.89
Fuel consumption [US gal/h]	9.95	1.08	3.01	0.30	0.25	10.91	10.40	6.75	9.24	8.92
CO [g/h]	695.73	75.48	210.41	21.16	17.64	762.65	726.84	471.86	645.59	623.78
NOx [g/h]	135.36	14.69	40.94	4.12	3.43	148.38	141.42	91.81	125.61	121.36
VOC [g/h]	161.24	17.49	48.76	4.90	4.09	176.75	168.45	109.36	149.62	144.57

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.291	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	300	500	750
d_b, Bicycle Delay [s]	31.54	43.35	33.75	23.44
I_b,int, Bicycle LOS Score for Intersection	2.203	1.898	2.143	2.384
Bicycle LOS	B	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	377	417	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	94	104	0	0	0
Total Analysis Volume [veh/h]	0	377	417	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.15	0.00	0.00	0.00	15.08	10.66
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.87	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	377	417	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	94	104	0	0	0
Total Analysis Volume [veh/h]	0	377	417	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.15	0.00	0.00	0.00	15.08	10.66
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.87	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5

Control Type:	Two-way stop	Delay (sec / veh):	0.0
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	377	417	0	0	0
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	94	104	0	0	0
Total Analysis Volume [veh/h]	0	377	417	0	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	8.15	0.00	0.00	0.00	15.08	10.66
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		12.87	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	34.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.510

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			T T T T			T T T			T T T		
Lane Configuration	+			T T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	34	27	78	428	0	121	103	507	31	104	669	374
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	14	0	0	7	0	0	121
Total Hourly Volume [veh/h]	34	27	64	428	0	107	103	507	24	104	669	253
Peak Hour Factor	0.8270	0.8270	0.8270	0.8630	1.0000	0.8630	0.9080	0.9080	0.9080	0.8770	0.8770	0.8770
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	8	19	124	0	31	28	140	7	30	191	72
Total Analysis Volume [veh/h]	41	33	77	496	0	124	113	558	26	119	763	288
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	43	20	0	33	0	0	25	32	0	43	79	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	0.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	65	14	0	41	0	0	14	14	0	65	79	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	13	21	21	9	55	55	10	56	56
g / C, Green / Cycle	0.11	0.18	0.18	0.08	0.46	0.46	0.08	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.09	0.14	0.04	0.06	0.16	0.02	0.07	0.21	0.18
s, saturation flow rate [veh/h]	1694	3459	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	180	606	493	139	1634	730	150	1657	740
d1, Uniform Delay [s]	52.64	47.68	42.73	54.52	20.84	17.87	53.96	21.85	20.96
k, delay calibration	0.13	0.13	0.13	0.13	0.50	0.50	0.13	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.52	3.34	0.32	12.84	0.57	0.09	10.71	0.92	1.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.82	0.25	0.81	0.34	0.04	0.79	0.46	0.39
d, Delay for Lane Group [s/veh]	64.16	51.02	43.05	67.36	21.41	17.96	64.67	22.77	22.51
Lane Group LOS	E	D	D	E	C	B	E	C	C
Critical Lane Group	Yes	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.97	7.28	1.59	3.78	4.91	0.40	3.89	7.13	5.33
50th-Percentile Queue Length [ft/ln]	124.13	182.01	39.74	94.40	122.77	10.01	97.19	178.19	133.16
95th-Percentile Queue Length [veh/ln]	8.62	11.71	2.86	6.80	8.54	0.72	7.00	11.51	9.11
95th-Percentile Queue Length [ft/ln]	215.48	292.63	71.54	169.93	213.62	18.02	174.95	287.65	227.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	64.16	64.16	64.16	51.02	0.00	43.05	67.36	21.41	17.96	64.67	22.77	22.51
Movement LOS	E	E	E	D		D	E	C	B	E	C	C
d_A, Approach Delay [s/veh]	64.16			49.43			28.73			26.97		
Approach LOS	E			D			C			C		
d_I, Intersection Delay [s/veh]	34.84											
Intersection LOS	C											
Intersection V/C	0.510											

Emissions

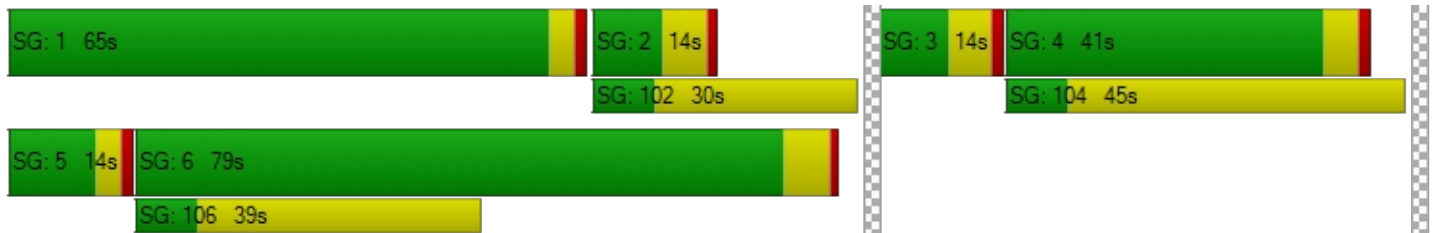
Vehicle Miles Traveled [mph]	15.33	56.43	14.11	29.36	144.98	6.76	17.63	113.07	42.68
Stops [stops/h]	148.88	436.61	95.34	113.23	294.50	12.01	116.58	427.46	159.71
Fuel consumption [US gal/h]	3.98	11.46	2.53	3.96	11.06	0.48	3.62	12.73	4.77
CO [g/h]	278.41	801.05	176.71	277.02	773.30	33.26	253.03	889.54	333.26
NOx [g/h]	54.17	155.86	34.38	53.90	150.46	6.47	49.23	173.07	64.84
VOC [g/h]	64.52	185.65	40.95	64.20	179.22	7.71	58.64	206.16	77.24

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.53	49.53	49.53	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.955	2.744	2.878	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	600	133	1216
d_b, Bicycle Delay [s]	52.29	29.43	52.29	9.22
I_b,int, Bicycle LOS Score for Intersection	1.832	1.560	2.140	2.625
Bicycle LOS	A	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	26.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↑↓			↑↓			↑↑↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	212	5	415	477	637	373	98	740	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	189	0	0	136	0	0	0
Total Hourly Volume [veh/h]	0	0	0	212	5	226	477	637	237	98	740	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8190	0.8190	0.8190	1.0000	0.9670	0.9670	0.9240	0.9240	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	65	2	69	119	165	61	27	200	0
Total Analysis Volume [veh/h]	0	0	0	259	6	276	477	659	245	106	801	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	33	0	0	32	0	43	79	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	41	0	0	14	0	65	79	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		24	24	66	66	9	75
g / C, Green / Cycle		0.20	0.20	0.55	0.55	0.08	0.62
(v / s)_i Volume / Saturation Flow Rate		0.15	0.17	0.35	0.15	0.06	0.22
s, saturation flow rate [veh/h]		1783	1589	1870	1589	1781	3560
c, Capacity [veh/h]		359	320	1023	870	136	2219
d1, Uniform Delay [s]		45.00	46.36	19.00	14.55	54.50	11.01
k, delay calibration		0.13	0.13	0.50	0.50	0.13	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		3.58	8.13	3.12	0.81	11.09	0.46
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.74	0.86	0.64	0.28	0.78	0.36
d, Delay for Lane Group [s/veh]		48.58	54.49	22.12	15.36	65.58	11.46
Lane Group LOS		D	D	C	B	E	B
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		7.61	8.51	12.60	3.53	3.49	4.78
50th-Percentile Queue Length [ft/ln]		190.30	212.69	314.94	88.22	87.24	119.59
95th-Percentile Queue Length [veh/ln]		12.14	13.29	18.42	6.35	6.28	8.37
95th-Percentile Queue Length [ft/ln]		303.42	332.28	460.46	158.79	157.04	209.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	48.58	48.58	54.49	0.00	22.12	15.36	65.58	11.46	0.00
Movement LOS				D	D	D		C	B	E	B	
d_A, Approach Delay [s/veh]	0.00			51.60			20.29			17.79		
Approach LOS	A			D			C			B		
d_I, Intersection Delay [s/veh]	26.53											
Intersection LOS	C											
Intersection V/C	0.586											

Emissions

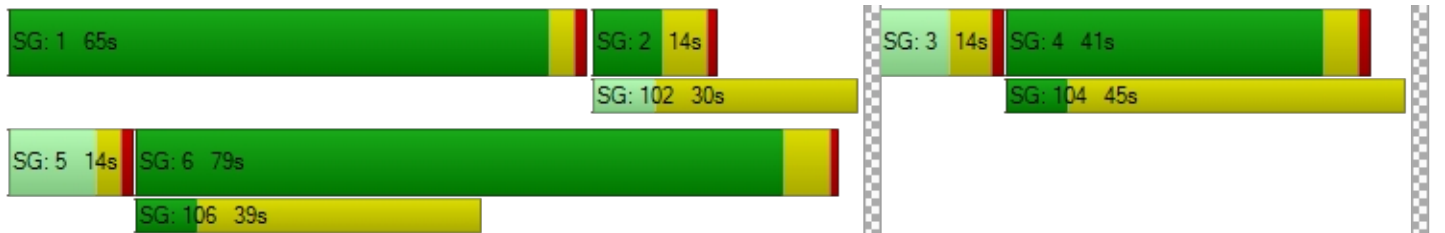
Vehicle Miles Traveled [mph]		17.09	17.80	97.66	36.31	14.78	111.67
Stops [stops/h]		228.25	255.11	377.74	105.81	104.64	286.88
Fuel consumption [US gal/h]		5.47	6.20	11.01	3.33	3.22	9.26
CO [g/h]		382.63	433.66	769.67	232.48	225.23	647.51
NOx [g/h]		74.45	84.38	149.75	45.23	43.82	125.98
VOC [g/h]		88.68	100.51	178.38	53.88	52.20	150.07

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.53	0.00	49.53
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.472	0.000	2.812
Crosswalk LOS	F	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	600	133	1216
d_b, Bicycle Delay [s]	60.03	29.43	52.29	9.22
I_b,int, Bicycle LOS Score for Intersection	4.132	2.764	3.276	2.308
Bicycle LOS	D	C	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	38.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.720

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	409	1	199	0	0	0	237	608	0	0	401	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	91	0	0	0	0	0	0	0	0	33
Total Hourly Volume [veh/h]	409	1	108	0	0	0	237	608	0	0	401	142
Peak Hour Factor	0.9010	0.9010	0.9010	1.0000	1.0000	1.0000	0.9580	0.9580	1.0000	1.0000	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	113	0	30	0	0	0	62	159	0	0	107	38
Total Analysis Volume [veh/h]	454	1	120	0	0	0	247	635	0	0	430	152
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	10	0	0	0	0	49	102	0	0	49	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	30	0	0	0	0	51	90	0	0	39	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	48	48		19	64	41
g / C, Green / Cycle	0.40	0.40		0.16	0.53	0.34
(v / s)_i Volume / Saturation Flow Rate	0.26	0.08		0.14	0.34	0.33
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1788
c, Capacity [veh/h]	710	633		282	1000	614
d1, Uniform Delay [s]	29.17	23.49		49.34	19.65	38.38
k, delay calibration	0.50	0.50		0.11	0.11	0.32
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.41	0.66		8.43	0.67	18.88
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.19		0.88	0.63	0.95
d, Delay for Lane Group [s/veh]	33.58	24.15		57.78	20.32	57.25
Lane Group LOS	C	C		E	C	E
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	11.07	2.28		7.76	11.91	19.03
50th-Percentile Queue Length [ft/ln]	276.71	57.07		193.91	297.73	475.85
95th-Percentile Queue Length [veh/ln]	16.52	4.11		12.32	17.57	26.19
95th-Percentile Queue Length [ft/ln]	413.11	102.73		308.10	439.23	654.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.58	33.58	24.15	0.00	0.00	0.00	57.78	20.32	0.00	0.00	57.25	57.25
Movement LOS	C	C	C				E	C			E	E
d_A, Approach Delay [s/veh]	31.61			0.00			30.81			57.25		
Approach LOS	C			A			C			E		
d_I, Intersection Delay [s/veh]	38.58											
Intersection LOS	D											
Intersection V/C	0.720											

Emissions

Vehicle Miles Traveled [mph]	34.08	8.99		34.43	88.52	40.68
Stops [stops/h]	332.05	68.49		232.69	357.28	571.02
Fuel consumption [US gal/h]	7.59	1.58		6.42	9.31	15.27
CO [g/h]	530.68	110.76		448.97	650.55	1067.69
NOx [g/h]	103.25	21.55		87.35	126.57	207.73
VOC [g/h]	122.99	25.67		104.05	150.77	247.45

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.292		0.000		0.000		0.000
Crosswalk LOS	B		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	433		0		1433		583
d_b, Bicycle Delay [s]	36.82		60.00		4.82		30.10
I_b,int, Bicycle LOS Score for Intersection	2.659		4.132		3.015		2.574
Bicycle LOS	B		D		C		B

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro With
SIGNAL AM cumulative.vistro

Scenario 3 Existing Conditions Plus Project AM

Report File: C:\...\ExPP AM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.060	12.2	B
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition	WB Right	0.004	8.3	A
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition	WB Right	0.002	8.3	A
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	EB Right	0.644	48.6	D
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	EB Left	0.013	13.0	B
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	EB Left	0.009	12.8	B
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	EB Right	0.001	9.5	A
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	EB Left	0.581	33.3	C
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	WB Left	0.750	31.1	C
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Left	0.738	38.9	D

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 12.2
 Level Of Service: B
 Volume to Capacity (v/c): 0.060

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↔		↔		↔	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	1	790	1	3	447
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	0	0	7	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	8	790	1	10	447
Peak Hour Factor	0.2500	0.2500	0.8190	0.8190	0.8600	0.8600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	8	241	0	3	130
Total Analysis Volume [veh/h]	0	32	965	1	12	520
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.06	0.01	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	27.64	12.23	0.00	0.00	10.17	0.00
Movement LOS	D	B	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.19	0.19	0.00	0.00	0.05	0.00
95th-Percentile Queue Length [ft/ln]	4.81	4.81	0.00	0.00	1.29	0.00
d_A, Approach Delay [s/veh]	12.23		0.00		0.23	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.34					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	3	5	2	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	3	5	2	0	4
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	1	0	1
Total Analysis Volume [veh/h]	3	3	5	2	0	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.62	8.35
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.21	0.21	0.28	0.28
d_A, Approach Delay [s/veh]	0.00		5.17		8.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.09					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.002

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↪		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	1	2	0	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	1	2	0	0	2
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	1	0	0	1
Total Analysis Volume [veh/h]	4	1	2	0	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.57	8.34
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.09	0.09	0.14	0.14
d_A, Approach Delay [s/veh]	0.00		7.23		8.34	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.46					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	48.6
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.644

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			← →			← →			← →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	91	98	140	88	58	9	6	773	89	86	435	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	1	9	0	3	1	0	7	0	46	6	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	26	0	0	2	0	0	19	0	0	14
Total Hourly Volume [veh/h]	91	99	123	88	61	8	6	780	70	132	441	51
Peak Hour Factor	0.8130	0.8130	0.8130	0.8650	0.8650	0.8650	0.8210	0.8210	0.8210	0.8980	0.8980	0.8980
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	28	30	38	25	18	2	2	238	21	37	123	14
Total Analysis Volume [veh/h]	112	122	151	102	71	9	7	950	85	147	491	57
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	33	0	0	15	0	6	38	0	18	50	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	37	0	0	19	0	10	42	0	22	54	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	15	15	15	6	38	38	18	50	50
g / C, Green / Cycle	0.28	0.13	0.13	0.13	0.05	0.32	0.32	0.15	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.22	0.06	0.04	0.01	0.00	0.28	0.28	0.08	0.15	0.15
s, saturation flow rate [veh/h]	1725	1781	1870	1589	1781	1870	1817	1781	1870	1803
c, Capacity [veh/h]	475	223	234	199	89	592	575	267	779	751
d1, Uniform Delay [s]	40.60	48.73	47.75	46.20	54.36	38.95	38.95	47.25	23.99	24.00
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.01	6.66	3.32	0.43	1.72	17.65	18.07	7.93	1.28	1.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.46	0.30	0.05	0.08	0.89	0.89	0.55	0.36	0.36
d, Delay for Lane Group [s/veh]	54.60	55.38	51.07	46.63	56.08	56.60	57.03	55.18	25.27	25.34
Lane Group LOS	D	E	D	D	E	E	E	E	C	C
Critical Lane Group	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	12.28	3.21	2.12	0.26	0.24	16.93	16.51	4.56	5.48	5.31
50th-Percentile Queue Length [ft/ln]	307.03	80.16	53.05	6.44	6.00	423.13	412.81	113.93	136.90	132.69
95th-Percentile Queue Length [veh/ln]	18.03	5.77	3.82	0.46	0.43	23.67	23.18	8.06	9.31	9.09
95th-Percentile Queue Length [ft/ln]	450.71	144.28	95.49	11.59	10.80	591.81	579.42	201.46	232.84	227.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	54.60	54.60	54.60	55.38	51.07	46.63	56.08	56.79	57.03	55.18	25.30	25.34
Movement LOS	D	D	D	E	D	D	E	E	E	E	C	C
d_A, Approach Delay [s/veh]	54.60			53.27			56.81			31.62		
Approach LOS	D			D			E			C		
d_I, Intersection Delay [s/veh]	48.56											
Intersection LOS	D											
Intersection V/C	0.644											

Emissions

Vehicle Miles Traveled [mph]	87.26	8.77	6.10	0.77	1.76	132.35	128.59	36.54	69.26	66.96
Stops [stops/h]	368.43	96.19	63.66	7.72	7.20	507.76	495.37	136.72	164.28	159.22
Fuel consumption [US gal/h]	10.37	2.41	1.58	0.19	0.23	16.90	16.49	4.60	5.85	5.66
CO [g/h]	725.16	168.36	110.58	13.21	16.07	1181.02	1152.32	321.75	408.88	395.91
NOx [g/h]	141.09	32.76	21.51	2.57	3.13	229.78	224.20	62.60	79.55	77.03
VOC [g/h]	168.06	39.02	25.63	3.06	3.72	273.71	267.06	74.57	94.76	91.76

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.274	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	250	633	833
d_b, Bicycle Delay [s]	31.54	45.94	28.02	20.42
I_b,int, Bicycle LOS Score for Intersection	2.238	1.863	2.435	2.145
Bicycle LOS	B	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	13.0
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	3	4	31	18	6	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	339	255	18	6	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	85	64	5	2	0
Total Analysis Volume [veh/h]	3	339	255	18	6	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.79	0.00	0.00	0.00	12.99	9.76
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.13	0.13	0.00	0.00	1.10	1.10
d_A, Approach Delay [s/veh]	0.07		0.00		12.52	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	335	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	4	3	20	12	4	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	338	244	12	4	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	85	61	3	1	0
Total Analysis Volume [veh/h]	4	338	244	12	4	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.75	0.00	0.00	0.00	12.82	9.64
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.17	0.17	0.00	0.00	0.75	0.75
d_A, Approach Delay [s/veh]	0.09		0.00		12.18	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.15					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	345	224	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	6	7	14	0	1
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	351	231	14	0	1
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	88	58	4	0	0
Total Analysis Volume [veh/h]	2	351	231	14	0	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.73	0.00	0.00	0.00	12.71	9.50
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.00	0.00	0.09	0.09
d_A, Approach Delay [s/veh]	0.04		0.00		9.50	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.04					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	33.3
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.581

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			T T T T			T T T			T T T		
Lane Configuration	+			T T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	36	15	152	252	0	67	78	873	16	103	526	284
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	16	0	0	52	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	13	0	0	6	0	0	2	0	0	78
Total Hourly Volume [veh/h]	36	15	139	252	0	61	78	889	14	103	578	206
Peak Hour Factor	0.8940	0.8940	0.8940	0.8410	1.0000	0.8410	0.8400	0.8400	0.8400	0.8470	0.8470	0.8470
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	4	39	75	0	18	23	265	4	30	171	61
Total Analysis Volume [veh/h]	40	17	155	300	0	73	93	1058	17	122	682	243
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	44	20	0	32	0	0	25	32	0	44	80	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	0.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	65	14	0	41	0	0	11	14	0	65	79	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	18	14	14	7	58	58	10	61	61
g / C, Green / Cycle	0.15	0.11	0.11	0.06	0.48	0.48	0.09	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.13	0.09	0.03	0.05	0.30	0.01	0.07	0.19	0.15
s, saturation flow rate [veh/h]	1643	3459	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	241	391	318	104	1707	762	153	1806	806
d1, Uniform Delay [s]	50.22	51.75	48.52	56.16	23.15	16.45	53.84	18.05	17.22
k, delay calibration	0.17	0.13	0.13	0.13	0.50	0.50	0.13	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.72	3.84	0.44	24.60	1.70	0.05	10.64	0.60	0.96
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.77	0.23	0.89	0.62	0.02	0.80	0.38	0.30
d, Delay for Lane Group [s/veh]	64.95	55.59	48.96	80.76	24.85	16.50	64.48	18.65	18.18
Lane Group LOS	E	E	D	F	C	B	E	B	B
Critical Lane Group	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	7.10	4.52	1.00	3.44	10.77	0.25	3.98	5.57	3.90
50th-Percentile Queue Length [ft/ln]	177.54	113.02	25.08	86.10	269.17	6.20	99.49	139.35	97.57
95th-Percentile Queue Length [veh/ln]	11.47	8.01	1.81	6.20	16.15	0.45	7.16	9.45	7.03
95th-Percentile Queue Length [ft/ln]	286.80	200.19	45.15	154.98	403.70	11.16	179.07	236.15	175.63

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	64.95	64.95	64.95	55.59	0.00	48.96	80.76	24.85	16.50	64.48	18.65	18.18
Movement LOS	E	E	E	E		D	F	C	B	E	B	B
d_A, Approach Delay [s/veh]	64.95			54.29			29.18			23.88		
Approach LOS	E			D			C			C		
d_I, Intersection Delay [s/veh]	33.25											
Intersection LOS	C											
Intersection V/C	0.581											

Emissions

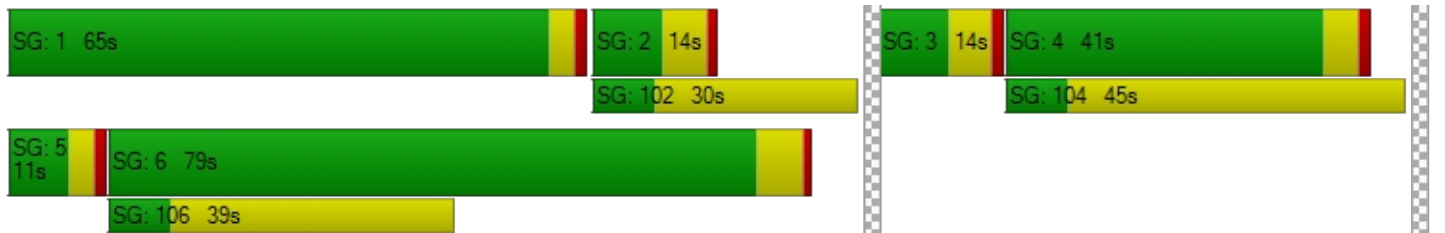
Vehicle Miles Traveled [mph]	21.53	34.13	8.31	24.16	274.90	4.42	18.08	101.06	36.01
Stops [stops/h]	212.94	271.11	60.17	103.27	645.71	7.44	119.33	334.28	117.03
Fuel consumption [US gal/h]	5.66	7.28	1.62	3.64	22.80	0.30	3.70	10.21	3.59
CO [g/h]	395.95	508.83	112.94	254.48	1593.80	21.04	258.91	713.61	250.85
NOx [g/h]	77.04	99.00	21.97	49.51	310.10	4.09	50.37	138.84	48.81
VOC [g/h]	91.76	117.93	26.18	58.98	369.38	4.88	60.01	165.39	58.14

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.53	49.53	49.53	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.985	2.651	2.950	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	600	133	1216
d_b, Bicycle Delay [s]	52.29	29.43	52.29	9.22
I_b,int, Bicycle LOS Score for Intersection	1.931	1.560	2.525	2.488
Bicycle LOS	A	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	31.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.750

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration				↑↓			↓↑			↑↑		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	122	0	350	477	799	477	133	647	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	24	0	8	8	0	28	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	178	0	0	71	0	0	0
Total Hourly Volume [veh/h]	0	0	0	122	0	196	477	807	414	133	675	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9200	0.9200	0.9200	1.0000	0.8120	0.8120	0.8850	0.8850	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	33	0	53	119	248	127	38	191	0
Total Analysis Volume [veh/h]	0	0	0	133	0	213	477	994	510	150	763	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	32	0	0	32	0	44	80	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	41	0	0	14	0	65	79	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		19	19	68	68	12	80
g / C, Green / Cycle		0.16	0.16	0.56	0.56	0.10	0.67
(v / s)_i Volume / Saturation Flow Rate		0.07	0.13	0.53	0.32	0.08	0.21
s, saturation flow rate [veh/h]		1781	1589	1870	1589	1781	3560
c, Capacity [veh/h]		281	251	1055	897	183	2374
d1, Uniform Delay [s]		46.04	49.20	24.36	16.80	52.77	8.49
k, delay calibration		0.13	0.13	0.50	0.50	0.13	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.49	9.30	16.89	2.61	10.21	0.36
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.47	0.85	0.94	0.57	0.82	0.32
d, Delay for Lane Group [s/veh]		47.54	58.50	41.24	19.41	62.97	8.85
Lane Group LOS		D	E	D	B	E	A
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		3.68	6.74	28.18	8.87	4.84	3.77
50th-Percentile Queue Length [ft/ln]		91.89	168.45	704.49	221.81	120.94	94.37
95th-Percentile Queue Length [veh/ln]		6.62	11.00	36.89	13.76	8.44	6.79
95th-Percentile Queue Length [ft/ln]		165.40	274.88	922.14	343.94	211.12	169.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	47.54	47.54	58.50	0.00	41.24	19.41	62.97	8.85	0.00
Movement LOS				D	D	E		D	B	E	A	
d_A, Approach Delay [s/veh]	0.00			54.29			33.84			17.74		
Approach LOS	A			D			C			B		
d_I, Intersection Delay [s/veh]	31.08											
Intersection LOS	C											
Intersection V/C	0.750											

Emissions

Vehicle Miles Traveled [mph]		8.58	13.74	147.30	75.58	20.91	106.37
Stops [stops/h]		110.21	202.04	844.99	266.05	145.06	226.38
Fuel consumption [US gal/h]		2.68	5.01	23.90	7.91	4.44	7.83
CO [g/h]		187.08	350.36	1670.45	553.15	310.52	547.66
NOx [g/h]		36.40	68.17	325.01	107.62	60.42	106.56
VOC [g/h]		43.36	81.20	387.14	128.20	71.97	126.93

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.53	0.00	49.53
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.322	0.000	2.891
Crosswalk LOS	F	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	600	133	1216
d_b, Bicycle Delay [s]	60.03	29.43	52.29	9.22
I_b,int, Bicycle LOS Score for Intersection	4.132	2.424	4.158	2.313
Bicycle LOS	D	B	D	B

Sequence

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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	38.9
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.738

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	291	0	140	0	0	0	231	632	0	0	489	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	24	0	0	0	0	0	7	1	0	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	68	0	0	0	0	0	0	0	0	41
Total Hourly Volume [veh/h]	315	0	72	0	0	0	238	633	0	0	493	134
Peak Hour Factor	0.9120	0.9120	0.9120	1.0000	1.0000	1.0000	0.8850	0.8850	1.0000	1.0000	0.8850	0.8850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	86	0	20	0	0	0	67	179	0	0	139	38
Total Analysis Volume [veh/h]	345	0	79	0	0	0	269	715	0	0	557	151
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	10	0	0	0	0	46	102	0	0	52	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	42	0	0	0	0	27	78	0	0	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	39	39		20	73	49
g / C, Green / Cycle	0.32	0.32		0.17	0.61	0.41
(v / s)_i Volume / Saturation Flow Rate	0.19	0.05		0.15	0.38	0.39
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1802
c, Capacity [veh/h]	573	511		304	1144	734
d1, Uniform Delay [s]	34.23	29.04		48.61	14.66	34.69
k, delay calibration	0.50	0.50		0.11	0.11	0.40
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	4.63	0.64		8.46	0.57	22.18
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.60	0.15		0.89	0.63	0.96
d, Delay for Lane Group [s/veh]	38.86	29.68		57.07	15.22	56.87
Lane Group LOS	D	C		E	B	E
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	8.97	1.69		8.42	11.33	23.40
50th-Percentile Queue Length [ft/ln]	224.29	42.28		210.60	283.35	584.96
95th-Percentile Queue Length [veh/ln]	13.88	3.04		13.18	16.86	31.33
95th-Percentile Queue Length [ft/ln]	347.10	76.10		329.60	421.38	783.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.86	38.86	29.68	0.00	0.00	0.00	57.07	15.22	0.00	0.00	56.87	56.87
Movement LOS	D	D	C				E	B			E	E
d_A, Approach Delay [s/veh]	37.15			0.00			26.67			56.87		
Approach LOS	D			A			C			E		
d_I, Intersection Delay [s/veh]	38.87											
Intersection LOS	D											
Intersection V/C	0.738											

Emissions

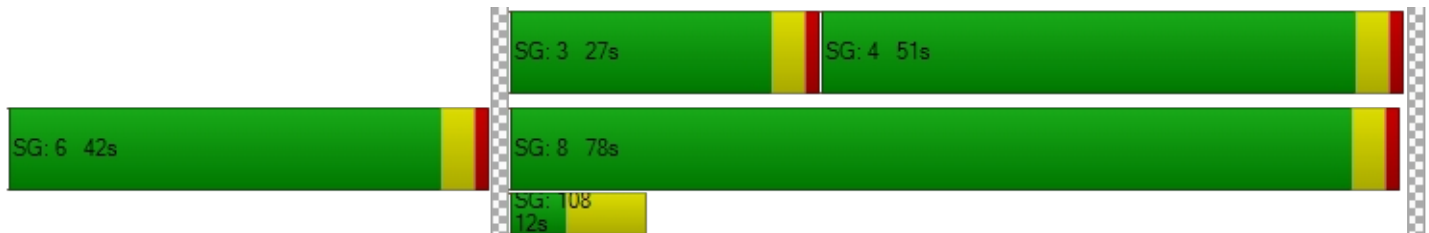
Vehicle Miles Traveled [mph]	25.84	5.92		37.50	99.68	49.49
Stops [stops/h]	269.15	50.73		252.72	340.02	701.95
Fuel consumption [US gal/h]	6.30	1.19		6.95	9.13	18.62
CO [g/h]	440.22	83.01		485.80	637.91	1301.36
NOx [g/h]	85.65	16.15		94.52	124.11	253.20
VOC [g/h]	102.02	19.24		112.59	147.84	301.60

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.147		0.000		0.000		0.000
Crosswalk LOS	B		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	633		0		1233		783
d_b, Bicycle Delay [s]	28.02		60.00		8.82		22.20
I_b,int, Bicycle LOS Score for Intersection	2.371		4.132		3.183		2.795
Bicycle LOS	B		D		C		C

Sequence

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



Ares Warehouse

Vistro File: C:\...\22-148 Ares Warehouse Vistro With
SIGNAL PM cumulative.vistro

Scenario 3 Existing Conditions Plus Project PM

Report File: C:\...\ExPP PM.pdf

1/11/2024

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Geary St/Ethanac Rd	Two-way stop	HCM 7th Edition	NB Right	0.156	11.6	B
2	Geary St/Project Dwy 1	Two-way stop	HCM 7th Edition	WB Right	0.012	8.4	A
3	Geary St/Project Dwy 2	Two-way stop	HCM 7th Edition	WB Right	0.006	8.4	A
4	Murrieta Rd/Ethanac Rd	Signalized	HCM 7th Edition	WB Left	0.654	47.5	D
5	Murrieta Rd/Project Dwy 3	Two-way stop	HCM 7th Edition	EB Left	0.071	16.5	C
6	Murrieta Rd/Project Dwy 4	Two-way stop	HCM 7th Edition	EB Left	0.049	16.0	C
7	Murrieta Rd/Project Dwy 5	Two-way stop	HCM 7th Edition	EB Right	0.008	10.8	B
8	Case Rd-Barnett Rd / Ethanac Rd	Signalized	HCM 7th Edition	EB Left	0.518	36.4	D
9	I-215 SB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	WB Left	0.612	27.1	C
10	I-215 NB Ramps/Ethanac Rd	Signalized	HCM 7th Edition	EB Left	0.743	38.8	D

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

Intersection Level Of Service Report
Intersection 1: Geary St/Ethanac Rd

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 11.6
 Level Of Service: B
 Volume to Capacity (v/c): 0.156

Intersection Setup

Name	Northbound		Eastbound		Westbound	
Approach						
Lane Configuration	↔		↔		↔	
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	1	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	113.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00		45.00		45.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Eastbound		Westbound	
Base Volume Input [veh/h]	0	2	599	2	4	642
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	23	0	0	4	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	25	599	2	8	642
Peak Hour Factor	0.2500	0.2500	0.8480	0.8480	0.9160	0.9160
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	25	177	1	2	175
Total Analysis Volume [veh/h]	0	100	706	2	9	701
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.16	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	23.01	11.64	0.00	0.00	9.10	0.00
Movement LOS	C	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.55	0.55	0.00	0.00	0.03	0.00
95th-Percentile Queue Length [ft/ln]	13.72	13.72	0.00	0.00	0.77	0.00
d_A, Approach Delay [s/veh]	11.64		0.00		0.12	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.82					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 2: Geary St/Project Dwy 1

Control Type: Two-way stop
 Analysis Method: HCM 7th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 8.4
 Level Of Service: A
 Volume to Capacity (v/c): 0.012

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↪		↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	11	2	3	1	0	13
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	2	3	1	0	13
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	1	0	0	3
Total Analysis Volume [veh/h]	11	2	3	1	0	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.25	0.00	8.65	8.41
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.13	0.13	0.92	0.92
d_A, Approach Delay [s/veh]	0.00		5.43		8.41	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.37					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 3: Geary St/Project Dwy 2**

Control Type:	Two-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Northbound		Southbound		Westbound	
Approach						
Lane Configuration	↩		↪		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Westbound	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	1	1	0	0	7
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	1	1	0	0	7
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	0	0	0	2
Total Analysis Volume [veh/h]	5	1	1	0	0	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.58	8.36
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.05	0.05	0.49	0.49
d_A, Approach Delay [s/veh]	0.00		7.23		8.36	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.70					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 4: Murrieta Rd/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	47.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.654

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			← →			← →			← →		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	200.00	100.00	100.00	200.00	100.00	100.00	196.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	35.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			No			No		

Volumes

Name												
Base Volume Input [veh/h]	115	101	138	45	115	18	7	478	113	189	589	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	5	37	0	2	0	1	22	0	23	3	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	5	0	0	9	0	0	20
Total Hourly Volume [veh/h]	115	106	161	45	117	13	8	500	104	212	592	67
Peak Hour Factor	0.9040	0.9040	0.9040	0.8620	0.8620	0.8620	0.8430	0.8430	0.8430	0.8640	0.8640	0.8640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	29	45	13	34	4	2	148	31	61	171	19
Total Analysis Volume [veh/h]	127	117	178	52	136	15	9	593	123	245	685	78
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	8	0	0	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	35	0	0	16	0	6	30	0	23	47	0
Amber [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	39	0	0	20	0	10	34	0	27	51	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	10	0	0	10	0	5	10	0	5	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	16	16	16	6	30	30	23	47	47
g / C, Green / Cycle	0.29	0.13	0.13	0.13	0.05	0.25	0.25	0.19	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.25	0.03	0.07	0.01	0.01	0.20	0.20	0.14	0.21	0.21
s, saturation flow rate [veh/h]	1716	1781	1870	1589	1781	1870	1760	1781	1870	1804
c, Capacity [veh/h]	501	237	249	212	89	467	440	341	732	706
d1, Uniform Delay [s]	39.92	46.42	48.60	45.50	54.43	42.02	42.06	45.46	28.02	28.02
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.78	2.11	8.32	0.65	2.26	12.61	13.50	12.23	2.74	2.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.22	0.55	0.07	0.10	0.79	0.79	0.72	0.53	0.53
d, Delay for Lane Group [s/veh]	55.70	48.53	56.93	46.14	56.69	54.63	55.56	57.69	30.76	30.86
Lane Group LOS	E	D	E	D	E	D	E	E	C	C
Critical Lane Group	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	13.67	1.51	4.32	0.42	0.31	11.46	10.94	7.80	8.75	8.46
50th-Percentile Queue Length [ft/ln]	341.64	37.70	108.10	10.62	7.75	286.57	273.57	195.03	218.74	211.48
95th-Percentile Queue Length [veh/ln]	19.73	2.71	7.73	0.76	0.56	17.02	16.37	12.38	13.60	13.23
95th-Percentile Queue Length [ft/ln]	493.21	67.86	193.36	19.12	13.95	425.38	409.20	309.55	340.01	330.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.70	55.70	55.70	48.53	56.93	46.14	56.69	54.98	55.56	57.69	30.81	30.86
Movement LOS	E	E	E	D	E	D	E	D	E	E	C	C
d_A, Approach Delay [s/veh]	55.70			53.98			55.10			37.35		
Approach LOS	E			D			E			D		
d_I, Intersection Delay [s/veh]	47.52											
Intersection LOS	D											
Intersection V/C	0.654											

Emissions

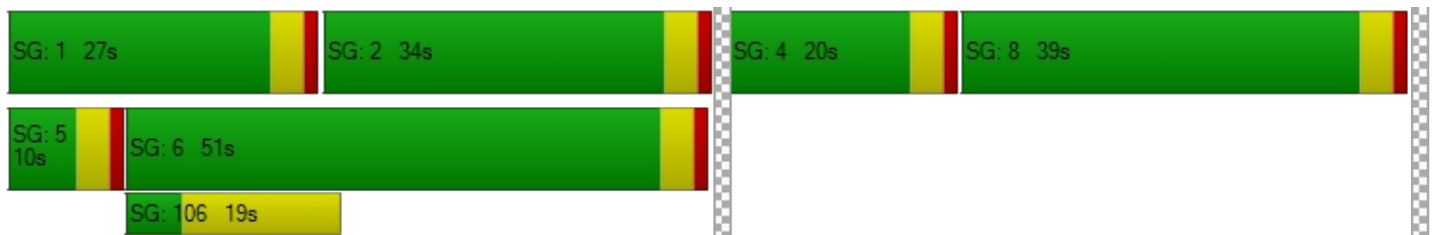
Vehicle Miles Traveled [mph]	95.64	4.47	11.69	1.29	2.27	92.82	87.70	60.90	96.54	93.12
Stops [stops/h]	409.97	45.24	129.72	12.75	9.30	343.88	328.29	234.04	262.48	253.78
Fuel consumption [US gal/h]	11.51	1.12	3.27	0.31	0.30	11.55	11.02	7.87	9.00	8.70
CO [g/h]	804.65	78.16	228.47	21.83	20.78	807.31	770.35	550.36	629.38	608.15
NOx [g/h]	156.56	15.21	44.45	4.25	4.04	157.07	149.88	107.08	122.45	118.32
VOC [g/h]	186.49	18.11	52.95	5.06	4.82	187.10	178.54	127.55	145.87	140.94

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	9.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	51.34	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.294	0.000	0.000
Crosswalk LOS	F	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	267	500	783
d_b, Bicycle Delay [s]	30.10	45.07	33.75	22.20
I_b,int, Bicycle LOS Score for Intersection	2.279	1.903	2.165	2.408
Bicycle LOS	B	A	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 5: Murrieta Rd/Project Dwy 3

Control Type:	Two-way stop	Delay (sec / veh):	16.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.071

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↰		↱		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	17	15	9	24	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	394	432	9	24	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	99	108	2	6	1
Total Analysis Volume [veh/h]	1	394	432	9	24	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.07	0.01
d_M, Delay for Movement [s/veh]	8.22	0.00	0.00	0.00	16.48	11.65
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.26	0.26
95th-Percentile Queue Length [ft/ln]	0.04	0.04	0.00	0.00	6.39	6.39
d_A, Approach Delay [s/veh]	0.02		0.00		15.64	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.53					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 6: Murrieta Rd/Project Dwy 4

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.049

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach						
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	1	14	6	17	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	378	431	6	17	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	95	108	2	4	1
Total Analysis Volume [veh/h]	2	378	431	6	17	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.05	0.01
d_M, Delay for Movement [s/veh]	8.21	0.00	0.00	0.00	15.98	11.36
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.18	0.18
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.00	0.00	4.53	4.53
d_A, Approach Delay [s/veh]	0.04		0.00		14.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.41					
Intersection LOS	C					

**Intersection Level Of Service Report
Intersection 7: Murrieta Rd/Project Dwy 5**

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Northbound		Southbound		Eastbound	
Approach	←		→		←	
Lane Configuration	←		→		←	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		15.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Northbound		Southbound		Eastbound	
Base Volume Input [veh/h]	0	377	417	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	3	12	7	0	5
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	380	429	7	0	5
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	95	107	2	0	1
Total Analysis Volume [veh/h]	1	380	429	7	0	5
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	8.20	0.00	0.00	0.00	15.43	10.82
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.04	0.04	0.00	0.00	0.61	0.61
d_A, Approach Delay [s/veh]	0.02		0.00		10.82	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 8: Case Rd-Barnett Rd / Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	36.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	+			T T T			T T T			T T T		
Lane Configuration	+			T T T			T T T			T T T		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	230.00	100.00	125.00	146.00	100.00	100.00	110.00	100.00	265.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	40.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name												
Base Volume Input [veh/h]	34	27	78	428	0	121	103	507	31	104	669	374
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	59	0	0	26	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	14	0	0	14	0	0	7	0	0	121
Total Hourly Volume [veh/h]	34	27	64	428	0	107	103	566	24	104	695	253
Peak Hour Factor	0.8270	0.8270	0.8270	0.8630	1.0000	0.8630	0.9080	0.9080	0.9080	0.8770	0.8770	0.8770
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	8	19	124	0	31	28	156	7	30	198	72
Total Analysis Volume [veh/h]	41	33	77	496	0	124	113	623	26	119	792	288
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	44	20	0	32	0	0	25	32	0	44	80	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	4.0	0.0	3.0	0.0	0.0	2.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	65	14	0	41	0	0	11	14	0	65	79	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Vehicle Extension [s]	3.5	3.5	0.0	3.5	0.0	0.0	3.5	3.5	0.0	3.5	3.5	0.0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	L	R	L	C	R	L	C	R
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	6.00	5.00	5.00	4.00	6.00	6.00	4.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	4.00	3.00	3.00	2.00	4.00	4.00	2.00	4.00	4.00
g_i, Effective Green Time [s]	13	21	21	7	55	55	10	58	58
g / C, Green / Cycle	0.11	0.18	0.18	0.06	0.46	0.46	0.08	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.09	0.14	0.04	0.06	0.17	0.02	0.07	0.22	0.18
s, saturation flow rate [veh/h]	1694	3459	2813	1781	3560	1589	1781	3560	1589
c, Capacity [veh/h]	180	606	493	104	1634	730	150	1726	771
d1, Uniform Delay [s]	52.64	47.68	42.73	56.54	21.30	17.87	53.96	20.50	19.47
k, delay calibration	0.13	0.13	0.13	0.13	0.50	0.50	0.13	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.52	3.34	0.32	69.19	0.68	0.09	10.71	0.88	1.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.82	0.25	1.08	0.38	0.04	0.79	0.46	0.37
d, Delay for Lane Group [s/veh]	64.16	51.02	43.05	125.73	21.98	17.96	64.67	21.39	20.86
Lane Group LOS	E	D	D	F	C	B	E	C	C
Critical Lane Group	Yes	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	4.97	7.28	1.59	5.09	5.61	0.40	3.89	7.14	5.08
50th-Percentile Queue Length [ft/ln]	124.13	182.01	39.74	127.22	140.25	10.01	97.19	178.44	127.01
95th-Percentile Queue Length [veh/ln]	8.62	11.71	2.86	9.00	9.49	0.72	7.00	11.52	8.78
95th-Percentile Queue Length [ft/ln]	215.48	292.63	71.54	224.88	237.36	18.02	174.94	287.97	219.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	64.16	64.16	64.16	51.02	0.00	43.05	125.73	21.98	17.96	64.67	21.39	20.86
Movement LOS	E	E	E	D		D	F	C	B	E	C	C
d_A, Approach Delay [s/veh]	64.16			49.43			37.23			25.56		
Approach LOS	E			D			D			C		
d_I, Intersection Delay [s/veh]	36.36											
Intersection LOS	D											
Intersection V/C	0.518											

Emissions

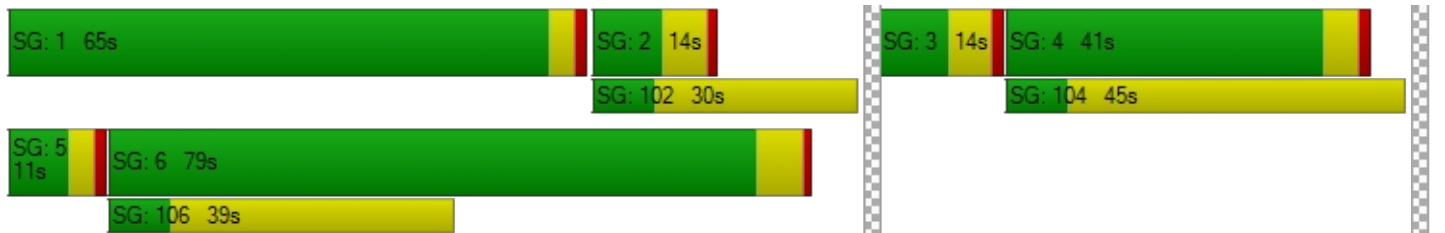
Vehicle Miles Traveled [mph]	15.33	56.43	14.11	29.36	161.87	6.76	17.63	117.36	42.68
Stops [stops/h]	148.88	436.61	95.34	152.60	336.45	12.01	116.57	428.05	152.34
Fuel consumption [US gal/h]	3.98	11.46	2.53	5.79	12.52	0.48	3.62	12.79	4.58
CO [g/h]	278.41	801.06	176.71	405.04	875.05	33.27	253.02	894.15	320.11
NOx [g/h]	54.17	155.86	34.38	78.81	170.25	6.47	49.23	173.97	62.28
VOC [g/h]	64.52	185.65	40.95	93.87	202.80	7.71	58.64	207.23	74.19

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.53	49.53	49.53	0.00
I_p,int, Pedestrian LOS Score for Intersectio	1.955	2.744	2.901	0.000
Crosswalk LOS	A	B	C	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	133	600	133	1216
d_b, Bicycle Delay [s]	52.29	29.43	52.29	9.22
I_b,int, Bicycle LOS Score for Intersection	1.832	1.560	2.194	2.649
Bicycle LOS	A	A	B	B

Sequence




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



Intersection Level Of Service Report
Intersection 9: I-215 SB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	27.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.612

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	1	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	240.00	100.00	100.00	100.00	274.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			40.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			Yes			No			Yes		

Volumes

Name												
Base Volume Input [veh/h]	0	0	0	212	5	415	477	637	373	98	740	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	12	0	31	28	0	14	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	189	0	0	136	0	0	0
Total Hourly Volume [veh/h]	0	0	0	212	5	238	477	668	265	98	754	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.8190	0.8190	0.8190	1.0000	0.9670	0.9670	0.9240	0.9240	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	65	2	73	119	173	69	27	204	0
Total Analysis Volume [veh/h]	0	0	0	259	6	291	477	691	274	106	816	0
Presence of On-Street Parking				No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	1 - Coordination Group
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	0	4	0	0	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	0	32	0	0	32	0	44	80	0
Amber [s]	0.0	0.0	0.0	0.0	4.0	0.0	0.0	5.2	0.0	3.0	5.2	0.0
All red [s]	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk					No			No			No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	0.0	3.0	0.0	0.0	4.0	0.0	2.0	4.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	0	0	41	0	0	14	0	65	79	0
Lead / Lag	-	-	-	-	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	0	6	0	0	6	0	6	6	0
Vehicle Extension [s]	0.0	0.0	0.0	0.0	3.5	0.0	0.0	3.5	0.0	3.5	3.5	0.0
Minimum Recall					No			No		No	No	
Maximum Recall					No			No		No	No	
Pedestrian Recall					No			No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group		C	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.00	5.00	6.00	6.00	4.00	6.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		25	25	65	65	9	74
g / C, Green / Cycle		0.21	0.21	0.54	0.54	0.08	0.61
(v / s)_i Volume / Saturation Flow Rate		0.15	0.18	0.37	0.17	0.06	0.23
s, saturation flow rate [veh/h]		1783	1589	1870	1589	1781	3560
c, Capacity [veh/h]		376	335	1006	855	136	2185
d1, Uniform Delay [s]		43.93	45.78	20.35	15.51	54.49	11.64
k, delay calibration		0.13	0.13	0.50	0.50	0.13	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		2.92	8.11	3.83	0.99	11.08	0.49
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.70	0.87	0.69	0.32	0.78	0.37
d, Delay for Lane Group [s/veh]		46.84	53.89	24.18	16.50	65.58	12.13
Lane Group LOS		D	D	C	B	E	B
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		7.46	8.94	14.03	4.15	3.49	5.07
50th-Percentile Queue Length [ft/ln]		186.51	223.61	350.79	103.77	87.24	126.82
95th-Percentile Queue Length [veh/ln]		11.94	13.85	20.17	7.47	6.28	8.77
95th-Percentile Queue Length [ft/ln]		298.50	346.23	504.37	186.78	157.03	219.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	46.84	46.84	53.89	0.00	24.18	16.50	65.58	12.13	0.00
Movement LOS				D	D	D		C	B	E	B	
d_A, Approach Delay [s/veh]	0.00			50.53			22.00			18.27		
Approach LOS	A			D			C			B		
d_I, Intersection Delay [s/veh]	27.09											
Intersection LOS	C											
Intersection V/C	0.612											

Emissions

Vehicle Miles Traveled [mph]		17.09	18.77	102.40	40.60	14.78	113.76
Stops [stops/h]		223.71	268.20	420.75	124.46	104.64	304.23
Fuel consumption [US gal/h]		5.34	6.50	12.14	3.86	3.22	9.70
CO [g/h]		372.97	454.21	848.72	269.75	225.21	677.73
NOx [g/h]		72.57	88.37	165.13	52.48	43.82	131.86
VOC [g/h]		86.44	105.27	196.70	62.52	52.19	157.07

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.53	0.00	49.53
I_p,int, Pedestrian LOS Score for Intersectio	0.000	2.482	0.000	2.829
Crosswalk LOS	F	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	600	133	1216
d_b, Bicycle Delay [s]	60.03	29.43	52.29	9.22
I_b,int, Bicycle LOS Score for Intersection	4.132	2.789	3.376	2.320
Bicycle LOS	D	C	C	B

Sequence




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



Intersection Level Of Service Report
Intersection 10: I-215 NB Ramps/Ethanac Rd

Control Type:	Signalized	Delay (sec / veh):	38.8
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.743

Intersection Setup

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	262.00	100.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	40.00			30.00			40.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No						No			No		
Crosswalk	Yes			No			No			No		

Volumes

Name												
Base Volume Input [veh/h]	409	1	199	0	0	0	237	608	0	0	401	175
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Proportion of CAVs [%]	0.00											
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	12	0	0	0	0	0	25	6	0	0	2	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	91	0	0	0	0	0	0	0	0	33
Total Hourly Volume [veh/h]	421	1	108	0	0	0	262	614	0	0	403	142
Peak Hour Factor	0.9010	0.9010	0.9010	1.0000	1.0000	1.0000	0.9580	0.9580	1.0000	1.0000	0.9330	0.9330
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	117	0	30	0	0	0	68	160	0	0	108	38
Total Analysis Volume [veh/h]	467	1	120	0	0	0	273	641	0	0	432	152
Presence of On-Street Parking	No		No				No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	0	6	0	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Maximum Green [s]	0	10	0	0	0	0	48	102	0	0	50	0
Amber [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	0	5	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No						No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	50	0	0	0	0	27	70	0	0	43	0
Lead / Lag	-	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	10	0	0	0	0	5	10	0	0	10	0
Vehicle Extension [s]	0.0	3.0	0.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Minimum Recall		No					No	No			No	
Maximum Recall		No					No	No			No	
Pedestrian Recall		No					No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R		L	C	C
C, Cycle Length [s]	120	120		120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00		4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00		0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00		2.00	2.00	2.00
g_i, Effective Green Time [s]	46	46		21	66	41
g / C, Green / Cycle	0.38	0.38		0.17	0.55	0.34
(v / s)_i Volume / Saturation Flow Rate	0.26	0.08		0.15	0.34	0.33
s, saturation flow rate [veh/h]	1781	1589		1781	1870	1788
c, Capacity [veh/h]	681	608		308	1030	616
d1, Uniform Delay [s]	31.05	24.76		48.46	18.41	38.28
k, delay calibration	0.50	0.50		0.11	0.11	0.31
l, Upstream Filtering Factor	1.00	1.00		1.00	1.00	1.00
d2, Incremental Delay [s]	5.58	0.73		8.42	0.62	18.32
d3, Initial Queue Delay [s]	0.00	0.00		0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00		1.00	1.00	1.00
PF, progression factor	1.00	1.00		1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.20		0.89	0.62	0.95
d, Delay for Lane Group [s/veh]	36.63	25.48		56.88	19.03	56.60
Lane Group LOS	D	C		E	B	E
Critical Lane Group	Yes	No		Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	11.99	2.36		8.54	11.55	18.99
50th-Percentile Queue Length [ft/ln]	299.74	58.96		213.51	288.67	474.83
95th-Percentile Queue Length [veh/ln]	17.67	4.24		13.33	17.12	26.14
95th-Percentile Queue Length [ft/ln]	441.70	106.12		333.33	427.99	653.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.63	36.63	25.48	0.00	0.00	0.00	56.88	19.03	0.00	0.00	56.60	56.60
Movement LOS	D	D	C				E	B			E	E
d_A, Approach Delay [s/veh]	34.35			0.00			30.33			56.60		
Approach LOS	C			A			C			E		
d_I, Intersection Delay [s/veh]	38.82											
Intersection LOS	D											
Intersection V/C	0.743											

Emissions

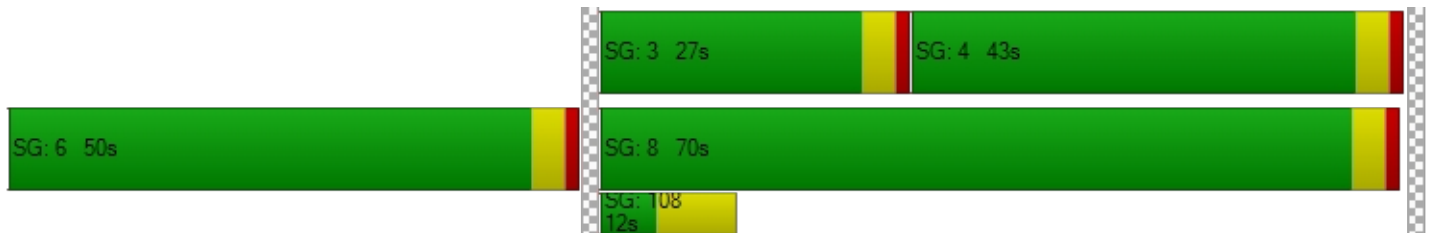
Vehicle Miles Traveled [mph]	35.06	8.99		38.06	89.36	40.82
Stops [stops/h]	359.69	70.75		256.21	346.40	569.79
Fuel consumption [US gal/h]	8.28	1.64		7.04	9.09	15.21
CO [g/h]	578.59	114.59		492.08	635.11	1063.17
NOx [g/h]	112.57	22.29		95.74	123.57	206.85
VOC [g/h]	134.09	26.56		114.04	147.19	246.40

Other Modes

g_Walk,mi, Effective Walk Time [s]	9.0		0.0		0.0		0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	51.34		0.00		0.00		0.00
I_p,int, Pedestrian LOS Score for Intersectio	2.301		0.000		0.000		0.000
Crosswalk LOS	B		F		F		F
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000
c_b, Capacity of the bicycle lane [bicycles/h]	767		0		1100		650
d_b, Bicycle Delay [s]	22.82		60.00		12.15		27.34
I_b,int, Bicycle LOS Score for Intersection	2.680		4.132		3.068		2.578
Bicycle LOS	B		D		C		B

Sequence

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



Option 1: Copy of Murrieta Rd/Ethanac Rd

Number	4											
Intersection	Murrieta Rd/Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	91	98	140	88	58	9	6	773	89	86	435	65
Total Analysis Volume [veh/h]	118	129	213	783	74	10	7	1554	91	158	847	839

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fixed time											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	34	13	0	39	18	0	5	43	0	9	47	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0

Phasing & Timing: Pattern 1

Split [s]	38	17	0	43	22	0	9	47	0	13	51	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.28	0.11	0.11	0.33	0.15	0.15	0.04	0.36	0.36	0.08	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.07	0.07	0.13	0.44	0.04	0.01	0.00	0.44	0.45	0.09	0.45	0.53
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3			3		
Base Saturation Flow Rate [pc/h/ln]	1704	1870	1500	1704	1870	1500	1704	1870	1804	1704	1870	1500

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	1781	1870	1969	1781	1870	1969	1781	1870	1969	1781	1870	1969
s, saturation flow rate [veh/min]												
c, Capacity [veh/h]	505	203	172	579	280	238	74	670	657	134	732	623
X, volume / capacity	0.23	0.64	1.24	1.35	0.26	0.04	0.09	1.23	1.25	1.18	1.16	1.35
d, Delay for Lane Group [s/veh]	34.09	65.56	199.89	210.40	47.42	43.95	57.83	156.29	161.37	190.82	121.88	203.46
Lane Group LOS	C	E	F	F	D	D	E	F	F	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.78	4.49	12.14	43.75	2.10	0.27	0.25	40.54	40.69	8.96	37.49	45.98
50th-Percentile Queue Length [ft/ln]	69.45	112.33	303.53	1093.69	52.60	6.84	6.28	1013.43	1017.13	223.95	937.32	1149.40
95th-Percentile Queue Length [veh/ln]	5.00	7.97	19.34	64.92	3.79	0.49	0.45	58.27	58.74	14.66	52.53	68.52
95th-Percentile Queue Length [ft/ln]	125.01	199.24	483.56	1623.00	94.67	12.30	11.30	1456.63	1468.55	366.39	1313.25	1713.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.09	65.56	199.89	210.40	47.42	43.95	57.83	158.67	161.37	190.82	121.88	203.46
Movement LOS	C	E	F	F	D	D	E	F	F	F	F	F
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	119.69			194.57			158.39			164.91		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	163.69											
Intersection LOS	F											
Intersection V/C	1.109											

Option 1: Copy of Murrieta Rd/Ethanac Rd

Number	4											
Intersection	Murrieta Rd/Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	115	101	138	45	115	18	7	478	113	189	589	87
Total Analysis Volume [veh/h]	135	119	206	733	145	17	8	1144	132	303	1069	891

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fixed time											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	23	12	0	36	25	0	5	40	0	16	51	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0

Phasing & Timing: Pattern 1

Split [s]	27	16	0	40	29	0	9	44	0	20	55	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.19	0.10	0.10	0.30	0.21	0.21	0.04	0.33	0.33	0.13	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.08	0.06	0.13	0.41	0.08	0.01	0.00	0.35	0.35	0.17	0.52	0.61
so, Base Saturation Flow per Lane [pc/h/lane]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3			3		
Base Saturation Flow Rate [pc/h/lane]	1704	1870	1500	1704	1870	1500	1704	1870	1500	1704	1870	1500

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	1781	1870	1959	1781	1870	1959	1781	1870	1959	1781	1870	1959
s, saturation flow rate [veh/min]												
c, Capacity [veh/h]	341	187	159	534	390	331	74	623	601	237	795	685
X, volume / capacity	0.40	0.64	1.30	1.37	0.37	0.05	0.11	1.04	1.04	1.28	1.23	1.43
d, Delay for Lane Group [s/veh]	45.83	67.30	225.68	220.99	43.48	38.30	58.26	86.94	88.74	204.71	150.25	236.79
Lane Group LOS	D	E	F	F	D	D	E	F	F	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.80	4.22	12.33	41.83	3.92	0.42	0.29	25.57	24.96	17.01	47.12	57.07
50th-Percentile Queue Length [ft/ln]	95.11	105.43	308.22	1045.66	97.92	10.58	7.20	639.30	623.90	425.28	1177.95	1426.66
95th-Percentile Queue Length [veh/ln]	6.85	7.58	19.83	62.40	7.05	0.76	0.52	34.80	34.14	26.28	67.32	86.25
95th-Percentile Queue Length [ft/ln]	171.20	189.62	495.70	1559.99	176.26	19.04	12.96	869.92	853.51	657.08	1682.99	2156.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.83	67.30	225.68	220.99	43.48	38.30	58.26	87.72	88.74	204.71	157.46	236.79
Movement LOS	D	E	F	F	D	D	E	F	F	F	F	F
Critical Movement	No	No	No	No	No	No	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	131.92			188.76			87.64			195.02		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	159.83											
Intersection LOS	F											
Intersection V/C	1.154											

Option 1: Copy of Case Rd-Barnett Rd / Ethanac Rd

Number	8											
Intersection	Case Rd-Barnett Rd / Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	66	15	152	252	0	83	78	873	24	103	578	311
Total Analysis Volume [veh/h]	78	18	365	524	0	98	99	2405	27	492	1975	583

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Split	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	34	34	0	25	51	0	15	78	0
Amber [s]	3.0	5.0	0.0	4.0	4.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	38	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0

Phasing & Timing: Pattern 1

Split [s]	20	14	0	38	38	0	11	55	0	20	82	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Minimum Recall		No			No		No	No		No	No	
Maximum Recall		No			No		No	No		No	No	
Pedestrian Recall		No			No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.22	0.22	0.17	0.17	0.17	0.06	0.30	0.30	0.13	0.38	0.38	
(v / s)_i Volume / Saturation Flow Rate	0.05	0.23	0.15	0.15	0.03	0.06	0.45	0.45	0.28	0.55	0.37	
so, Base Saturation Flow per Lane [pc/h/lane]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Arrival type	3			3			3			3		
Estimated Flow Rate [veh/h]	1707	1500	1704	1704	2810	1704	2550	1850	1704	2550	1500	

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	1797	1809	1781	1781	2013	1781	3300	1809	1781	3300	1809
s, saturation flow rate [veh/min]											
c, Capacity [veh/h]	387	343	310	310	490	104	1075	561	237	1342	599
X, volume / capacity	0.25	1.07	0.84	0.84	0.20	0.95	1.48	1.49	2.07	1.47	0.97
d, Delay for Lane Group [s/veh]	39.42	111.20	55.37	55.37	42.63	90.82	264.96	271.35	548.87	253.89	67.57
Lane Group LOS	D	F	E	E	D	F	F	F	F	F	E
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.35	16.05	8.07	8.07	1.24	3.91	48.49	51.65	39.70	58.89	20.98
50th-Percentile Queue Length [ft/ln]	58.87	401.33	201.76	201.76	31.11	97.83	1212.32	1291.17	992.54	1472.14	524.41
95th-Percentile Queue Length [veh/ln]	4.24	23.43	12.73	12.73	2.24	7.04	73.60	78.09	62.22	89.08	28.49
95th-Percentile Queue Length [ft/ln]	105.97	585.72	318.23	318.23	56.00	176.09	1840.04	1952.29	1555.39	2226.92	712.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.42	39.42	111.20	55.37	55.37	42.63	90.82	267.11	271.35	548.87	253.89	67.57
Movement LOS	D	D	F	E	E	D	F	F	F	F	F	E
Critical Movement	No	No	No	No	No	No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	96.25			53.37			260.26			265.86		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	232.16											
Intersection LOS	F											
Intersection V/C	1.103											

Option 1: Copy of Case Rd-Barnett Rd / Ethanac Rd

Number	8											
Intersection	Case Rd-Barnett Rd / Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	34	27	78	428	0	121	103	507	31	104	669	374
Total Analysis Volume [veh/h]	44	35	299	728	0	132	120	1797	29	477	2017	590

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	43	0	0	25	42	0	15	69	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0

Phasing & Timing: Pattern 1

Split [s]	20	14	0	48	0	0	11	45	0	20	72	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.20	0.20	0.25	0.25	0.06	0.24	0.24	0.13	0.32	0.32		
(v / s)_i Volume / Saturation Flow Rate	0.04	0.19	0.21	0.05	0.07	0.34	0.34	0.27	0.57	0.37		
so, Base Saturation Flow per Lane [pc/h/lane]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Arrival type	3			3			3			3		
Estimated Flow Rate [veh/h]	1340	1500	2150	2840	1704	2580	1855	1704	2580	1500		




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	1019	1009	3409	2013	1701	3000	1000	1701	3000	1009
s, saturation flow rate [veh/min]										
c, Capacity [veh/h]	368	322	851	692	104	867	452	237	1133	506
X, volume / capacity	0.21	0.93	0.86	0.19	1.15	1.38	1.39	2.01	1.78	1.17
d, Delay for Lane Group [s/veh]	40.30	72.97	46.34	35.97	149.33	225.42	232.11	521.60	395.74	135.65
Lane Group LOS	D	E	D	D	F	F	F	F	F	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.95	10.87	10.43	1.53	5.77	34.11	36.37	37.87	71.76	27.53
50th-Percentile Queue Length [ft/ln]	48.87	271.77	260.67	38.16	144.32	852.63	909.32	946.81	1794.02	688.35
95th-Percentile Queue Length [veh/ln]	3.52	16.28	15.72	2.75	10.11	51.43	54.54	59.38	111.90	39.75
95th-Percentile Queue Length [ft/ln]	87.96	406.96	393.06	68.68	252.75	1285.70	1363.55	1484.52	2797.38	993.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.30	40.30	72.97	46.34	0.00	35.97	149.33	227.64	232.11	521.60	395.74	135.65
Movement LOS	D	D	E	D		D	F	F	F	F	F	F
Critical Movement	No	No	No	No		No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	66.14			44.75			222.88			365.45		
Approach LOS	E			D			F			F		
d_I, Intersection Delay [s/veh]	259.13											
Intersection LOS	F											
Intersection V/C	1.032											

Option 1: Copy of I-215 SB Ramps/Ethanac Rd

Number	9											
Intersection	I-215 SB Ramps/Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	0	0	122	0	350	477	799	477	133	647	0
Total Analysis Volume [veh/h]	0	0	0	715	0	1071	477	1930	1427	817	1687	0

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	7	0	0	0	2	0	1	6	0	
Auxiliary Signal Groups													
Maximum Green [s]	0	0	0	29	0	0	0	62	0	17	83	0	
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	7	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
l1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	

Phasing & Timing: Pattern 1

Split [s]	0	0	0	33	0	0	0	66	0	21	87	0
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	5	0	0	0	10	0	5	10	0
Minimum Recall				No				No		No	No	
Maximum Recall				No				No		No	No	
Pedestrian Recall				No				No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.24			0.24			0.52			0.52			0.14		0.69	
(v / s)_i Volume / Saturation Flow Rate	0.40			0.38			0.38			0.90			0.24		0.47	
so, Base Saturation Flow per Lane [pc/h/lane]	1900			1900			1900			1900			1900		1900	
Arrival type	3			3			3			3			3			
Estimated Flow Rate [veh/h]	1704			2842			5004			1580			2450		2580	




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s, saturation flow rate [veh/min]	1701	2013	2034	1509	3459	3500
c, Capacity [veh/h]	430	680	2632	821	490	2463
X, volume / capacity	1.66	1.58	0.73	1.74	1.67	0.69
d, Delay for Lane Group [s/veh]	353.23	308.54	24.42	366.02	357.28	12.41
Lane Group LOS	F	F	C	F	F	B
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	49.24	34.67	13.45	98.20	27.96	11.30
50th-Percentile Queue Length [ft/ln]	1231.07	866.87	336.16	2454.95	698.93	282.46
95th-Percentile Queue Length [veh/ln]	76.02	54.35	19.46	155.60	43.93	16.81
95th-Percentile Queue Length [ft/ln]	1900.62	1358.84	486.50	3890.03	1098.29	420.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	353.23	0.00	308.54	0.00	24.42	366.02	357.28	12.41	0.00
Movement LOS				F		F		C	F	F	B	
Critical Movement				No		No		No	Yes	No	No	
d_A, Approach Delay [s/veh]	0.00			326.43			169.63			124.94		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	191.62											
Intersection LOS	F											
Intersection V/C	1.535											

Option 1: Copy of I-215 SB Ramps/Ethanac Rd

Number	9											
Intersection	I-215 SB Ramps/Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	0	0	212	5	415	477	637	373	98	740	0
Total Analysis Volume [veh/h]	0	0	0	921	6	1287	477	1446	1017	742	1722	0

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	7	0	0	0	2	0	1	6	0	
Auxiliary Signal Groups													
Maximum Green [s]	0	0	0	41	0	0	0	50	0	17	71	0	
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	7	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	

Phasing & Timing: Pattern 1

Split [s]	0	0	0	45	0	0	0	54	0	21	75	0
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	5	0	0	0	10	0	5	10	0
Minimum Recall				No				No		No	No	
Maximum Recall				No				No		No	No	
Pedestrian Recall				No				No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.34			0.34			0.42			0.42			0.14		0.59	
(v / s)_i Volume / Saturation Flow Rate	0.52			0.46			0.28			0.64			0.21		0.48	
so, Base Saturation Flow per Lane [pc/h/ln]	1900			1900			1900			1900			1900		1900	
Arrival type	3			3			3			3			3			
Estimated Flow Rate [veh/h]	1704			2842			5004			4580			2450		2580	

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	1701	2013	2034	1509	2459	2500
s, saturation flow rate [veh/min]						
c, Capacity [veh/h]	608	961	2122	662	490	2107
X, volume / capacity	1.51	1.34	0.68	1.54	1.51	0.82
d, Delay for Lane Group [s/veh]	279.03	195.14	30.30	283.57	288.21	23.04
Lane Group LOS	F	F	C	F	F	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	57.68	34.36	11.04	63.76	23.26	17.82
50th-Percentile Queue Length [ft/ln]	1442.10	859.07	275.99	1593.95	581.41	445.57
95th-Percentile Queue Length [veh/ln]	87.69	52.00	16.49	98.07	36.46	24.75
95th-Percentile Queue Length [ft/ln]	2192.35	1299.88	412.22	2451.66	911.58	618.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	279.03	0.00	195.14	0.00	30.30	283.57	288.21	23.04	0.00
Movement LOS				F		F		C	F	F	C	
Critical Movement				No		No		No	No	Yes	No	
d_A, Approach Delay [s/veh]	0.00			230.13			134.88			102.89		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	153.31											
Intersection LOS	F											
Intersection V/C	1.372											

Option 1: Copy of I-215 NB Ramps/Ethanac Rd

Number	10											
Intersection	I-215 NB Ramps/Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	291	0	171	0	0	0	287	632	0	0	489	175
Total Analysis Volume [veh/h]	1218	0	704	0	0	0	1156	1356	0	0	1247	821

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	6	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups			6									
Maximum Green [s]	37	0	37	0	0	0	28	75	0	0	43	0
Amber [s]	3.0	0.0	3.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	5	0	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0

Phasing & Timing: Pattern 1

Split [s]	66	0	66	0	0	0	24	54	0	0	30	0
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	10	0	0	10	0
Minimum Recall	No		No				No	No			No	
Maximum Recall	No		No				No	No			No	
Pedestrian Recall	No		No				No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.31	0.31		0.23	0.62	0.36	0.36
(v / s) _i Volume / Saturation Flow Rate	0.35	0.44		0.33	0.38	0.24	0.52
s _o , Base Saturation Flow per Lane [pc/h/ln]	1900	1900		1900	1900	1900	1900
Arrival type	3			3		3	
saturation flow rate [pc/h/ln]	2450	1500		2450	2500	5004	1500




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	3459	1569		3459	3500	3094	1569
c, Capacity [veh/h]	1068	491		807	2223	1822	569
X, volume / capacity	1.14	1.43		1.43	0.61	0.68	1.44
d, Delay for Lane Group [s/veh]	108.17	248.20		244.31	13.92	33.18	247.96
Lane Group LOS	F	F		F	B	C	F
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	25.12	42.18		33.90	10.12	9.88	48.87
50th-Percentile Queue Length [ft/ln]	628.00	1054.60		847.52	252.94	247.09	1221.67
95th-Percentile Queue Length [veh/ln]	36.16	64.06		51.66	15.33	15.04	74.17
95th-Percentile Queue Length [ft/ln]	903.92	1601.40		1291.49	383.35	375.99	1854.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	108.17	0.00	248.20	0.00	0.00	0.00	244.31	13.92	0.00	0.00	33.18	247.96
Movement LOS	F		F				F	B			C	F
Critical Movement	No		Yes				No	No			No	No
d_A, Approach Delay [s/veh]	159.46			0.00			119.94			118.45		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	131.15											
Intersection LOS	F											
Intersection V/C	1.294											

Option 1: Copy of I-215 NB Ramps/Ethanac Rd

Number	10											
Intersection	I-215 NB Ramps/Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	409	1	216	0	0	0	237	608	0	0	432	175
Total Analysis Volume [veh/h]	1373	1	740	0	0	0	1016	1225	0	0	1119	788

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	6	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups			6									
Maximum Green [s]	40	0	40	0	0	0	25	72	0	0	43	0
Amber [s]	3.0	0.0	3.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	5	0	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0

Phasing & Timing: Pattern 1

Split [s]	38	0	38	0	0	0	53	82	0	0	29	0
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	10	0	0	10	0
Minimum Recall	No		No				No	No			No	
Maximum Recall	No		No				No	No			No	
Pedestrian Recall	No		No				No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.33	0.33		0.21	0.60	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.40	0.47		0.29	0.34	0.22	0.50
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900		1900	1900	1900	1900
Arrival type	3			3		3	
saturation flow rate [pc/h/ln]	2450	1500		2450	2500	5004	1500

Option 1: Copy of Murrieta Rd/Ethanac Rd

Number	4											
Intersection	Murrieta Rd/Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	91	98	140	88	58	9	6	773	89	86	435	65
Total Analysis Volume [veh/h]	118	129	213	783	74	10	7	1554	91	158	847	839

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fixed time											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	34	13	0	39	18	0	5	43	0	9	47	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0

Phasing & Timing: Pattern 1

Split [s]	38	17	0	43	22	0	9	47	0	13	51	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.28	0.11	0.11	0.33	0.15	0.15	0.04	0.36	0.36	0.08	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.07	0.07	0.13	0.44	0.04	0.01	0.00	0.44	0.45	0.09	0.45	0.53
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3			3		
Base Saturation Flow Rate [pc/h/ln]	1704	1870	1500	1704	1870	1500	1704	1870	1804	1704	1870	1500

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	1781	1870	1969	1781	1870	1969	1781	1870	1969	1781	1870	1969
s, saturation flow rate [veh/min]												
c, Capacity [veh/h]	505	203	172	579	280	238	74	670	657	134	732	623
X, volume / capacity	0.23	0.64	1.24	1.35	0.26	0.04	0.09	1.23	1.25	1.18	1.16	1.35
d, Delay for Lane Group [s/veh]	34.09	65.56	199.89	210.40	47.42	43.95	57.83	156.29	161.37	190.82	121.88	203.46
Lane Group LOS	C	E	F	F	D	D	E	F	F	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.78	4.49	12.14	43.75	2.10	0.27	0.25	40.54	40.69	8.96	37.49	45.98
50th-Percentile Queue Length [ft/ln]	69.45	112.33	303.53	1093.69	52.60	6.84	6.28	1013.43	1017.13	223.95	937.32	1149.40
95th-Percentile Queue Length [veh/ln]	5.00	7.97	19.34	64.92	3.79	0.49	0.45	58.27	58.74	14.66	52.53	68.52
95th-Percentile Queue Length [ft/ln]	125.01	199.24	483.56	1623.00	94.67	12.30	11.30	1456.63	1468.55	366.39	1313.25	1713.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.09	65.56	199.89	210.40	47.42	43.95	57.83	158.67	161.37	190.82	121.88	203.46
Movement LOS	C	E	F	F	D	D	E	F	F	F	F	F
Critical Movement	No	No	No	Yes	No	No	No	No	No	No	No	No
d_A, Approach Delay [s/veh]	119.69			194.57			158.39			164.91		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	163.69											
Intersection LOS	F											
Intersection V/C	1.109											

Option 1: Copy of Murrieta Rd/Ethanac Rd

Number	4											
Intersection	Murrieta Rd/Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	115	101	138	45	115	18	7	478	113	189	589	87
Total Analysis Volume [veh/h]	135	119	206	733	145	17	8	1144	132	303	1069	891

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fixed time											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	23	12	0	36	25	0	5	40	0	16	51	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	14	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0

Phasing & Timing: Pattern 1

Split [s]	27	16	0	40	29	0	9	44	0	20	55	0
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.19	0.10	0.10	0.30	0.21	0.21	0.04	0.33	0.33	0.13	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.08	0.06	0.13	0.41	0.08	0.01	0.00	0.35	0.35	0.17	0.52	0.61
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Arrival type	3			3			3			3		
Estimated Flow Rate [veh/h]	4704	4870	4500	4704	4870	4500	4704	4870	4800	4704	4870	4814

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	1781	1870	1959	1781	1870	1959	1781	1870	1959	1781	1870	1959
s, saturation flow rate [veh/min]												
c, Capacity [veh/h]	341	187	159	534	390	331	74	623	601	237	795	685
X, volume / capacity	0.40	0.64	1.30	1.37	0.37	0.05	0.11	1.04	1.04	1.28	1.23	1.43
d, Delay for Lane Group [s/veh]	45.83	67.30	225.68	220.99	43.48	38.30	58.26	86.94	88.74	204.71	150.25	236.79
Lane Group LOS	D	E	F	F	D	D	E	F	F	F	F	F
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.80	4.22	12.33	41.83	3.92	0.42	0.29	25.57	24.96	17.01	47.12	57.07
50th-Percentile Queue Length [ft/ln]	95.11	105.43	308.22	1045.66	97.92	10.58	7.20	639.30	623.90	425.28	1177.95	1426.66
95th-Percentile Queue Length [veh/ln]	6.85	7.58	19.83	62.40	7.05	0.76	0.52	34.80	34.14	26.28	67.32	86.25
95th-Percentile Queue Length [ft/ln]	171.20	189.62	495.70	1559.99	176.26	19.04	12.96	869.92	853.51	657.08	1682.99	2156.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.83	67.30	225.68	220.99	43.48	38.30	58.26	87.72	88.74	204.71	157.46	236.79
Movement LOS	D	E	F	F	D	D	E	F	F	F	F	F
Critical Movement	No	No	No	No	No	No	No	No	No	No	No	Yes
d_A, Approach Delay [s/veh]	131.92			188.76			87.64			195.02		
Approach LOS	F			F			F			F		
d_I, Intersection Delay [s/veh]	159.83											
Intersection LOS	F											
Intersection V/C	1.154											

Option 1: Copy of Case Rd-Barnett Rd / Ethanac Rd

Number	8											
Intersection	Case Rd-Barnett Rd / Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	66	15	152	252	0	83	78	873	24	103	578	311
Total Analysis Volume [veh/h]	78	18	365	524	0	98	99	2405	27	492	1975	583

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	34	0	0	25	51	0	15	78	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0

Phasing & Timing: Pattern 1

Split [s]	20	14	0	38	0	0	11	55	0	20	82	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.22	0.22	0.18	0.18	0.06	0.30	0.30	0.13	0.37	0.37		
(v / s)_i Volume / Saturation Flow Rate	0.05	0.23	0.15	0.03	0.06	0.45	0.45	0.28	0.55	0.37		
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Arrival type	3			3			3			3		
Estimated Flow Rate [veh/h]	1707	1500	2450	2842	1704	2550	1850	1704	2550	1500		

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	1797	1809	3409	2013	1781	3500	1809	1781	3500	1809
s, saturation flow rate [veh/min]										
c, Capacity [veh/h]	387	343	624	508	104	1053	550	237	1320	589
X, volume / capacity	0.25	1.07	0.84	0.19	0.95	1.52	1.52	2.07	1.50	0.99
d, Delay for Lane Group [s/veh]	39.42	111.20	51.25	41.98	90.82	279.14	285.51	548.87	265.19	72.12
Lane Group LOS	D	F	D	D	F	F	F	F	F	E
Critical Lane Group	No	Yes	Yes	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.35	16.05	7.73	1.23	3.91	49.55	52.72	39.70	59.96	21.71
50th-Percentile Queue Length [ft/ln]	58.87	401.33	193.30	30.84	97.83	1238.68	1318.10	992.54	1499.09	542.66
95th-Percentile Queue Length [veh/ln]	4.24	23.43	12.29	2.22	7.04	75.49	80.03	62.22	91.04	29.35
95th-Percentile Queue Length [ft/ln]	105.97	585.72	307.30	55.51	176.09	1887.28	2000.85	1555.39	2275.93	733.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.42	39.42	111.20	51.25	0.00	41.98	90.82	281.28	285.51	548.87	265.19	72.12
Movement LOS	D	D	F	D		D	F	F	F	F	F	E
Critical Movement	No	No	No	No		No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	96.25			49.79			273.88			274.05		
Approach LOS	F			D			F			F		
d_I, Intersection Delay [s/veh]	240.75											
Intersection LOS	F											
Intersection V/C	1.107											

Option 1: Copy of Case Rd-Barnett Rd / Ethanac Rd

Number	8											
Intersection	Case Rd-Barnett Rd / Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	34	27	78	428	0	121	103	507	31	104	669	374
Total Analysis Volume [veh/h]	44	35	299	728	0	132	120	1797	29	477	2017	590

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	3	0	4	0	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	15	20	0	43	0	0	25	42	0	15	69	0
Amber [s]	3.0	5.0	0.0	4.0	0.0	0.0	3.0	5.2	0.0	3.0	5.2	0.0
All red [s]	1.0	1.0	0.0	1.0	0.0	0.0	1.0	0.8	0.0	1.0	0.8	0.0
Walk [s]	0	5	0	7	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	10	0	38	0	0	0	23	0	0	32	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0

Phasing & Timing: Pattern 1

Split [s]	20	14	0	48	0	0	11	45	0	20	72	0
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	0	0	6	6	0	6	6	0
Minimum Recall		No		No			No	No		No	No	
Maximum Recall		No		No			No	No		No	No	
Pedestrian Recall		No		No			No	No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.20	0.20	0.25	0.25	0.06	0.24	0.24	0.13	0.32	0.32		
(v / s)_i Volume / Saturation Flow Rate	0.04	0.19	0.21	0.05	0.07	0.34	0.34	0.27	0.57	0.37		
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Arrival type	3			3			3			3		
Estimated Flow Rate [veh/h]	1340	1500	2150	2840	1704	2580	1855	1704	2580	1500		

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	1019	1009	3409	2013	1701	3000	1000	1701	3000	1009
s, saturation flow rate [veh/min]										
c, Capacity [veh/h]	368	322	851	692	104	867	452	237	1133	506
X, volume / capacity	0.21	0.93	0.86	0.19	1.15	1.38	1.39	2.01	1.78	1.17
d, Delay for Lane Group [s/veh]	40.30	72.97	46.34	35.97	149.33	225.42	232.11	521.60	395.74	135.65
Lane Group LOS	D	E	D	D	F	F	F	F	F	F
Critical Lane Group	No	Yes	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.95	10.87	10.43	1.53	5.77	34.11	36.37	37.87	71.76	27.53
50th-Percentile Queue Length [ft/ln]	48.87	271.77	260.67	38.16	144.32	852.63	909.32	946.81	1794.02	688.35
95th-Percentile Queue Length [veh/ln]	3.52	16.28	15.72	2.75	10.11	51.43	54.54	59.38	111.90	39.75
95th-Percentile Queue Length [ft/ln]	87.96	406.96	393.06	68.68	252.75	1285.70	1363.55	1484.52	2797.38	993.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.30	40.30	72.97	46.34	0.00	35.97	149.33	227.64	232.11	521.60	395.74	135.65
Movement LOS	D	D	E	D		D	F	F	F	F	F	F
Critical Movement	No	No	No	No		No	No	No	No	Yes	No	No
d_A, Approach Delay [s/veh]	66.14			44.75			222.88			365.45		
Approach LOS	E			D			F			F		
d_I, Intersection Delay [s/veh]	259.13											
Intersection LOS	F											
Intersection V/C	1.032											

Option 1: Copy of I-215 SB Ramps/Ethanac Rd

Number	9											
Intersection	I-215 SB Ramps/Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	0	0	122	0	350	477	799	477	133	647	0
Total Analysis Volume [veh/h]	0	0	0	715	0	1071	477	1930	1427	817	1687	0

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	7	0	0	0	2	0	1	6	0	
Auxiliary Signal Groups													
Maximum Green [s]	0	0	0	29	0	0	0	62	0	17	83	0	
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	7	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
l1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	

Phasing & Timing: Pattern 1

Split [s]	0	0	0	33	0	0	0	66	0	21	87	0
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	5	0	0	0	10	0	5	10	0
Minimum Recall				No				No		No	No	
Maximum Recall				No				No		No	No	
Pedestrian Recall				No				No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.24			0.24			0.52			0.52			0.14		0.69	
(v / s)_i Volume / Saturation Flow Rate	0.40			0.38			0.38			0.90			0.24		0.47	
so, Base Saturation Flow per Lane [pc/h/lane]	1900			1900			1900			1900			1900		1900	
Arrival type	3			3			3			3			3			
Estimated Flow Rate [veh/h]	1704			2842			5004			4580			2450		2580	




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	1701	2013	2034	1509	2459	2500
s, saturation flow rate [veh/min]						
c, Capacity [veh/h]	430	680	2632	821	490	2463
X, volume / capacity	1.66	1.58	0.73	1.74	1.67	0.69
d, Delay for Lane Group [s/veh]	353.23	308.54	24.42	366.02	357.28	12.41
Lane Group LOS	F	F	C	F	F	B
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	49.24	34.67	13.45	98.20	27.96	11.30
50th-Percentile Queue Length [ft/ln]	1231.07	866.87	336.16	2454.95	698.93	282.46
95th-Percentile Queue Length [veh/ln]	76.02	54.35	19.46	155.60	43.93	16.81
95th-Percentile Queue Length [ft/ln]	1900.62	1358.84	486.50	3890.03	1098.29	420.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	353.23	0.00	308.54	0.00	24.42	366.02	357.28	12.41	0.00
Movement LOS				F		F		C	F	F	B	
Critical Movement				No		No		No	Yes	No	No	
d_A, Approach Delay [s/veh]	0.00			326.43			169.63			124.94		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	191.62											
Intersection LOS	F											
Intersection V/C	1.535											

Option 1: Copy of I-215 SB Ramps/Ethanac Rd

Number	9											
Intersection	I-215 SB Ramps/Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	0	0	0	212	5	415	477	637	373	98	740	0
Total Analysis Volume [veh/h]	0	0	0	921	6	1287	477	1446	1017	742	1722	0

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	7	0	0	0	2	0	1	6	0	
Auxiliary Signal Groups													
Maximum Green [s]	0	0	0	41	0	0	0	50	0	17	71	0	
Amber [s]	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.0	0.0	3.0	3.0	0.0	
All red [s]	0.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	
Walk [s]	0	0	0	5	0	0	0	5	0	0	5	0	
Pedestrian Clearance [s]	0	0	0	10	0	0	0	10	0	0	7	0	
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	2.0	0.0	

Phasing & Timing: Pattern 1

Split [s]	0	0	0	45	0	0	0	54	0	21	75	0
Lead / Lag	-	-	-	Lead	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	5	0	0	0	10	0	5	10	0
Minimum Recall				No				No		No	No	
Maximum Recall				No				No		No	No	
Pedestrian Recall				No				No		No	No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.34			0.34			0.42			0.42			0.14		0.59	
(v / s)_i Volume / Saturation Flow Rate	0.52			0.46			0.28			0.64			0.21		0.48	
so, Base Saturation Flow per Lane [pc/h/ln]	1900			1900			1900			1900			1900		1900	
Arrival type	3			3			3			3			3		3	
Estimated Flow Rate [veh/h]	1704			2842			5004			4580			2450		2580	

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	1701	2013	2024	1509	2409	2500
s, saturation flow rate [veh/min]						
c, Capacity [veh/h]	608	961	2122	662	490	2107
X, volume / capacity	1.51	1.34	0.68	1.54	1.51	0.82
d, Delay for Lane Group [s/veh]	279.03	195.14	30.30	283.57	288.21	23.04
Lane Group LOS	F	F	C	F	F	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	57.68	34.36	11.04	63.76	23.26	17.82
50th-Percentile Queue Length [ft/ln]	1442.10	859.07	275.99	1593.95	581.41	445.57
95th-Percentile Queue Length [veh/ln]	87.69	52.00	16.49	98.07	36.46	24.75
95th-Percentile Queue Length [ft/ln]	2192.35	1299.88	412.22	2451.66	911.58	618.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	279.03	0.00	195.14	0.00	30.30	283.57	288.21	23.04	0.00
Movement LOS				F		F		C	F	F	C	
Critical Movement				No		No		No	No	Yes	No	
d_A, Approach Delay [s/veh]	0.00			230.13			134.88			102.89		
Approach LOS	A			F			F			F		
d_I, Intersection Delay [s/veh]	153.31											
Intersection LOS	F											
Intersection V/C	1.372											

Option 1: Copy of I-215 NB Ramps/Ethanac Rd

Number	10											
Intersection	I-215 NB Ramps/Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	291	0	171	0	0	0	287	632	0	0	489	175
Total Analysis Volume [veh/h]	1218	0	704	0	0	0	1156	1356	0	0	1247	821

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	6	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups			6									
Maximum Green [s]	37	0	37	0	0	0	28	75	0	0	43	0
Amber [s]	3.0	0.0	3.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	5	0	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0

Phasing & Timing: Pattern 1

Split [s]	66	0	66	0	0	0	24	54	0	0	30	0
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	10	0	0	10	0
Minimum Recall	No		No				No	No			No	
Maximum Recall	No		No				No	No			No	
Pedestrian Recall	No		No				No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.31	0.31		0.23	0.62	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.35	0.44		0.33	0.38	0.24	0.52
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900		1900	1900	1900	1900
Arrival type	3			3		3	
saturation flow rate [pc/h/ln]	2450	1500		2450	2500	5004	1500

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	3459	1569		3459	3500	3094	1569
s, saturation flow rate [veh/ln]							
c, Capacity [veh/h]	1068	491		807	2223	1822	569
X, volume / capacity	1.14	1.43		1.43	0.61	0.68	1.44
d, Delay for Lane Group [s/veh]	108.17	248.20		244.31	13.92	33.18	247.96
Lane Group LOS	F	F		F	B	C	F
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	25.12	42.18		33.90	10.12	9.88	48.87
50th-Percentile Queue Length [ft/ln]	628.00	1054.60		847.52	252.94	247.09	1221.67
95th-Percentile Queue Length [veh/ln]	36.16	64.06		51.66	15.33	15.04	74.17
95th-Percentile Queue Length [ft/ln]	903.92	1601.40		1291.49	383.35	375.99	1854.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	108.17	0.00	248.20	0.00	0.00	0.00	244.31	13.92	0.00	0.00	33.18	247.96
Movement LOS	F		F				F	B			C	F
Critical Movement	No		Yes				No	No			No	No
d_A, Approach Delay [s/veh]	159.46			0.00			119.94			118.45		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	131.15											
Intersection LOS	F											
Intersection V/C	1.294											

Option 1: Copy of I-215 NB Ramps/Ethanac Rd

Number	10											
Intersection	I-215 NB Ramps/Ethanac Rd											
Control Type	Signalized											
Analysis Method	HCM 7th Edition											
Name												
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Base Volume Input [veh/h]	409	1	216	0	0	0	237	608	0	0	432	175
Total Analysis Volume [veh/h]	1373	1	740	0	0	0	1016	1225	0	0	1119	788

Intersection Settings

Cycle Length [s]	120											
Active Pattern	Pattern 1											
Coordination Type	Time of Day Pattern Coordinated											
Actuation Type	Fully actuated											
Lost time [s]	0.00											

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	0	6	0	0	0	3	8	0	0	4	0
Auxiliary Signal Groups			6									
Maximum Green [s]	40	0	40	0	0	0	25	72	0	0	43	0
Amber [s]	3.0	0.0	3.0	0.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	1.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Walk [s]	5	0	0	0	0	0	0	5	0	0	5	0
Pedestrian Clearance [s]	10	0	0	0	0	0	0	7	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
l1, Start-Up Lost Time [s]	2.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0

Phasing & Timing: Pattern 1

Split [s]	38	0	38	0	0	0	53	82	0	0	29	0
Lead / Lag	Lead	-	-	-	-	-	Lead	-	-	-	-	-
Minimum Green [s]	5	0	5	0	0	0	5	10	0	0	10	0
Minimum Recall	No		No				No	No			No	
Maximum Recall	No		No				No	No			No	
Pedestrian Recall	No		No				No	No			No	

Exclusive Pedestrian Phase

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

Lane Group Calculations

g / C, Green / Cycle	0.33	0.33		0.21	0.60	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.40	0.47		0.29	0.34	0.22	0.50
so, Base Saturation Flow per Lane [pc/h/ln]	1900	1900		1900	1900	1900	1900
Arrival type	3			3		3	
saturation flow rate [pc/h/ln]	1450	1500		1450	1500	1500	1500

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	3459	1569		3459	3500	3094	1569
c, Capacity [veh/h]	1154	530		722	2135	1821	568
X, volume / capacity	1.19	1.40		1.41	0.57	0.61	1.39
d, Delay for Lane Group [s/veh]	128.30	229.02		234.59	14.89	32.03	223.35
Lane Group LOS	F	F		F	B	C	F
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	30.50	42.87		29.27	9.40	8.58	44.93
50th-Percentile Queue Length [ft/ln]	762.48	1071.84		731.72	235.06	214.38	1123.20
95th-Percentile Queue Length [veh/ln]	44.08	64.63		44.71	14.43	13.38	67.57
95th-Percentile Queue Length [ft/ln]	1102.12	1615.68		1117.78	360.78	334.44	1689.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	128.30	0.00	229.02	0.00	0.00	0.00	234.59	14.89	0.00	0.00	32.03	223.35
Movement LOS	F		F				F	B			C	F
Critical Movement	No		No				Yes	No			No	No
d_A, Approach Delay [s/veh]	163.57			0.00			114.50			111.09		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	130.02											
Intersection LOS	F											
Intersection V/C	1.255											

Version 2024 (SP 0-1)

	3459	1569		3459	3500	3094	1569
c, Capacity [veh/h]	1154	530		722	2135	1821	568
X, volume / capacity	1.19	1.40		1.41	0.57	0.61	1.39
d, Delay for Lane Group [s/veh]	128.30	229.02		234.59	14.89	32.03	223.35
Lane Group LOS	F	F		F	B	C	F
Critical Lane Group	No	Yes		Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	30.50	42.87		29.27	9.40	8.58	44.93
50th-Percentile Queue Length [ft/ln]	762.48	1071.84		731.72	235.06	214.38	1123.20
95th-Percentile Queue Length [veh/ln]	44.08	64.63		44.71	14.43	13.38	67.57
95th-Percentile Queue Length [ft/ln]	1102.12	1615.68		1117.78	360.78	334.44	1689.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	128.30	0.00	229.02	0.00	0.00	0.00	234.59	14.89	0.00	0.00	32.03	223.35
Movement LOS	F		F				F	B			C	F
Critical Movement	No		No				Yes	No			No	No
d_A, Approach Delay [s/veh]	163.57			0.00			114.50			111.09		
Approach LOS	F			A			F			F		
d_I, Intersection Delay [s/veh]	130.02											
Intersection LOS	F											
Intersection V/C	1.255											

APPENDIX F – CUMULATIVE PROJECTS TRIP ASSIGNMENT

Figure: Cumulative Projects AM Trip Assignment

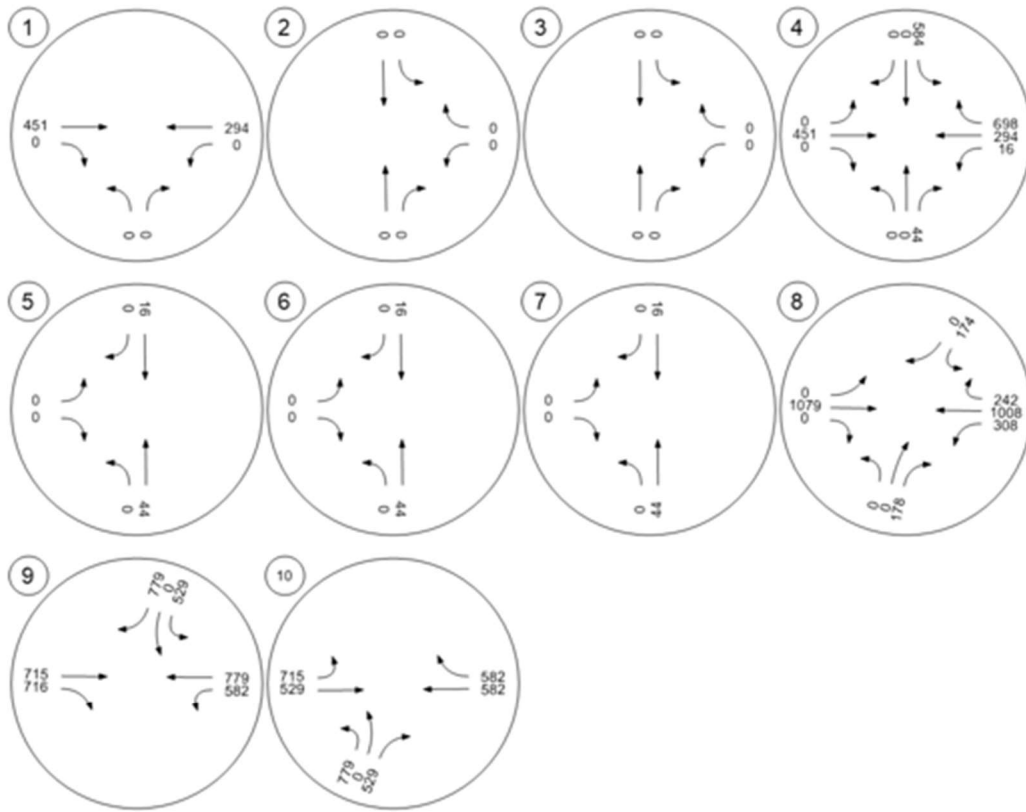


Figure: Cumulative Projects PM Trip Assignment

